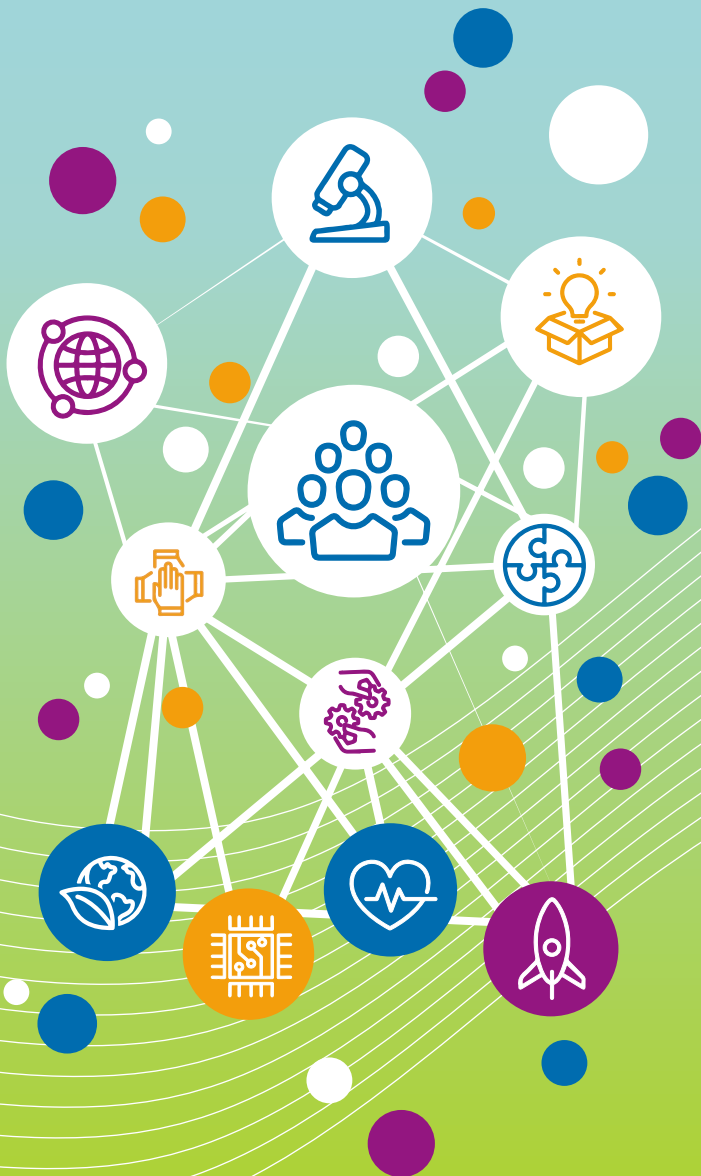




European
Commission

PERFORMANCE OF EUROPEAN PARTNERSHIPS

BIENNIAL
MONITORING
REPORT 2024
ON PARTNERSHIPS
IN HORIZON EUROPE



Research and
Innovation

Performance of European Partnerships Biennial Monitoring Report 2024 on partnerships in Horizon Europe

European Commission

Directorate-General for Research and Innovation

Directorate G — Common Policy Centre

Unit G4 – Common Missions & Partnerships Service

Contact Marion Jamard, responsible Policy Officer

Marnix Surgeon, Deputy Head of Unit

Fabienne Gautier, Head of Unit

Email RTD-EUROPEAN-PARTNERSHIPS@ec.europa.eu

RTD-PUBLICATIONS@ec.europa.eu

European Commission

B-1049 Brussels

Manuscript completed in April 2024

This document has been prepared for the European Commission, however it reflects the views only of the authors, and the European Commission shall not be liable for any consequence stemming from the reuse.

PDF ISBN 978-92-68-13867-0 doi:10.2777/991766 KI-02-24-390-EN-N

Luxembourg: Publications Office of the European Union, 2024

© European Union, 2024



The Commission's reuse policy is implemented by Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39, ELI: <http://data.europa.eu/eli/dec/2011/833/oj>).

Unless otherwise noted, the reuse of this document is authorised under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed, provided appropriate credit is given and any changes are indicated.

For any use or reproduction of elements that are not owned by the European Union, permission may need to be sought directly from the respective rightholders. The European Union does not own the copyright in relation to the following elements: cover: © European Union, 2024

EUROPEAN COMMISSION

PERFORMANCE OF EUROPEAN PARTNERSHIPS

Biennial Monitoring Report 2024
on partnerships in Horizon Europe



FOREWORD



Since their humble beginnings two decades ago, European Partnerships have become one of the key instruments of the EU research and innovation programme, Horizon Europe, and of the European Research Area. They bring together a range of public and private partners who pool resources with the European Union to address challenges, such as the green and digital transition, that no single country or company can tackle alone.

Launched under the Sixth Framework Programme as coordination platforms between Member States programmes, partnerships met with ever growing interest. Many yielded groundbreaking achievements, such as the European and Developing Countries Clinical Trials Platform (EDCTP), which developed a malaria vaccine for children. Under Horizon 2020 (2013-20), the number of initiatives reached 120, raising the risk of losing focus. To align more closely with EU priorities while ensuring impact, the approach to European partnerships was streamlined, leading to 43 partnerships funded during the first years of Horizon Europe, with EU funding of €25 billion so far leveraging €40 billion from our partners. An additional nine partnerships will complete this landscape following the adoption of the second Horizon Europe Strategic Plan covering the years 2025-27.

Given the amounts invested, the evolution of the socio-economic, scientific and technological environment, and emerging European priorities, we must constantly ask if our partnerships are as effective and efficient as they should to help us address the challenges of today and tomorrow. This requires a continuous screening of data and evidence on their performance.

This is what this second Biennial Monitoring Report (BMR) is about. The data collected through individual partnerships' fiches and a survey on common indicators provides an examination of relevant policies and practices across the 43 running partnerships and 30 countries. Like the first BMR, this edition presents evidence on the contribution of these partnerships to the twin transition as well as to improving Europe's resilience. It also addresses two new topics that are currently high on the EU policy agenda: technological sovereignty and the international positioning of European research and innovation.

I am convinced that this report will provide highly relevant input into discussions for the future of the Framework Programme for Research and Innovation. Moving forward, our partnerships should not only demonstrate high value but also clear purpose. They must be inclusive to best address challenges, which increasingly lie at the intersections of scientific disciplines or industrial sectors, but also to reinforce the deployment and uptake of innovations. And they should also become role models of open innovation, bringing in new perspectives from all over Europe and piloting solutions with citizens.

I extend my thanks to the independent expert group, EU Member States and countries associated to Horizon Europe as well as the partnerships themselves for their contributions. I hope you find this report insightful and inspiring.

Iliana Ivanova
European Commissioner

Innovation, Research, Culture, Education and Youth



ACKNOWLEDGEMENTS

The 2024 edition of the Biennial Monitoring Report on European Partnerships has been drafted by the Commission Expert Group on Support of the Strategic Coordinating Process for Partnerships, in very close cooperation with the Common Missions and Partnerships Service at the Common Policy Centre of DG Research and Innovation.

The Commission gratefully acknowledges the significant contribution from the members of the expert group:

- Effie Amanatidou
- Michaël Dooms
- Krzysztof Gulda
- Henric Johnson
- Daria Julkowska (chair)
- Ülle Napa
- Jari Romanainen (rapporteur)
- Bertrand Rose
- Dubravka Skunca

The BMR is the result of a genuine co-creation process involving the expert group, the members of the Partnership Knowledge Hub, the partnerships themselves and the Commission Steering Committee, under the supervision of the Common Missions and Partnerships Service – Marnix Surgeon (Deputy Head of Unit), Fabienne Gautier (Head of Unit).

Marion Jamard, assisted by Lucas van Hattem, was responsible for the overall coordination of the drafting of the report, providing support to the expert group. ESN supported the team with graphic design and communication deliverables.



TABLE OF CONTENTS

FOREWORD	2
ACKNOWLEDGEMENTS	3
ABBREVIATIONS.....	14
1. INTRODUCTION.....	17
1.1 THE ROLE OF EUROPEAN PARTNERSHIPS	19
1.1.1 INSTRUMENTS IN HORIZON EUROPE.....	19
1.1.2 STRENGTHENING THE EUROPEAN RESEARCH AND INNOVATION AREA	22
1.2 THE EUROPEAN PARTNERSHIP LANDSCAPE	23
1.2.1 THE PORTFOLIO OF EUROPEAN PARTNERSHIPS: THEMATIC.....	23
1.2.2 THE PORTFOLIO OF EUROPEAN PARTNERSHIPS: BUDGET	28
1.3 STRATEGIC COORDINATING PROCESS	30
1.4 STRUCTURE OF THE REPORT	31
2. PROGRESS AND CONTRIBUTIONS OF EUROPEAN PARTNERSHIPS	33
2.1 FUNCTIONING OF EUROPEAN PARTNERSHIPS AS POLICY INSTRUMENTS.....	34
2.1.1 ADDITIONALITY AND DIRECTIONALITY	34
2.1.2 TRANSPARENCY AND OPENNESS	47
2.1.3 COHERENCE AND SYNERGIES.....	55
2.1.4 KEY OBSERVATIONS.....	80



2.2 CONTRIBUTIONS TO KEY EUROPEAN OBJECTIVES.....	81
2.2.1 TECHNOLOGICAL SOVEREIGNTY	84
2.2.2 INTERNATIONAL POSITIONING.....	89
2.2.3 GREEN TRANSITION.....	95
2.2.4 DIGITAL TRANSITION.....	102
2.2.5 RESILIENCE.....	107
2.3 CONTRIBUTION OF EUROPEAN PARTNERSHIPS TO HORIZON EUROPE KEY IMPACT PATHWAYS	114
3. EUROPEAN PARTNERSHIPS AT THE COUNTRY LEVEL	115
3.1 COUNTRY COMMITMENTS AND EXPECTATIONS	115
3.1.1 COMMITMENTS TO EUROPEAN PARTNERSHIPS IN HORIZON EUROPE	115
3.1.2 EXPECTED BENEFITS AND IMPACTS.....	121
3.2 COUNTRY FICHE READING GUIDE	123
3.2.1 STRUCTURE AND INTERPRETATION GUIDELINES.....	124
3.3 COUNTRY FICHES	125
4. PROFILES OF EUROPEAN PARTNERSHIPS	264
4.1 ANALYSIS OF EUROPEAN PARTNERSHIP KPIS	264
4.1.1 METHODOLOGICAL NOTES	264
4.1.2 ANALYSIS OF KPIS PER CATEGORIES	266
4.1.3 KPIS ANALYSIS BY TYPE OF PARTNERSHIP	270
4.1.4 KEY IMPACT PATHWAYS	273
4.2 EUROPEAN PARTNERSHIP FICHE READING GUIDE.....	280
4.2.1 STRUCTURE AND INTERPRETATION GUIDELINES	280
4.3 EUROPEAN PARTNERSHIP FICHES	282



LIST OF FIGURES

FIGURE 1. INTERVENTION LOGIC OF THE EUROPEAN PARTNERSHIP INSTRUMENT.....	20
FIGURE 2. OVERVIEW OF THE 50 EUROPEAN PARTNERSHIPS IN THE STRUCTURE OF HORIZON EUROPE PRIOR TO THE SECOND STRATEGIC PLAN.....	24
FIGURE 3. OVERVIEW OF THE 59 EUROPEAN PARTNERSHIPS IN THE STRUCTURE OF HORIZON EUROPE FOLLOWING THE SECOND STRATEGIC PLAN	26
FIGURE 4. EUROPEAN PARTNERSHIP BUDGETS IN HORIZON EUROPE CLUSTER BUDGETS	28
FIGURE 5. EUROPEAN PARTNERSHIP BUDGET SPLIT BASED ON FORM OF IMPLEMENTATION.....	29
FIGURE 6. TOTAL IN-CASH AND IN-KIND COMMITMENTS BY ALL PARTNERS OTHER THAN THE EU (EUR MILLION)	29
FIGURE 7. PROGRESS OF COMMITMENTS (FINANCIAL AND IN-KIND) FROM PARTNERS OTHER THAN THE UNION BY AUGUST 2023 (OR LATEST AVAILABLE DATE) (% OF TOTAL PARTNERSHIP BUDGET)	30
FIGURE 8. TYPES OF ADDITIONAL ACTIVITIES OR INVESTMENTS TRIGGERED BY THE PARTNERSHIPS	37
FIGURE 9. TOTAL ESTIMATED AMOUNT OF INVESTMENT REFERRING TO THE ADDITIONAL ACTIVITIES TRIGGERED BY THE PARTNERSHIPS [€ MILLION].....	38
FIGURE 10. AVERAGE SHARES OF PARTNERSHIP FUNDING (PUBLIC AND PRIVATE; IN-KIND AND FINANCIAL) TARGETED AT EU PRIORITIES BY PARTNERSHIP TYPE (PRIORITIES ARE NON-EXCLUSIVE, HENCE TOTALS OF ABOVE 100%).....	43
FIGURE 11. AVERAGE SHARES OF PARTNERSHIP FUNDING (PUBLIC AND PRIVATE; IN-KIND AND FINANCIAL) TARGETED AT EU PRIORITIES BY CLUSTER.....	44
FIGURE 12. AVERAGE SHARES OF PARTNERSHIP FUNDING (PUBLIC AND PRIVATE; IN-KIND AND FINANCIAL) MOBILISED FOR EU PRIORITIES BY CLUSTER – COMPARISON BETWEEN 2022 AND 2024.....	45
FIGURE 13. INVESTMENTS MOBILISED FOR EU PRIORITIES BY AUGUST 2023 (OR LATEST AVAILABLE DATE) BY PARTNERSHIP TYPE (% OF TOTAL PARTNERSHIP BUDGET).....	45



FIGURE 14. INVESTMENTS MOBILISED FOR EU PRIORITIES BY AUGUST 2023 (OR LATEST AVAILABLE DATE) BY CLUSTER (% OF TOTAL PARTNERSHIP BUDGET).....	46
FIGURE 15. MOST IMPORTANT MEASURES UNDERTAKEN BY THE PARTNERSHIPS IN 2023 FOR INVOLVING VARIOUS TYPES OF STAKEHOLDERS AND COUNTRIES.....	47
FIGURE 16. UPTAKE OF SPECIFIC MEASURES BY EUROPEAN PARTNERSHIPS IN 2023 FOR INVOLVING VARIOUS TYPES OF STAKEHOLDERS AND COUNTRIES BY TYPE OF PARTNERSHIP	49
FIGURE 17. OVERVIEW OF PARTNERS IN EUROPEAN PARTNERSHIPS	53
FIGURE 18. TYPES OF PARTNERS IN THE SIX CO-FUNDED PARTNERSHIPS STARTED IN 2023/2024	55
FIGURE 19. JOINT ACTIVITIES CARRIED OUT WITH OTHER PARTNERSHIPS AND EU MISSIONS UP TO AUG 2023, BY TYPE OF PARTNERSHIP	57
FIGURE 20. JOINT ACTIVITIES CARRIED OUT WITH OTHER PARTNERSHIPS AND EU MISSIONS UP TO AUG 2023, BY CLUSTER.....	57
FIGURE 21: NUMBER OF TIMES A PARTNERSHIP IS SELECTED FOR SYNERGIES BY ANOTHER PARTNERSHIP.....	60
FIGURE 22. EU PROGRAMMES WITH WHICH THE EUROPEAN PARTNERSHIPS SYNERGISE (ERASMUS+), DIGITAL EUROPE PROGRAMME (DEP), EU4HEALTH PROGRAMME, INVESTEU PROGRAMME, CONNECTING EUROPE FACILITY (CEF), LIFE, EURATOM RESEARCH AND TRAINING PROGRAMME AND THE UNION SPACE PROGRAMME	61
FIGURE 23. CONTRIBUTION OF THE EUROPEAN PARTNERSHIPS TO THE SDGS.....	83
FIGURE 24. EUROPEAN PARTNERSHIPS (43) ANSWER THE QUESTION: HOW RELEVANT IS EUROPEAN STRATEGIC AUTONOMY/ TECHNOLOGICAL SOVEREIGNTY FOR YOUR PARTNERSHIP?.....	84
FIGURE 25. CLUSTER 4 PARTNERSHIPS (9) AND RELEVANT EIT KICS (3) ANSWER THE QUESTION: HOW RELEVANT IS EUROPEAN STRATEGIC AUTONOMY/TECHNOLOGICAL SOVEREIGNTY FOR YOUR PARTNERSHIP?	86
FIGURE 26. CLUSTER SPECIFIC IMPACT PATHWAYS FOR CLUSTER 5 HIGHLIGHTING DOMINANT CHARACTERISTICS.....	96
FIGURE 27. SDGS SUPPORTED BY CLUSTER 5 PARTNERSHIPS (11) AND RELEVANT EIT KICS (3)	97
FIGURE 28. CLUSTER 5 PARTNERSHIPS (11) AND RELEVANT EIT KICS (3) CONTRIBUTION TO EUROPEAN COMMISSION PRIORITIES, BASED ON THE SDGS SUPPORTED.....	98



FIGURE 29. CLUSTER SPECIFIC IMPACT PATHWAYS FOR CLUSTER 6 HIGHLIGHTING DOMINANT CHARACTERISTICS.....	99
FIGURE 30. SDGS SUPPORTED BY CLUSTER 6 PARTNERSHIPS.....	100
FIGURE 31. CLUSTER 6 PARTNERSHIP CONTRIBUTIONS TO EUROPEAN COMMISSION PRIORITIES BASED ON THE SDGS SUPPORTED.....	101
FIGURE 32. CONTRIBUTION OF ALL ACTIVE EUROPEAN PARTNERSHIPS TO THE GREEN TRANSITION.....	102
FIGURE 33. CLUSTER SPECIFIC IMPACT PATHWAYS FOR CLUSTER 4 - HIGHLIGHTING DOMINANT CHARACTERISTICS.....	103
FIGURE 34. SDGS SUPPORTED BY CLUSTER 4 PARTNERSHIPS (9) AND RELEVANT EIT KICS (3).....	104
FIGURE 35. CLUSTER 4 PARTNERSHIPS (10) AND RELEVANT EIT KICS (3) CONTRIBUTIONS TO EUROPEAN COMMISSION PRIORITIES BASED ON THE SDGS SUPPORTED.....	105
FIGURE 36. CONTRIBUTION OF ALL EUROPEAN PARTNERSHIPS TO THE DIGITAL TRANSITION.....	106
FIGURE 37. CLUSTER SPECIFIC IMPACT PATHWAYS FOR CLUSTER 1 HIGHLIGHTING DOMINANT CHARACTERISTICS.....	108
FIGURE 38. SDGS SUPPORTED BY CLUSTER 1 PARTNERSHIPS (8) AND EIT HEALTH.....	109
FIGURE 39. CLUSTER 1 PARTNERSHIPS (8) AND EIT HEALTH CONTRIBUTION TO EUROPEAN COMMISSION PRIORITIES, BASED ON THE SDGS SUPPORTED.....	110
FIGURE 40. CONTRIBUTION OF ALL EUROPEAN PARTNERSHIPS TO HEALTH-RELATED RESILIENCE.....	110
FIGURE 41. NUMBER OF EUROPEAN PARTNERSHIPS IN WHICH A COUNTRY COORDINATES OR PARTICIPATES.....	115
FIGURE 42. DISTRIBUTION OF FUNDING BASED ON THE EU NET CONTRIBUTION IN EUROPEAN PARTNERSHIP PROJECTS.....	116
FIGURE 43. DISTRIBUTION OF FUNDING BASED ON THE EU NET CONTRIBUTION IN THE REST OF HORIZON EUROPE PROJECTS.....	116
FIGURE 44. COMPARISON OF NATIONAL COMMITMENTS IN EUROPEAN PARTNERSHIPS WITH PRE-CALL BUDGET COMMITMENTS IN H2020 PARTNERSHIPS (MILLION EUROS).....	117



FIGURE 45. NATIONAL COMMITMENTS PER RESEARCHER FTE IN EUROPEAN PARTNERSHIPS – COMPARISON WITH PRE-CALL BUDGETS IN H2020 PARTNERSHIPS (EUROS)	118
FIGURE 46. COMPARISON OF SHARES (%) OF PARTICIPATION OF MS/AC IN EUROPEAN PARTNERSHIPS WITH H2020 P2P PARTNERSHIPS (BMR 2022).....	119
FIGURE 47. SUCCESS RATES OF INSTITUTIONALISED AND CO-PROGRAMMED PARTNERSHIPS VERSUS HORIZON EUROPE’S OVERALL SUCCESS RATES	120
FIGURE 48. TYPES OF BENEFICIARIES IN EUROPEAN PARTNERSHIP PROJECTS AND IN HORIZON EUROPE OVERALL (%).....	121
FIGURE 49. EIT KPI’S ANALYSIS	267
FIGURE 50. CLUSTER 1 KPIS ANALYSIS	268
FIGURE 51. CLUSTER 4 KPIS ANALYSIS	268
FIGURE 52. CLUSTER 5 KPIS ANALYSIS	269
FIGURE 53. CLUSTER 6 KPIS ANALYSIS	269
FIGURE 54. AVERAGE NUMBER OF KPIS BY CATEGORY AND BY TYPE OF EUROPEAN PARTNERSHIP	270
FIGURE 55. NUMBER OF KPIS BY CATEGORY FOR INSTITUTIONALISED PARTNERSHIPS	271
FIGURE 56. NUMBER OF KPIS BY CATEGORY FOR CO-FUNDED PARTNERSHIPS.....	272
FIGURE 57. NUMBER OF KPIS BY CATEGORY FOR CO-PROGRAMMED PARTNERSHIPS	273
FIGURE 58. AVERAGE NUMBER OF KPIS PER KIPS CATEGORY TYPE OF PARTNERSHIP	274
FIGURE 59. KIPS ANALYSIS FOR INSTITUTIONALISED PARTNERSHIPS	275
FIGURE 60. KIPS ANALYSIS FOR CO-PROGRAMMED PARTNERSHIPS	276
FIGURE 61. KIPS ANALYSIS FOR CO-FUNDED PARTNERSHIPS	276
FIGURE 62. CLUSTER 1 KIPS ANALYSIS	277
FIGURE 63. CLUSTER 4 KIPS ANALYSIS	278
FIGURE 64. CLUSTER 5 KIPS ANALYSIS	278
FIGURE 65. CLUSTER 6 KIPS ANALYSIS	279
FIGURE 66. KIPS ANALYSIS FOR EIT CLUSTER.....	279



LIST OF TABLES

TABLE 1. OBSERVED LEVERAGE FACTORS FOR EACH OF THE PARTNERSHIP TYPES AND EACH OF THE CATEGORIES ABOVE.....	34
TABLE 2. TOTAL NUMBER OF ESTABLISHED SYNERGIES PER CLUSTER.....	59
TABLE 3. PARTNERSHIPS (N=43) AND THEIR RESPONSES TO THE QUESTION, 'DO THEY HAVE (OR ARE THEY PLANNING TO HAVE) SYNERGIES WITH OTHER EU PROGRAMMES?' IN THE COMMON INDICATORS SURVEY	62
TABLE 4. POTENTIAL FOR SYNERGIES BETWEEN EUROPEAN PARTNERSHIPS AND FIVE OTHER EU PROGRAMMES IN THE HEALTH CLUSTER (CLUSTER 1 IN HORIZON EUROPE)	64
TABLE 5. POTENTIAL FOR SYNERGIES. CLUSTER 4 (DIGITAL, INDUSTRY AND SPACE) PARTNERSHIPS	65
TABLE 6. POTENTIAL FOR SYNERGIES. CLUSTER 5 (CLIMATE, ENERGY, MOBILITY) PARTNERSHIPS	66
TABLE 7. POTENTIAL FOR SYNERGIES. CLUSTER 6 (FOOD, BIOECONOMY, NATURAL RESOURCES, AGRICULTURE AND ENVIRONMENT) PARTNERSHIPS.....	68
TABLE 8. POTENTIAL FOR SYNERGIES. CROSS-PILLAR EUROPEAN PARTNERSHIPS AND EIT KICS	69
TABLE 9. POTENTIAL FOR SYNERGIES BETWEEN EU MISSIONS AND CLUSTER 1 (HEALTH) PARTNERSHIPS	71
TABLE 10. POTENTIAL FOR SYNERGIES BETWEEN EU MISSIONS AND CLUSTER 4 (DIGITAL, INDUSTRY AND SPACE) PARTNERSHIPS	72
TABLE 11. POTENTIAL FOR SYNERGIES BETWEEN EU MISSIONS AND CLUSTER 5 (CLIMATE, ENERGY, MOBILITY) PARTNERSHIPS	73
TABLE 12. POTENTIAL FOR SYNERGIES BETWEEN EU MISSIONS AND CLUSTER 6 (FOOD, BIOECONOMY, NATURAL RESOURCES, AGRICULTURE AND ENVIRONMENT) PARTNERSHIPS.....	75
TABLE 13. POTENTIAL FOR SYNERGIES BETWEEN EU MISSIONS AND CROSS PILLAR EUROPEAN PARTNERSHIPS AND EIT KICS.....	76



TABLE 14. EXAMPLES OF DIFFERENT SYNERGY MECHANISMS USED BY MEMBER STATES.....	77
TABLE 15. EUROPEAN PARTNERSHIPS (37) ANSWER THE QUESTION: HOW MUCH OF YOUR OVERALL BUDGET IS PLANNED FOR CONNECTIONS/COLLABORATION WITH NON-EUROPEAN ACTORS?	91
TABLE 16. CLUSTER 1 PARTNERSHIPS (7) AND EIT HEALTH ANSWER THE QUESTION: HOW MUCH OF YOUR OVERALL BUDGET IS PLANNED FOR CONNECTIONS/COLLABORATION WITH NON-EUROPEAN ACTORS?.....	91
TABLE 17. 22 PARTNERSHIPS RELEVANT FOR COUNTRY PARTICIPATION.....	123
TABLE 18. THE 9 KIPS PROPOSED BY THE EUROPEAN COMMISSION ARE GATHERED IN 3 CLUSTERS.....	273



LIST OF BOXES

BOX 1. ENSURING COMPLIANCE WITH THE CRITERIA DURING THE SELECTION OF EUROPEAN PARTNERSHIPS.....	22
BOX 2. INNOVATIVE HEALTH INITIATIVE – INSTITUTIONALISED PARTNERSHIP	48
BOX 3. EUROPE’S RAIL – INSTITUTIONALISED PARTNERSHIP.....	48
BOX 4. DRIVING URBAN TRANSITIONS – CO-FUNDED PARTNERSHIP	48
BOX 5. EUROPEAN RARE DISEASES RESEARCH ALLIANCE – CO-FUNDED PARTNERSHIP	48
BOX 6. KPI EXAMPLES RELATED TO TRANSPARENCY AND OPENNESS (TARGETING DIFFERENT STAKEHOLDERS) AND THEIR UNITS OF MEASUREMENT	50
BOX 7. EXAMPLES OF NATIONAL MEASURES MATCHING PARTNERSHIPS’ OPENNESS AND TRANSPARENCY EFFORTS	51
BOX 8. CLEAN HYDROGEN	58
BOX 9. INNOVATIVE HEALTH INITIATIVE	58
BOX 10. SMART NETWORK AND SERVICES (SNS) PARTNERSHIP FOR TECHNOLOGICAL SOVEREIGNTY	86
BOX 11. CHIPS JU PARTNERSHIP FOR TECHNOLOGICAL SOVEREIGNTY.....	87
BOX 12. EIT DIGITAL PARTNERSHIP FOR TECHNOLOGICAL SOVEREIGNTY	88
BOX 13. NORWAY – ADDRESSING EUROPEAN TECHNOLOGICAL SOVEREIGNTY	88
BOX 14. GLOBAL HEALTH EDCTP3 JU FOR INTERNATIONAL POSITIONING.....	92
BOX 15. ONE HEALTH ANTI-MICROBIAL RESISTANCE (OHAMR) PARTNERSHIP FOR INTERNATIONAL POSITIONING.....	93



BOX 16. EUROPEAN RARE DISEASES RESEARCH ALLIANCE (ERDERA) PARTNERSHIP FOR INTERNATIONAL POSITIONING.....	94
BOX 17. SLOVENIA– ADDRESSING INTERNATIONAL POSITIONING.....	95
BOX 18. EIT FOOD PARTNERSHIP FOR RESILIENCE: THE PROTEIN DIVERSIFICATION THINK TANK.....	111
BOX 19. EIT RAWMATERIALS PARTNERSHIP FOR RESILIENCE: SECURING CRITICAL RAW MATERIALS.....	112
BOX 20. EOSC PARTNERSHIP FOR RESILIENCE: RESPONSE TO THE COVID-19 PANDEMIC	113



ABBREVIATIONS

AC	Associated Country
AI	Artificial intelligence
B2T	Business to Territory
BMR	Biennial Monitoring Report on European Partnerships, planned to be published in 2022, 2024, 2026 and 2028
bn	billion
CCAM	Connected, Cooperative and Automated Mobility
CEF	Connecting Europe Facility
cPPP	Contractual public-private partnership
CSA	Coordination and support action
CSIP	Cluster Specific Impact Pathway
DEP	The Digital Europe Programme
eCORDA	COmmon Research DAta Warehouse
ECSEL JU	Electronic Components and Systems for European Leadership Joint Undertaking (Chips JU)
EIT	European Institute of Innovation and Technology
EIT KAVA	EIT KIC added value activities
EIT KIC	European Institute of Innovation and Technology – Knowledge and Innovation Community
EJP	European Joint Programme Co-fund initiative
ERC	European Research Council
ERA	European Research Area
ERA-LEARN	A support platform for the R&I partnership community, funded as a CSA by Horizon 2020. It operates a unique database of partnership initiatives, their calls and funded projects and provides studies and analyses on thematic clustering, internationalisation, alignment, etc.
ERA-NET	European Research Area (Thematic) Network
ERDF	European Regional Development Fund
ESIF	European Structural and Investment Funds
EU	European Union



FFG	The Austrian Research Promotion Agency, coordinator of the ERA-LEARN platform
FP6	Sixth European Framework Programme for Research and Innovation 2002-2006
FP7	Seventh European Framework Programme for Research and Innovation 2007-2013
FSTP	Financial Support for Third Parties
FTE	Full-time equivalent, one full person year
GA	Grant agreement
H2020	Horizon 2020, European Framework Programme for Research and Innovation 2014-2020
HE, HEU	Horizon Europe, European Framework Programme for Research and Innovation 2021-2027
IA	Innovation action
IPR	Intellectual or industrial property rights
IS	Iceland
JPI	Joint programming initiative
JPND	EU Joint Programme - Neurodegenerative Disease Research
JU	Joint Undertaking
KIP	Key Impact Pathway for Horizon Europe
KPI	Key performance indicator
m	million
MFF	Multiannual financial framework
MoC, MoU	Memorandum of Contract, Memorandum of Understanding
MS	Member State
MSCA	Marie Skłodowska-Curie Actions
NCP	National Contact Point for Horizon Europe
NH, NHCP	National Hub, National Hub Contact Point
NO	Norway
P2P	Public-to-public partnership
PKH	Partnership Knowledge Hub



PPP	Public-private partnership
PRIMA	Partnership for Research and Innovation in the Mediterranean Area
PSIP	Partnership Specific Impact Pathway
RDI	Research, development and innovation
R&I	Research and innovation
RFO	Research funding organisation
RIA	Research and innovation action
RIS3	Research and Innovation Strategies for Smart Specialisation
RPO	Research performing organisation
RRF	Recovery and Resilience Facility
SBA	Single Basic Act
SDG	United Nations Sustainable Development Goal
SME	Small and medium-sized enterprise
SPC	Horizon Europe Strategic Programme Committee
SRG	State Representative Group
SRIA	Strategic Research and Innovation Agenda, jointly defined by all members of a European Partnership
TFEU	Treaty on the Functioning of the European Union



1. INTRODUCTION

HIGHLIGHTS OF THIS CHAPTER

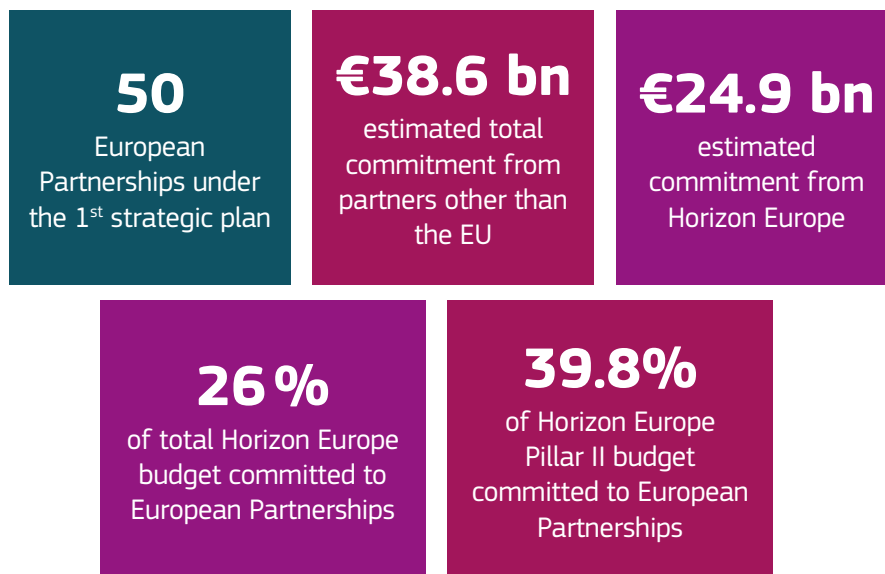
THIS CHAPTER ADDRESSES THE FOLLOWING QUESTIONS.

Why are partnerships needed, what is their underlying rationale and what is expected from them?

What partnerships are there under Horizon Europe and why?

This chapter covers 43 European Partnerships that had officially been launched when the manuscript of the report was finalised¹. The number of European Partnerships is expected to reach 50 by the time all planned partnerships have officially been launched under the first Horizon Europe strategic plan (2021-2024). It will increase to 59 since nine new ones have been selected under the second strategic plan (2025-2027).

SELECTED KEY FIGURES



1 Chapter 4 however covers 44 European Partnerships, as One Health AMR partnership developed a fiche.



This report on the Performance of European Partnerships, also known as the Biennial Monitoring Report (BMR), aims to provide a strong evidence base to guide the implementation of partnerships and inform strategic discussions on the effectiveness of the new policy approach to European Partnerships and, where relevant, how this should evolve.

The BMR provides a systematic overview of the overall European Partnership landscape by shedding light on:

- **The effectiveness of the new policy approach for European Partnerships** and the extent to which it leads to a better achievement of objectives and impact, compared to traditional calls under the Framework Programme;
- **The progress of European Partnerships towards their objectives and targeted impacts** – both individually and collectively, at EU and national level;
- Early **implementation drivers and barriers** to impacts – e.g. in terms of contributions, coherence, collaboration and openness or accessibility of partnerships;
- **Initial results**, with a view to their further demonstration, exploitation and valorisation, including for policymaking by Commission Services and national administrations.

This is the second in a series of four BMRs planned to be published in 2022², 2024, 2026 and 2028. This report has been drafted with the support of an independent Expert Group of the European Commission³.

The four planned BMRs will have fixed content that will be repeated in each of the reports, giving a reminder of the purpose of European Partnerships and the framework in which they operate and showing progress over the years based on a set of fixed indicators. In addition, each BMR will discuss a limited number of cross-cutting themes, which will vary from one BMR to the next. The broad themes of technological sovereignty and international positioning were selected as cross-cutting themes for this second report because of the importance of the EU building its capacity to act independently in a globalised environment by developing critical technologies and the necessity of ensuring international cooperation and impact as a result of exchanges.

Broadly, the BMR examines quantitative and qualitative evidence, ranging from what has already been achieved to what is currently being implemented and future intentions. It explores the added value of European Partnerships by providing examples of outcomes and impacts which would not have been (or will not be) generated, or at least not to the same extent, without such partnerships. Furthermore, the report looks at the expected contribution of European Partnerships to the EU priorities of the green and digital transitions and resilience.

Besides data and indicators reported at Horizon Europe level, the BMR also reports on progress through seven common partnership-level indicators that capture the agreed principles for effective implementation and monitoring of European Partnerships: additionality and directionality, coherence and synergies, openness and transparency, and international visibility.

For this second BMR, data were collected from 30 countries and 43 partnerships. These data also feed into the upcoming interim evaluation of Horizon Europe. The detailed methodology and process for preparing the BMR is described in the separate technical document complementing the BMR 2024. The challenges of this exercise should not be underestimated given the high diversity of partnerships and partial lack of data at this stage of implementation. Nevertheless, this second report already provides insights for policy development that readers will hopefully find interesting and paves the way for more complete BMRs in the future and the elaboration of a vision to cover their entire life cycle.

2 European Commission Directorate-General for Research and Innovation, Carrozza, M., Romanainen, J., Amanatidou, E. et al., A robust and harmonised framework for reporting and monitoring European Partnerships in Horizon Europe: first interim report, Publications Office, 2021: <https://data.europa.eu/doi/10.2777/017792> – Performance of European Partnerships - Publications Office of the EU (europa.eu).

3 [Register of Commission expert groups and other similar entities \(europa.eu\).](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&plugin=1)



1.1 THE ROLE OF EUROPEAN PARTNERSHIPS

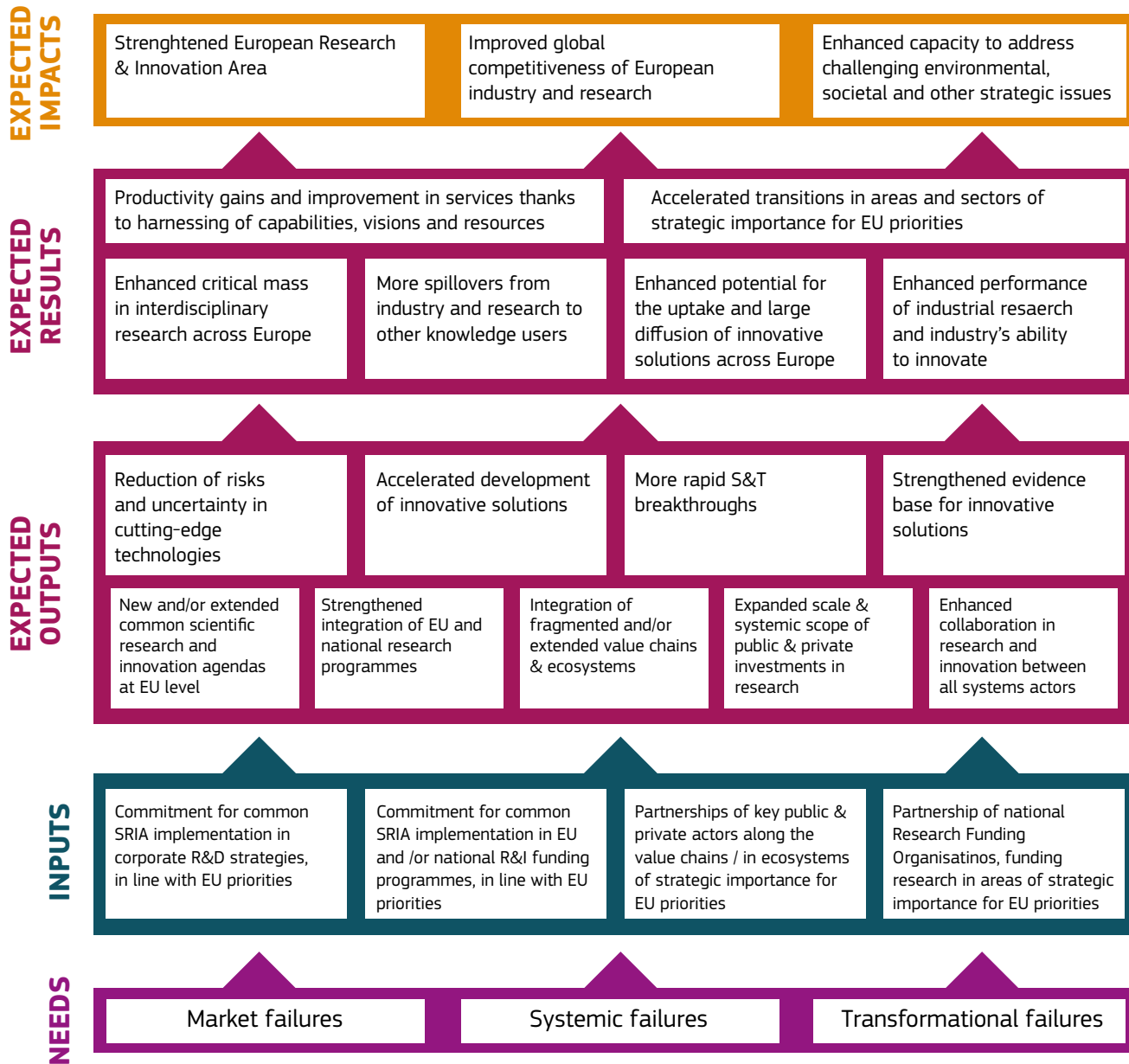
1.1.1 INSTRUMENTS IN HORIZON EUROPE

The first partnerships were set up in the context of the development of ERA and the launch of the Sixth Framework Programme (FP6) in 2002. Under Horizon Europe – the EU R&I Framework Programme for 2021-2027 – the European Commission has carried out a major reform of its partnership policy with the aim of rationalising the landscape and making partnerships more open, coherent and strategic.

European Partnerships are strategic instruments which enable long-term collaborations to be established and economies of scale to be achieved in order to tackle common challenges. The partnership concept was developed with the aim of making existing R&I investment more efficient by creating critical mass, leveraging sufficiently large investments which could not be raised by individual countries acting alone and reducing fragmentation and unnecessary duplication of research efforts, thereby enhancing the impact of R&I funding in driving systemic transitions and transformations in line with EU priorities. The scale achieved by pooling resources across Europe ensures a strong global position for European research. Partnerships also aim to address market failures by enhancing industrial investment thanks to the sharing of risks and provision of investment predictability.

European Partnerships create a platform for strengthened and structured collaboration and knowledge exchange between various actors in the European R&I system and enhanced coordination of strategic research agendas and/or R&I funding programmes. They are based on agreed objectives and a long-term vision, underpinned by Strategic Research and Innovation Agendas (SRIAs) to which all partners in the partnership commit. This is a key feature that distinguishes European Partnerships from other collaborative research instruments. Partnerships also enhance cross-disciplinary and cross-sectoral collaboration and integration of value chains and ecosystems, improving integration of sectoral R&I policies, notably through more systematic and extended reach and engagement of stakeholders such as end-users and public authorities.

FIGURE 1. Intervention logic of the European Partnership Instrument



Source: Technopolis

In Horizon Europe, there are three different implementation modes for European Partnerships.

● **Institutionalised Partnerships:**

- Joint Undertakings (JUs) (based on Art. 187 TFEU): long-term collaborations with private (sometimes also public) partners requiring a high degree of integration. JUs are traditionally industry-led, with three exceptions: Global Health EDCTP3, EuroHPC and Chips JU.
- Article 185 initiatives (based on Art. 185 TFEU): long-term collaborations with public partners requiring a high degree of integration. Both Article 185 and 187 Partnerships require the adoption of specific legislation setting them up and are implemented by dedicated structures created for that purpose.
- European Institute of Innovation & Technology (EIT) – Knowledge and Innovation Communities (KICs): Europe-wide innovation ecosystems that integrate education, research and entrepreneurship. They are established in compliance with the EIT regulation and the EIT strategic Innovation Agenda.

● **Co-programmed Partnerships:** joint programming of R&I activities and mobilisation of additional activities by partners in line with the objectives of the partnership. They are based on a Memorandum of Understanding, generally with industry associations. The EU contribution is implemented through the Horizon Europe mechanisms (work programmes and their calls for proposals), and matching partners' contributions are implemented under their responsibility.

● **Co-funded Partnerships:** co-funding of joint programmes of R&I activities between R&I funders. They are based on a Horizon Europe Grant Agreement signed by the Commission and a consortium of partners, generally composed of R&I funders and other public authorities. In these partnerships, the members of the consortium implement a joint programme of R&I activities co-designed at EU level, including joint transnational calls, with 30 % or 50 % co-funding from Horizon Europe.

The main differences between these forms of European Partnership are in their preparation and how they function, as well as in the overall impact they can trigger. The Co-funded and Co-programmed Partnerships are linked to the comitology procedure (including adoption of the strategic plan and the Horizon Europe work programmes). Article 185 and 187 Institutionalised Partnerships require the adoption of separate legislation and are subject to an ex-ante impact assessment. They therefore take longer to set up but provide a greater level of integration than the other types. The Horizon Europe Regulation requires that the least complex form of implementation should always be preferred.

All European Partnerships must follow the **common criteria** laid down in the Horizon Europe Regulation (Article 10 and Annex III):

- Directionality
- Additionality
- Coherence
- Synergies
- Transparency
- Openness
- International visibility
- Flexibility of implementation.

This means that European Partnerships are established only if there is evidence that they will support the achievement of EU policy objectives more effectively than other Horizon Europe actions.



Operational guidelines for implementing the criteria framework were developed by the Commission in 2018⁴ to support the coordinated preparation of European Partnerships and were further elaborated during the impact assessment for Institutionalised Partnerships⁵. These criteria were also the basis for the development of the common indicators used in this report for monitoring the performance of European Partnerships.

BOX 1. ENSURING COMPLIANCE WITH THE CRITERIA DURING THE SELECTION OF EUROPEAN PARTNERSHIPS

The Commission set up a coordinated process for preparing European Partnerships to ensure compliance with Horizon Europe's new ambition and criteria. Both for the first and second strategic plan, candidate partnerships were required to develop a draft proposal (published on the Commission website⁶) describing the measures to be taken to ensure compliance with these criteria, including:

- Demonstration that the partnership approach is more effective than traditional instruments for achieving the related objectives (the so-called 'necessity test');
- Demonstration of a long-term vision, including a clear intervention logic with concrete objectives, targets and impacts to be achieved during the lifespan of the partnership and a set of KPIs to match;
- Demonstration of additionality, i.e. clear EU added value of a partnership in the relevant area;
- Demonstration of coherence and synergies; addressing potential overlaps with existing partnerships, other candidates or other initiatives/instruments; presenting credible solutions/mechanisms to ensure synergies; and showing how the candidate fits into the overall portfolio based on its specificities;
- Demonstration of ex-ante long-term commitment by the partners other than the EU;
- Measures for increasing openness and the involvement of newcomers.

Institutionalised European Partnerships (based on Articles 185 and 187) were subject to a coordinated impact assessment analysing alternative implementation modes to Article 185/187. A stand-alone impact assessment was carried out for the purposes of the revision of the EIT Regulation⁷ and the EIT Strategic Innovation Agenda 2021-2027⁸.

1.1.2 STRENGTHENING THE EUROPEAN RESEARCH AND INNOVATION AREA

European Partnerships continue to be a cornerstone of ERA by aligning R&I agendas, improving skills and increasing the absorption capacities of European businesses. The European Partnerships allow the EU to team up with public and private partners to help speed up the development of new solutions for the green and digital transitions and to strengthen Europe's resilience. As stated in the BMR 2022, partnerships with Member State (MS) participation will be key to reaching the target set in the 2020 ERA Communication of MS committing 5 % of national public R&I investment to joint programmes and European Partnerships by 2030.

4 <https://www.era-learn.eu/documents/wk-14470-2018-init-en.pdf/view>

5 https://ec.europa.eu/info/sites/default/files/research_and_innovation/knowledge_publications_tools_and_data/documents/ec_rtd_ia-iphorizontal-analysis-efficiency-coherence.pdf, p. 2118.

6 [Commission proposals for new candidate European Partnerships are now public - European Commission \(europa.eu\)](#).

7 Regulation (EU) 2021/819 of the European Parliament and of the Council of 20 May 2021 on the European Institute of Innovation and Technology.

8 Decision (EU) 2021/820 of the European Parliament and of the Council of 20 May 2021 on the Strategic Innovation Agenda of the European Institute of Innovation and Technology (EIT) 2021-2027.



The European Partnerships have clear synergies with other ERA initiatives, such as EU Missions; with different parts of the Horizon Europe programme; with the Cohesion Fund, the European Regional Development Fund (ERDF), the European structural and investment funds (ESIF), Recovery and Resilience Fund (RRF), and with other EU programmes like the Digital Europe Programme, InvestEU Programme and the Connecting Europe Facility etc. More information about synergies and concrete examples can be found in Chapter 2, Section 2.1.3 on coherence and synergies.

1.2 THE EUROPEAN PARTNERSHIP LANDSCAPE

1.2.1 THE PORTFOLIO OF EUROPEAN PARTNERSHIPS: THEMATIC

European Partnerships have been identified as part of Horizon Europe strategic planning, with the support of the strategic coordinating process for partnerships closely involving the MS. The process entailed a co-design exercise aimed at better aligning these initiatives with societal needs and policy priorities and fostering coherence, while broadening the range of actors involved.

Considering the eight areas for Institutionalised Partnerships and the budget cap of 49.9 % for partnerships in Pillar II set in the Horizon Europe Regulation, the Commission services identified an initial list of 44 candidates for Co-funded, Co-programmed or Institutionalised Partnerships as part of the first Horizon Europe strategic planning process. The list was then expanded to 49 candidate initiatives following a co-design exercise with the Member States⁹. In December 2023, the Council and the Parliament reached a provisional agreement on the continuation of the EU's participation in the Partnership for Research and Innovation in the Mediterranean Area (PRIMA) under Horizon Europe for the period 2025-2027¹⁰, bringing the total number of European Partnerships to 50.

Figure 2 gives an overview of all Co-funded, Co-programmed and Institutionalised Partnerships according to their positioning in the Horizon Europe structure. When the manuscript of this report was finalised, 43 European Partnerships had been launched and seven were still to be launched under the first strategic plan.

9 <https://www.era-learn.eu/news-events/news/european-partnerships-under-horizon-europe-results-of-the-structured-consultation-of-member-states-1>

10 [Decision amending Decision \(EU\) 2017/1324 as regards the continuation of the EU's participation in the Partnership for Research and Innovation in the Mediterranean Area \(PRIMA\) under Horizon Europe.](#)

FIGURE 2. Overview of the 50 European Partnerships in the structure of Horizon Europe prior to the second strategic plan

PILLAR II Global challenges & European industrial competitiveness				PILLAR III Innovative Europe
CLUSTER 1: Health	CLUSTER 4: Digital, industry and space	CLUSTER 5: Climate, energy and mobility	CLUSTER 6: Food, bioeconomy, natural resources, agriculture and environment	EUROPEAN INNOVATION ECOSYSTEMS
Innovative Health Initiative	Chips (formerly KDT)	Clean Hydrogen	Circular Bio-based Europe	Innovative SMEs
Global Health Partnership	Smart Networks & Services	Clean Aviation	R&I in the Mediterranean Area (PRIMA) (Art. 185)**	
Transformation of Health and Care Systems	High Performance Computing	Single European Sky ATM Research 3	Biodiversa+	EIT
Chemicals Risk Assessment	European Metrology (Art. 185)	Europe's Rail	Climate Neutral, Sustainable & Productive Blue Economy	InnoEnergy
ERA for Health	AI-Data-Robotics	Connected, Cooperative and Automated Mobility (CCAM)	Water4All	Climate
Rare Diseases*	Photonics	Batt4EU	Animal Health and Welfare	Digital
Personalised Medicine	Made in Europe	Zero-emission waterborne transport	Accelerating Farming Systems Transitions	Food
One-Health Anti Microbial Resistance*	Clean Steel – Low-Carbon Steelmaking	Zero-emission road transport	Agriculture of Data*	Health
Pandemic Preparedness*	Processes4Planet	Built4People	Safe and Sustainable Food System	Raw Materials
	Globally Competitive Space Systems*	Clean Energy Transition		Manufacturing
		Driving Urban Transitions		Urban Mobility
				Cultural and Creativity*

CROSS-PILLARS I AND II

European Open Science Cloud

- Institutionalised Partnerships (Art. 185/7)
- Institutionalised Partnerships / EIT KICs
- Co-programmed
- Co-funded

* Partnership not yet launched

** Direct continuation of a H2020 partnership

Source: European Commission



A review of the areas for Institutionalised Partnerships, together with the Mission areas, was concluded in July 2023, as mandated by Article 11 of the Horizon Europe Regulation. It concluded that no changes are needed¹¹.

The Horizon Europe strategic plan 2025-2027¹² includes a list of new candidate Co-Funded and Co-programmed European Partnerships to be launched during the second half of Horizon Europe.

In line with the political goal of rationalising the European Partnership landscape and the budget cap set for partnerships under Pillar II, a relatively small second set of European Partnerships is foreseen. The selection followed a similar process as for the first strategic plan. While the Horizon Europe Strategic Programme Committee (SPC) configuration remained the Commission's single entry point for formal discussions with the Member States and Associated Countries (ACs) on this new partnership portfolio, the Partnership Knowledge Hub also formulated an opinion¹³ in June 2023, drawing on lessons learnt from the selection under the first strategic plan and making recommendations for the ongoing selection.

As a result of this process, following structured consultations and a technical workshop to (1) ensure that all candidate partnerships complied with the selection criteria set out in Annex III of the Horizon Europe Regulation and (2) discuss strategic thematic choices, the European Commission and the SPC settled on nine additional European Partnerships (five Co-Funded and four Co-programmed Partnerships) as part of the second strategic planning process of Horizon Europe (Figure 3).

11 Commission Staff Working Document: EU Missions two years on: An assessment of progress in shaping the future we want and reporting on the review of Mission Areas and areas for institutionalised partnerships based on Articles 185 and 187 TFEU: [EUR-Lex - 52023SC0260 - EN - EUR-Lex \(europa.eu\)](#).

12 European Commission Directorate-General for Research and Innovation, Horizon Europe strategic plan 2025-2027, Publications Office of the European Union, 2024, <https://data.europa.eu/doi/10.2777/092911>.

13 <https://www.era-learn.eu/documents/opinion-of-the-partnership-knowledge-hub-on-the-european-ki0923427enn.pdf>

FIGURE 3. Overview of the 59 European Partnerships in the structure of Horizon Europe following the second strategic plan¹⁴

PILLAR II Global challenges & European industrial competitiveness					PILLAR III Innovative Europe
CLUSTER 1: Health	CLUSTER 2: Culture, creativity, inclusive societies	CLUSTER 4: Digital, industry and space	CLUSTER 5: Climate, energy and mobility	CLUSTER 6: Food, bioeconomy, natural resources, agriculture and environment	EUROPEAN INNOVATION ECOSYSTEMS
Innovative Health Initiative	Resilient Cultural Heritage*	Chips (formerly KDT)	Clean Hydrogen	Circular Bio-based Europe	Innovative SMEs
Global Health Partnership	Social Transformations and Resilience*	Smart Networks & Services	Clean Aviation	R&I in the Mediterranean Area (PRIMA, Art. 185)**	
Transformation of Health and Care Systems		High Performance Computing	Single European Sky ATM Research 3	Biodiversa+	EIT
Chemicals Risk Assessment		European Metrology (Art. 185)	Europe's Rail	Climate Neutral, Sustainable & Productive Blue Economy	InnoEnergy
ERA for Health		AI-Data-Robotics	Connected, Cooperative and Automated Mobility (CCAM)	Water4All	Climate
Rare Diseases*		Photonics	Batt4EU	Animal Health and Welfare	Digital
One-Health Anti Microbial Resistance*		Made in Europe	Zero-emission waterborne transport	Accelerating Farming Systems Transitions	Food
Personalised Medicine		Clean Steel – Low-Carbon Steelmaking	Zero-emission road transport	Agriculture of Data*	Health
Pandemic Preparedness*		Processes4Planet	Built4People	Safe and Sustainable Food System*	Raw Materials
Brain Health*		Globally Competitive Space Systems*	Solar Photovoltaics*	Forests and Forestry for a sustainable Future*	Manufacturing
		Innovative Materials for EU (I AM for EU)*	Clean Energy Transition		Urban Mobility
		Virtual Worlds*	Driving Urban Transitions		Cultural and Creativity*
		Textiles of the Future*			Water, Marine and Maritime Sectors and Ecosystem*
		Raw Materials for the Green and Digital Transition*			

CROSS-PILLARS I AND II

European Open Science Cloud

- Institutionalised Partnerships (Art. 185/7)
- Institutionalised Partnerships / EIT KICs
- Co-programmed
- Co-funded
- Proposed new candidate European Partnerships under the Horizon Europe strategic plan 2025-2027

* Partnership not yet launched

** Direct continuation of a H2020 partnership

Source: European Commission

14 The launch of the Water, Marine and Maritime Sectors and Ecosystems KIC is subject to a positive outcome of the Commission's ex-ante analysis evaluating the relevance of this field, as foreseen in the EIT Strategic Innovation Agenda 2021-27.



To support this and future selection processes, the expert group devised a methodology to enable objective and systematic analysis and assessment for the development of a coherent and strategic portfolio of European Partnerships¹⁵.

The full effects of the R&I undertaken today will unfold only well into the 2030s and the ensuing economic and societal impact will take some time to materialise. Moreover, in fast-growing technologies and sectors, there is a need to react to emerging opportunities and address systemic failures along the value chain that could hamper Europe's efforts to attain leadership and/or strategic autonomy. Therefore, careful consideration is of the utmost importance when identifying areas that are likely to be of high political relevance in the future and in which RDI is expected to make significant contributions to responding to technological, economic and societal challenges.

Looking at the current partnership landscape, while an extensive reform and rationalisation was carried out between H2020 and Horizon Europe, reducing the number of European Partnerships from 120 to 59, this rationalisation has come almost exclusively from the merging or discontinuation of public-public partnerships. To introduce a coherent life-cycle approach for all European Partnerships, the notion of exit strategies from Horizon Europe funding was included in the Horizon Europe Regulation (Annex III). In total, from both the first and second strategic plans, only 10 partnerships (17 %) are in brand new thematic areas: Clean Steel; Globally Competitive Space Systems; Connected, Cooperative and Automated Mobility; Zero-emission Waterborne Transport; BATT4EU; Pandemic Preparedness; the European Open Science Cloud; Virtual Worlds; Textiles of the Future; and the cultural and creative industries.

There has been a stable core of partnerships based on predecessor initiatives that have funded the same or similar activities and stakeholders through multiple framework programmes. It has proven to be rather difficult to terminate, replace or reshape existing partnerships, leading to a mushrooming of (sometimes overlapping) initiatives. Establishing partnerships in entirely new fields is challenging and therefore rare. The PKH observed that the first batch of partnerships largely builds on predecessors under Horizon 2020 and that achievement of the desired coherence between partnerships and other Horizon Europe initiatives is limited due to the parallelism of many preparatory processes and simultaneous adoptions, as well as the pandemic situation.

A broad thematic analysis of the portfolio of European Partnerships shows that there are thematic areas that are comparatively well covered, such as climate change, environmental degradation, hyperconnectivity, resource scarcity and health. Conversely, social and human-related megatrends such as security, demographic shifts and governance are covered only remotely, while education and skills are covered mainly by the EIT KICs. These observations, however, do not imply that partnerships are missing in such areas. A complementary assessment on adequacy and necessity would be needed before drawing such conclusions.

Looking at the nature of these thematic areas, they can be divided into two types: horizontal thematic areas and vertical thematic areas. The horizontal partnerships have a central position in the overall portfolio as they are expected to develop methodologies and technologies for application in other priority areas, ultimately supporting European strategic autonomy in these areas, as well as technological sovereignty. These horizontal partnerships are typically proposed as Institutionalised or Co-programmed Partnerships, while some are EIT KICs. Vertical partnerships focus on the needs and development of specific application areas and are primarily expected to support enhanced environmental sustainability, thereby addressing the European Green Deal-related objectives. The portfolio of partnerships after the first strategic plan featured 17 horizontal and 33 vertical partnerships, but the second batch has more of the former, leading to a light shift in the balance of the full portfolio with 22 horizontal (37 %) and 37 vertical (63 %) partnerships.

15 [Assessing European partnerships against European policy priorities](#) - Publications Office of the EU (europa.eu) DOI 10.2777/62770.

Thus far, the identification of European Partnership themes has been the result of a bottom-up process. To ensure that the portfolio of European Partnerships remains fit for purpose in a dynamic context and that resources are strategically allocated, the individual assessment of each partnership candidate should be complemented with a strategic overview of the portfolio as a whole, including considerations such as its comprehensiveness, coherence and efficiency. This would require the addition to the process of an open scan of potentially highly relevant/important areas for joint European R&I efforts. Such a structured and comprehensive assessment would provide guidance on the need for a partnership in a new area, or the need to continue or re-shape a partnership or to disinvest.

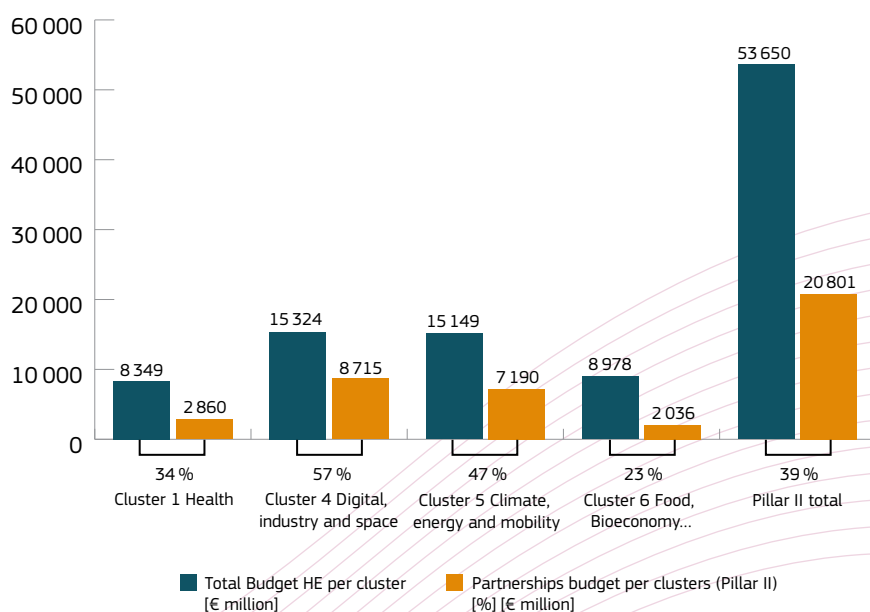
1.2.2 THE PORTFOLIO OF EUROPEAN PARTNERSHIPS: BUDGET

The Horizon Europe Regulation establishes a ceiling for the share of the budget that can be dedicated to all types of partnerships under Pillar II: 49.9 %. The EU’s contribution is defined for the full duration of all European Partnerships, but there is flexibility to either decrease (e.g. if partners fail to meet their commitments) or increase it, provided it is at least matched by the partners and considering other budgetary needs in the cluster.

Up to now, as part of the first strategic plan, more than EUR 67.7 bn has been committed to European Partnerships: EUR 24.95 bn from Horizon Europe (36.8 %) and EUR 38.6 bn from partners other than the Union, out of which EUR 15.6 bn is from Member States and Associated Countries (23 %) and about EUR 23 bn comes from industry (34 %). The remaining 6.2 % comes from other EU commitments (REPowerEU, the Digital Europe Programme and the Connecting Europe Facility).

With the seven-year Multiannual Financial Framework (MFF) and the additional NextGenerationEU budget, the budget proposed for the 50 partnerships under the first strategic plan therefore accounts altogether for 39.81 % of the Pillar II budget and 26 % of the total Horizon Europe budget. Considering the budget cap for partnerships in Pillar II (up to 49.9 %), the remaining budgetary margin is around 10 % of the Pillar II budget (i.e. EUR 5.3 bn), a margin into which the candidate partnerships from the second strategic plan will tap. It should be noted that whether the partnerships’ budgets will reach the ceiling will depend on several other ongoing developments, such as possible top-ups in light of third country contributions to Horizon Europe, as well as the cuts proposed as part of the mid-term revision of the MFF.

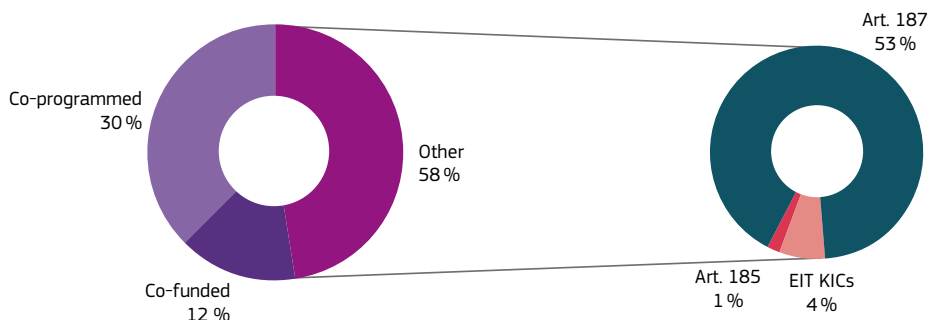
FIGURE 4. European Partnership budgets in Horizon Europe cluster budgets



Source: European Commission



FIGURE 5. European Partnership budget split based on form of implementation

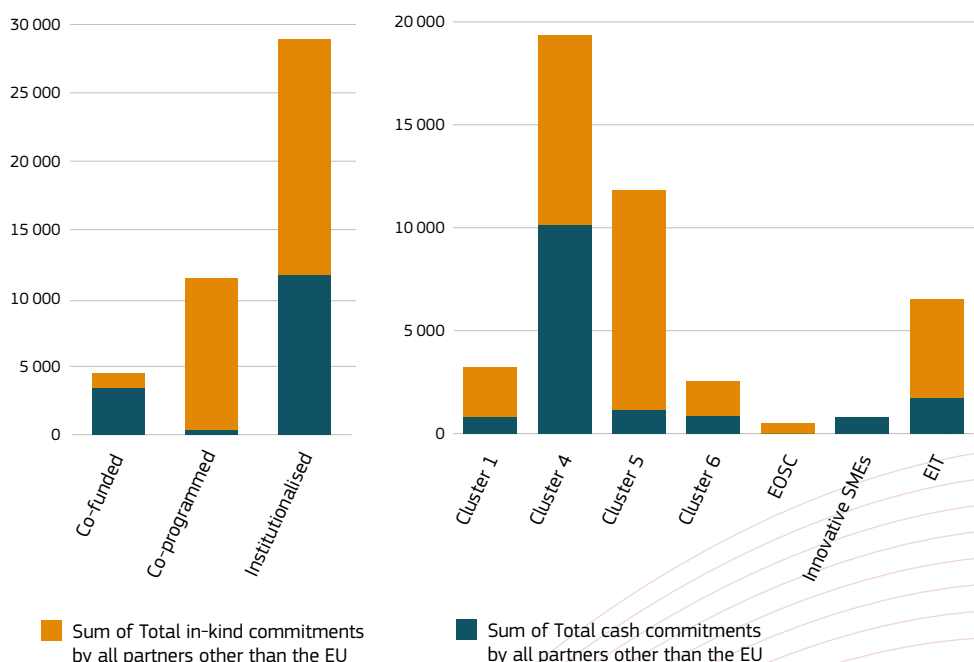


Source: European Commission

Institutionalised Partnerships take up the biggest share of the Horizon Europe budget for partnerships (58 %). Of the Institutionalised Partnerships, the largest share of the budget is dedicated to the 10 JUs (based on Article 187 of the TFEU). The Co-programmed Partnerships take up 30 % of the Horizon Europe partnership budget, while Co-funded Partnerships account for 12 %.

Regarding progress on commitments up to August 2023 (or the latest available date), the Co-programmed Partnerships are in the lead, mainly due to in-kind commitments. It is also interesting that the European Open Science Cloud (EOSC) in-kind commitments have exceeded initial expectations. As regards clusters, partnerships in Clusters 5 and 4 Partnerships along with the EIT KIC community, have made the most progress, having committed 52 %, 35 % and 37 % of their total resources respectively, both in kind and financial, as of August 2023 (or the latest available date).

FIGURE 6. Total in-cash and in-kind commitments by all partners other than the EU (EUR million)



Source: Common Indicators Survey: Indicator 1 - BMR 2024¹⁶.

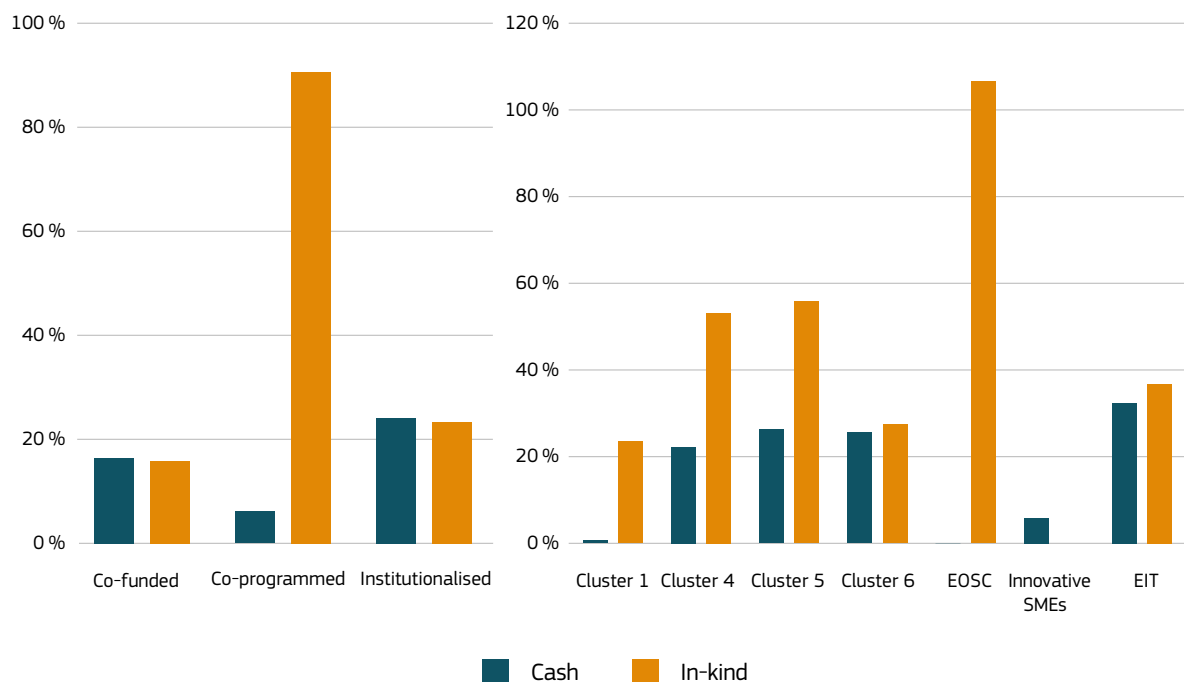
Entries for 'in cash' = 38, entries for 'in-kind' = 31.

Cluster 1: Health; Cluster 4: Digital, Industry and Space; Cluster 5: Climate, Energy and Mobility; Cluster 6: Food, Bioeconomy, Natural research, Agriculture and Environment.

16 Indicator 1: Progress towards (financial and in-kind) contributions from partners other than the Union - i.e. committed vs. actual contributions at contract signature (direct leverage).



FIGURE 7. Progress of commitments (financial and in-kind) from partners other than the Union by August 2023 (or latest available date) (% of total partnership budget)



Source: Elaborated from Common Indicators Survey: Indicator 1 – BMR 2024.

Cluster 1: Health; Cluster 4: Digital, Industry and Space; Cluster 5: Climate, Energy and Mobility; Cluster 6: Food, Bioeconomy, Natural Research, Agriculture and Environment.

1.3 STRATEGIC COORDINATING PROCESS

The strategic coordinating process is the governance framework for the realisation of the strategic approach to EU R&I partnerships. One of its key objectives is to provide policymakers with a strategic overview of and evidence on the impacts and added value of the partnership approach. By building a European Partnership community, it should also provide feedback and advice to the partnerships themselves on cross-cutting issues, such as implementation of synergies and increasing the visibility and transparency of information on the partnership landscape.

The main vehicle of this process is the BMR. It provides the necessary evidence base to inform strategic discussions on the partnerships, including how they fit with the overall R&I system and development of ERA. At the heart of this are the efforts to radically improve understanding and tracking of the added value and impacts generated by partnerships in order to support the achievement of common EU objectives, at both EU and MS level.



To implement the strategic coordinating process, the Commission has set up the PKH¹⁷, a formal structure for collaboration between the Commission and the authorities responsible for national coordination and participation in EU R&I partnerships by EU MS, Iceland, Israel, Norway and Türkiye¹⁸. In October 2021, the German representative, Alexander Grablowitz was elected for a 3-year term as MS co-chair of the PKH. The Commission co-chair is the Head of Unit of the Common Missions and Partnerships Service.

The Partnership Stakeholder Forum, established in 2022, serves as a platform for the exchange of information and experience and networking within the partnership community. The first forum, in November 2022, focused on reviewing the initial year of partnerships, emphasising their role in the twin green and digital transitions and enhancing Europe's resilience and sharing experience to identify successful partnership models. The second forum, in December 2023, included a review of the implementation status of European Partnerships from the first strategic plan, discussions on expanding the partnership portfolio under the second strategic plan and initial community discussions on European Partnerships in the next Framework Programme.

Since 2021, the monitoring and evaluation of European Partnerships have been fully integrated into the Horizon Europe framework, ensuring better harmonisation of monitoring mechanisms. At project level, monitoring and reporting are being integrated into Commission IT systems to enhance transparency on partnership performance without imposing an additional reporting burden on beneficiaries. Beyond individual projects, partnerships are required to report on and monitor progress towards general, specific and operational objectives. Each partnership develops its specific monitoring frameworks, either added to the SRIAs or adopted by the Partnership Governing Board and published separately. This approach is intended to measure the added value of partnerships comprehensively.

To enable monitoring across the partnership landscape, the Commission – with the support of the expert group – has developed a set of common indicators on the functioning of all European Partnerships. These are closely linked to the new policy approach and added value generated by partnerships as compared to other Horizon Europe modalities such as traditional calls. The common indicators also capture other aspects of ERA, such as the structuring effect and improvements in national R&I systems.

Eventually, all partnerships will be evaluated as an integral component of the Framework Programme and along with other Horizon Europe modalities and instruments. This will make it possible to assess European Partnerships and their impact in their proper policy context. The BMRs and data collected feed into these evaluations, including the mid-term evaluation of Horizon Europe.

1.4 STRUCTURE OF THE REPORT

After this introduction to the continuously evolving landscape of European Partnerships, Chapter 2 provides insights into how the European Partnerships function as policy instruments in relation to the overall objectives defined for them and how European Partnerships contribute to relevant European policy priorities.

Chapter 2.1 on their functioning as policy instruments looks, in particular, into the partnerships' ability to create European added value (additionality); attract funding and other resources from across the EU and ACs and align these resources with jointly defined thematic areas (directionality); attract new partners and initiate collaboration within and outside the EU (transparency and openness); and identify and create synergies within and among the partnerships, as well as between the partnerships and other instruments and initiatives.

17 [Register of Commission expert groups and other similar entities \(europa.eu\)](https://europa.eu)

18 In line with the Terms of Reference, other Associated Countries may join the group by expressing their interest.



The relevant European policy priorities selected for this report include the twin green and digital transitions and resilience – priorities also covered in the BMR 2022. The new topics selected for this report are technological sovereignty and international positioning of European R&I in the context of European Partnerships. All of these topics are discussed in Chapter 2.2.

Chapter 3 begins with an overview of how MS and selected ACs participate in European Partnerships and what benefits they expect and have already gained from their participation. This is followed by a reading guide for the country fiches, which form the main content of this chapter. The country fiches include all 27 MS and three ACs (Iceland, Norway and Türkiye).

Chapter 4 begins with an analysis of partnership KPIs. This is followed by a reading guide for the partnership fiches, which form the main contents of this chapter. The report contains fiches for 44 of the 50 European Partnerships launched under the first strategic plan. It thus introduces seven new partnerships that did not feature in the BMR 2022.

This report is complemented by a separate technical document which contains detailed descriptions of how the BMR 2024 was compiled, including a description of the process, data collection templates, issues related to the quality and availability of data, issues related to the data collection process and the various methodological issues related to the analyses presented in chapters 2, 3 and 4.

2. PROGRESS AND CONTRIBUTIONS OF EUROPEAN PARTNERSHIPS

HIGHLIGHTS OF THIS CHAPTER

THIS CHAPTER ADDRESSES THE FOLLOWING QUESTIONS.

How are European Partnerships performing as policy instruments against the objectives set for them – additionality, directionality, transparency, openness, coherence and synergies? (Chapter 2.1)

How are European Partnerships contributing to the achievement of European policy objectives – technological sovereignty, international positioning, green transition, digital transition and resilience? (Chapter 2.2)

Because implementation of some European Partnerships has just started, **data regarding their performance and impact on Horizon Europe is currently limited**. This report provides both illustrative and indicative observations based on the data available so far.

This chapter covers 43 European Partnerships officially launched at the time of publication of this report. The number of European Partnerships is expected to reach 50 by the time all partnerships currently planned under the first Horizon Europe strategic plan (2021-2024) have officially been launched.

For the vast majority of European Partnerships, **technological sovereignty is highly relevant**.

European Partnerships are **major contributors to the digital and green transitions, resilience and the SDGs**. The share of resources allocated to contribute to these objectives is significantly higher in Horizon Europe than in H2020 and has continued to grow since the BMR 2022.

The **Cluster Specific Impact Pathways (CSIPs) provide** a framework and basis for further analysis and **insight into the combined impacts of the partnership portfolio**. Updated CSIPs confirm concentration on the same macro-level objectives as reported in the BMR 2022.

The main difference between the previous BMR and the present report is the **clear shift from the planning phase of synergies to the implementation phase**. The current BMR includes multiple examples of synergies among European Partnerships, as well as synergies between European Partnerships and EU Missions and other EU programmes.

SELECTED KEY FIGURES¹⁹

36 %

of the collective European Partnership resources is earmarked for R&I that contributes to achieving the **resilience** objectives: a **5.8 % increase compared to BMR 2022**.

38 %

of the collective European Partnership resources is earmarked for R&I that contributes to achieving the **digital** objectives: a **22.5 % increase compared to BMR 2022**.

75 %

of the collective European Partnership resources is earmarked for R&I that contributes to achieving the European **Green Deal** objectives: a **13.6 % increase compared to BMR 2022**.

¹⁹ Resources can contribute to several objectives at the same time, resulting in a total exceeding 100 %.



2.1 FUNCTIONING OF EUROPEAN PARTNERSHIPS AS POLICY INSTRUMENTS

2.1.1 ADDITIONALITY AND DIRECTIONALITY

2.1.1.1 ADDITIONALITY

The additional private and/or public R&I investments in EU priorities (additionality) generated by the EU contribution in a European Partnership can be translated into a leverage effect resulting from the Union intervention.

Therefore, the leverage effect of European Partnerships can be analysed at distinct levels of the instrument's structure. While other levels of leverage can be considered, the following core ones are analysed here:

- **The direct call leverage:** this leverage stems from direct participation by entities other than the Union in projects funded through the partnership's calls. It divides those entities' contribution to the projects by the total EU contribution to the calls. Therefore, it corresponds directly to the funding rates used in those calls, and the mix of instruments used across the calls.

$$L_{CA} = CA_{Part} / CA_{EU}$$

- **The total direct leverage:** captures the leverage at partnership level, including both call activities and additional activities.

$$L_D = (CA_{Part} + AA_{Part}) / (CA_{EU} + AA_{EU})$$

- **The indirect leverage:** this leverage stems from activities the Partnership (or its members) develop beyond the partnership's activities. These activities are linked to the activities of the Partnership, but not directly triggered by it.

$$L_{IA} = IA / (CA_{EU} + AA_{EU})$$

- **The full leverage:** captures all resources attracted, via calls, additional, or indirect activities. It therefore consolidates the total direct leverage and the indirect leverage.

$$L_F = (CA_{Part} + AA_{Part} + IA) / (CA_{EU} + AA_{EU})$$

With:

CA_{Part} = Partners' contribution to call activities

AA_{EU} = EU contribution to additional activities

CA_{EU} = EU contribution to call activities

IA = investments into indirect activities

AA_{Part} = Partners' contribution to additional activities

TABLE 1. Observed leverage factors for each of the partnership types and each of the categories above

Partnership Type	Direct call leverage L_{CA}	Total direct leverage L_D	Indirect leverage L_{IA}	Full leverage L_F
Co-funded	no data*	2.17	0.03	2.21
Co-programmed	0.14	1.39	2.16	3.55
Institutionalised (Art 185/7)	0.88	1.44	0.20	1.64
KICs**	0.59	2.35	3.24	5.60
Average	0.52	1.63	1.21	2.83

Source: the direct call leverage is based on CORDA data actualised until 1 July 2024 and for the KICs on the administrative data provided by the EIT, the total direct leverage is based on self-reported contributions from partners envisioned for the whole duration of the partnerships, from the Common Indicators Survey – BMR 2024, the indirect leverage is based on self-reported indirect investments from the Common Indicators Survey – BMR 2024, and the full leverage is based on the data used for the total direct and indirect leverages. The KICs' self-reported data was cross-checked with their operational reporting according to the EIT Regulation and Strategic Innovation Agenda. It is to be noted that self-reported data generally has a lower reliability than data extracted through CORDA.

*The data in CORDA does not allow to differentiate between calls and additional activities. Therefore, the direct call leverage cannot be estimated.

**As the calculations are made over the whole duration of the partnerships and not only Horizon Europe, the contributions (partners and EU) for the KICs are calculated for their duration across H2020 and Horizon Europe, counting contributions made during both Framework Programmes.



According to the leverages presented in Table 1, the following can be noted:

● **Direct call leverage:**

- Across all partnership types (excluding Co-funded Partnerships) the direct call leverage is 0.52, meaning that for every 1 euro invested from the EU budget, an additional 0.5 euro is invested through the co-financing by beneficiaries in projects resulting from the calls launched by the European Partnership. This corresponds to an average funding rate in these projects of about 66%. An important policy conclusion from this is that this leverage factor is considerably higher than the 0.09 observed for classic Horizon Europe calls and that partnerships therefore play an important role in generating additional funding through a strategic use of public funding. Given the revived attention to the 3% investment objective, this is an important conclusion.
- Co-programmed Partnerships present a direct call leverage of 0.14, corresponding to an average co-funding rate of 87.9%. This leverage factor likely reflects the mix of Innovation Actions and Research and Innovation Actions in their work programme calls.
- Direct call leverage for institutionalised European Partnerships (excluding KICs) is 0.88 (average co-funding rate of 46.9%). The lower observed funding rates in these Partnerships may be linked to the tri-partite structure in a number of these Partnerships, in which the Participating States contribute to the funding of projects, hence reducing the EU funding rate). The direct call leverage for the KICs is 0.59, corresponding to an average funding rate of 63%.

● **Total direct leverage:**

- Across all partnership types, total direct leverage amounts to 1.63, meaning that for every euro invested from the EU budget, partners other than the Union invested an additional 1.63 euro in contributing to partnership activities (call and additional).
- As for Co-funded Partnerships, current data does not allow to make a distinction between call-based activities and additional activities. Co-funded Partnerships present a direct call leverage of 2.17, corresponding to an average cofunding rate of 31.5%, which captures the mix between 30% and 50% cofunding rates depending on the partnership. However, in cofunded partnerships' call activities, there is a second layer of cofunding, in which the partners other than the Union channel the EU funding to their respective entities using their own rules and therefore their own funding rates. As a result, the total direct leverage will, in reality, be higher than 2.17.
- The total direct leverage is the highest for the KICs with a factor of 2.35.
- For Co-programmed and Institutionalised European Partnerships (excluding the KICs) it is 1.39 and 1.44 respectively. These leverages are significantly higher than the direct call leverage for these same types of partnerships, reflecting the fact that they are typically designed to trigger investment from other sources through additional activities.
- While these figures are based on self-reporting by the partnerships, and their reliability therefore difficult to guarantee, they do show that European Partnerships have the potential to trigger considerable amounts of co-investment by the Partners other than the Union, even if this is frequently in 'in kind' rather than in 'in cash' terms.

● **Indirect leverage:**

- The average indirect leverage across all partnership types is 1.21, lower than the total direct leverage.
- For Co-funded European Partnerships, the figure is 0.03, as the typical activity which generates this leverage is not within the scope of this type of partnership. Moreover, 6 of them having just kicked off, little indirect activities are likely to have been triggered.



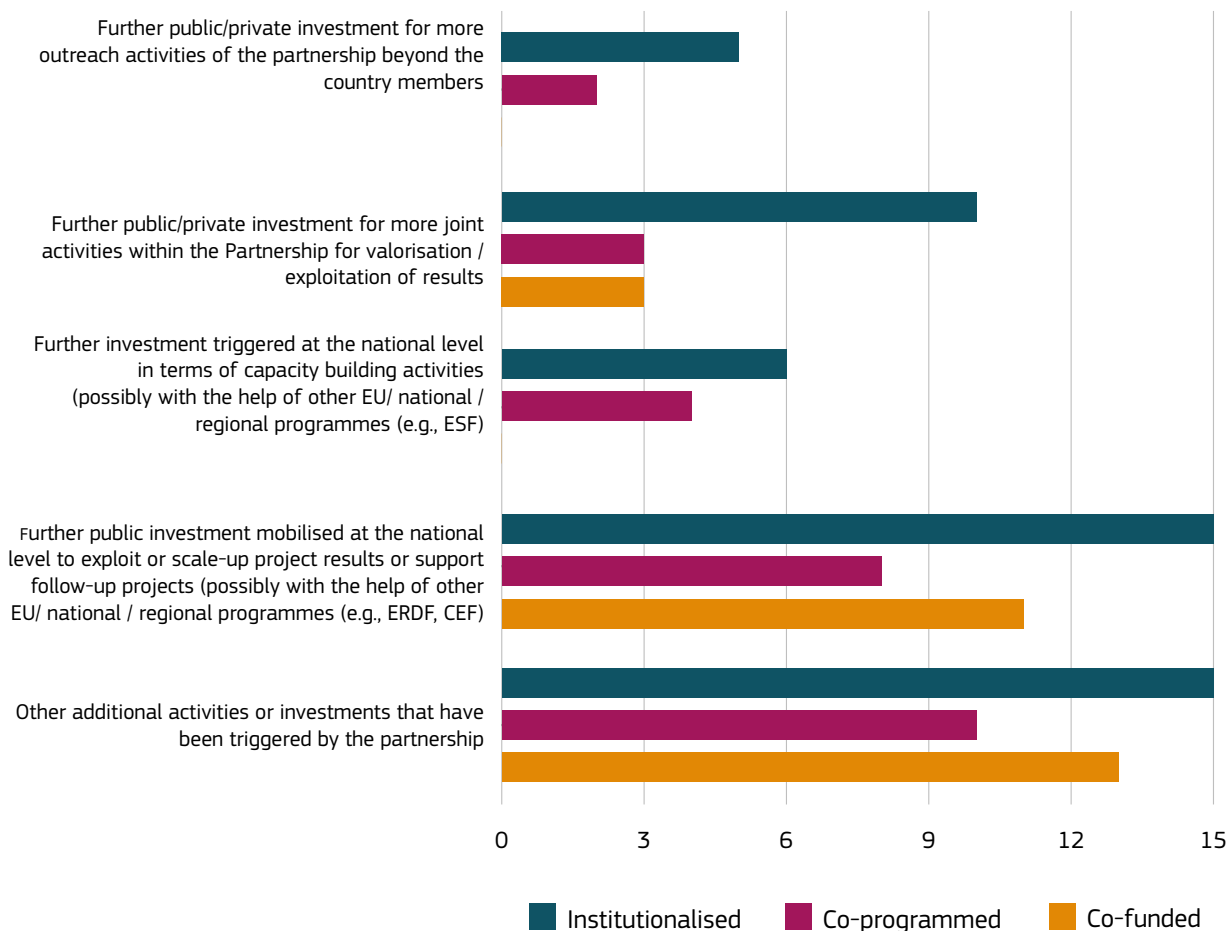
- Among the other partnership types, the Co-programmed Partnerships and KICs stand out with an indirect leverage of 2.16 and 3.24 respectively, while Institutionalised Partnerships (excluding KICs) a leverage factor of 0.20. There is again a major policy conclusion to be drawn from this: although Joint Undertakings were set up to operate rather close to market, their outcomes as of yet do not appear to trigger very substantial investment to push the outcomes of the partnership further down the path towards innovation.
 - It is worthwhile to mention here again that given the self-reporting nature of this data and the fact that indirect activities are likely to be triggered further down the life-time of the partnership, the figures reported in this report are to be taken with the necessary caution.
- **Full leverage:**
- Across all partnerships, the full leverage is 2.83, meaning that every euro invested from the EU budget in the partnerships attracts overall an additional 2.83 euros from other sources (via calls, additional and indirect activities). The policy conclusion here is that, in contrast to Horizon Europe overall, European Partnerships do use public EU funding to trigger progress towards the 3% objective.
 - KICs stand out with a full leverage of 5.6, followed by Co-programmed Partnerships with 3.55, Co-funded Partnerships with 2.21 and Institutionalised Partnerships (excluding KICs) with 1.64. As noted before, the fact that Institutionalised Partnerships (which in this case are only the Joint Undertakings and Article 185 initiatives) have a substantially lower leverage than the other types is something that deserves further investigation.
 - For each type of partnership, looking at the increasing factor from the direct call leverage, to the total direct leverage, and then to the full leverage, shows the “layering” of these 3 leverage levels, capturing each time a larger scope of activities (from calls only, to calls + additional activities, to calls + additional activities + indirect activities).
 - Comparing the total direct leverage and the full leverage in particular sheds light on interesting findings. Indeed, indirect activities play a big role in the Co-programmed Partnerships’ and KICs’ leverages, multiplying it by 2.5. The full leverage of Co-funded and Institutionalised Partnerships (excluding the KICs), however, remains relatively identical to the total direct leverage for the time being.

A further dimension of additionality is the nature of the additional actions/investments²⁰ that have been triggered by the participation in partnerships, e.g. launch of a complementary national/regional programme to follow-up results or follow-up successful projects or high-quality proposals that were not funded by partnership (Figure 8).

20 For the Institutionalised and Co-programmed Partnerships, additional activities are considered to be the in-kind contributions of non-members of the respective Association members of the Partnerships, the investments on additional activities by non-members, and the investments on the operational activities described in the MoUs.



FIGURE 8. Types of additional activities or investments triggered by the partnerships



Source: Elaborated from Common Indicators Survey Indicator 2 - BMR 2024

The respondents to the Common Indicators survey²¹ claim that most of the partnerships (across all types) mobilised further public investment to exploit or scale-up projects results or the follow-up of projects with additional EU/national/regional funding. Additional actions and investment were triggered in terms of capacity building actions in the case of the Institutionalised Partnerships, that seem to address valorisation and exploitation of results as additional activities more than the other types of partnerships. This is possibly due to the in-kind additional activities of the Institutionalised Partnerships, which are considered as additional contributions linked to the partnership but not directly as part of the action.

21 Indicator #2 : Broader investments beyond the contributions from partners and triggered by the partnership that contribute to achieving their objectives.



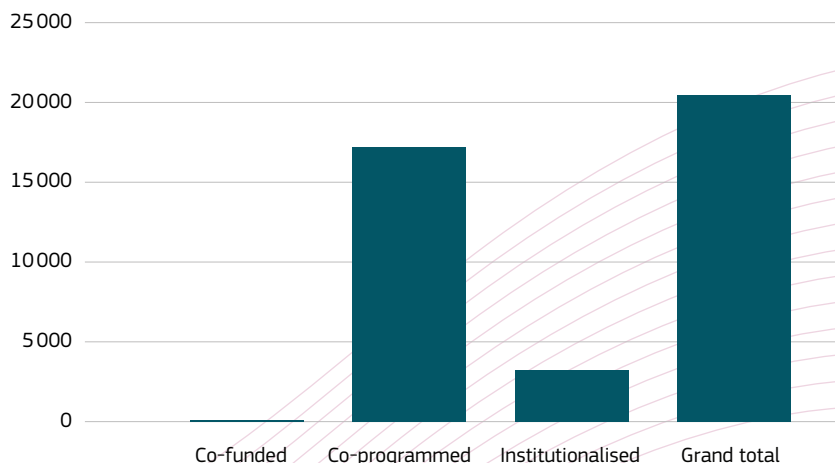
The partnerships also noted other examples of additional activities including:

- Additional calls (a Mirror group Call under the Photonics Partnership, the Research Fund for Coal and Steel Annual Call for funding R&D&I projects)
- Supporting open-source technology development and consortia, supporting policy makers on regulation and impact of AI on public sector (AI-Data-Robotics)
- Outreach and dissemination activities (e.g. the Tech Tour (EPVF) and Media Publications for Photonics, ESTEP dissemination days and outreach activities beyond EU members for Clean Steel)
- the Technical Assistance to generate synergies with Members States and Regions, the Project Development Assistance for Regions II - Cohesion Countries, Outermost Regions and Islands, and the provision of Seals of Excellence to successful Hydrogen Valley projects that could not be funded by the JU.

Although the data was provided by only 20 partnerships, the attempted estimation of the total amount for the additional activities triggered by the partnerships supersedes €20 bn in total, with the Co-programmed Partnerships having the largest share.

Examples of additional activities can also be identified drawing on the Country Fiches. For instance, Belgium has been supporting the follow-up of ERA-NET projects or the sustainability of certain partnerships with national funding (example IRAsme and CorNet). Croatia has also been supporting the follow-up of projects. Austria launched four transformative national research and innovation missions that directly correspond to European Partnerships (Climate Neutral Cities, Clean Energy Transition, Mobility Transition and Circular Economy). All aim at pursuing Austrian and European policy goals such as Fit for 55, the Net Zero Industry Act, the Critical Raw Materials Act, the European Green Deal and many more. For these four transformative missions Austria developed long-term impact and evaluation plans until 2030 and secured sufficient and stable R&I funding until 2026. The German federal government's new 'Zukunftsstrategie Forschung und Innovation' (2023) ('Future Research and Innovation Strategy') places an emphasis on national programmes and activities that complement the European Partnerships, the missions and other European initiatives across a wide range of thematic areas. In the health sector, Germany aims to make decisive progress in the fight against cancer through the implementation of the National Decade against Cancer, the EU Mission against Cancer, the National Cancer Plan and Europe's Plan against Cancer. Finland's implementation plan of the national R&D Funding Act includes several actions aiming to increase participation in partnerships, for example by improved advisory services and increased matching funding.

FIGURE 9. Total estimated amount of investment referring to the additional activities triggered by the partnerships [€ million]



Source: Elaborated from Common Indicators Survey Indicator 2 - BMR 2024



Cyprus launched the BRIDGE2HORIZON scheme aiming to strengthen the capacities of Cypriot R&I entities and promote scientific excellence in specific thematic areas of the Smart Specialisation Strategy, and thus increase success in HE instruments including partnerships. In the Netherlands, a temporary extra impulse of €12 m per year national funding has been created, to allow the Dutch Research Council (NOW, and ZonMw) to invest extra in Co-funded Partnership calls that are of specific interest to our scientific community, and to allow for more flexibility and strength in funding excellent projects with Dutch participants within transnational consortia. In Türkiye, a new national support programme (TÜBİTAK-1709- EUREKA – EUROSTARS) has been launched to enhance the participation of Turkish stakeholders to calls of EUROSTARS III. The new programme triggers the national industry-academy cooperation, and an increase has been observed in terms of number of applications and funded projects compare to the EUROSTAR II. In Italy, a set of coordinated targeted measures have been set forth in the context of the National Recovery and Resilience Plan to create the enabling framework for a new system of collaboration research-to-industry to strengthen research, innovation and technology transfer value chains in key technology areas (€4.3 bn investment). Although these measures are not related directly to the European Partnerships, it is expected that both levers (the measures to create national ecosystems and the partnerships) will operate in a synergetic way where national measure builds capacities and enabling conditions, and partnerships bring in projects and results for further valorisation.

The network of the National Contact Points (NCP) was redesigned in Croatia to support the participation in European Partnerships and to provide additional support for the applicants to apply for national and transnational level follow-up programmes to maximise the results achieved via partnership related projects. The Czech Republic has created a Council for international cooperation in research, development, and innovation to better manage the participation in EU R&I initiatives. Both in the Czech Republic as well as Estonia participation in partnerships creates an excellent opportunity to link sectoral ministries with thematic European R&I policy discourses. Based on the examples included in the country fiches, the participation in European Partnerships is often seen as a possibility to maximise the impact of research efforts and simultaneously a steppingstone towards larger and more competitive projects under Horizon Europe (BMR 2022), which makes the European Partnerships attractive to researchers at different stages of their careers.

Besides the above dimensions, the added value of the partnerships refers to enabling national coordination. There are plenty of examples of such effect in the country fiches. For instance, in France, the implementation of partnerships has led to the development of coordinating structures at national level (e.g., mirror groups) to be more effective in the European landscape. In this context, the five national thematic alliances (made up of national research organizations and universities) have had an important role in terms of programming. Similarly, Portugal is deepening the inter-ministerial/inter-institutional collaboration created in the previous framework programme. This creates national mirror working groups in strategic and priority areas for the country, with non-traditional actors such as policy makers, civil society agents, regulators and other stakeholders. In Italy, thanks to the opportunities provided by the partnerships, the dialogue and coordination among different ministries has increased, even if a complete alignment is still far from being achieved, mainly due to the different sources of funding. The commitment of Recovery and Resilience funds in strategic European Partnerships has contributed to aligning national R&I priorities at the EU level.

2.1.1.2 DIRECTIONALITY

Alignment is at the core of the development of the European Partnerships' SRIAs, and the alignment of national/regional policies under the SRIA is a key pre-requisite across all partnership types, whether country-driven or otherwise. Based on the responses to the Common Indicators Survey, the development of the SRIAs is a highly interactive process involving several consultations (through workshops and possibly surveys) addressing a variety of stakeholders (national, regional and European policymakers; industrial associations where relevant; research actors; programme committees; the European Commission; etc.).

The role of State Representative Groups (SRGs) for the Institutionalised Partnerships or of mirror groups for the Co-funded Partnerships is crucial in establishing communication on and close alignment of national and regional policies. The SRGs are usually mandated to provide opinions on links to national and, where relevant, regional initiatives, including cohesion policy funds. The mirror groups are responsible for providing advice on development of the SRIAs after considering regional



and national priorities and identifying overlaps and room for collaboration. Their feedback is collected during the formal consultations on the SRIAs and the associated work programmes and call topic texts. Partnerships have set up special measures (so-called firewalls) to ensure that no conflict of interest is raised during the definition of the call topics due to the participation of research performing organisations (RPOs) in the mirror groups and the partnership governance structures.

Additional structures established to foster alignment include the following.

- The Partnership for the Assessment of Risks from Chemicals has established National Hubs (NH) in participating countries with designated National Hub Contact Points (NHCPs) that coordinate exchange with national ministries, national partners and other relevant national stakeholders and contribute to the development of synergies with related national/EU initiatives.
- The EOSC-mandated organisations, representing national interests and national EOSC structures, i.e. national networks of institutions committed to making open science the new normal in their countries in line with EOSC objectives, through direct contact with or involvement of ministries and local governments.
- Steering groups of national policymakers have been established for the three transition pathways (thematic priorities) of the Driving Urban Transitions Partnership (DUT) to align implementation measures with national strategies. The DUT Cities Panel has been established to ensure alignment with local strategies. The AGORA dialogues (DUT stakeholder community) are organised for wider consultation, giving various stakeholders the opportunity to engage with, co-design and reflect on planned activities, call priorities, outcomes, etc. The DUT Synergies Forum is a forum for alignment and cooperation with European-level networks and initiatives, focusing, in particular, on networks of cities.
- BATT4EU has collaborated with the Batteries Europe National and Regional Coordination Group (NRCG) on multiple sectoral strategies.
- SBEP has set up a liaison office in Brussels to connect the national/regional and European dimensions.
- EIT Health has reported on the added value of its co-location centres (based throughout EU MS and regions) which support alignment with strategically relevant EU, national and regional priorities. All Knowledge and Innovation Communities (KICs) have co-location centres. An example of this is the work carried out by the EIT Health Think Tank on the European Health Data Space. The EIT Health Think Tank is currently performing an analysis of the implementation of the European Health Data Space legislation through a series of roundtable discussions. This legislation is currently being discussed at EU level with roundtable discussions taking place in the different MS to ensure that regional points of view are integrated into the final, overarching EIT Health Think Tank pan-EU report.

The role of the regions is highlighted by some partnerships. For example, the goal of Clean Aviation JU action plan is to establish cooperation that goes beyond what was achieved under the predecessor programme, Clean Sky 2, in which 18 MoUs were signed with regions (and MS managing EU regional funds at national level), largely through aligning regional Smart Specialisation Strategies (RIS3) and operational programmes, as well as leveraging synergies with national/regional funding (e.g. ESIF).



Certain examples of evaluation of the level of alignment of partnerships with national/regional policies have also been highlighted. Water4All will carry out the following activities:

- Assessment of the ownership level of the Water4All strategic agenda in MS;
- Analysis of the effectiveness of instruments, e.g. knowledge hubs, thematic annual programming;
- Analysis of the impacts of water R&I in structuring national policies;
- Assessment of the extent to which Water4All influences R&I activities in national recovery plans.

The European Rare Diseases Research Alliance (ERDERA) uses specific indicators against which expected outputs will be measured regarding alignment, e.g.:

- National mirror groups created/functioning;
- Policy changes, referring to modifications made to existing rules, guidelines or procedures by governments or organisations aiming to improve assessment and understanding of the impact of rare diseases on individuals and society and the challenges posed by such diseases;
- Public-private collaborations and numbers of new collaborations;
- National rare disease R&I integration: number of countries with national rare disease research strategies aligned with EU and international collaborations supported by ERDERA.

Activities to establish alignment vary from consultations for the development of SRIAs to more concrete actions aimed at pooling resources and establishing clear synergies with national/regional programmes. As an example, Clean Aviation is identifying a group of MS willing to engage in official cooperation and the formulation of a technical co-roadmap with the JU to ensure technical alignment and support Clean Aviation phase 2 (2026-2031), which will be dedicated to technology maturation, integration and demonstration. Discussions with notable representatives of billion-EUR national aeronautics programmes have started, for example from Germany (LUFO), France (CORAC), Spain (CDTI) and the Netherlands (Luchtvaart in Transitie) to identify potential areas and schemes for cooperation. The European Partnership on Transforming Health and Care Systems has foreseen in-kind activities supporting the mapping of priorities for transformation of health and care systems across different countries and regions, the implementation of a framework supporting the transferability of health and care innovations across countries and regions, dialogue with policymakers and ecosystem actors to inform them about project results and, finally, capacity building.

Some partnerships go beyond alignment activities and influence national and regional eco-systems. This is the case for all EIT KICs under the EIT Regional Innovation Scheme (RIS)²². For instance, EIT Manufacturing explains that the RIS constitutes an integral part of its strategy, as is the case for all KICs. It is designed as a long-term initiative to strengthen the local innovation ecosystems of RIS countries that are moderate or modest innovators. In collaboration with national and regional initiatives, the KIC has already implemented activities to support innovators in utilising modern high-tech infrastructure – like Digital Innovation Hubs, Competence Centres and Key Enabling Technologies Centres – and to collaborate with national and regional stakeholders. In parallel, cooperation is being pursued through discussion at ministerial level in several RIS countries, often reflected in bilateral MoUs or cooperation agreements. For instance, EIT Climate is working with the Irish Government on shaping the regulatory environment to support decarbonisation of the agri-food sector and with the Slovenian Government on shaping the regulatory environment to enable Slovenia to become a leader in the circular economy.

22 <https://eit.europa.eu/activities/eit-regional-innovation-scheme-ris-closing-innovation-divide-europe>



The guiding principle for how countries address directionality is the level of convergence between the partnership priority areas and the national priorities as expressed in national strategies, smart specialisation strategies and RIS3. At the same time, countries are increasingly using different funding sources to support participation in partnerships, with the ESIF and the RRF mentioned most often. In the country fiches, several MS and ACs mention the alignment of participation in European Partnerships with their smart specialisation strategies. For example, according to the fiche for Cyprus, the priorities of the smart specialisation strategy and the national R&I strategy 2024-2026 are aligned with the decisions for participation in future European Partnerships. Greece has stated that consistency with its national RIS3 strategy is a criterion for selecting calls and topics related to participation in European Partnerships. Malta's participation is based on strategic identification of its R&I gaps and consultation with relevant ministries and stakeholders, as well as alignment with its smart specialisation strategy 2021-2027. Several countries have described the European Partnerships as a tool for implementing activities linked to national priorities. The Research Council of Norway and Innovation Norway have a special focus on securing funding for partnerships in areas of major national importance. Norway's national action plan on ERA 2022-24 underlines that the links between partnerships and national R&I programmes should be strengthened and synergies exploited. In comparison with the previous Framework Programme, Estonia's participation in European Partnerships has been more strategic and better aligned with national priorities, i.e. the focus areas defined in its research and development, innovation and entrepreneurship strategy for 2021-2035. Slovenia's approach to European Partnerships is closely aligned with its national policies, including the Scientific Research and Innovation Activities Act. Besides national priorities, alignment at sectoral level is also key. Sweden's industrial strengths (transport, health, ICT, energy technology, forestry, raw materials and manufacturing) are well reflected in its participation in European Partnerships.

The level of alignment of national priorities with those of the EU plays a significant role in directionality. The most active countries in European Partnerships (France, Spain, Italy, Germany, Austria, the Netherlands, etc.) show correlation between their national priorities and the priorities set at EU level (clean energy, strategic autonomy in key areas like digital tech, etc.). As Spain notes in its country fiche: 'The integration of the Spanish Research, Technology and Innovation System (SECTI) in ERA, and specifically that of the Spanish State Plan for Scientific and Technological Research and Innovation (PEICTI) is one of the main reasons why Spain holds this prominent position in the European Partnership landscape, as it addresses the alignment of the main objectives and promotes the participation of Spanish entities (mainly RPOs and RFOs) in partnerships.'

Comparing the share of funding (EU net contribution) across HE clusters between partnership projects and other HE projects, partnership projects account for a larger share in Clusters 4 and 5. However, in time, a more balanced picture can be expected as the eCORDA system does not yet include the Co-funded Partnership projects.

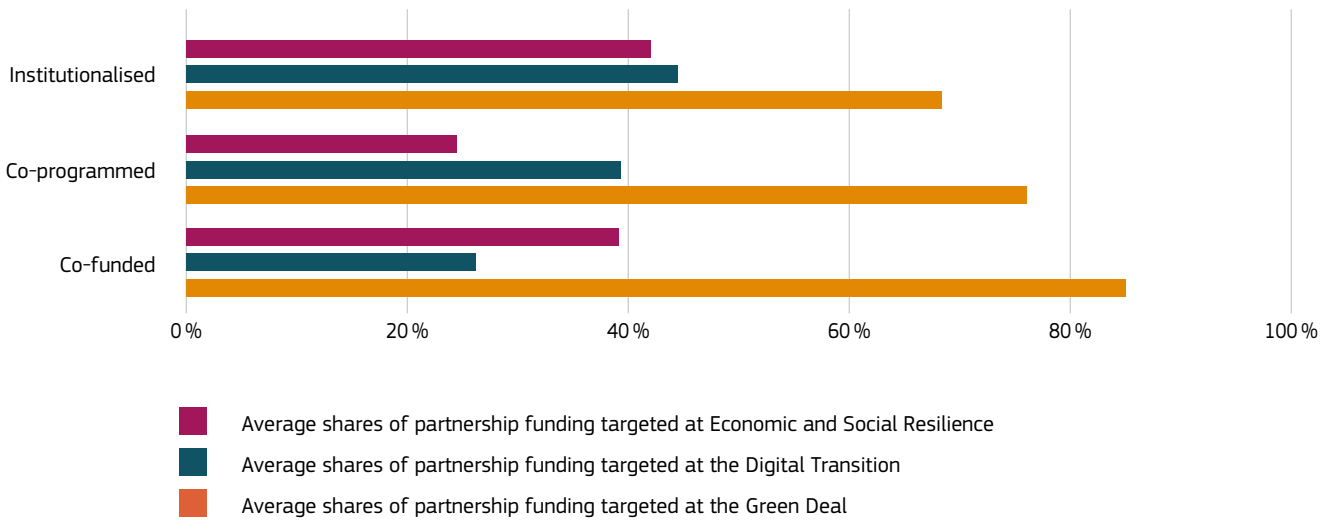
Other examples of directionality are evident in the development and acquisition of infrastructure, like in the case of EuroHPC, where joint efforts have made possible the relaunch of European supercomputing with the ambition of leadership and autonomy (see the Spain country fiche). Combining EU strategic priorities with national goals including that of gaining leadership in certain sectors is also mentioned in other country fiches, such as that of Italy. The rationale that alignment of these (additional) investments and contributions with common objectives (directionality) and the achievement of the required impacts is not possible through other Horizon Europe or national actions alone is the main justification for using a partnership approach (BMR 2022).

In terms of the share of the total partnership funding mobilised for EU priorities (Green Deal, digital transition, economic and societal resilience)²³, the partnerships present, as expected, a mixed picture in relation to these targets. The Green Deal priorities are addressed across all partnership types, although Co-funded Partnerships are dominant here. Digital transition priorities are mainly addressed by Institutionalised Partnerships, but the Co-programmed Partnerships also play an important role (the Co-funded Partnerships less so). Economic and societal resilience priorities seem to be addressed by the Institutionalised and Co-funded Partnerships to a greater extent than by the Co-programmed Partnerships.

23 Indicator 3: Share of the total partnership funding (public and private, in-kind and financial) mobilised for EU priorities after contract signature with the Commission.



FIGURE 10. Average shares of partnership funding (public and private; in-kind and financial) targeted at EU priorities by partnership type (priorities are non-exclusive, hence totals of above 100%)



Source: Elaborated from Common Indicators Survey: Indicator 3 – BMR 2024. No targets were provided by the Innovative SMEs Partnership in the survey. Total entries = 43, entries for the Green Deal = 32, entries for the Digital Transition = 29, entries for Economic and Social Resilience = 33.

Grouping partnerships in terms of clusters (Figure 11), the dominance of the Green Deal priorities is evident in all clusters, as well as in the EIT KICs, except for Cluster 1 where resilience priorities dominate as expected. The digital transition priorities receive the highest target shares in Cluster 4 Partnerships and the EIT KICs. EOSC has declared that the entire partnership budget will be mobilised for the digital transition priority, while acknowledging the cross-cutting nature of the partnership’s activities.



FIGURE 11. Average shares of partnership funding (public and private; in-kind and financial) targeted at EU priorities by cluster

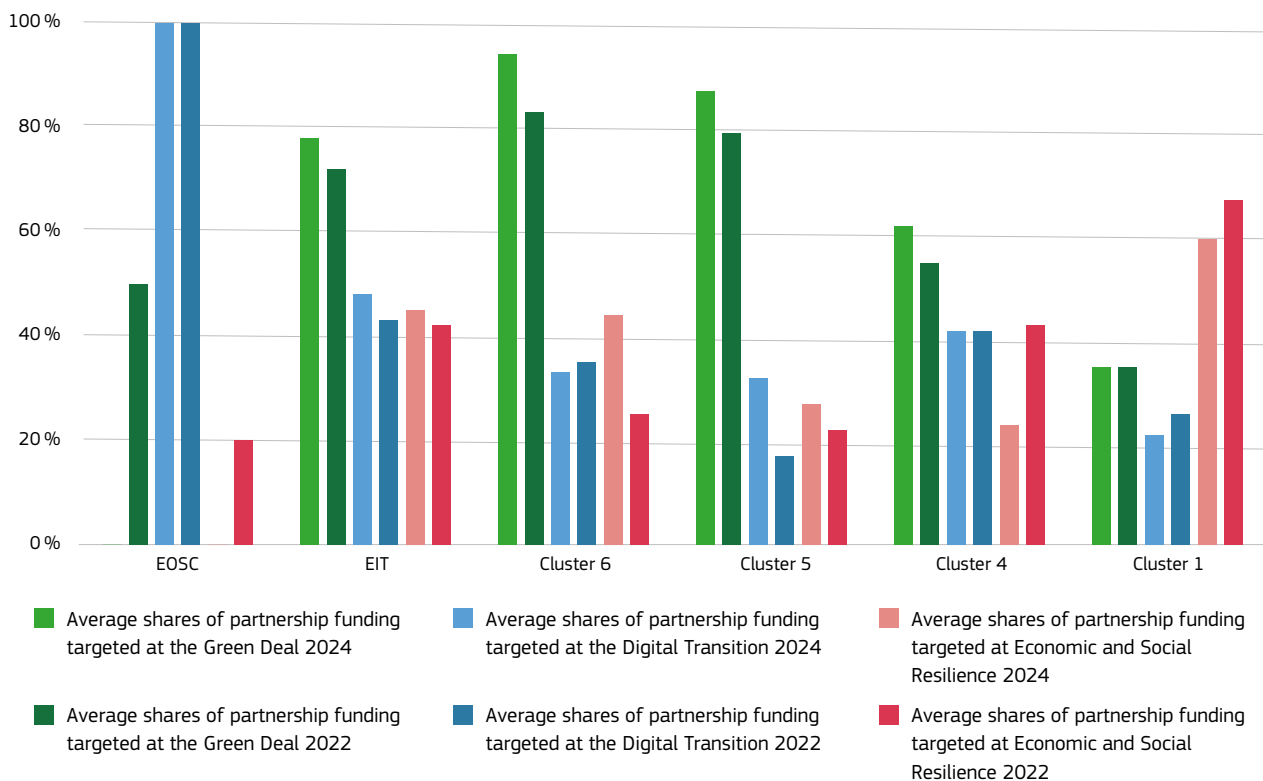


Source: Elaborated from Common Indicators Survey: Indicator 3 – BMR 2024. No targets were provided by the Innovative SMEs Partnership in the survey.
Cluster 1: Health; Cluster 4: Digital, Industry and Space; Cluster 5: Climate, Energy and Mobility; Cluster 6: Food, Bioeconomy, Natural Research, Agriculture and Environment.
Total entries = 43, entries for the Green Deal = 32, entries for the Digital Transition = 29, entries for Economic and Social Resilience = 33.

The BMR 2024 findings largely confirm the BMR 2022 estimations regarding the target share of partnership funding mobilised for EU priorities, albeit with a slight increase in the BMR 2024 estimations regarding the total share mobilised for Green Deal priorities (75 % in BMR 2024; 67 % in BMR 2022). When looking into the clusters, we see a slight increase in target shares mobilised for Green Deal priorities in the BMR 2024, compared to the BMR 2022. This is the case for all HE clusters except Cluster 1 and for the EIT KIC community. Cluster 5 declared higher mobilised shares for all three EU priorities in the BMR 2024 than in the BMR 2022, while Cluster 6 declared increased shares in the BMR 2024 for the resilience priority. The opposite is the case in Cluster 4, where partnerships declared lower shares targeted at resilience in the BMR 2024 than in the BMR 2022. In the BMR 2024, EOSC states that 100 % of its funds have been mobilised for the digital transition priority, despite the cross-cutting nature of the partnership and the fact that it stated that it also addressed the other priorities in the BMR 2022. These results must be treated with caution, however, due to the different number of responses received – 26 in the BMR 2022 and 33 in the BMR 2024 – and the fact that the respondents were not the same in both BMR surveys.

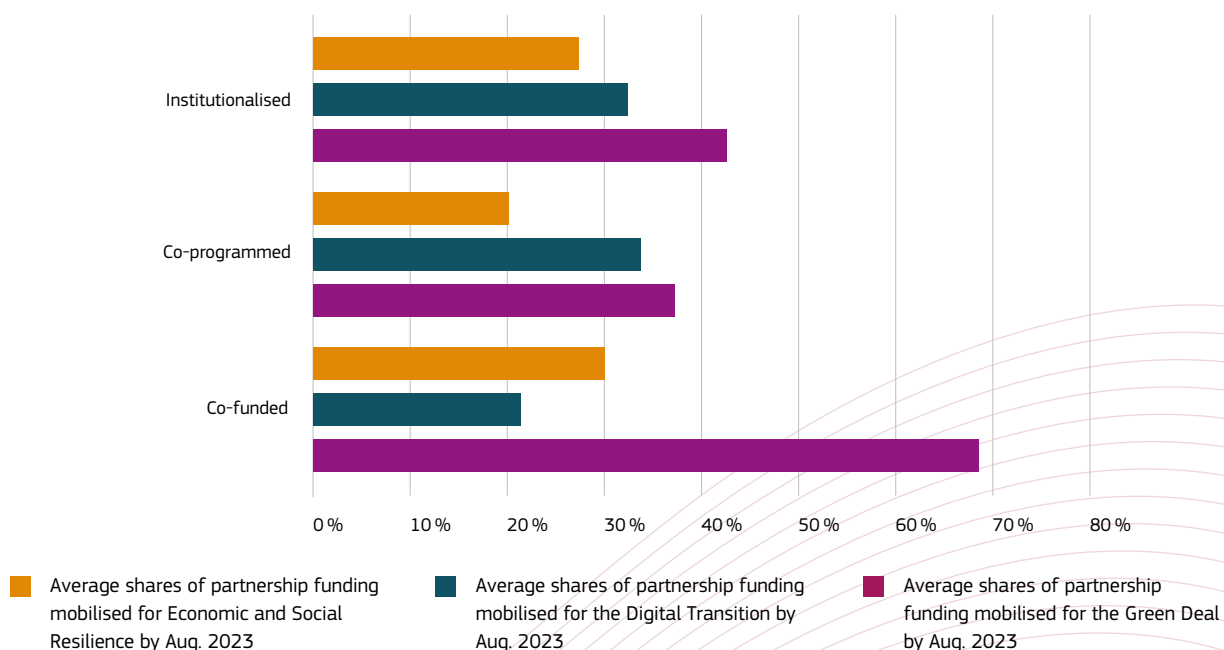


FIGURE 12. Average shares of partnership funding (public and private; in-kind and financial) mobilised for EU priorities by cluster – comparison between 2022 and 2024



Source: Common Indicators Surveys 2021, 2023.

FIGURE 13. Investments mobilised for EU priorities by August 2023 (or latest available date) by partnership type (% of total partnership budget)



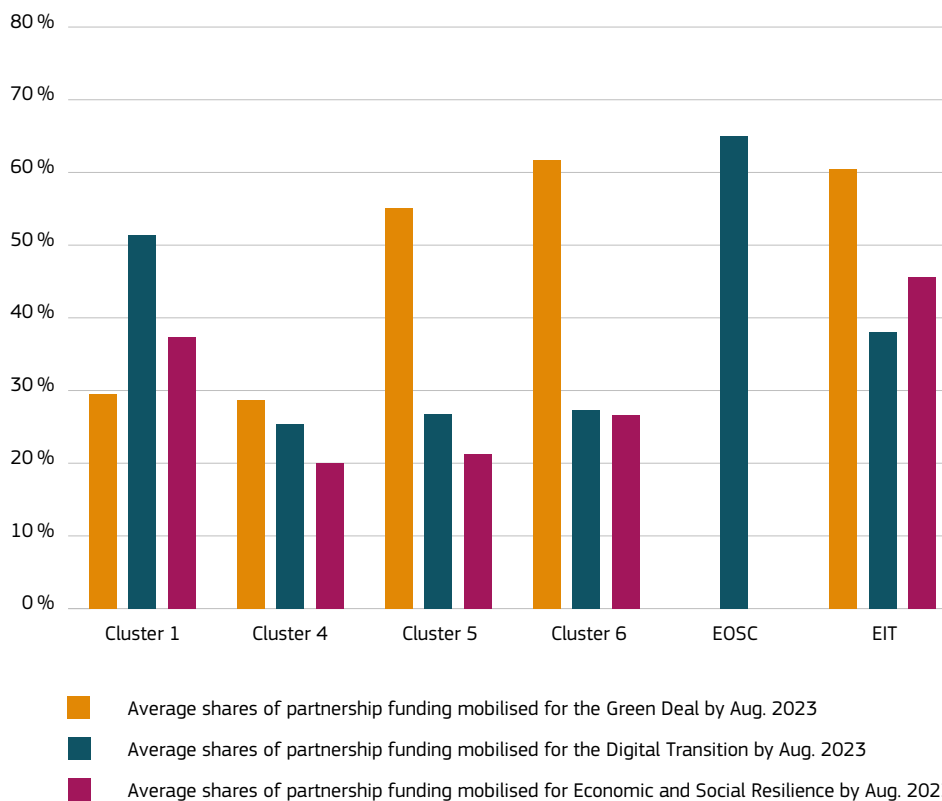
Source: Elaborated from Common Indicators Survey: Indicator 3 – BMR 2024.

Total entries = 37, entries for the Green Deal = 29, entries for the Digital Transition = 28, entries for Economic and Social Resilience = 25.



Progress on mobilisation of investments for EU priorities by August 2023 (or the latest available date) stood at 25 % for resilience, 30 % for the digital transition and 47 % for the Green Deal. So far, the largest investments are for the Green Deal priorities across all partnership types and clusters, except Cluster 1 and EOSC where more investments have been mobilised for digital transition priorities, mainly due to the focus of the calls published or the nature of the partnership. A more detailed analysis of the contribution of European Partnerships to the EU policy priorities follows in Chapter 2.2.

FIGURE 14. Investments mobilised for EU priorities by August 2023 (or latest available date) by cluster (% of total partnership budget)



Source: Elaborated from Common Indicators Survey: Indicator 3 – BMR 2024.

Cluster 1: Health; Cluster 4: Digital, Industry and Space; Cluster 5: Climate, Energy, Mobility; Cluster 6: food, bioeconomy, natural research, agriculture and environment.

Total entries= 37, entries for the Green Deal = 29, entries for the Digital Transition = 28, entries for Economic and Social Resilience = 25.



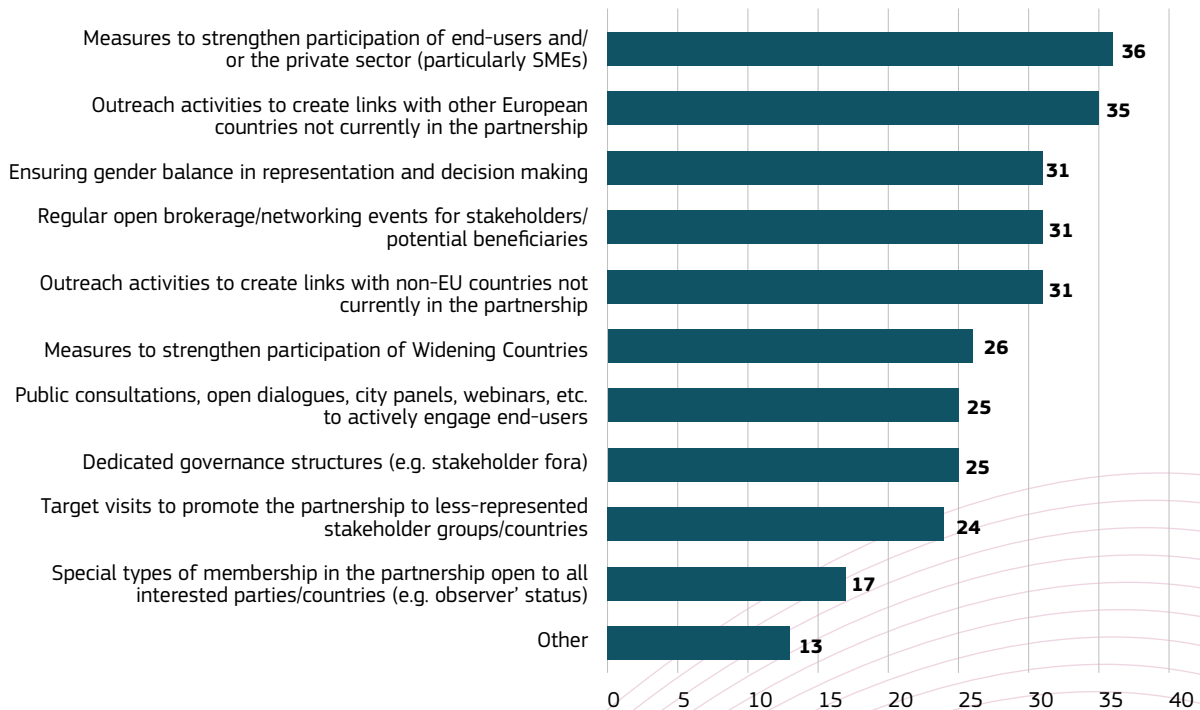
2.1.2 TRANSPARENCY AND OPENNESS

Transparency and openness are fundamental principles guiding European Partnerships towards the achievement of the objective of a cohesive research landscape in Europe. In the context of Horizon Europe, it is expected that European Partnerships will enhance their impacts by embracing the interests of all stakeholders. This entails engaging all key actors and maintaining openness and inclusivity throughout their existence. To overcome the risk, highlighted in the H2020 interim evaluation, of becoming closed clubs, partnerships are required to implement strategies that facilitate the inclusion of newcomers, removing any barriers that may impede their involvement in the partnership or its activities. Furthermore, partnerships should establish transparent procedures for consulting all relevant stakeholders during agenda setting and ensuring widespread communication and dissemination of information regarding calls, results and partnership initiatives. Yet multiple challenges, often linked to national priorities (e.g. funding commitments to calls for projects, eligibility of certain types of stakeholder, overlaps in strategic programming) or sectors, limit participation of stakeholders along the value chain, as reported by the partnerships in the BMR 2022.

Measures ensuring continuous openness and transparency and dedicated activities constitute a qualitative indicator²⁴ that makes it possible to see how open, transparent and inclusive the partnerships are in terms of addressing various types of stakeholders and countries.

Measures are in place for transparent and open involvement of stakeholders and all EU MS and ACs, and for attracting newcomers. All partnerships that answered the survey had measures in place for transparent and open involvement of stakeholders and all EU MS and ACs, and for attracting newcomers.

FIGURE 15. Most important measures undertaken by the partnerships in 2023 for involving various types of stakeholders and countries



Responses of 43 partnerships were analysed. The numbers refer to how many of the 43 partnerships responding to the Common Indicators Survey indicated they had taken this type of measure.

Source: Common Indicators Survey 2023.

24 Indicator 5 of the Common Indicators Survey: Measures ensuring continuous openness and transparency and dedicated activities.



Out of the 43 partnerships responding to the survey, the majority (between 79 % and 86 %) took specific measures to enhance participation of end-users and/or the private sector, as well as activities to strengthen participation of widening countries and countries not yet part of the partnership. This is fully in line with the expected engagement of all key actors and maintenance of openness during the lifetime of the partnerships. The involvement of new countries or stakeholders is further supported by specific actions like networking or brokerage events (71 %) or target visits to promote the partnership to underrepresented groups/countries (55.8 %). Some partnerships (39.5 %) also propose a dedicated type of membership such as ‘observer’ status to interested parties/countries. This solution is mostly applied by the Co-programmed and Institutionalised Partnerships (14 out of 30), which reflects the fact that their participation frameworks are more stringent than those of Co-funded Partnerships (only 3 Co-funded Partnerships out of 13 use this approach), for which inclusion of new members/countries is mostly related to budgetary flexibility.

In relation to transparency and consideration of the views of various stakeholders, the partnerships have introduced different types of public consultations and stakeholder fora as part of their governance structures. Efforts to ensure gender balance in representation and decision making were reported by 31 out of 43 partnerships. Furthermore, 13 partnerships pointed to activities or actions that go beyond the proposed categories. These were mostly focused on intensive communication efforts to ensure higher visibility of the partnership among local stakeholders, as well as targeting of transparency and engagement through publication of activity and governing board reports, launch of ideas submission platforms and paying special attention to the involvement of patients.

BOX 2. INNOVATIVE HEALTH INITIATIVE – INSTITUTIONALISED PARTNERSHIP

(IHI) multiplies stakeholder engagement through IHI call days and an associated brokerage platform, promotion of IHI at national info days and external events (e.g. MedTech Forum) and the ideas submission portal (<https://bit.ly/3U53gN2>) through which it collects suggestions for potential IHI call topics from the wider health and research community.

Furthermore, IHI publishes consolidated Annual Activity Reports and all relevant documents related to the partnership activities (e.g. Governing Board meeting agendas and decisions, Science and Innovation Panel meeting reports, SRG agendas) on its website. Finally, to encourage participation of contributing partners, IHI proposes a dedicated guide and webinar.

BOX 3. EUROPE’S RAIL – INSTITUTIONALISED PARTNERSHIP

In accordance with its Regulation, Europe’s Rail will create a Deployment Group which will advise the Governing Board on the market uptake of rail innovation developed within the JU and support the deployment of innovative solutions. The group will be open to all stakeholders and its composition will ensure appropriate thematic focus and representativeness.

BOX 4. DRIVING URBAN TRANSITIONS – CO-FUNDED PARTNERSHIP

DUT fosters engagement of key stakeholder groups (in specific cities) by making it mandatory for funded projects to meet pressing needs of local actors and by fostering urban living labs and local co-creation in funded projects to strengthen mobilisation and participation of local communities, business, municipalities, etc.

BOX 5. EUROPEAN RARE DISEASES RESEARCH ALLIANCE – CO-FUNDED PARTNERSHIP

ERDERA puts patients at the centre and thus considers that research should be driven by patients’ needs. To that end, financing of participation of patient advocacy organisations in research projects and the establishment of a dedicated Patient and Public Involvement and Engagement Group that will oversee all ERDERA actions are planned. Patients are also involved in the governance of the partnership.

FIGURE 16. Uptake of specific measures by European Partnerships in 2023 for involving various types of stakeholders and countries by type of partnership



Source: Data collected from the responses to the Common Indicators Survey.

The colours within the bars indicate the type of partnerships applying the measure. The percentages refer to the share of partnerships of each type that applied the measure (e.g. X % of Co-funded Partnerships applied measure Y).

Figure 16 shows the distribution of specific measures among different types of partnership. Interestingly, most of the proposed types of measure are used by the partnerships independently of their nature (Co-funded, Co-programmed or Institutionalised). For example, outreach activities to create links with other EU countries not currently in the partnerships are applied to a similar extent by all three types of partnership (78.9 %, 81.8 % and 84.6 % for Institutionalised, Co-programmed and Co-funded Partnerships respectively). However, some activities, like target visits or brokerage/networking events to promote the partnership to underrepresented groups/countries or potential new beneficiaries, seem to be favoured primarily by Co-programmed and Institutionalised Partnerships. Interestingly, measures to strengthen participation of widening countries are also more favoured by Co-programmed Partnerships.

The openness and transparency of the European Partnerships is also reflected in their KPIs. Of 43 partnership fiches analysed, 35 included specific indicators targeting these measures (5 did not list any specific openness and transparency KPIs, and for 3, the partnership fiches were not available at the time of the analysis). In all, 26 partnerships included 1-3 openness and transparency KPIs, 8 included 4-5 and 1 included 9. All but one of the Co-funded Partnerships (for which data was not available) target openness and transparency measures in their KPIs. Out of 11 Co-programmed Partnerships, 2 did not include any specific openness and transparency KPIs, and for 2, data was not yet available. Finally, of 19 Institutionalised Partnerships, 16 included specific openness and transparency KPIs in their partnership fiche. Since the number of indicators to be included in the partnership fiche was limited and partnerships were asked to present the KPIs most relevant to their PSIPs, the above numbers do not necessarily reflect the full importance given by the partnerships to the monitoring of transparency and openness measures. However, it is interesting to note that the Co-programmed and Institutionalised Partnerships that promoted the above-mentioned measures (target visits and brokerage/networking events) also included indicators linked to the intensity of their members' participation; improved participation of countries and/or regions; or targeting of active engagement of customers, SMEs and industry.



BOX 6. KPI EXAMPLES RELATED TO TRANSPARENCY AND OPENNESS (TARGETING DIFFERENT STAKEHOLDERS) AND THEIR UNITS OF MEASUREMENT

- Citizen engagement → percentage of projects with citizen involvement.
- Strategic participation and integration of feedstock producers and suppliers → number of primary producers involved as project beneficiaries and/or engaged in value chains at project level.
- Support and engagement activities at national and local levels → number of activities.
- SME innovation and participation → percentage of SMEs participating.
- Research and policy dialogue → percentage of policy stakeholders engaged in initiatives.
- Improved participation of regions and countries with high unexploited potential → number of participants from underrepresented EU countries and regions.
- Activities with participation from widening countries → number of activities.
- Funded projects with at least one consortium member from a non-EU country and/or non-HE-associated country per call → percentage of projects.
- National R&I integration → percentage of countries with national research strategies aligned with EU and international collaborations supported by the partnership.

Source: Chapter 4: partnership fiches.

The results of the Common Indicators Survey resonate with those of a 2022 ERA-LEARN survey addressed to RPOs, ministries, regional authorities and RFOs in both widening and non-widening countries. Based on the 61 responses collected, actors from the widening countries do not take a leading role as coordinators due to insufficient capacity and personnel. Besides budgetary issues and the complexity of the new instruments, widening countries also acknowledge a lack of experience in selecting national priorities and organising national consultations with a view to contributing to the development of SRIAs. Therefore, although widening countries are invited to join partnerships and certain measures exist to promote such participation, this opportunity is not fully exploited. The report concluded that more efforts are needed at national level, with the support of the European Commission, with regard to capacity building, training and ensuring the availability of the right competences for enhancing the participation of this group of countries in European Partnerships. The good practices implemented by the H2020 Partnerships are valuable for sharing among new partnerships in order to continue supporting the participation of underrepresented countries²⁵.

Importantly, countries themselves also implement specific measures to enhance their participation in partnerships or interest in international collaboration (international being understood as multinational and not necessarily as collaboration with third countries). The majority of countries apply one of two types of strategy when it comes to targeted involvement of policymakers and decision makers: firstly, countries privilege efforts targeted at partnerships whose activities are in line with their own national strategies and which are considered to have high R&I potential; or they take the view that national RPOs should be given maximum autonomy with respect to their participation in partnerships and multinational collaborations. However, the budget is not always available to provide for such flexibility, which limits, by default, the participation of certain national RPOs.

25 ERA-LEARN, 2023, Challenges of Widening countries in the Creation and Implementation of the European Partnerships: https://www.era-learn.eu/documents/era-learn-report_challenges-of-widening-countries_eps_survey.pdf.



BOX 7. EXAMPLES OF NATIONAL MEASURES MATCHING PARTNERSHIPS' OPENNESS AND TRANSPARENCY EFFORTS

Bulgaria: Participation in European Partnerships is considered essential and is well thought of. Efforts are expected with regard to national coordination of regulations, needs, competences and funding. Active participation in European Partnerships would contribute to achieving Bulgaria's aims of becoming further integrated into global high-tech value chains and boosting re-industrialisation and dual transition efforts.

Croatia: The country intends to increase its participation in European Partnerships (especially Co-funded Partnerships) which actively contribute to the realisation of national goals and policies. For example, one goal is to strengthen cooperation between the private and academic sectors through European Partnerships. There is no top-down strategy in relation to collaboration with non-EU countries. Croatia actively encourages stakeholders to enhance dialogue and cooperation with many non-EU countries in the Western Balkans, the Mediterranean and all other regions based on their identified needs and in accordance with their autonomy to form and enter into collaborative projects.

Cyprus: The effect of European Partnerships in enhancing networking has already been seen. For example, Cyprus and Czechia have recently started working on promoting cooperation between their R&I ecosystems within partnerships of common interest.

Czechia: Czechia promotes international RDI cooperation on the basis of the principle 'as open as possible, as closed as necessary' and sees international cooperation as an important prerequisite for increasing the competitiveness and growth of Czech RPOs.

Estonia: The country's Research and Development Council revised the national coordination mechanism for the new European Partnerships to better fit with the overall (budgetary) planning at national and EU level (including the change in data collection timing). The above-mentioned revision changed national co-funding criteria to allow additional partners to participate in partnership-related projects (e.g. SMEs, regional authorities). The aim was to align the national co-funding rules with overall Horizon Europe principles – to engage a wider variety of participants in the programme.

Ireland: The country views European Partnerships as having a key role to play in openness and transparency, allowing Irish researchers, industry and higher education institutions to tap into European and global networks in pursuit of innovative and transformative solutions.

Italy: Due to its geographical position and historical background, Italy considers the Mediterranean as a priority area of R&I cooperation with third countries. In this regard, the partnership instrument has been fundamental to the creation of a strategic partnership with southern Mediterranean countries.

The Netherlands: Internationalisation is an important part of the Dutch national R&I strategies. Active participation in European Partnerships remains highly important for the Netherlands. This international orientation is necessary for maintaining the high quality of Dutch science and R&I. At the same time, geopolitical developments demand more strategic choices as regards cooperation with other countries.

Portugal: Portuguese participation at sectoral and regional level in European Partnerships contributes to funding R&D activities in various areas; mobilising partners in academia, business and industry; and opening up additional investment opportunities. Portugal believes that interregional and international collaborations and synergies, as well as the leverage effect of investment at regional level, can produce spillover effects in the medium term.

Spain: The possibility for Spanish researchers to collaborate, at multilateral level, with countries beyond the EU within the framework of European Partnerships is an added value, since it is not easy to develop bilateral collaboration with all countries.

Türkiye: Increased involvement of SMEs in collaborative international R&I activities is strategically important for fostering cooperation within and the competitiveness of European and Turkish industry.

Source: Chapter 3: country fiches



Share of newcomer partners in partnerships, including geographical coverage

This metric represents the proportion of newcomer partners of the total partner pool, as well as by partnership type. Newcomer partners are organisations participating in the current partnership without prior involvement in the collaboration or its previous iterations. However, the same organisation may participate in several partnerships and thus be counted as a newcomer partner several times. In the BMR 2022, due to data gaps in survey responses, only geographical coverage of potential newcomer countries could be presented. Two years on, this report offers additional insights into partnership composition, including additional details of member types and geographical reach.

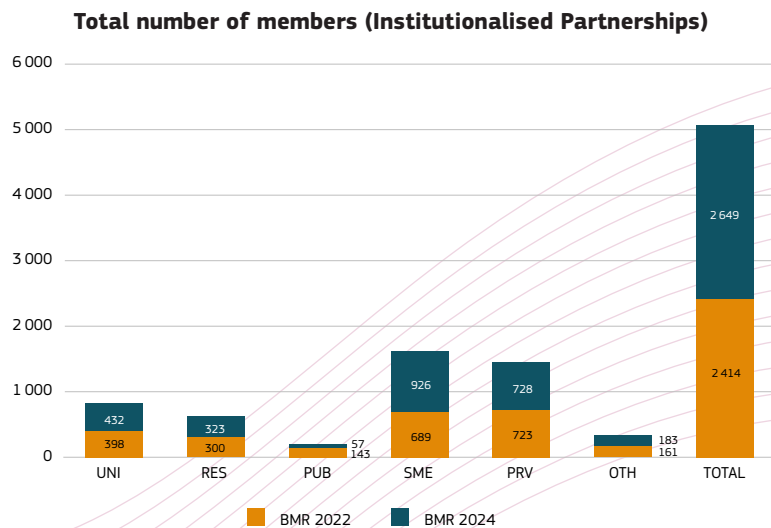
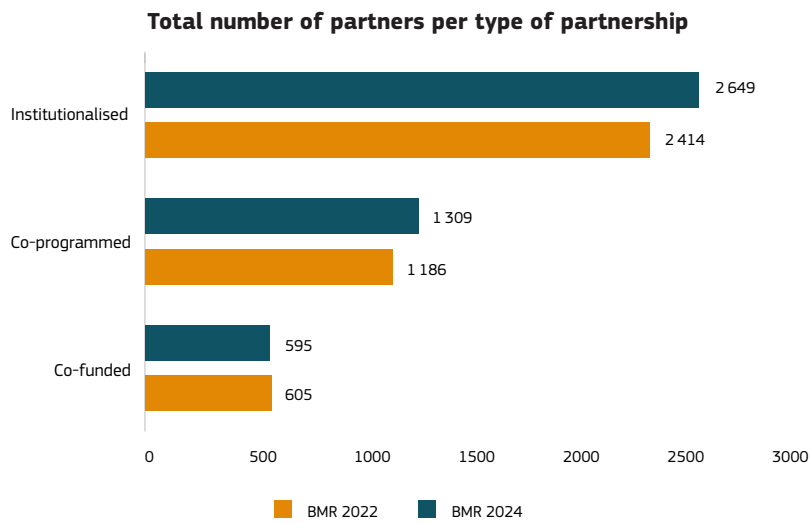
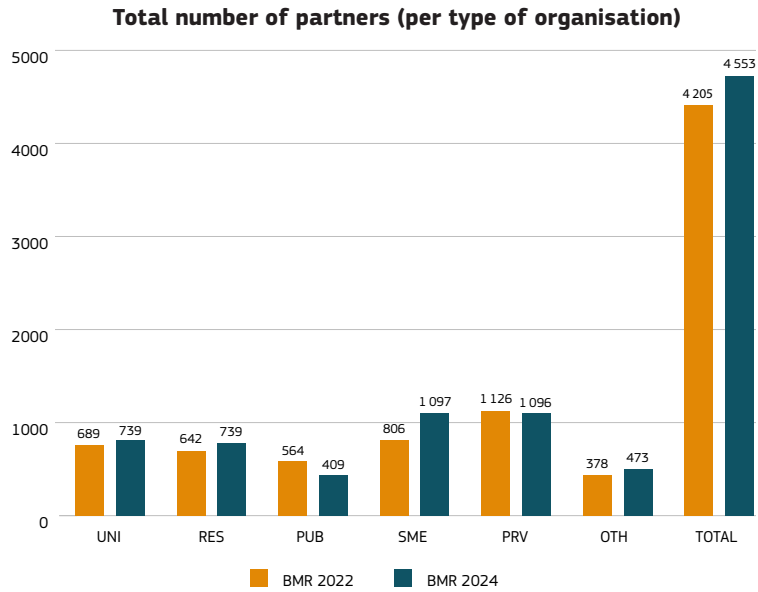
Data reported in 2022 are data initially provided by the partnerships for the BMR 2022. Just as for the previous BMR the data for this report were provided by the partnerships, through a dedicated template including information on the number, typology and country of the partners. Only the data from partnerships that provided information for both 2022 and 2024 were used in the comparison²⁶. In addition, any 'outlying' data (e.g. an extreme increase in the number of participants linked to the change in the 'member' definition) were excluded from the analysis. Therefore, the present numbers do not reflect the entirety of the partnerships but only details that can be used for comparison.

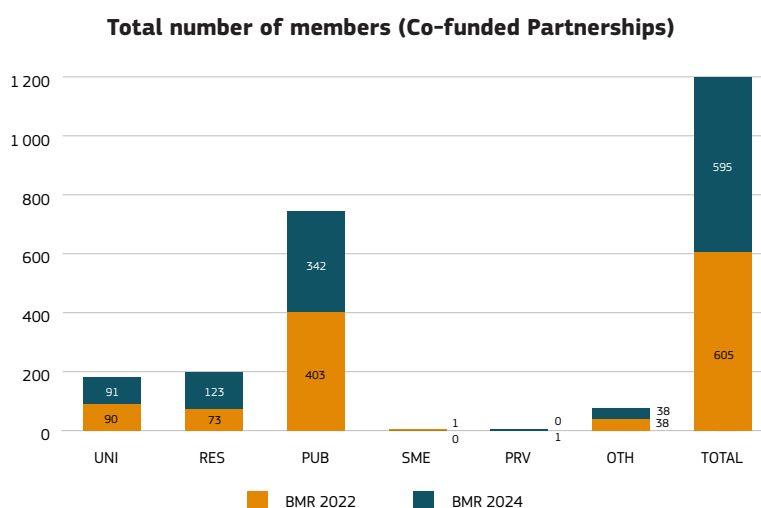
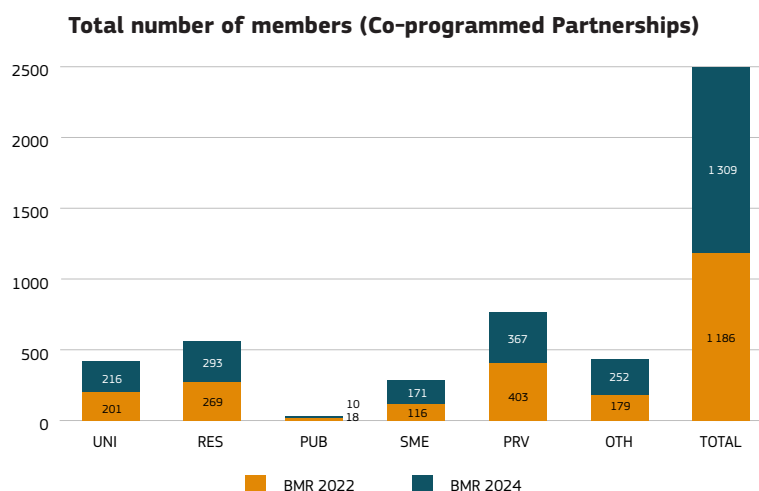
Figure 17 shows a slight increase in the overall numbers: 4 553 organisations versus 4 205 reported in 2022. A closer look at the values expressed as a share of the total numbers shows that, while the numbers for universities and private organisations have remained relatively stable, those for SMEs have increased substantially (Figure 17). Among the 348 new organisations, the majority (235) are associated with the Institutionalised Partnerships, while the Co-programmed Partnerships have brought in 123 new members. This important increase in the number of members of Institutionalised Partnerships could be explained by the inclusion of new organisations in two of the EITs (InnoEnergy and Urban Mobility). It is logical that the increased numbers of SMEs and private partners are associated with Institutionalised and Co-programmed Partnerships as these partnerships are often led by associations of industry stakeholders. The increase in the number of research organisations is overwhelmingly linked to Co-funded Partnerships. Finally, comparable data available for seven Co-funded Partnerships indicate that, overall, the total number of members has decreased while only one of them has less members than compared to previous BMR. The other six show a slight increase.

26 The analysis therefore covers 25 European Partnerships.



FIGURE 17. Overview of partners in European Partnerships.





Source: Common Indicators Survey.

In respect of geographical coverage (again, only data from partnerships that provided information in both 2022 and 2024 are considered, with any outliers removed), the partnerships covered 50 countries in 2022 and 54 in 2024, showing their wide reach beyond European frontiers, although little or no collaboration is observed with some parts of the world (e.g. Asia). Several newcomers are noted: Australia, Brazil, Georgia, Kosovo and Ukraine.

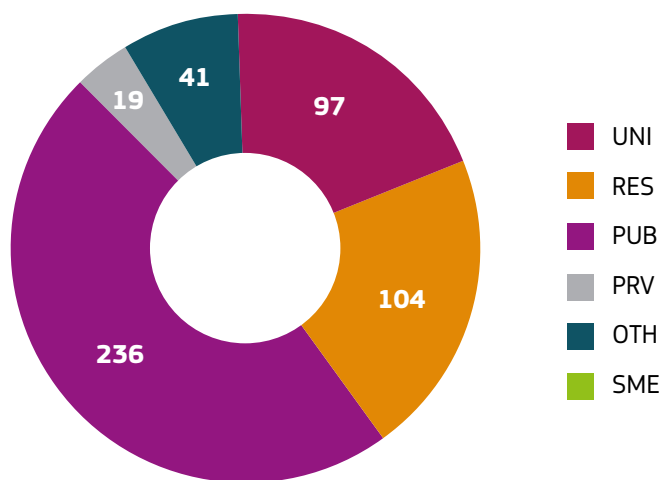
Importantly, the participation of members from widening countries²⁷ has grown (from 802 to 1 034), with some widening countries showing an increase in numbers of participating members of 30 % or above: Albania, Croatia, Cyprus, Czechia, Faroe Islands, Georgia, Greece, Kosovo, Malta, Morocco, Romania, Slovakia, Slovenia, Tunisia, Türkiye and Ukraine. Most of the newcomers join the Institutionalised Partnerships, with the exception of those from Türkiye, for which levels of inclusion in Co-programmed Partnerships are also significant. The overall participation levels of countries are stable, although some, notably Canada, Ireland, Israel and Norway, have made good progress (above 25 %). Finally, the participation of countries including Colombia, Denmark, France, Hungary, Indonesia, Mexico, Moldova, the Netherlands, Switzerland, Thailand, the UK and the USA in the partnerships analysed seems to have decreased compared with 2022. For Switzerland and the UK, based on anecdotal evidence, it is presumed that the uncertainty surrounding the negotiations on their association with Horizon Europe may have had an impact on their participation.

²⁷ The list of widening countries is comprised of 15 MS: Bulgaria, Croatia, Cyprus, Czechia, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia and Slovenia; all outermost regions; and all AC with equivalent characteristics in terms of R&I performance: Albania, Armenia, Bosnia and Herzegovina, Faroe Islands, Georgia, Kosovo, Moldova, Montenegro, Morocco, North Macedonia, Serbia, Tunisia, Türkiye and Ukraine.



While the data discussed above are linked to the expansion of partnerships that already existed in 2022 and do not encompass the six Co-funded Partnerships newly launched in 2023/2024, it is interesting to look at the growth stemming from the addition of new partnerships. In this respect, the six Co-funded Partnerships (four in Cluster 1, two in Cluster 6) have engaged 497 entities in all, encompassing mainly public and non-profit organisations – 97 universities, 104 RPOs, 236 public institutions – as well as 19 private (industrial) stakeholders, all of which are in the ERDERA Partnership, and 41 organisations of other types.

FIGURE 18. Types of partners in the six Co-funded Partnerships started in 2023/2024



Source: Common Indicators Survey.

In terms of country coverage, the new Co-funded Partnerships include wide representation of EU MS and AC and also show a wide international reach by involving Australia, Canada, Egypt, Georgia, Morocco and Taiwan.

2.1.3 COHERENCE AND SYNERGIES

One of the focus topics of the BMR 2022 was synergies. The BMR 2022 aimed to demonstrate the multidisciplinary way in which the priorities (especially the priorities of the European Green Deal, the European Digital Transition and resilience) were being addressed in European Partnerships. Clear potential for synergies and cooperation between partnerships across clusters was observed²⁸.

All European Partnerships are expected to establish collaborations among one another and create synergies with other relevant programmes at international, EU, national and regional level with the main aim of maximising each other's impact and guiding each other's strategic direction. This means that European Partnerships need to set up and maintain a clear strategy for interaction and joint activities with other relevant initiatives in order to secure an optimum level of interconnection and ensure effective synergies. SRIAs are foreseen as the main tool for the development of long-term strategic collaborations and synergies²⁹. There are already some good examples in this regard: for instance, the Transforming Health Care Systems Partnership has foreseen dedicated activities for enhancing synergies, which include an SRIA update³⁰; and Circular Bio-based Europe is planning a coherent strategy to improve understanding of the role and contribution of each instrument/programme (Common Indicators Survey).

28 BMR 2022 on partnerships in Horizon Europe.

29 Report on Coherence and Synergies of Candidate European Partnerships under Horizon Europe.

30 Final report of the EU Missions and Partnerships matchmaking event workshop 1: health.



The discussions on synergies within ERA have advanced since the publication of the BMR 2022. Main novelties include the publication of the Draft Commission Notice on Synergies between Horizon Europe and ERDF programmes³¹, which shares ways in which ERDF resources could be used in European Partnerships (specifically Co-Funded and Institutionalised Partnerships) among other examples. The ‘Prague Declaration on Synergies in the Research and Innovation Funding in Europe’³² invited the main actors implementing or fostering the implementation of synergies (the European Commission, MS and ACs, European Partnerships and EU Missions) to take action, and the topic was widely discussed during the 2022 Czech Presidency of the Council of the EU. Since 2022, the European Commission has organised a series of directional matchmaking events for European Partnerships and EU Missions to explore potential for synergies on certain Horizon Europe Clusters/topics (e.g. environment, health, ICT, climate). In the context of these workshops, a toolbox of collaboration mechanisms has been presented and further developed.

2.1.3.1 COMMON INDICATORS SURVEY AND SYNERGIES

Synergies with other European Partnerships and EU Missions

The Common Indicators Survey addressed synergies between European Partnerships and other partnerships and EU Missions, as well as with other EU funding programmes.

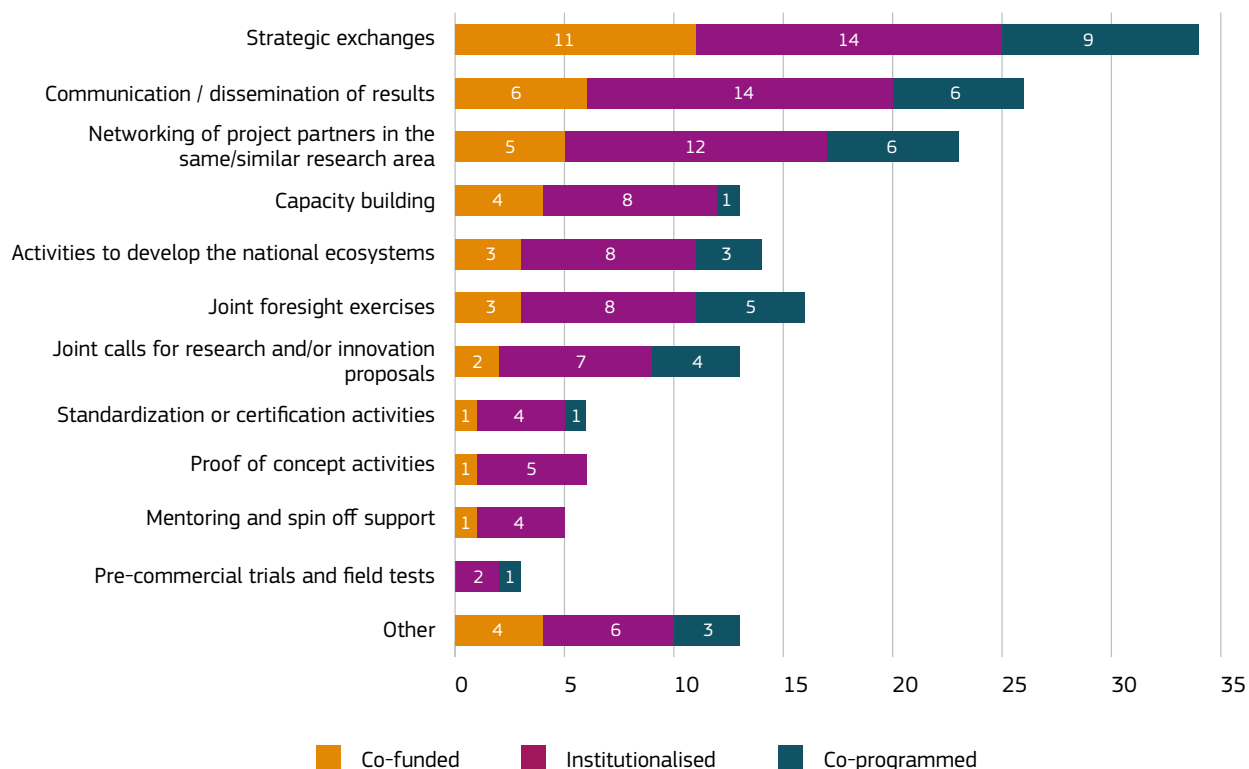
European Partnerships reported a variety of synergies among each other and with EU Missions. Of the options available to choose from, strategic exchanges were the most popular across all types of partnership, followed by communication/dissemination of project results and networking between project partners working in the same/similar area of research (Figure 19). Joint foresight activities were also cited in view of aligning national agendas and activities to enhance national ecosystems. Joint calls and capacity building activities were equally popular. The Institutionalised Partnerships reported having implemented the largest numbers of the activities suggested in the survey, while the Co-funded and Co-programmed Partnerships seem to concentrate their efforts primarily on strategic exchanges, communication, networking and capacity building. As expected, the Institutionalised Partnerships engage to a greater extent in activities related to standardisation, proof of concept, spin-offs, trials and field tests.

Cluster 1 and Cluster 5 partnerships address most activities, except those related more to innovation (pre-commercial trials and field tests), while Cluster 4 partnerships focus primarily on strategic exchanges, dissemination and networking (Figure 20). This may need to be addressed given the cross-cutting nature of the topics covered by the Cluster 4 partnerships. Cluster 6 partnerships present fewer synergies in terms of activities, while the EIT KICs community is clearly the most active, closely collaborating with both each other and the EU Missions.

31 https://research-and-innovation.ec.europa.eu/document/download/6c6230d0-de1a-4280-9289-67234d8e4e94_en?filename=c_2022_4747_1_en_annex.pdf

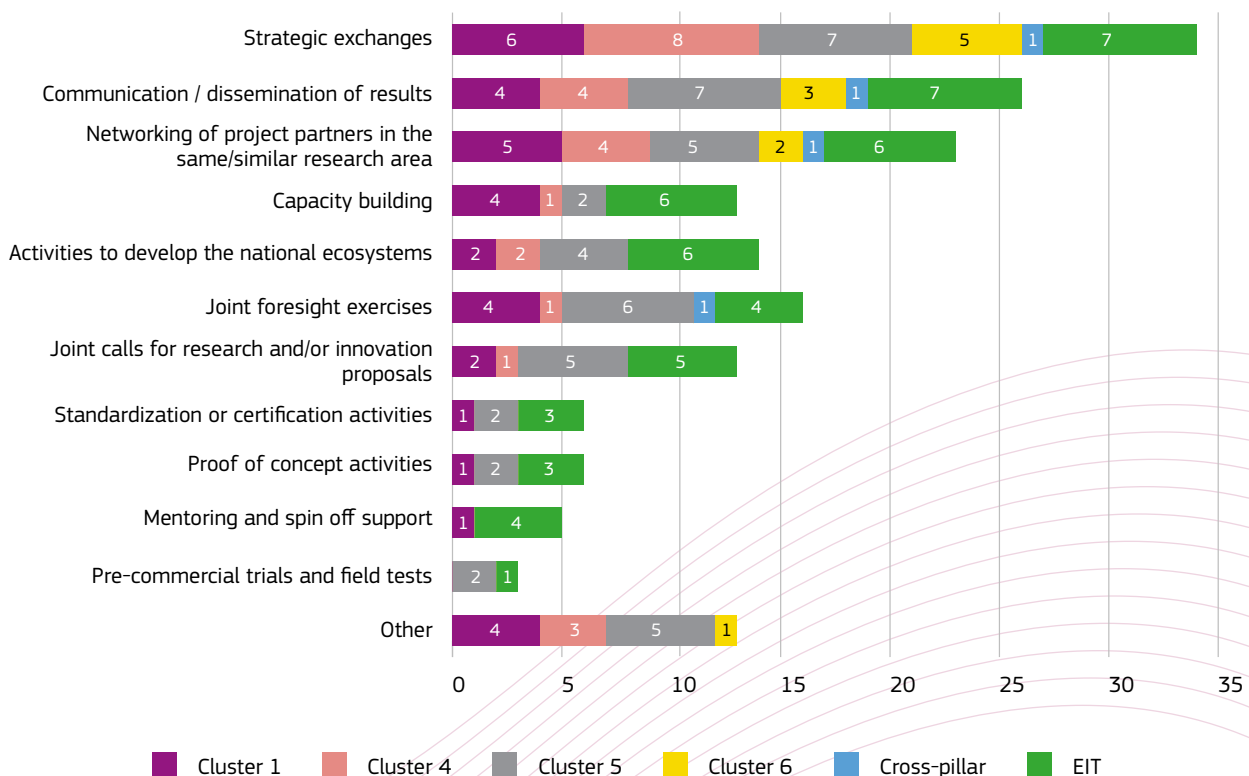
32 https://synergies2022.eu/wp-content/uploads/2022/07/Prague-Declaration-on-Synergies_FINAL.pdf

FIGURE 19. Joint activities carried out with other partnerships and EU Missions up to Aug 2023, by type of partnership



Source: Common Indicators Survey.

FIGURE 20. Joint activities carried out with other partnerships and EU Missions up to Aug 2023, by cluster



Source: Common Indicators Survey.



Respondents to the Common Indicators Survey also indicated additional activities through which they establish synergies with counterparts, such as a MoU, support in the design of KPIs, exchange of best practices, technical and thematic conferences, focus groups and webinars, activities to enhance policy alignment and avoid duplication, sharing human resources and joint roadmaps.

BOX 8. CLEAN HYDROGEN

Synergies with other European Partnerships have been established at the programming and implementation level.

At the programming level, Clean Hydrogen has had regular contacts with Clean Aviation, Europe's Rail, Zero-Emission Waterborne Transport and other partnerships and implementing bodies of the Commission to ensure their calls are aligned, avoid overlaps and maximise the value for money of the funding available for each of these partnerships (including Clean Hydrogen itself). These discussions are all informed by the common roadmaps that Clean Hydrogen its SRIA has with other partnerships (mainly with Process4Planet, Clean Steel, ZZero, Waterborne, Clean Aviation and EURAMET). During 2022, the level of exchanges with these organisations has varied (more details in the Clean Hydrogen JU Annual Activity report (AAR) 2022).

Systematic reference to the relevant partnership was done in Calls 2022 and 2023 to encourage cooperation between their topics and the activities of other partnerships when relevant, e.g. with Made in Europe for manufacturing topics, or with the EURAMET for projects related to measurement devices.

Whilst they do not have any reference to it in their SRIA, they have also supported the Chips JU in the drafting of the hydrogen component in their Call 2023 (energy focus topic area), and in the dissemination of the funding opportunities to the hydrogen community (also via the private members of Clean Hydrogen).

In addition, Clean Hydrogen has been participating with other partnerships in the inter-partnership assembly through sharing their good practices on collaborations with others, working together with the other JUs in the implementation of back-office arrangements. Finally, a number of partnerships are participating in its Stakeholders Group – one of its governance bodies.

BOX 9. INNOVATIVE HEALTH INITIATIVE

A task force with representatives from the IHI JU Programme Office, industry and the Commission was established, which screened the landscape of health-related initiatives and identified several areas for potential synergies within other parts of Horizon Europe (such as missions and partnerships) and international organisations. From 2022, initial contacts have been established with some of them, including Global Health EDCTP3, the Cancer Mission, Chips JU, EIT Health and HERA.

Additional activities reported by partnerships through which synergies with other partnerships have been established:

- Involvement in idea generation/topic development e.g. HERA, Cancer Mission;
- MoU signed with EIT Health;
- Exchange of best practices on operational activities e.g. Global Health EDCTP3;
- Support in the designing the KPIs of other European Partnerships e.g. ERDERA;
- Promotion/communication of other partnerships activities e.g. Calls launched, funding opportunities for the IHI community.

IHI projects contribute to the deployment of a European common health data space through close interactions with the EDHS2 pilot action (quality label and data catalogue) and THEDAS project.



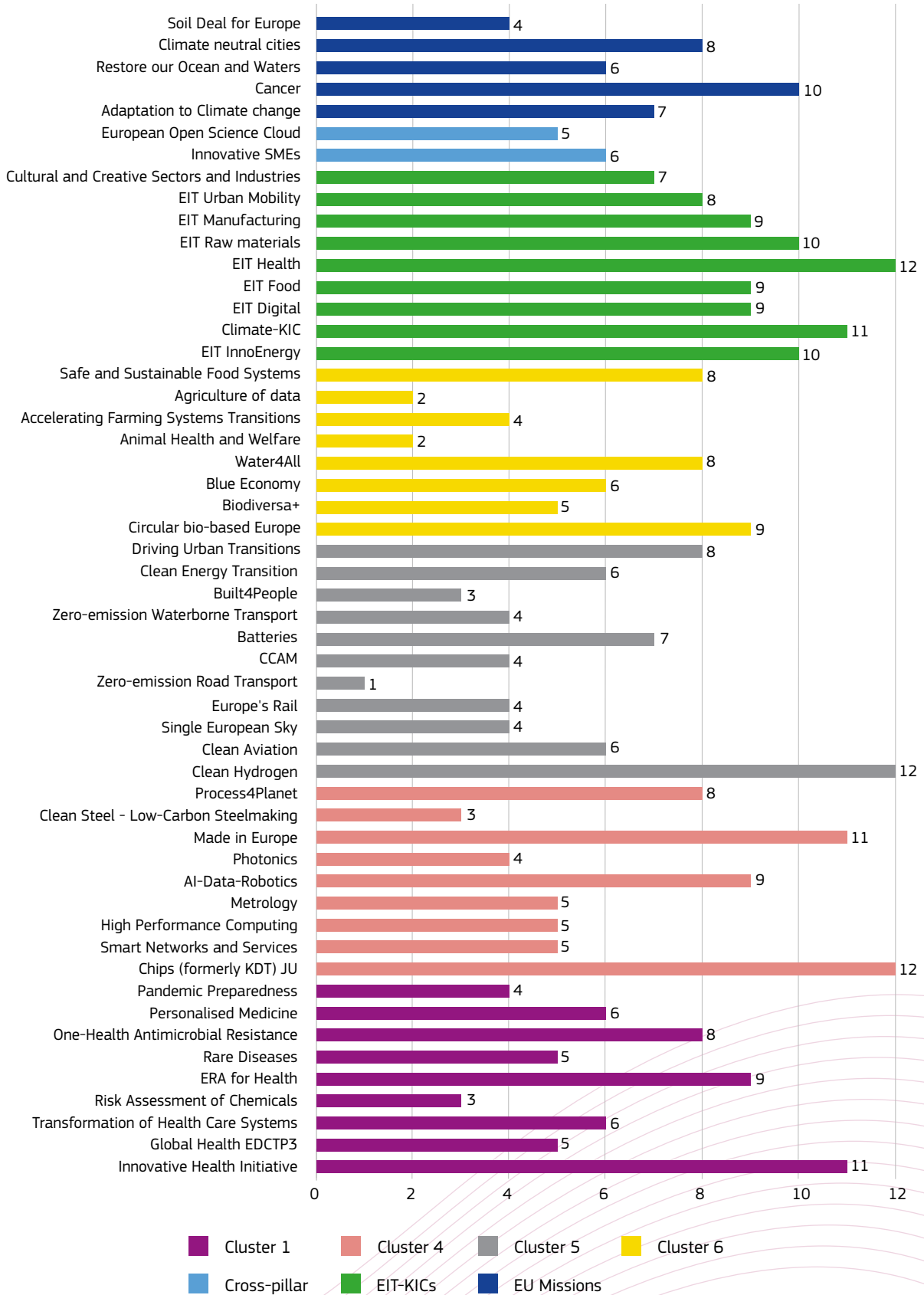
When analysing the number of times a partnership was selected by counterparts for synergies, it is clear that the EIT community presents most links with other partnerships, primarily coming from their own thematic area. Across all cohorts, EIT Health stands out, along with Clean Hydrogen and the Chips JU, followed by Innovative Health and Made in Europe. It is also interesting that, within each cluster, two to four partnerships stand out, i.e. IHI, ERA for Health and One-Health for Cluster 1; Chips JU, Made in Europe, Adra and Process4Planet in Cluster 4; Clean Hydrogen and Driving Urban Transitions in Cluster 5; Circular Bio-based Europe, Water4All and Safe and Sustainable Food Systems for Cluster 6; and Cancer and Climate Neutral Cities for the EU Missions.

Besides the high rank of the EIT community, the clusters share more or less the same number of links with counterparts (including the links with the other partnerships in the same cluster), with Cluster 6 partnerships being less connected.

TABLE 2. Total number of established synergies per cluster

Cluster 1	57	Cluster 6	44
Cluster 4	62	Cross-cutting	11
Cluster 5	58	EIT-KICs	85
EU Missions	35		

FIGURE 21: Number of times a partnership is selected for synergies by another partnership



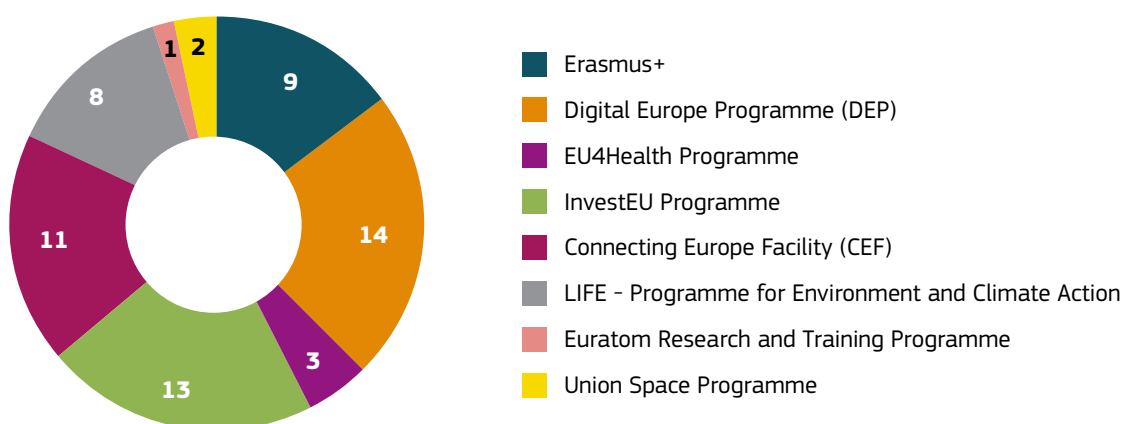
Source: Common Indicators Survey (7a - Coordinated and joint activities with other European Partnerships and EU Missions).

2.1.3.2 SYNERGIES WITH OTHER EUROPEAN PROGRAMMES

One of the findings in BMR 2022 was that partnerships are mainly focused on cooperation and synergies with related Horizon Europe and other initiatives at the EU or national level, rather than on building synergies with international activities.

According to the Common Indicators Survey associated with this BMR, 71 % of the respondents reported synergies with other EU programmes. The most popular programmes were Digital Europe Programme (14 times), InvestEU Programme (13 times) and Connecting Europe Facility (11 times) (Figure 22).

FIGURE 22. EU programmes with which the European Partnerships synergise (Erasmus+), Digital Europe Programme (DEP), EU4Health Programme, InvestEU Programme, Connecting Europe Facility (CEF), LIFE, Euratom Research and Training Programme and the Union Space Programme



Source: Common Indicators Survey.

Several European Partnerships mentioned already hold existing or planned synergies with the following initiatives or organisations: EIB, InnovationFund, Hydrogen Valleys, European Union Agency for Railways and Standardisation, EUSPA, EU Agencies, EU Reference Laboratories for animal health (EURLs) and the EU reference centres for animal welfare (The EURCAWs), EU Data Spaces, Galileo, Important Projects of Common European Interest, the Smart Specialisation platform, Industrial Strategy for Europe and the Pharmaceutical Strategy for Europe.

According to the partnership type, the most synergies were reported by Co-programmed Partnerships (Table 3). It is an interesting fact, as according to the reports of the dedicated matchmaking events between European Partnerships and Missions, it was stated that building synergies requires resources and initial greater effort³³, yet Co-programmed Partnerships, for example, face challenges in using the support of ERDF funding, which seems to be the main cooperation possibility for financial synergies³⁴ (e.g., joint calls). Co-programmed Partnerships have taken the lead in in-kind contributions (Figure 7), which is in good coherence with the high number of reported synergies by Co-programmed Partnerships.

33 Matchmaking Event on EU Missions and partnerships. Workshop 3: Environment.

34 Synergies between Horizon Europe and ERDF programmes: https://research-and-innovation.ec.europa.eu/document/download/6c6230d0-de1a-4280-9289-67234d8e4e94_en?filename=c_2022_4747_1_en_annex.pdf.



TABLE 3. Partnerships (N=43) and their responses to the question, ‘Do they have (or are they planning to have) synergies with other EU programmes?’ in the Common Indicators Survey

Partnership type	% YES	% NO
Co-funded	46	54
Co-programmed	100	0
Institutionalised (Art 185 and Art 187)	89	11
EIT KICs (as Institutionalised Partnerships)	88	13

Source: Common Indicators Survey.

Somewhat surprising is that the Co-funded Partnerships reported less synergies with other EU programmes than Co-programmed and Institutionalised Partnerships. There could be several reasons behind it. In the survey, partnerships notably highlighted that synergies with other EU programmes, particularly in terms of co-financing, are needed; the cooperation is planned at project level, not at programme level (as illustrated by PARC); the partnership was recently established, and it is difficult to foresee the synergies at this point in time (such as per the Safe and Sustainable Food Systems); eventually, more collaborative events and networking are foreseen as the partnerships develop (exemplified by Biodiversa+); due to the focus of the partnership, priority is given to cooperation with another specific EU initiative (shown with the Urban Agenda for the EU and the Cities Mission/DUT).

One of the reasons hindering the synergies could also be the different set of rules between the programmes. It could be therefore concluded that the type of partnership might also have an effect on the realisation of synergies, as different partnerships are able or prefer to use different types of synergies (e.g. Co-funded Partnerships often seek synergies via joint funding of calls with ERDF-based programmes).

Having a closer look at the division of reported synergies by cluster, the most synergies were reported by partnerships belonging to Cluster 4 (in which 100 % of the respondents’ reported synergies with other initiatives), Cluster 5 (91 %) and Cluster 1 (71 %). Partnerships from Cluster 6 reported that only 33 % of them are having or planning to have synergies with other EU programmes mentioned in the survey. This number can be somewhat misleading, as in the comment section it was stated that the synergies are implemented/planned, but with other initiatives (not the ones in the list) or the discussions are still ongoing as some of the Cluster 6 partnerships are relatively new. Therefore, some topics/clusters might also have a certain effect on synergies, depending on the theme (more specific or transversal, e.g., the example of DUT - priority is given for synergies with another specific EU initiatives (the Urban Agenda for the EU and the Cities Mission) and international initiatives (the Urban Transition Mission under the Mission Innovation).

2.1.3.3 DIMENSIONS AND POTENTIAL FOR SYNERGIES

According to the new Horizon Europe strategic plan for 2025–2027³⁵, there are different types of synergies defined:

- Cumulative/complementary funding,
- Sequential synergies (upstream and downstream synergies),
- Complementary parallel projects,
- Alternative funding (Seal of Excellence).

35 Horizon Europe strategic plan (2025-2027).



This topology of synergies highlights the different options for combining various funding sources to maximise the impact of different programmes. The majority of funding synergies involving regional or national-level funds require deep involvement of regional/national-level authorities to create the preconditions for such funding mechanisms. Therefore, most examples of matching various funding sources/programmes for synergies are reported in the country fiches by Member States / Associated Countries, rather than by European Partnerships directly.

The landscape of synergies is more complex than only matching different funding sources. To guarantee the implementation of long-term strategies and deeper synergies, other, more formal ways and modalities for cooperation on specific activities regarding synergies could be foreseen in SRIAs (e.g., synergies by design referring to the synergies with other EU programmes, European Partnerships, EU Missions etc.), implementation of inclusive governance models (inclusion of different actors, coherence with other Horizon Europe activities), design of synergy-oriented legal framework including collaborations with other European Partnerships, MoU's with other European Partnerships, etc. To guarantee the implementation of such examples, it has been underlined that all the synergies should be translated into concrete activities in the annual work programmes (joint calls, dissemination and outreach actions, coordinated and co-designed calls), reporting and monitoring on synergies-related indicators³⁶.

Despite that, more informal ways of cooperation are the preferred option for synergies for many European Partnerships³⁷ and that kind of collaboration is of importance for partnerships. The toolbox of collaboration mechanism (introduced at the matchmaking workshops by the European Commission) contains several ideas for informal synergies (e.g., cross-initiative assemblies, exchange of lessons learnt, visibility promotion, events along common themes, etc.), illustrated by concrete examples already implemented by different European Partnerships. In addition, some examples of informal and transversal/multidisciplinary cooperation were reported by European Partnerships also in the Common Indicators Survey.

Some examples of more informal types of synergies from the Common Indicators Survey include follow-up for spin-offs activities, virtual workshops (Photonics and the InvestEU Programme, EIB); on-going networking, communication and strategic exchanges (EOSC and CEF programme); exchange of strategic orientation and definition of topics (Built4People and LIFE programme); and so on.

2.1.3.4 IMPLEMENTATION/MATURITY OF SYNERGIES

The shift from the planning to implementation phase of synergies is clear in comparison to initiation phase during the BMR 2022. The deeper focus on synergies in Horizon Europe in comparison to previous framework programmes is also very visible. Looking at the variety of synergies reported in the previous paragraph, it is rather clear that there are endless options for synergies.

Based on data in the 'Coherence and Synergies of Candidate European Partnerships under Horizon Europe' report, published in 2020, and on the data reported by partnerships on synergies (Common Indicators Survey, 2024), a matching exercise was conducted in order to evaluate to what extent the potential synergies identified in the former report materialised into reported synergies (Tables 4 to 13).

According to the Cluster 1 example, very few initially proposed and possible synergies have been reported. The main programme of the above-mentioned five EU programmes to co-operate is the Digital Europe Programme.

³⁶ Report on *Coherence and Synergies of Candidate European Partnerships under Horizon Europe*.

³⁷ *Matchmaking event on EU Missions and Partnerships. Workshop 3: Environment (2022)*.

TABLE 4. Potential for synergies between European Partnerships and five other EU programmes in the Health Cluster (Cluster 1 in Horizon Europe)

Other EU programmes	Cluster 1 (Health) partnerships						
	Innovative Health Initiative	ERA for Health	Rare Diseases	Transformation of Healthcare Systems	Risk Assessment of Chemicals (PARC)	Global Health EDCTP3	Personalised Medicine
Connection Europe Facility (CEF)	Possible additional synergies	-	Possible additional synergies	-	-	-	-
Digital Europe Programme (DEP)	Proposers indicated possible synergy Synergy reported	Proposers indicated possible synergy	Possible additional synergies Synergy reported	Possible additional synergies Synergy reported	-	-	-
InvestEU	Proposers indicated possible synergy	Proposers indicated possible synergy	Possible additional synergies	Possible additional synergies	-	Possible additional synergies	-
Programme for Environment & Climate Action (LIFE)	-	Proposers indicated possible synergy	-	-	Proposers indicated possible synergy	-	-
Erasmus+	-	Proposers indicated possible synergy	-	-	Proposers indicated possible synergy	Possible additional synergies	Possible additional synergies

Source: Data from the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report vs. reported data on synergies from the Common Indicators Survey 2024.

Synergy reported – Synergy reported in the Common Indicators Survey conducted for BMR 2024.

Proposers indicated possible synergy – Synergy indicated by candidate partnership according to the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

Possible additional synergies – Synergies proposed by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

– No synergy was proposed by candidate partnership, nor indicated by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report, nor was the synergy reported in 2024 by partnership in the Common Indicators Survey.

In Cluster 4, there are more possible synergies reported than in Cluster 1 (Table 5). The main programme for synergies out of the five in question is, as expected, the Digital Europe Programme. Synergies have been reported for all the other programmes also. Particularly interesting is that the Erasmus+ programme, Clean Steel and EuroHPC, all have reported synergies even if it was not initially foreseen or proposed as a possible programme for synergies. It shows that there could be options for synergies also with programmes which, at first glance, do not seem to be related to the main focus of the partnership. In addition, for the LIFE programme and the Union Space Programme, there are additional, initially unforeseen synergies reported by two partnerships (respectively, Process4Planet and EuroHPC). EuroHPC has reported the most synergies, with four EU programmes out of five.

TABLE 5. Potential for synergies. Cluster 4 (Digital, Industry and Space) partnerships

Other EU programmes	Cluster 4 (Digital, Industry and Space) partnerships								
	Made in Europe	AI, Data and Robotics	Photonics	Process4Planet	Clean Steel - Low-Carbon Steel-making	Metrology	Smart Networks and Services	High Performance Computing	Chips (formerly KDT) JU
Connecting Europe Facility (CEF)	-	-	-	Possible additional synergies	Possible additional synergies	-	Proposers indicated possible synergy Synergy reported	Proposers indicated possible synergy Synergy reported	Proposers indicated possible synergy
Digital Europe Programme (DEP)	Possible additional synergies Synergy reported	Proposers indicated possible synergy Synergy reported	Proposers indicated possible synergy Synergy reported	Possible additional synergies	-	-	Proposers indicated possible synergy Synergy reported	Proposers indicated possible synergy Synergy reported	Proposers indicated possible synergy
InvestEU	Possible additional synergies	Proposers indicated possible synergy	Proposers indicated possible synergy	Proposers indicated possible synergy Synergy reported	Possible additional synergies	-	Proposers indicated possible synergy	Proposers indicated possible synergy Synergy reported	
Programme for Environment & Climate Action (LIFE)	-	-	-	Synergy reported	Possible additional synergies Synergy reported	Possible additional synergies	-	-	-
Erasmus+	Proposers indicated possible synergy	-	-	Possible additional synergies Synergy reported	Synergy reported	-	-	Synergy reported	Possible additional synergies
Union Space Programme	-	-	-	-	-	Possible additional synergies	-	Synergy reported	Possible additional synergies

Source: Data from the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report vs. reported data on synergies from the Common Indicators Survey 2024.

Synergy reported – Synergy reported in the Common Indicators Survey conducted for BMR 2024.

Proposers indicated possible synergy – Synergy indicated by candidate partnership according to the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

Possible additional synergies – Synergies proposed by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

– No synergy was proposed by candidate partnership, nor indicated by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report, nor was the synergy reported in 2024 by partnership in the Common Indicators Survey.

Cluster 5 has the most partnerships to analyse for synergies with the five EU programmes present in both data sources. It is interesting to observe (see Table 6) that several unexpected synergies have been reported with the Digital Europe Programme and the LIFE programme. The most synergies could be found between Cluster 5 partnerships and the Connecting Europe Facility – 7 out of 11 partnerships reported an ongoing or foreseen synergy. The Digital Europe Programme was not mentioned as a programme with high possibilities for synergies, but four partnerships have actually reported having synergies with the DEP. The data regarding the Union Space Programme and Erasmus+ was not presented in the initial report for Cluster 5, but in the Common Indicators Survey for both of the programmes, at least one partnership reported a cooperation.

TABLE 6. Potential for synergies. Cluster 5 (Climate, Energy, Mobility) partnerships

Other EU programmes	Cluster 5 (Climate, Energy, Mobility) partnerships										
	Europe's Rail	Single European Sky	Clean Aviation	Clean Hydrogen	Built-4People	Zero-emission Road Transport	CCAM	Zero Emission Waterborne Transport	Batteries	DUT	Clean Energy Transition
Connecting Europe Facility (CEF)	Proposers indicated possible synergy Synergy reported	Proposers indicated possible synergy Synergy reported	Possible additional synergies Synergy reported	Proposers indicated possible synergy Synergy reported	-	Proposers indicated possible synergy Synergy reported	Proposers indicated possible synergy Synergy reported	Proposers indicated possible synergy Synergy reported	Proposers indicated possible synergy	-	-
Digital Europe Programme (DEP)	Proposers indicated possible synergy	-	Synergy reported	-	-	Synergy reported	Synergy reported	-	-	-	Proposers indicated possible synergy Synergy reported
InvestEU	Proposers indicated possible synergy	-	Possible additional synergies Synergy reported	Proposers indicated possible synergy	Possible additional synergies	Proposers indicated possible synergy Synergy reported	Synergy reported	Proposers indicated possible synergy	Possible additional synergies	Possible additional synergies	-
Programme for Environment & Climate Action (LIFE)	-	-	-	-	Proposers indicated possible synergy Synergy reported	Synergy reported	Synergy reported	Proposers indicated possible synergy	-	-	Proposers indicated possible synergy Synergy reported



Other EU programmes											
Cluster 5 (Climate, Energy, Mobility) partnerships											
	Eu- rope's Rail	Single Euro- pean Sky	Clean Avia- tion	Clean Hy- drogen	Built- 4People	Zero- emission Road Transport	CCAM	Zero Emis- sion Water- borne Trans- port	Batte- ries	DUT	Clean Energy Transi- tion
Erasmus+	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
										Synergy re- ported	
Union Space Pro- gramme	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Synergy reported								

Source: Data from the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report vs. reported data on synergies from the Common Indicators Survey 2024.

Synergy reported – Synergy reported in the Common Indicators Survey conducted for BMR 2024.

Proposers indicated possible synergy – Synergy indicated by candidate partnership according to the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

Possible additional synergies – Synergies proposed by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

– No synergy was proposed by candidate partnership, nor indicated by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report, nor was the synergy reported in 2024 by partnership in the Common Indicators Survey.

NA – Data not available in the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report for these programmes.

For Cluster 6 partnerships, the initial potential for synergies with the five EU programmes in question were estimated to be low (according to Table 7). The only exception is the LIFE programme, which is by its focus areas the most similar to Cluster 6 topics. Therefore, it is somewhat surprising that the partnerships that initially indicated possible synergies with LIFE programme did not all report having or planning these synergies.

TABLE 7. Potential for synergies. Cluster 6 (Food, Bioeconomy, Natural Resources, Agriculture and Environment) partnerships

Other EU programmes	Cluster 6 (Food, Bioeconomy, Natural Resources, Agriculture and Environment) partnerships					
	Animal Health and Welfare	Biodiversa+	Blue economy	Safe and Sustainable Food Systems	Circular bio-based Europe	Water4All
Connection Europe Facility (CEF)	-	-	-	-	-	-
Digital Europe Programme (DEP)	-	-	-	Synergy reported	-	-
InvestEU	-	-	-	Synergy reported	Proposers indicated possible synergy Synergy reported	-
Programme for Environment & Climate Action (LIFE)	-	Proposers indicated possible synergy	Proposers indicated possible synergy	Proposers indicated possible synergy Synergy reported	Proposers indicated possible synergy Synergy reported	Proposers indicated possible synergy
Erasmus+	-	-	-	-	-	-
Union Space Programme	NA	NA	NA	NA	NA	NA

Source: Data from the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report vs. reported data on synergies from the Common Indicators Survey 2024.

Synergy reported – Synergy reported in the Common Indicators Survey conducted for BMR 2024.

Proposers indicated possible synergy – Synergy indicated by candidate partnership according to the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

Possible additional synergies – Synergies proposed by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

– No synergy was proposed by candidate partnership, nor indicated by the authors of the report Coherence and Synergies of Candidate European Partnerships under Horizon Europe, nor was the synergy reported in 2024 by partnership in the Common Indicators Survey.

NA – Data not available in the report Coherence and Synergies of Candidate European Partnerships under Horizon Europe for these programmes.

European Partnerships like EOSC and Innovative SMEs do not belong to a specific cluster and are therefore presented separately (Table 8) together with EIT KICs. Innovative SMEs is a Co-funded Transversal Partnership, and at this point, there are no foreseen synergies: ‘At this stage, we do not foresee any synergies with other EU programmes, although emerging opportunities will be explored as they arise’ (Common Indicators Survey 2024). EOSC has specifically reported in the Common Indicators Survey a synergy with the Connecting Europe Facility (CEF). In addition, this partnership added that further synergies are envisaged or already ongoing with all the other initiatives. The activities involve networking, communication and strategic exchanges. Further connections will be established as the EOSC Association matures.

For the EIT KICs, the main EU programmes for synergies are the InvestEU Programme and Erasmus+. Some single synergies were reported also with CEF (EIT Digital) and DEP (EIT Digital and EIT Health) programmes. Somewhat surprising is that there were no synergies foreseen or reported with the LIFE programme. Despite that, one could assume overlapping topics between LIFE and EIT Climate-KIC or LIFE and EIT Raw Materials. Based on the example of EIT Digital, it could be observed that partnerships on transversal topics could potentially have more synergies with other EU programmes (4 synergies out of 5 EU programmes reported), as the cooperation is not restricted by the specific topic and the transversal technology developed could be an enabler across themes.

TABLE 8. Potential for synergies. Cross-pillar European Partnerships and EIT KICs

Other EU programmes	Cross pillar European Partnerships and EIT KICs									
	Innovative SMEs	EOSC	EIT Climate-KIC	EIT Inno-Energy	EIT Digital	EIT Health	EIT Food	EIT Manufacturing	EIT Raw Materials	EIT Urban Mobility
Connecting Europe Facility (CEF)	-	Proposers indicated possible synergy Synergy reported	-	-	Synergy reported	-	-	-	-	-
Digital Europe Programme (DEP)	-	Proposers indicated possible synergy	-	-	Synergy reported	Possible additional synergies Synergy reported	-	-	Possible additional synergies	-
InvestEU	-	-	Possible additional synergies	Proposers indicated possible synergy	Possible additional synergies Synergy reported	Possible additional synergies Synergy reported	Possible additional synergies	Possible additional synergies Synergy reported	Possible additional synergies Synergy reported	Possible additional synergies
Programme for Environment & Climate Action (LIFE)	-	-	-	-	-	-	-	-	-	-



Other EU programmes	Cross pillar European Partnerships and EIT KICs									
	Inno- vative SMEs	EOSC	EIT Climate- KIC	EIT Inno- Energy	EIT Digital	EIT Health	EIT Food	EIT Manu- facturing	EIT Raw Ma- terials	EIT Urban Mobility
Erasmus+	-	-	Possible additional synergies	Possible additional synergies	Possible additional synergies Synergy reported	Possible additional synergies Synergy reported	Possible additional synergies Synergy reported	Possible additional synergies	Possible additional synergies Synergy reported	Possible additional synergies Synergy reported

Source: Data from the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report vs. reported data on synergies from the Common Indicators Survey 2024.

Synergy reported – Synergy reported in the Common Indicators Survey conducted for BMR 2024.

Proposers indicated possible synergy – Synergy indicated by candidate partnership according to the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

Possible additional synergies – Synergies proposed by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

– No synergy was proposed by candidate partnership, nor indicated by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report, nor was the synergy reported in 2024 by partnership in the Common Indicators Survey.

2.1.3.5 SYNERGIES BETWEEN EUROPEAN PARTNERSHIPS AND EU MISSIONS

There are potential mutual benefits for creating synergies between European Partnerships and EU Missions. For example, developing, testing, demonstrating and scaling up new and innovative solutions; mutual learning; joint solutions to encourage the co-investment of industry and the EU; network expansion; pooling of implementation activities towards common goals; visibility and awareness raising, etc³⁸. The European Commission has developed a toolbox presenting a non-exhaustive list of potential ways for missions and partnerships to collaborate³⁹.

Health Cluster partnerships (Table 9) show very clearly that the synergies with the only EU Mission on health topics (Cancer) is seen as beneficial, and the majority of partnerships in this cluster have reported already existing or planned synergies. However, there are some exceptions. ERA for Health is, for example, a rather newly established partnership, and could present, over time, interest in establishing synergies with the Cancer Mission.

TABLE 9. Potential for synergies between EU Missions and Cluster 1 (Health) partnerships

EU Missions	Cluster 1 (Health) partnerships						
	Innovative Health Initiative	ERA for Health	Rare Diseases	Transformation of Health-care Systems	Risk Assessment of Chemicals (PARC)	Global Health EDCTP3	Personalised Medicine
Adaptation to Climate Change	-	-	-	-	-	-	-
Climate-neutral and Smart Cities	-	-	-	-	-	-	-
Cancer	Proposers indicated possible synergy Synergy reported	-	Synergy reported	Proposers indicated possible synergy Synergy reported	Synergy reported	-	Possible additional synergies Synergy reported
Restore our Ocean and Waters	Possible additional synergies	-	-	-	Proposers indicated possible synergy	-	-
A Soil Deal for Europe	-	-	-	-	Proposers indicated possible synergy	-	-

Source: Data from the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report vs. reported data on synergies from the Common Indicators Survey 2024.

Synergy reported – Synergy reported in the Common Indicators Survey conducted for BMR 2024.

Proposers indicated possible synergy – Synergy indicated by candidate partnership according to the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

Possible additional synergies – Synergies proposed by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

– No synergy was proposed by candidate partnership, nor indicated by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report, nor was the synergy reported in 2024 by partnership in the Common Indicators Survey.

38 The final report of Matchmaking event on EU Missions and partnerships. Workshop 3: Environment.

39 The final report of Matchmaking event on EU Missions and partnerships. Workshop 3: Environment.

In Table 10, only a few reported synergies could be observed between the EU Missions and Cluster 4 (Digital, Industry and Space) partnerships. According to the report of the matchmaking event⁴⁰ for EU Missions and Cluster 4 Co-programmed Partnerships held in January 2022, the mechanisms for enhanced collaboration are to be defined; therefore, similar events in the future might be recommended to build more connections between these initiatives.

In comparison to other Horizon Europe clusters, the Cluster 4 partnerships reported far more existing synergies with the other EU programmes (especially with the Digital Europe Programme; see Table 5). Therefore, one reason behind the low number of synergies with EU Missions could be that the synergies are being developed with other types of initiatives.

TABLE 10. Potential for synergies between EU Missions and Cluster 4 (Digital, Industry and Space) partnerships

EU Missions	Cluster 4 (Digital, Industry and Space) partnerships								
	Made in Europe	AI, Data and Robotics	Photonics	Process4-Planet	Clean Steel - Low-Carbon Steel-making	Metrology	Smart Networks and Services	High Performance Computing	Chips (formerly KDT) JU
Adaptation to Climate Change	-	-	Proposers indicated possible synergy	Possible additional synergies	Possible additional synergies <i>Synergy reported</i>	Possible additional synergies	-	-	-
Climate-neutral and Smart Cities	Possible additional synergies	-	Proposers indicated possible synergy	Possible additional synergies	Possible additional synergies	Possible additional synergies	Possible additional synergies	-	Proposers indicated possible synergy
Cancer	-	-	Proposers indicated possible synergy <i>Synergy reported</i>	-	-	Possible additional synergies <i>Synergy reported</i>	-	-	-
Restore our Ocean and Waters	-	-	Proposers indicated possible synergy <i>Synergy reported</i>	-	-	Possible additional synergies	-	-	-
A Soil Deal for Europe	-	-	Proposers indicated possible synergy <i>Synergy reported</i>	-	-	Possible additional synergies	-	-	-

Source: Data from the *Coherence and Synergies of Candidate European Partnerships under Horizon Europe report vs. reported data on synergies from the Common Indicators Survey 2024*.

Synergy reported – Synergy reported in the Common Indicators Survey conducted for BMR 2024.

Proposers indicated possible synergy – Synergy indicated by candidate partnership according to the *Coherence and Synergies of Candidate European Partnerships under Horizon Europe report*.

Possible additional synergies – Synergies proposed by the authors of the *Coherence and Synergies of Candidate European Partnerships under Horizon Europe report*.
– No synergy was proposed by candidate partnership, nor indicated by the authors of the *Coherence and Synergies of Candidate European Partnerships under Horizon Europe report*, nor was the synergy reported in 2024 by partnership in the Common Indicators Survey.

40 The report on *Matchmaking event on EU Missions and Cluster 4 Co-programmed Partnerships*.

The main mission of interest for synergies for Cluster 5 (Climate, Energy, Mobility) partnerships is the Cities Mission (Table 11). DUT is by topic the closest to this mission, and the partnership has stated in the Common Indicators Survey that due to the focus of DUT, priority is given to cooperation with the Urban Agenda for the EU and the Cities Mission (besides other partnerships). However, there is clearly more room for additional synergies between other European Partnerships in this cluster and EU Missions (for example, on Adaptation to Climate Change). The EU Missions officially started in autumn 2021, and as they are a completely new instrument in the framework programme, it is only expected that their launch might require more time; the same most probably applies for synergies between the newly established Missions and other initiatives. Despite that, there are many thematic as well as operational links ('establishment of synergies in terms of process, including the key role of national authorities, the preference for a rather informal approach to collaboration, with however the need for a structure to centralise and orchestrate the different initiatives'⁴¹). As such, there are definitely more synergies to explore in the future.

TABLE 11. Potential for synergies between EU Missions and Cluster 5 (Climate, Energy, Mobility) partnerships

EU Missions	Cluster 5 (Climate, Energy, Mobility) partnerships										
	Europe's Rail	Single European Sky	Clean Aviation	Clean Hydrogen	Built-4People	Zero-emission Road Transport	CCAM	Zero Emission Waterborne Transport	Batteries	DUT	Clean Energy Transition
Adaptation to Climate Change	Proposers indicated possible synergy	-	Possible additional synergies <i>Synergy reported</i>	Possible additional synergies	Proposers indicated possible synergy	Proposers indicated possible synergy	-	Proposers indicated possible synergy	-	Possible additional synergies	Possible additional synergies
Climate-neutral and Smart Cities	Proposers indicated possible synergy	-	-	Proposers indicated possible synergy <i>Synergy reported</i>	Proposers indicated possible synergy <i>Synergy reported</i>	Proposers indicated possible synergy <i>Synergy reported</i>	<i>Synergy reported</i>	Proposers indicated possible synergy	-	Possible additional synergies <i>Synergy reported</i>	-
Cancer	-	-	-	-	-	Proposers indicated possible synergy	-	-	-	-	-
Restore our Ocean and Waters	-	-	-	-	-	-	-	Proposers indicated possible synergy <i>Synergy reported</i>	-	-	-

41 The report on Matchmaking event on EU Missions and Cluster 5 partnerships.



EU Missions	Cluster 5 (Climate, Energy, Mobility) partnerships										
	Europe's Rail	Single Euro-pean Sky	Clean Aviation	Clean Hy-drogen	Built-4People	Zero-emission Road Transport	CCAM	Zero Emission Water-borne Transport	Batte-ries	DUT	Clean Energy Transi-tion
A Soil Deal for Europe	-	-	-	-	-	-	-	-	-	-	-

Source: Data from the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report vs. reported data on synergies from the Common Indicators Survey 2024.

Synergy reported – Synergy reported in the Common Indicators Survey conducted for BMR 2024.

Proposers indicated possible synergy – Synergy indicated by candidate partnership according to the of Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

Possible additional synergies – Synergies proposed by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

– No synergy was proposed by candidate partnership, nor indicated by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report, nor was the synergy reported in 2024 by partnership in the Common Indicators Survey.

The main EU Missions relevant to Cluster 6 partnerships (Food, Bioeconomy, Natural Resources, Agriculture and Environment) are the Oceans and Waters mission and the Soil mission. The former particularly stands out in Table 12, as it is thematically very tightly linked to Biodiversa+, Water4All, and Sustainable Blue Economy. The Soil mission, on the other hand, is particularly closely related to Biodiversa+, Safe and Sustainable Food Systems, Accelerating Farming Systems Transitions and Agriculture of Data.

According to the *Matchmaking event on EU Missions & Cluster 6 Partnerships* report, the main topics of interest for synergies are biodiversity and ecosystem services, zero pollution and digitalisation.

TABLE 12. Potential for synergies between EU Missions and Cluster 6 (Food, Bioeconomy, Natural Resources, Agriculture and Environment) partnerships

EU Missions	Cluster 6 (Food, Bioeconomy, Natural Resources, Agriculture and Environment) partnerships					
	Animal Health and Welfare	Biodiversa+	Blue economy	Safe and Sustainable Food Systems	Circular bio-based Europe	Water4All
Adaptation to Climate Change	-	-	Proposers indicated possible synergy	-	Proposers indicated possible synergy	Proposers indicated possible synergy Synergy reported
Climate-neutral and Smart Cities	-	-	Proposers indicated possible synergy	Possible additional synergies	Proposers indicated possible synergy	Proposers indicated possible synergy
Cancer	-	-	-	Possible additional synergies	-	-
Restore our Ocean and Waters	-	Synergy reported	Proposers indicated possible synergy Synergy reported	Possible additional synergies	Proposers indicated possible synergy	Proposers indicated possible synergy Synergy reported
A Soil Deal for Europe	Possible additional synergies	Synergy reported	Proposers indicated possible synergy	Possible additional synergies	Proposers indicated possible synergy	Proposers indicated possible synergy

Source: Data from the *Coherence and Synergies of Candidate European Partnerships under Horizon Europe report vs. reported data on synergies from the Common Indicators Survey 2024*.

Synergy reported – Synergy reported in the Common Indicators Survey conducted for BMR 2024.

Proposers indicated possible synergy – Synergy indicated by candidate partnership according to the *Coherence and Synergies of Candidate European Partnerships under Horizon Europe report*.

Possible additional synergies – Synergies proposed by the authors of the *Coherence and Synergies of Candidate European Partnerships under Horizon Europe report*.

– No synergy was proposed by candidate partnership, nor indicated by the authors of the *Coherence and Synergies of Candidate European Partnerships under Horizon Europe report*, nor was the synergy reported in 2024 by partnership in the Common Indicator Survey.

Most of the synergies with EU Missions have been reported by EIT KICs (see Table 13). The strong synergies between EU Missions and EIT KICs reflect the systematic efforts to cross-fertilise on both sides. The fact that KICs report synergies with more than one EU Mission is linked to the fact that KICs, addressing wide societal challenges, contribute to missions from different angles.

EOSC and Photonics are the only ones reporting synergies with three missions, which could be explained by the transversal content of the partnership, but also by their strategic approach to synergies. For example, in EOSC's yearly funding destinations, one topic was dedicated to the linkage between EOSC and one of the missions. Furthermore, EOSC has stated in the Common Indicators Survey that 'Further connections, as indicated in the MoU and in the SRIA, will be established, as the EOSC Association matures, and dedicated fora are activated' referring to the strategic approach to creating synergies with other initiatives.

TABLE 13. Potential for synergies between EU Missions and Cross pillar European Partnerships and EIT KICs

EU Missions	Cross pillar European Partnerships and EIT KICs									
	Inno- vative SMEs	EOSC	EIT Cli- mate-KIC	EIT In- noEnergy	EIT Digital	EIT Health	EIT Food	EIT Manufac- turing	EIT Raw Materials	EIT Urban Mobility
Adapta- tion to Climate Change	-	Proposers indicated possible synergy Synergy reported	Possible additional synergies Synergy reported	-	Possible additional synergies Synergy reported	-	-	-	Possible additional synergies Synergy reported	-
Climate- neutral and Smart Cities	-	Proposers indicated possible synergy	Possible additional synergies Synergy reported	Possible additional synergies	Synergy reported	-	-	-	Synergy reported	Possible additional synergies Synergy reported
Cancer	-	Proposers indicated possible synergy Synergy reported	-	-	Possible additional synergies	Possible additional synergies Synergy reported	Possible additional synergies Synergy reported	-	-	-
Restore our Ocean and Waters	-	Proposers indicated possible synergy Synergy reported	Possible additional synergies	Possible additional synergies	-	-	Possible additional synergies	-	-	Possible additional synergies
A Soil Deal for Europe	-	Proposers indicated possible synergy	Possible additional synergies Synergy reported	-	-	-	Possible additional synergies Synergy reported	-	-	-

Source: Data from the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report vs. reported data on synergies from the Common Indicators Survey 2024.

Synergy reported – Synergy reported in the Common Indicators Survey conducted for BMR 2024.

Proposers indicated possible synergy – Synergy indicated by candidate partnership according to the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

Possible additional synergies – Synergies proposed by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report.

– No synergy was proposed by the candidate partnership, nor indicated by the authors of the Coherence and Synergies of Candidate European Partnerships under Horizon Europe report, nor was the synergy reported in 2024 by partnership in the Common Indicators Survey.



2.1.3.6 SYNERGIES REPORTED BY THE COUNTRIES

Partnerships are triggering a synergic use of different funds, e.g. national/regional funds, Cohesion funds (ERDF), European structural and investment funds (ESIF), and Recovery and Resilience Fund (RRF).

The same also applies to countries: there is a high interest in combining different funding sources (national, regional and EU level) to enable more participation in European Partnerships, but to also maximise the impact of different programmes. Several synergies were therefore reported by the countries in their country fiches.

There are different synergy mechanisms available. Some of them are more widely known (Seal of Excellence); others are rather new, and not broadly implemented (Table 14). In addition to Table 14, five Member States provide ERDF support as national contribution to EP's, as per data collected by the European Commission.

TABLE 14. Examples of different synergy mechanisms used by Member States

Type of synergy	Comment
Seal of Excellence	11 countries made use of the Seal of Excellence
Transfer of Funds	2 countries have requested the transfer
Downstream synergies	3 countries have implemented
GBER*	6 countries have taken advantage of the new revised GBER articles to encourage synergies with ERDF

Source: EC databases. * GBER - General Block Exemption Regulation (Regulation (EU) No 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty.

In comparison to the results of the previous BMR, the participation in European Partnerships is more strategic. A greater number of MS and ACs have merged their participation in European Partnerships with the national level R&I strategies, the focus topics of RIS3, and have created national or regional level supporting programmes (examples may be drawn from the country fiches of Greece, Estonia, Lithuania, Portugal, Spain, Cyprus and Austria).

Several countries acknowledge synergies as an important way to fully implement the aims of different focus areas such as the green transition (see country fiche Denmark). Others have highlighted that strengthening synergies and continued alignment between national R&I programs and European Partnerships is, without doubt, the way forward toward implementing the full potential of partnerships (see country fiche Norway).

Two examples of the use of ESIF and ERDF funds for participation in European Partnerships can be observed in Cyprus and Italy. Cyprus has successfully implemented the ESIF 2021-2027 co-funding to support participation in the seven partnerships selected under Horizon Europe. Italy has also provided an example of how its participation in Co-funded Partnerships is being funded through national and ERDF funds.

The Recovery and Resilience Facility (RRF) is a European Union initiative offering grants and loans to help MS rebound from COVID-19, with a focus on promoting sustainability, resilience and progress in green and digital sectors. It supports national strategies that prioritise climate initiatives, digital transformation and social fairness. The RRF is designed to drive a recovery that is both sustainable and inclusive, in line with the EU's overarching objectives. This scheme is a cornerstone of the EU's NextGenerationEU strategy. The Common Indicators Survey inquired about the intention to utilise complementary and cumulative funding from the RRF; according to the results presented, out of 31 partnerships that responded, 9 (29 %)



confirmed their plans to leverage additional and collective support from the RRF. Conversely, 71 % reported no intention to seek funding from the RRF. Greece presented a good example of participation in 2021-2022 Calls of EuroHPC and the Chips JU using RRF funds. In addition, Greece has combined national funds as well with other funding sources (ESIF).

Some countries have been able to combine regional and EU funds. Belgium has successfully complemented EU funding in the areas of AI and digital technologies with regional programmes, and used this funding scheme for follow-up calls of some highly valued FP6/FP7 ERA-nets like IRAsme and CorNet. These have been continued using regional funding only (see country fiche Belgium). The federal state of Saxony, Germany, provides an example of participation at the regional level (Länder), employing both state and structural funds in CETP and PerMed to finance regional beneficiaries in partnership projects (see country fiche Germany).

As can be seen in the examples above, countries are actively seeking synergies with EU, regional and national funds to maximise the participation in and impact of European Partnerships. Therefore, it could be concluded that a lot of pre-conditions for synergies are created by countries.

European Partnerships have a very important supporting role for countries to create synergies. One good example is the ERA4Health partnership and its establishment of a Synergies Working Group. The aim of the initiative is to start building synergies with other related initiatives through the joint working group of different actors involving national funding organisations. The annual Synergies Workshop will invite national/regional funding agencies to help them optimise their national funding strategies, avoid duplication, and mobilise all relevant policy and funding instruments managed in their country in a coherent way. Relevant initiatives will also be consulted when ERA4Health identifies the topics for its future joint transnational Calls.

One could observe that in comparison to BMR 2022, there have been far more synergies reported by countries in the BMR 2024 country fiches. Synergies are progressing, but despite that, the opportunities for synergies are not yet fully exploited, and further sharing of best practices and continued reduction of bureaucracy is of importance. The use of combined funds has been hampered due to the high level of administrative burden, differences in timelines of the European Partnerships and other EU funds (e.g., ESIF), and differences in funding procedures (see the country fiches of Greece and Slovenia). Missed opportunities for synergies were also reported by the ex-post evaluation of Horizon 2020⁴².

The maturity of synergies differs among countries. Some have used different funding sources to a large extent (see country fiche Sweden); others have quite recently established an effective and functioning national-level co-funding mechanism for European Partnerships (see country fiche Slovakia). According to the final report of the Expert Group on Support of the Monitoring of EU Missions, many countries are still in the process of setting up schemes to integrate EU Missions with national-level policy instruments, and the synergies with financial instruments like ERDF and RRF to pool the resources are in the planning phase⁴³.

2.1.3.7 SYNERGIES AS A WAY FOR RESILIENCE

Synergies among partnerships, as detailed in the Horizon Europe framework, enhance resilience by fostering a collaborative approach to addressing complex challenges. This collaborative approach allows for the pooling of resources, knowledge, and expertise across various sectors and disciplines. It enables stakeholders to leverage each other's strengths, mitigate risks more effectively and adapt to changing environments. Through coordinated efforts, these partnerships drive innovation, accelerate the development of solutions, and ensure a more robust response to societal, environmental and technological challenges. Such synergies are crucial for building resilient systems that can withstand and recover from disruptions, contributing to sustainable development and societal well-being.

42 *Ex-post evaluation of Horizon 2020, the EU Framework Programme for Research and Innovation*, SWD (2024) 29 final.

43 *Final report of the Commission Expert Group to support the monitoring of EU Missions* (2024).



The partnership fiches highlight various examples where synergies act as a way to enhance resilience:

- Clean Hydrogen focuses on developing clean hydrogen technologies, showcasing how collaboration between the public sector, industry, and research institutions can accelerate the transition to a low-carbon economy.
- IHI aims to improve health outcomes by fostering collaboration between the life sciences sectors, demonstrating how joint efforts can lead to innovative healthcare solutions.
- Circular Bio-Based encourages the use of renewable resources and the development of more sustainable bio-based products, illustrating the synergy between environmental sustainability and economic growth.
- Global Health EDCTP3 targets infectious diseases in sub-Saharan Africa, highlighting how international collaboration can strengthen healthcare systems and enhance global health resilience.

These examples underscore the importance of collaborative efforts in building resilience across different sectors, from healthcare and energy to environmental sustainability.

The country fiches provide a comprehensive overview of various countries' participation and strategies in European Partnerships, highlighting their commitments, future intentions, and impacts on resilience and synergies within the ERA. It emphasises the alignment of national research priorities with European goals, such as the European Green Deal, digital transition and resilience, showcasing an increase in participation rates, funding commitments, and strategic direction towards addressing key societal challenges. The synergies are evident in the focus on collaborative research and innovation efforts across borders, enhancing the collective capacity to address complex challenges and leveraging European Partnerships for national benefits.

For resilience, the country fiches illustrate how countries leverage the partnerships to strengthen their R&I ecosystems, diversify their scientific and technological capabilities, and enhance their ability to respond to emerging challenges. This strategic engagement not only bolsters national research infrastructures, but also contributes to building a more resilient and interconnected European research landscape. Through active participation in European Partnerships, countries aim to ensure sustained growth, competitiveness, and innovation, fostering a resilient framework to tackle future societal, environmental and technological shifts.

Based on the country fiches, there are some examples from different countries illustrating how they leverage synergies and build resilience through participation in European Partnerships:

- Slovakia utilises structural funds to kick-start participation in European partnerships, ensuring wider involvement from academia and the entrepreneurial sector. The Slovak Recovery and Resilience Plan introduces grants for the preparatory phase of Horizon Europe projects, enhancing the research ecosystem's resilience.
- Spain has demonstrated its strength in integrating national research and innovation priorities within European agendas, exemplified by its coordination of ERA PerMed. This has increased participation in personalised medicine, aligning Spanish national and regional levels through Specialisation Strategies and dedicated programmes.
- Germany has expanded its cooperation in science and research internationally, notably with Ukraine, through the EIT HEI initiative and the INTREPID-HEI project. This collaboration strengthens resilience against geopolitical challenges and fosters innovation in education and research.
- Sweden has enhanced its competitive edge in research and innovation through active participation in European Partnerships, such as EuroHPC and Eurostars, aligning national priorities with European initiatives. This synergy boosts Sweden's position in computational science and benefits its innovative SMEs.



- France plays a pivotal role in structuring European and national research priorities, particularly in quantum technologies and antimicrobial resistance. The coordination structures developed, like the national thematic alliances, demonstrate an effective approach to aligning European and national research activities.

These examples underscore the strategic engagement of countries with European Partnerships, showcasing how collaborative efforts contribute to national resilience and foster synergies between national and European R&I priorities.

2.1.4 KEY OBSERVATIONS

Additionality and directionality

Across all partnership types (excluding Co-funded Partnerships) the direct call leverage is 0.52, considerably higher than that of traditional Horizon Europe projects. At the partnership level, the total direct leverage amounts to 1.63 across all partnership types. The total direct leverage is the highest for the KICs with a factor of 2.35. For co-funded European Partnerships, the direct additional leverage of 2.17 reflects the funding rate used for these partnerships, i.e. either 30% or 50%. For Co-programmed and Institutionalised European Partnerships (excluding the KICs) it is 1.39 and 1.44 respectively. The indirect leverage across all partnership types is 1.21. The Co-programmed Partnerships and KICs stand out with an indirect leverage of 2.16 and 3.24 respectively. Across all partnerships, the full leverage is 2.83. KICs stand out with a full leverage of 5.6, followed by Co-programmed partnerships with 3.55, Co-funded Partnerships with 2.21 and Institutionalised Partnerships (excluding KICs) with 1.64. While these figures are to be taken with the necessary caution due to the self-reporting nature of this data and the fact that indirect activities are likely to be triggered further down the life-time of the partnership, they do show that European Partnerships have the potential to trigger considerable amounts of co-investment by the partners other than the Union.

Most of the partnerships (across all types) mobilised further public investment at the national level to scale-up project results, or follow-up projects with additional EU/national/regional funding, which, based on a rough estimation supersedes EUR 20 billion, sees the Co-programmed Partnerships having the largest share. The types of additional activities triggered range from national and regional programmes, to schemes enhancing national/regional eco-systems, and structures facilitating national coordination.

The contribution of European Partnerships to the EU priorities (Green deal, digital transformation and economic and social Resilience) presented, as expected, a blended picture. The Green deal priorities are mobilised across all partnership types, although the Co-funded Partnerships have the dominant role in this. Digital Transformation priorities are mainly addressed by Institutionalised Partnerships, but Co-funded Partnerships also play an important role; Co-programmed Partnerships to a lesser extent. Economic and social resilience priorities seem to be more addressed by the Institutionalised and Co-funded Partnerships, and less so by the Co-programmed ones. In line with the BMR 2022, European Partnerships are targeting their largest share of funding (75 %) towards the Green deal priorities, while Cluster 4 Partnerships address solely digital Transition in BMR 2024, instead of the more dispersed picture in BMR 2022.

Transparency and openness

Committed to increased transparency and openness, European Partnerships have measures in place for the transparent and open involvement of stakeholders, all MS and ACs, and for attracting newcomers. Most partnerships report activities strengthening the participation of widening countries and inclusion of countries not yet being part of the partnership, as well as specific measures targeting enhanced participation of end-users and/or private sector. A special type of membership 'observer' is common among Institutionalised and Co-programmed Partnerships, possibly reflecting a more stringent partaking framework than in the Co-funded Partnerships, for which inclusions is mostly related to budgetary flexibility. Intense communication to increase visibility and outreach activities to countries not currently represented are common across all partnership types.



Synergies

Between the previous BMR 2022 and now, there has been a clear shift from planning synergies to implementing them, with the current BMR including multiple examples of synergies among European Partnerships, as well as between partnerships and EU Missions and other EU programmes. The most popular EU programmes with high potential for synergies include the Digital Europe Programme, InvestEU and the Connecting Europe Facility. The Co-funded Partnerships reported fewer synergies with other EU programmes than the other types of partnerships. This is possibly due to the early days of some partnerships and the fact that synergies may exist at project level, which may not be monitored by or known to the partnership management teams. When it comes to synergies, the prevailing collaboration types are informal cooperation and transversal/multidisciplinary cooperation.

Other programmes were also mentioned by partnerships like the Erasmus+, LIFE and Union Space programmes as offering opportunities for synergies. Although concrete examples of synergies are starting to appear, more links can be made with certain programmes such as LIFE, while the partnerships of a transversal nature (e.g. open data, digital) might have more potential for synergies creation than others that are thematically restricted. On the issue of synergies with other EU funding sources like ESIF, some successful examples are starting to appear.

Albeit to a different extent across partnerships, synergies are also established with the EU Missions. In some cases, there is a clear thematic link, e.g. between the Health Cluster partnerships and the EU Mission on Cancer, or DUT and the EU Mission on Cities, or the Cluster 6 partnerships with the EU Missions on Oceans and Water and Soil. Yet, there is room for more links and synergies between other European Partnerships and the EU Missions. Given the EIT KICs are thematically quite separate from each other, they present links with all the EU Missions and have built on all of them to create synergies.

2.2 CONTRIBUTIONS TO KEY EUROPEAN OBJECTIVES

The purpose of this subchapter is to give insights into the contribution of the partnership portfolio to the key European objectives at an aggregated level. This second report continues the first edition focus on the EU's transitions towards the Green Deal and digital objectives, and offers support for a more resilient society, which constitute the major priorities of the current Commission and of the first Strategic Plan of Horizon Europe (2021-2024).

Although the COVID-19 pandemic is no longer a dominant factor shaping the economic, social and political context, it still has a clear and visible impact. In this analysis, 'Resilience' was interpreted in a broader manner, encompassing health, societal and technological aspects, in line with the first Strategic Plan of Horizon Europe.

Moreover, a cumulative impact on the EU priorities and policies from the COVID-19, Russia's aggression on Ukraine and global economic slowdown, led to broaden the choice of the European objectives under scrutiny on technological sovereignty and international positioning. These two new objectives could be seen as an extension of the Resilience objective, but due to their visible importance in the current policy debate and actions taken on the EU level, a separate assessment of the partnership activities toward them is rational.

The analysis in this chapter continues the methodological approach of the first report and considers several elements obtained as output from the biennially updated partnership and country fiches, biennially collected Common Indicators Survey, and biennially analysed SRIAs, MoU's, Single Basic Act, studies, evaluations and so on. A core principle for the European Union is sustainable development and, therefore, a priority objective in Horizon Europe and for the partnerships. European Partnerships play a key role in tackling complex economic and societal challenges. In the collected fiches (see Chapter 4), each partnership has indicated up to five main SDGs supported by the partnership. Mapping the SDGs indicated by the partnerships with the EU policy focus of the partnership clusters, and illustrates the different aspects of expected contributions to EU priorities



(see Figure 23). In the following analysis, the SDGs are used in two ways: first, as widely accepted policy objectives, and second, as a proxy of partnerships' engagement in EU policy priorities. The Key Impact Pathway 4, 'Addressing EU priorities & global challenges through R&I', will also monitor the contribution of projects to the EU priorities – including the SDGs – which may in the future provide interesting insights to complement the current methodology.

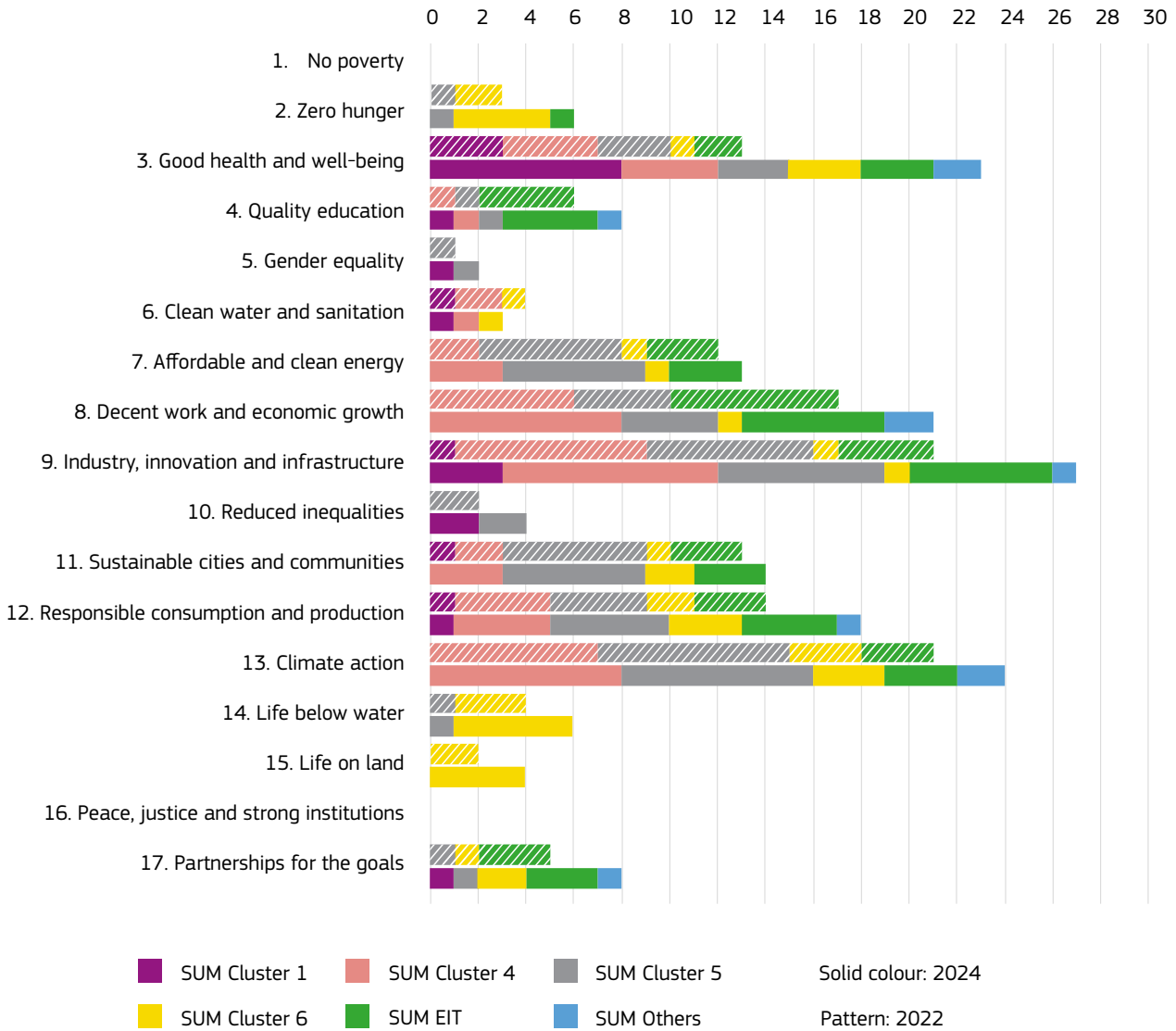
Figure 23 indicates that the biggest contributions from European Partnerships are to the following SDGs:

- 9: Industry, innovation and infrastructure,
- 13: Climate action,
- 3: Good health and wellbeing,
- 8: Decent work and economic growth,
- 12: Responsible consumption and production.

The observed changes between the present and the previous report data in absolute values and in distribution are proportional to the number of new partnerships taken under consideration and their affiliation to specific clusters. Five out of nine partnerships that provided new data to the present report are affiliated to Cluster 1, which is reflected in the change in the statistic for SDG 3. Despite minor changes, the overall pattern of distribution of interest in specific SDGs remains unchanged. In particular, there is still no or very minor interest of partnerships in SDGs 1: No poverty; 16: Peace, justice, and strong institutions; or SDG 5: Gender equality. This could be explained by the nature of these SDGs, or the specificity of the partnerships as policy instruments. Similar observations were made following the portfolio analysis of where they were assessed against their relevance as instruments to address current and future European policy priorities⁴⁴.

44 *Assessing European Partnerships against European policy priorities*, European Commission, 2023.

FIGURE 23. Contribution of the European Partnerships to the SDGs



Source: Expert group, own analysis, based on 44 partnership fiches.

The analysis below will follow a cluster approach based on Horizon Europe clusters (Clusters 1, 4, 5 and 6) to which partnerships not belonging to a cluster (the KICs and EOSC) are assigned following topic affinity⁴⁵. The analysis will show if and how a group of partnerships contribute to selected EU policy priorities. Analysis across all clusters allows the identification of possible and potential synergies between thematic orientations and individual clusters. Anecdotal evidence will be used to further illustrate synergies at the level of individual partnerships and between them.

45 Cluster 1: EIT Health - Cluster 4: EOSC, EIT Manufacturing, EIT Digital, EIT Raw Materials – Cluster 5: EIT Climate, EIT InnoEnergy, EIT Urban Mobility – Cluster 6: EIT Food – InnovSMEs: no cluster.



2.2.1 TECHNOLOGICAL SOVEREIGNTY

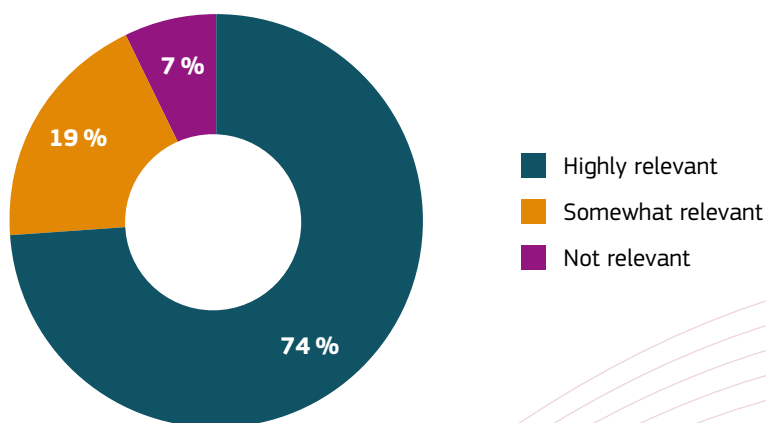
The definition of European technological sovereignty is the ability for Europe to develop, provide, protect and retain critical technologies required for the welfare of European citizens and prosperity of businesses, and the ability to act and decide independently in a globalised environment includes technological, economic and regulatory elements. The technological element is associated with the development of European R&D competencies by maintaining a strong knowledge base, industry, and networks in critical technologies. The economic element is connected to leadership in key enabling technologies (advanced manufacturing, advanced (nano)materials, life-science technologies, micro/nano-electronics and photonics, artificial intelligence and security and connectivity technologies), turning R&D into market products, and having access to resources along the value chain with the aim of reducing dependence on third countries. The regulatory element is related to the development of policies and standards in order to influence global regulation, standards, and practices that reflect European values⁴⁶.

The European Union has a strong position in advanced manufacturing and advanced materials, industrial research and development, especially in the automobile, information and communication technology, as well as in health sectors. Nonetheless, it should reduce strategic dependencies in artificial intelligence, big data, cloud computing, cybersecurity, secure communications, robotics and micro-electronics, which are representing key technological fields and value chains⁴⁷.

In order to protect the autonomy, strategic assets, security or interests of the European Union, Article 22(5) of the Horizon Europe Regulation allows for the limitation of participation to legal entities established in specified associated or other third countries or in MSs, as indicated in the work programme. As a result, participation was limited for the topics related to quantum research, space and critical raw materials, with 49 topics in the 2021-22 work programme (4 % of the work programme budget) and 31 topics in the 2023-24 work programme (3.5 % of the work programme budget)⁴⁸.

The Commission has used Article 22(6) of the Horizon Europe Regulation, which allows for the inclusion of additional eligibility criteria, with third countries where the framework conditions ensuring a level playing field in R&I cooperation were not present⁴⁹.

FIGURE 24. European Partnerships (43) answer the question: How relevant is European strategic autonomy/ technological sovereignty for your partnership?



Source: Answers from the Common Indicators Survey, Additional question 1 (see Chapter 2.1.) (43 respondents).

46 [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/697184/EPRS_STU\(2021\)697184_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/697184/EPRS_STU(2021)697184_EN.pdf).

47 <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023DC0356>.

48 <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023DC0356>.

49 <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023DC0356>.



CLUSTER 4: DIGITAL, INDUSTRY AND SPACE

Cluster 4: 'Digital, Industry And Space' represents the key cluster enabling technological sovereignty, as it supports the development of key enabling technologies of the future, which is mirrored in the answers that Cluster 4 partnerships gave in the Common Indicators Survey, as well as in the partnership fiches. For this reason, the following analysis focuses on the activities of the European Partnerships under Cluster 4.

Figure 24 displays the relevance of European technological sovereignty for European Partnerships from all clusters. For the great majority of Cluster 4 partnerships and relevant EIT KICs showcased in Figure 25, technological sovereignty is highly relevant.

The general objective of the AI Data Robotics partnership (Adra) is to secure European technological sovereignty, which depends on creating digital infrastructures, with the goal of supporting European-developed AI methods and technologies, as per the SRIA. The relevant KPIs are connected to supporting initiatives that foster AI skill building, rate of technology transfer from research through the creation of spinouts and new ADR SMEs, and global market share of EU ADR technology providers.

The Smart Networks and Services partnership (SNS) aims to support technological sovereignty in line with the EU industrial strategy and the 5G cyber-security toolbox, while SNS KPIs related to the technological sovereignty are high-risk research funding, SME innovation & participation, collaboration and synergies with other partnerships and technological solutions consensus building.

Photonics technologies are empowering a more sovereign and resilient European economy by ensuring future European digital and technological sovereignty and security. In line with the SRIA, photonics R&I challenges are related to the sovereignty in core photonics technology platforms. Photonics KPIs associated with technological sovereignty are cross-cutting digital innovation hubs and access to risk capital.

The Made in Europe partnership will defend Europe's technology leadership in the world and offer Europe a mechanism to strengthen the sovereignty of its manufacturing sector. Cooperation on a European level will reduce external dependencies of the European industry, while Made in Europe will provide the best available technology for the manufacturing sector, as stated in the SRIA. Made in Europe KPIs connected to the technological sovereignty are the uptake of de-manufacturing, re-manufacturing, and recycling technologies for more efficient manufacturing and supply chain response time. There is also a focus on human-centric manufacturing technologies.

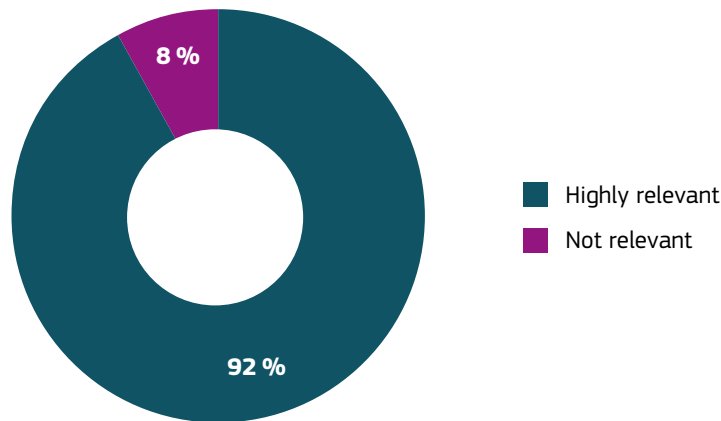
According to the SRIA, EOSC will provide an environment driven by societal challenges for public and private sectors to co-design innovative data services and increase Europe's technological sovereignty in key enabling technologies. EOSC KPIs related to technological sovereignty are Interoperability Framework adoption by major EU research infrastructures, and thematic European research infrastructures documented standards and protocols for data sharing and re-use.

EIT Digital will support European digital technology development to achieve European digital sovereignty by building and scaling ventures and by upskilling talents. All activities of this partnership are concentrated in strategic areas that are essential for European digital sovereignty: digital tech, digital wellbeing, digital cities, digital industry and digital finance, as mentioned in their SRIA. EIT Digital KPIs connected to technological sovereignty are supported start-ups/scale-ups and investment attracted by KIC-supported start-ups/scale-ups.

EIT Manufacturing will create synergies with the other EIT KICs and European initiatives and leverage strategic alliances, ecosystems and value chains to strengthen European sovereignty, as stated in the SRIA. EIT Manufacturing KPIs associated with the technological sovereignty are employees from organisations having received KIC support who completed a training that bridged skill gaps and innovations launched on the market (products/services) with a sales revenue of at least EUR 10 000.



FIGURE 25. Cluster 4 partnerships (9) and relevant EIT KICs (3) answer the question: How relevant is European strategic autonomy/technological sovereignty for your partnership?



Source: Answers from EU Survey, Additional question 1 (see Chapter 2.1.).

In the preceding paragraphs, the SRIAs and KPIs have been analysed. However, the potential for technological sovereignty can also be observed by analysing the anecdotal evidence found in the partnership fiches (Chapter 4) and country fiches (Chapter 3). Some of these are presented in the boxes below:

BOX 10. SMART NETWORK AND SERVICES (SNS) PARTNERSHIP FOR TECHNOLOGICAL SOVEREIGNTY

Smart communications and services – and broadly speaking, next-generation connectivity – are essential for European businesses and societies as they continue their digital transformation journey. SNS JU contributes significantly to European technological sovereignty and economic security through its rigorous R&D efforts in critical and secure communication technologies. With 63 projects launched to date, SNS JU addresses a wide range of network aspects, from cutting-edge system architectures to AI-powered security and sustainability measures. One notable achievement is SNS JU’s ability to bring together experts from the mobile, satellite, and telecommunication research communities, pooling their collective expertise to meet the demands of future users. Projects like ‘5G-STARDUST’ and ‘6G NTN’, in collaboration with organisations like ESA, aim to create a seamlessly integrated TN-NTN autonomous system, featuring innovative self-adapting, end-to-end connectivity models that promise ubiquitous coverage and technological sovereignty. Besides, SNS JU’s support for targeted standardisation workshops led by ETSI underscores its commitment to shaping industry standards and promoting technological advancements that are vital for a thriving and secure European future

RELEVANT SNS KPIS:

- High risk research funding
- SME innovation & participation
- Collaboration and synergies with other partnerships
- Technological solutions consensus building

Source: Chapter 4: partnership fiches.



BOX 11. CHIPS JU PARTNERSHIP FOR TECHNOLOGICAL SOVEREIGNTY

A significant portion of electronic chip manufacturing happens outside of Europe, making the EU reliant on chip supplies crucial for manufacturing innovative systems across various sectors vital to Europe's interests: mobility, healthcare, energy transition, manufacturing, agriculture, telecommunication and more. As of 2023, the Chips JU will provide support for development of innovative pilot lines for advanced chips, quantum chips, a design platform, and so on. Once established, this infrastructure will be accessible to all European stakeholders to facilitate the development of innovative electronic systems using advanced technologies. The Chips JU will actively promote European utilisation of this infrastructure through competence centres and projects, as well as the training of the workforce necessary for future manufacturing. These efforts will further reinforce the Chips JU's pivotal role in enhancing the technical sovereignty of the EU.

The Chips JU launched its first calls for four pilot lines on 1 December 2023, a mere two months after the entry into force of the European Chips Act. In 2024, additional calls will be launched for another pilot line, a design platform, a preparatory action on quantum chip pilot lines, and at least one competence centre per Member State/EEA country (i.e., around 29). The combined EU budget for these 2023 and 2024 calls dedicated to the Chips for Europe Initiative is of up to EUR 2.3 billion and is expected to be matched by funds from participating states (i.e., Member States and countries associated to the Horizon Europe and/or Digital Europe programmes), resulting in a total investment of EUR 4.6 billion. This underscores the EU's commitment in asserting its technological control. In addition, the Chips JU launched in 2023 and 2024 a number of calls for proposals with up to EUR 317.7 and EUR 216 million in EU contributions, respectively. Participating states will, in turn, make a commensurate contribution, and the industry is expected to match the EU and participating states' contributions.

Since 2021, the Chips JU has facilitated collaboration among 1181 beneficiaries across 30 R&I projects, with 33 % representing SMEs. Those projects cover a wide range of applications while focusing on advanced chip technologies and their use in innovative systems. An additional EUR 400 million in total funding will support approximately 20 projects in 2024. Expectations are that these projects will yield similar level of impact as those under ECSEL JU (2014-2020) programme, which demonstrated significant global influence. Statistics reveal over three patents per EUR 10 million of EU funding (406 patents), and innovations introduced by more than 1000 companies (close to 40 % by SMEs).

Recently concluded projects, funded under ECSEL JU and the Chips JU (back then named KDT JU), underscore the importance of their results. For example, AI4DI has significantly shaped the embedded and edge AI, with outcomes that have profoundly impacted innovation and competitiveness across various industries. Arrowhead Tools has effectively reduced automation engineering costs through innovative paradigms and provided open-source, free-to-use technology. Additionally, UltimateGaN has enabled mass production of essential chips critical for Europe's technological future in telecommunication. The collaborative approach favoured by large projects supported by the Chips JU is essential for driving further innovation, much like the predecessor programmes have successfully managed.

RELEVANT CHIPS JU KPIS:

- Total funding committed to selected projects
- Progress in implementation of actions
- SME participation

Source: Chapter 4: partnership fiches.



BOX 12. EIT DIGITAL PARTNERSHIP FOR TECHNOLOGICAL SOVEREIGNTY

EMAI4EU aims to train the next generation of specialists and innovators in Emotion AI in Europe. EMAI4EU will achieve this goal by designing and delivering a double-degree master's programme (120 ECTS) as well as self-standing modules on AI with a specialisation in Emotion AI and a minor in Innovation and Entrepreneurship. The master's programme will be designed and delivered by eight higher education institutions from five different countries with four Innovative SMEs, a leading research centre in AI and EIT Digital (a pan-European organisation with experience in delivering education programmes in advanced digital skills across Europe). In line with the goals of the Digital Compass and New European Innovation Agenda, EMAI4EU will train more than 1 000 participants across four years and contribute to reducing the gap in advanced digital skills in Europe and increase Europe's competitiveness in a key digital technology domain such as AI.

RELEVANT EIT DIGITAL KPIS:

- Financial sustainability revenues
- Supported start-ups/scale-ups
- Investment attracted by KIC supported start-ups/scale-ups

Source: Chapter 4: partnership fiches.

BOX 13. NORWAY – ADDRESSING EUROPEAN TECHNOLOGICAL SOVEREIGNTY

Norway recognises the need to safeguard strategic autonomy and security. Work is ongoing on a more strategic approach to security in sensitive disciplines and technology of importance to national security, including through international cooperation. Through the EEA Agreement, Norway is fully integrated in the EU single market and participates in all parts of Horizon Europe. In its position as a reliable provider of energy to the EU, Norway makes an important contribution to the EU's strategic autonomy and security. Norway has a leading position in R&I in sustainable energy and a strong position and high potential in the provision of minerals and critical raw materials. In these areas, Norway is prepared to play an active part in relevant partnerships. The Government's strategy for cooperation in research and higher education outside of the EU/EEA – the Panorama strategy – has included nine countries: Brazil, Canada, India, Japan, China, Russia (until 24.2.2022), South Africa, South Korea and the US. The strategy is based on the principle of responsible international cooperation.

Source: Chapter 3: country fiches.



2.2.2 INTERNATIONAL POSITIONING

The analysis of R&I's international positioning was conducted in European Partnerships, taking into account the fostering of collaboration with global leaders, how they benefit from R&I collaborative agreements the EU made with non-European countries, as well as the Common Indicators Survey responses and data received in fiches.

European Partnerships are fostering **collaboration with non-European countries**, as well as with global leaders, as can be seen from examples provided in the partnership fiches:

- ERDERA is collaborating with the Critical Path Institute (C-Path, USA) on data models for drug development. This collaboration started under ERDERA's predecessor: the European Joint Programme on Rare Diseases (EJP RD).
- Regarding the OHAMR partnership, Australia, Canada and South Africa have been partnering in the calls supporting research projects involving international partners leading to increased scientific knowledge and technology transfer among the partner countries.
- The Chips JU will launch a joint call with the Republic of Korea in 2024 on neuromorphic technology and heterogeneous integration.
- In the 2023 and 2024 Work Programme, SNS JU has been actively involved with the United States, Japan and the Republic of Korea on topics related to AI and future networks.
- EuroHPC is funding international cooperation activities in R&I with Japan and India.
- The AI, Data and Robotics Association, which is representing the private members of Adra has established working relationships at the national government level with Canada, the US and Republic of Korea.
- The role of Photonics partnership is to prepare the ground with Japan, Canada and the Republic of Korea for a long-term win-win partnership in photonics R&I to guarantee the security of supply for European industry.
- There are 56 partners from 11 non-EU countries participating in 21 Processes4Planet projects. Partners outside Europe are from Israel, Iceland, Thailand, Colombia, United States and South Africa.
- EIT Digital, as a pan-European digital ecosystem, will drive digital transformation in the Latin America and Caribbean region and support the scaling of companies, SMEs and startups.
- In the EOSC project Galaxy, the United States and Australia support hundreds of thousands of analyses monthly.
- EU-RAIL will continue the cooperation set up by its predecessor, the Shift2Rail JU, with the Federal Railroad Administration (FRA), the American Public Transportation Association (APTA), the Federal Transit Administration (FTA) in the US, the Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Gulf countries, India, and will soon establish a collaboration with Australia..
- An MoU has been signed between a CCAM project, ULTIMO, and the Japanese automated mobility initiative, Cool4 (Cooperative Level 4 Automated Mobility Service in the mixed environment), with a view to exchanging know-how and best practices on the design, development and demonstration of automated mobility.
- Biodiversa+ has been able to involve several non-European countries in its calls, such as Brazil, Israel, Moldova, Morocco, South Africa, Taiwan, Tunisia, Ivory Coast, Canada, Faroe Islands and Georgia.



- SESAR 3 JU is benefiting from R&I collaborative agreements the EU has made with non-European countries, as stated in their partnership fiche. The SESAR 3 JU cooperates with the United States Federal Aviation Administration (FAA) under an EU-US Memorandum of Cooperation and has bilateral cooperative arrangements with Japan via the European Commission. In addition, the SESAR 3 JU also provides support to the EU's regional technical cooperation projects, which are managed by the European Union Aviation Safety Agency, for example with North Asia, Southeast Asia, South Asia, Latin America and the Caribbean.

Some examples of the **international positioning** of the advanced R&I conducted in European Partnerships are found in partnership fiches:

- EuroHPC owns three European supercomputers, which have been ranked in the top 10 of the world's most powerful supercomputers, while all the other EuroHPC supercomputers remain ranked amongst the world's most powerful and greenest supercomputers. This JU has also signed the procurement contract for JUPITER, the first European exascale supercomputer, which will support the development of high-precision models of complex systems and AI applications. In addition, the six new EuroHPC quantum computers will be integrated into existing supercomputers in Czechia, France, Germany, Italy, Poland and Spain, which will give Europe an opportunity to be at the forefront of the quantum technology field.
- The Chips JU is supporting the building of innovative pilot lines for advanced chips and a design platform for developing and designing innovative electronic systems, with a view to reducing the dependency of the EU, as a large part of the chip manufacturing is outside Europe. The Chips JU launched the calls for pilot lines in 2023, while in 2024, additional calls will be launched for another pilot line, a design platform, a preparatory action on quantum chips, and competence centres. Further, the Chips JU will support around 20 R&I projects focusing on advanced chip technologies in 2024, and significant global influence through patents and innovations is expected.
- SNS and the Chips JU are planning to collaborate, which will support the positioning of Europe as a leader in microelectronics and hardware for 6G Smart Networks and Services. The synchronisation of the Chips and SNS related Work Programmes for 2025 onwards is being prepared, as well as the building of a strategy for Europe in the field of microelectronics and hardware for 6G Smart Networks and Services.

CLUSTER 1: HEALTH

Table 15 demonstrates the percentage of the overall budget planned for connections/collaboration with non-European actors by European Partnerships from all clusters. Cluster 1 'Health' represents the key cluster enabling international positioning, which is reflected by the highest percentage of overall budget planned for connections/collaboration with non-European actors (see Table 16) among all clusters. As such, the following analysis focuses on the activities of the European Partnerships under Cluster 1.

The consequences of the partnerships with extremely high percentages of the overall budget planned for connections/collaboration with non-European actors being taken out of the calculations has also been analysed. Cluster 1 partnerships (incl. EIT Health) have an average of 5 % if Global Health is not taken into account (Global Health has 100 %). Cluster 4 partnerships (incl. EIT Digital, EIT Manufacturing and EOSC) have an average of 4 % if Clean Steel is not taken into account (Clean Steel has 70 %). Cluster 5 partnerships (including EIT Climate, EIT InnoEnergy and EIT Urban Mobility) have an average of 4 % if Clean Aviation is not taken into account (Clean Aviation has 90 %). There are no extreme cases in Cluster 6 (including EIT Food), and the average is 5 %.



TABLE 15. European Partnerships (37) answer the question: How much of your overall budget is planned for connections/collaboration with non-European actors?

Baseline: [%] (H2020 predecessor or based on H2020 historic data)	Target: [%] (whole duration of the Partnership)
7%	12%

TABLE 16. Cluster 1 partnerships (7) and EIT Health answer the question: How much of your overall budget is planned for connections/collaboration with non-European actors?

Baseline: [%] (H2020 predecessor or based on H2020 historic data)	Target: [%] (whole duration of the Partnership)
17%	17%

Global Health EDCTP3 is planning 100 % of their overall budget for connections/collaborations with non-European actors, according to the Common Indicators Survey. This partnership is forming international networks by enhancing scientific collaboration and international cooperation across sub-Saharan Africa (SSA), and by providing funding to improve the technical infrastructure for health research in SSA countries. Global Health EDCTP3 is establishing links between funded activities and Ministries of Health in the countries where research is taking place and to regulatory bodies and regional international organisations, such as Africa Centres for Disease Control and Prevention (Africa CDC) and the WHO regional office for Africa, to further facilitate rapid translation from research to policy, as mentioned in the SRIA. The partnership KPIs related to the international positioning are investment in R&I in SSA, investment in training and capacity building in SSA, and established strategic partnerships.

IHI has to abide by the ceiling set by the EC for JUs, which is 20 % of its overall budget for connections/collaborations with non-European actors. The partnership KPIs associated with the international positioning are globally competitive EU health care industry and project outputs for use in clinical practice and health R&I.

The Transforming Health and Care Systems partnership is planning 10 % of its overall budget for connections/collaborations with non-European actors, according to their answer to the Common Indicators Survey. The KPIs connected with the international positioning are joint investments in R&I and collaborative research.

A further analysis of KPIs is presented in Chapter 4. The potential for international positioning can also be observed by analysing the anecdotal evidence found in the partnership fiches (Chapter 4) and country fiches (Chapter 3). Some of these are presented in the boxes below:



BOX 14. GLOBAL HEALTH EDCTP3 JU FOR INTERNATIONAL POSITIONING

As a new JU between the European Commission and the EDCTP Association, the Global Health EDCTP3 was created to build on the success of the first and second EDCTP programme. It established its autonomy as the reference funding agency for clinical trial-related research in Sub-Saharan Africa (SSA) and as the main opportunity for SSA countries to become global health research and innovation leaders. Since its inception, the Global Health EDCTP3 JU's private co-funder (the EDCTP Association) has grown its SSA members pool from 16 to 28 countries as of the end of 2023, clearly highlighting the value that these countries attribute to international collaboration with the European countries that are part of the EDCTP Association. To date, the Global Health EDCTP3 JU has funded projects involving institutions from 43 different countries, including 11 EU Member States and 28 African Union countries.

The Global Health EDCTP3 JU has engaged a regular dialogue with different international partners to ensure alignment, complementarity and synergies. For instance, Global Health EDCTP3 calls for proposals and research outputs are aligned with DG INTPA's Team Europe Initiatives in SSA. The recently approved Work Programme 2024 strongly encourages collaboration with relevant Team Europe Initiatives, including the Manufacturing and Access to Vaccines, medicines and health products (TEI-MAV+). More broadly, the Global Health EDCTP3 is a flagship programme of the EU Global Health Strategy and is actively contributing towards the efficient implementation of its objectives.

RELEVANT GLOBAL HEALTH EDCTP3 JU KPIS:

- Investment in R&I in SSA,
- Investment in training and capacity building in SSA,
- Health security in SSA,
- Strategic partnerships established.

Source: Chapter 4: partnership fiches.



BOX 15. ONE HEALTH ANTI-MICROBIAL RESISTANCE (OHAMR) PARTNERSHIP FOR INTERNATIONAL POSITIONING

The OHAMR partnership will continue to strive and develop global AMR research strategies and programs through alignment of national and international research programmes to support and enable global collaboration and coordination of joint AMR research investments. Collaboration is already in place with the WHO and the quadripartite organisations and in 2023, OHAMR, along with JPIAMR, has contributed to the development of the ‘Global research agenda for antimicrobial resistance in human health’ and ‘A one health priority research agenda for antimicrobial resistance’ respectively. Moreover, the research and innovation objectives identified in the SRIA of OHAMR are in alignment with those of the WHO Global AMR research agenda in the human health sector and the UN One Health AMR priority research agenda. Longstanding collaboration is also in place with the USA through the Transatlantic Task Force on AMR (TATFAR) to exchange and share best practices, to strengthen domestic and global efforts and to address the urgent threat of AMR. Since 2023, global cooperation has taken central stage through the UN AMR Multistakeholder Platform, where OHAMR/JPIAMR is highly engaged in the development of the upcoming 2024 UNGA AMR high-level resolution.

A long-standing member of JPIAMR, Canada has made substantial investments in discovery research focused on antibiotic resistance and has supported several targeted initiatives in the areas of drug development, alternative therapies, combination approaches and infection control. Canada’s interest in the Partnership stems from a desire to combine the resources, infrastructures and expertise of many different countries to provide a value-added, collaborative approach that will fast track the development of effective solutions to AMR.

Moreover, in cooperation with development aid agencies, research funding has been extended to researchers from LMICs who have been partners of the research consortia, resulting in international cooperation, capacity strengthening and linkages without dependencies. The OHAMR Partnership will thus seek further cooperation with international organisations, as well as third Country participation.

The fact that countries such as Australia build their R&I priorities based on OHAMR scientific R&I objectives will strengthen the EU’s global role and strategic interests, develop science diplomacy and strengthen linkages to national international cooperation programmes. OHAMR will also develop cooperation with relevant international initiatives to identify synergies, plan joint activities and avoid duplication of efforts globally.

RELEVANT ONE HEALTH ANTI-MICROBIAL RESISTANCE KPIS ARE:

- Global stakeholder engagement;
- Collaboration in Europe and beyond;
- Alignment of R&I priorities and synergistic activities;
- R&I based knowledge generated.

Source: Chapter 4: partnership fiches.



BOX 16. EUROPEAN RARE DISEASES RESEARCH ALLIANCE (ERDERA) PARTNERSHIP FOR INTERNATIONAL POSITIONING

Rare diseases (RD) is a research area in which collaboration is not only important but necessary. The creation of an RD research ecosystem expanding beyond the borders of the EU was thus one of the priorities for ERDERA's predecessor – the EJP RD. To that end, EJP RD centralised several activities and support dedicated to RD research. This centralisation encompasses joint transnational calls for multinational research projects; the virtual platform of data, tools and resources; a comprehensive education programme; and dedicated support to accelerate translation of research results and clinical studies. Moreover, EJP RD hosted the Scientific Secretariat of the International Rare Diseases Research Consortium (IRDiRC), thus directly linking EU stakeholders with the international community. All these elements made EJP RD a partner of choice for international stakeholders. Within the lifetime of EJP RD, besides 26 EU Member States and seven Associated Countries, Australia, Canada and the UK joined the consortium.

Important work with the Critical Path Institute (C-Path) in the USA on data models for drug development also started under EJP RD. ERDERA aims to amplify this dynamic and the EU's profound influence on RD R&I beyond its borders by creating the European Clinical Research Network and Acceleration Hub. This will open the door to formalisation of international collaboration in the areas of multinational clinical studies, diagnostics and advanced therapeutic medicinal products.

The consortium has already welcomed institutions from several Associated Countries (Georgia, Iceland, Israel, Morocco, New Zealand, Norway, Serbia, Türkiye and the UK) and non-associated and/or non-EU countries (Australia, Canada and Switzerland), signalling the EU's strong position in health research. In addition, the collaboration with C-Path has been formalised.

Finally, aware of the crucial importance of international positioning, ERDERA is devoting EUR 13 886 916 to strengthening national and international positioning (including specific widening measures) and establishing and strengthening partnerships that will benefit all stakeholders. These scientific, infrastructural and strategic international collaborations will enable EJP RD and ERDERA to increase Europe's international visibility and importance and benefit from new partnerships with key stakeholders.

RELEVANT ERDERA KPIS:

- Projects outputs translated into innovative RD models/solutions
- Transdisciplinary training programmes as part of the RD research educational pipeline
- National RD research and Innovation Integration
- ERDERA RD research and Innovation synergy with other programmes

Source: Chapter 4: partnership fiches.



BOX 17. SLOVENIA– ADDRESSING INTERNATIONAL POSITIONING

Overall, Slovenia supports aspirations for greater open strategic autonomy. However, the country will continue to defend an open, fair, ambitious and balanced trade policy based on international rules. While working towards the objective of establishing the EU as an international science and innovation powerhouse and a valuable international partner in R&I, Slovenia also seeks to carve out a distinctive role for itself in the international community. In this respect, remaining as open as possible and closed only when absolutely necessary should continue to serve as the country's guiding principle. Although it acknowledges concerns related to European strategic autonomy, Slovenia stresses that measures to mitigate risks must not hinder work to address pressing global challenges, which cannot be done without honest and open global cooperation. Slovenia is of the view that any risks arising from international collaboration must be balanced against the risks of non-collaboration. In March 2023, the country adopted a strategy of internationalisation of higher education and science in the Republic of Slovenia until 2030 and, as stated, will raise the level of and strengthen bilateral cooperation with key European and global partners. Bilateral and multilateral cooperation will take place in line with the EU principle and value of a global approach in R&I, which will be transferred to the national internationalisation strategy, of which open strategic autonomy is a key part.

Source: Chapter 3: country fiches.

2.2.3 GREEN TRANSITION

Climate change and environmental degradation are an existential threat to the EU and to the world. To overcome these challenges, the European Green Deal is Europe's new growth strategy⁵⁰, which aims to transform the EU into a modern, resource-efficient, and competitive economy. The ambition of the European Green Deal is to make Europe climate-neutral by 2050, boost the economy through green technology, create sustainable industry and transport, and cut pollution. Turning climate and environmental challenges into opportunities will make the transition just and inclusive for all. Since the first BMR was published, a number of new initiatives and proposals have been adopted at EU level (e.g. the Social Climate Fund, REPowerEU Plan, Renewable Energy Directive, the ReFuelEU Aviation Regulation) to deliver the full 'Fit for 55' legislation package, which sets the EU on a path to reach its climate targets by 2030 in a fair, cost effective and competitive way.

Horizon Europe aims to align its investments with the objectives of the Green Deal initiatives, and to support the ecological transition⁵¹. The key clusters supporting the Green Deal objectives are Clusters 5 and 6 on Climate, energy and mobility, and Food, bioeconomy, natural resources, agriculture and environment, respectively. Cluster 5 focuses on the 'deep reduction of greenhouse gas emissions in the energy and transport sectors⁵², and Cluster 6 supports initiatives such as the Farm to Fork Strategy, EU Biodiversity Strategy, and the Circular Economy Action Plan. In that context, the following analysis focuses on the activities of the European Partnerships under Clusters 5 and 6 and the impacts targeted under those clusters.

50 <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1576150542719&uri=COM%3A2019%3A640%3AFIN>

51 <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/3c6ffd74-8ac3-11eb-b85c-01aa75ed71a1> p 10

52 <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/3c6ffd74-8ac3-11eb-b85c-01aa75ed71a1> p 76.

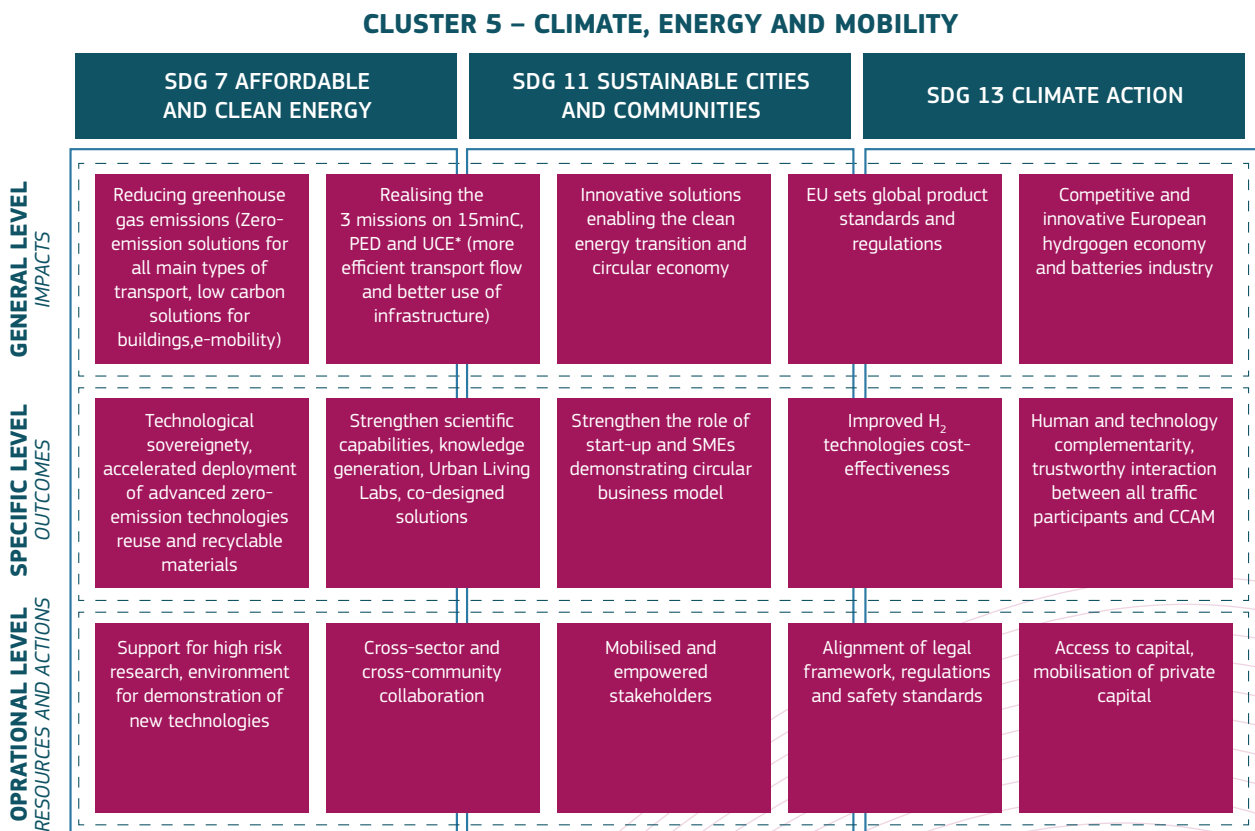
CLUSTER 5: CLIMATE, ENERGY AND MOBILITY

Figure 26 presents the Cluster Specific Impact Pathways (CSIP) for Cluster 5⁵³ – built on the Partnerships Specific Impact Pathways (PSIP) to enhance the strategic overview at cluster level⁵⁴, which has not changed since the first BMR as no European Partnerships have been added.

The identification of the SDGs 7 Affordable and clean energy, 11 Sustainable cities and communities and 13 Climate action as macro level objectives on top of the intervention logic (CSIP) for Cluster 5, is mostly confirmed by the analysis of data from partnership fiches on supported SDGs. Figure 27 presents subset of data from Figure 24 for eleven European Partnerships from Cluster 5, plus three relevant EIT KICs: EIT Climate, EIT InnoEnergy and EIT Urban Mobility. The distribution of the European Partnerships’ interest in various SDGs differ slightly from the first report, as some European Partnerships made minor revisions. In particular, the rise of importance of SDG 7 Industry, innovation and infrastructure should be noticed.

Each cluster creates its own specific pattern of supported SDGs, which indicate areas of strategic foci. In the present report, as observed already in the first BMR, SDGs of strategic interest for other clusters (Cluster 1 (SDG 3) and Cluster 4 (SDGs 8 and SDG 9)) are still covered, albeit to a lesser extent, by Cluster 5 European Partnerships. It clearly shows the importance of cross-cluster relations and the possible contribution (synergy) of the activities of European Partnerships from one cluster to achieving the goals of another cluster.

FIGURE 26. Cluster Specific Impact Pathways for Cluster 5 highlighting dominant characteristics



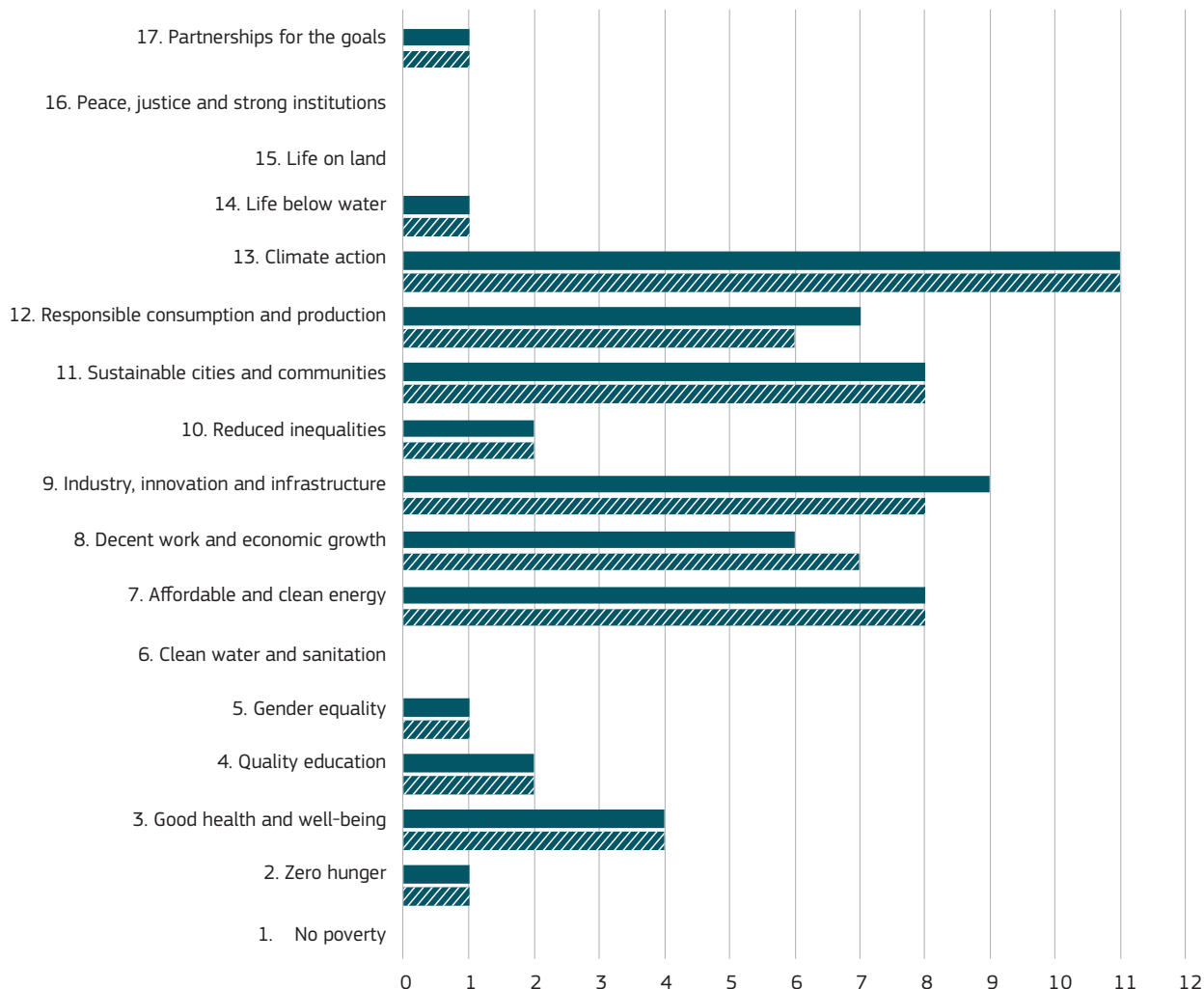
Source: Expert group analysis.

53 Clean Hydrogen, Clean Aviation, Single European Sky ATM Research 3, Europe’s Rail (SESAR 3), 2Zero, CCAM, Batt4EU, Zero-emission Water Transport, Built4People, Clean Energy Transition, Driving urban transitions towards a sustainable future.

54 For more details on CSIP methodology check Chapter 2.2 of the BMR 2022.



FIGURE 27. SDGs supported by Cluster 5 partnerships (11) and relevant EIT KICs (3)



Source: Expert group analysis.

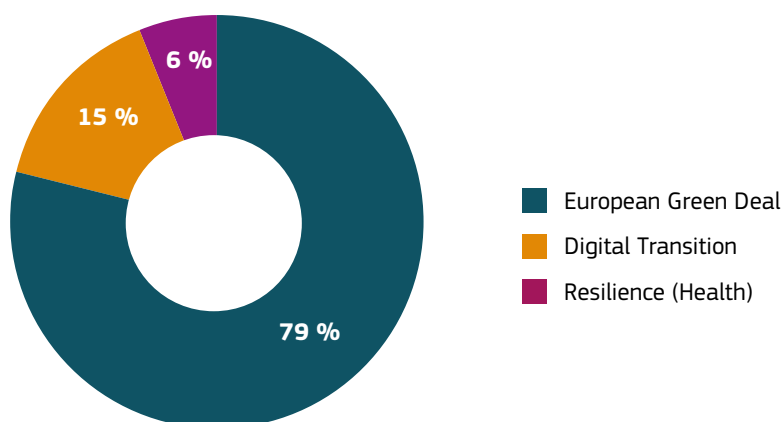
Note: Solid colour (2024), pattern (2022).

Figure 28 presents data from the partnership fiches on supported SDGs from eleven Cluster 5 European Partnerships plus the three relevant EIT KICs aggregated to overview its contribution to three European Commission priority policy areas: green transition, digital transition, and resilience. Here, the SDGs are aggregated to form proxies of European Partnership thematic contributions⁵⁵. Figure 28 confirms that, beside the natural concentration of contribution of Cluster 5 partnerships to the green transformation, the partnerships contribute to two other policy priorities in a measurable way. The distribution of contribution to European Commission priorities has not changed between the first and the present BMR.

55 Green transition: Green Deal (SDGs 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 official EC docs); Digital transition: Europe fit for digital age (SDGs 4 and 9 official EC docs); Resilience (limited to health): arbitrary expert allocation (SDGs 3 and 6).



FIGURE 28. Cluster 5 partnerships (11) and relevant EIT KICs (3) contribution to European Commission priorities, based on the SDGs supported



Source: Expert group analysis.

As in the first BMR, an analysis of the European Partnership expected contribution to European Commission policy objectives based on the supported SDGs, is confirmed by an analysis of the data collected via the Common Indicators Survey. Comparison of data from Figure 28, with data on the average shares of total partnership funding (public and private, in-kind and financial), mobilised by partnerships presented in Figures 10 and 11, confirms the highest priority given to the European Green Deal area, while the concentration of interest on SDGs related to digital transformation is not confirmed by the mobilised funding, which follows the economic and social resilience areas with higher intensity.

CLUSTER 6: FOOD, BIOECONOMY, NATURAL RESOURCES, AGRICULTURE AND ENVIRONMENT

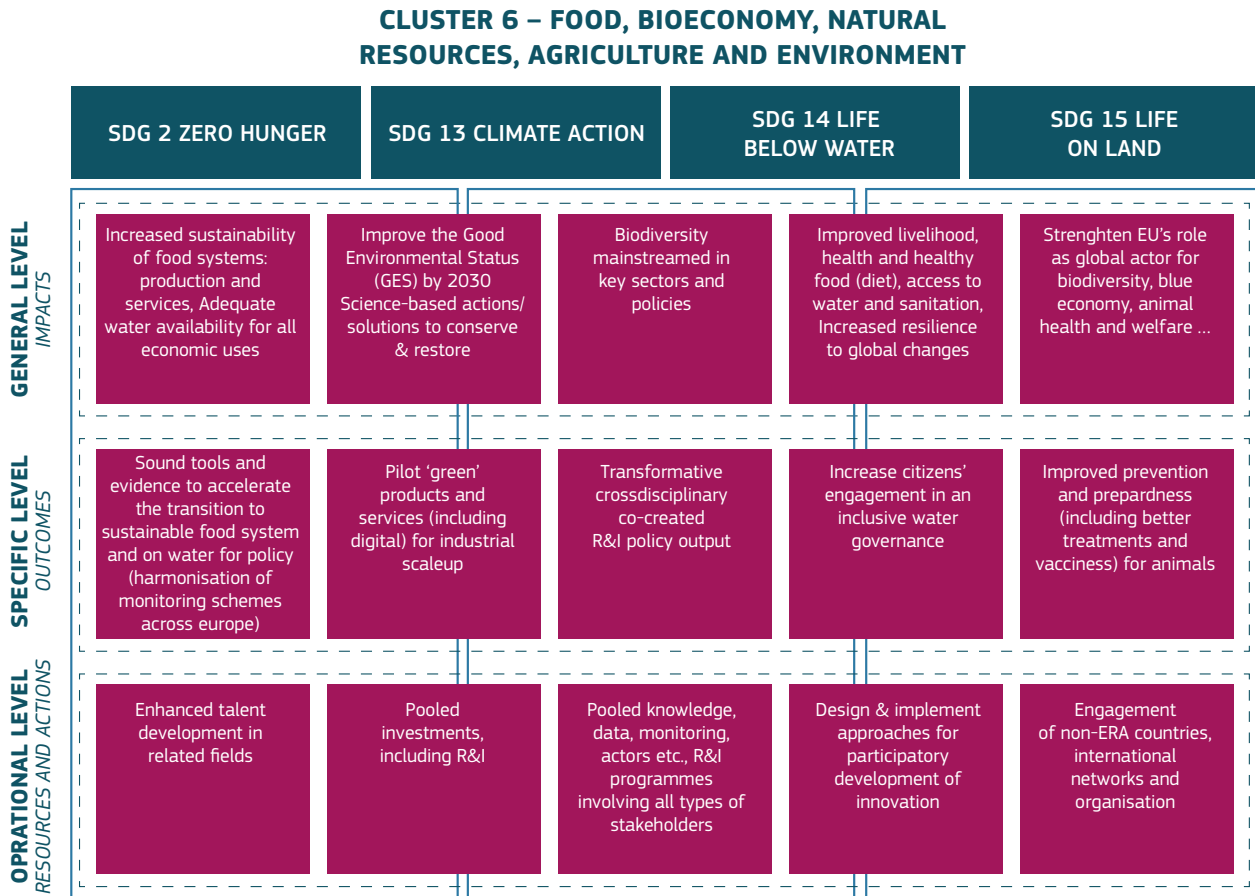
Figure 29 presents an updated Cluster Specific Impact Pathways for the cluster 6⁵⁶, built on the PSIPs⁵⁷. Since the first BMR, three new partnerships provided their input for the analysis through the partnership fiches. The new input resulted in some changes in comparison to the first report, but they are not significant.

Similar observations from the first BMR can be made regarding the similarities and differences between dominant elements of PSIP for partnerships in Cluster 6 compared to other clusters. However, Cluster 6 CSIP recognises specific operational level elements such as talent development, participatory development of innovations and engagement of non-ERA countries and international networks. Cluster 6 specific outcomes are related to pilot 'green' products and services, engagement of stakeholders in specific sector policies or harmonisation of sector specific regulations, leading to Cluster 6 specific Impacts on sustainability of production system and services, improved Good Environmental Status, biodiversity management, healthy food, etc.

56 Circular Bio-based Europe, Biodiversa+, Sustainable Blue Economy, Water4All, Animal Health and Welfare, FutureFoodS.

57 For more details on CSIP methodology check Chapter 2.2 of the BMR 2022.

FIGURE 29. Cluster Specific Impact Pathways for Cluster 6 highlighting dominant characteristics



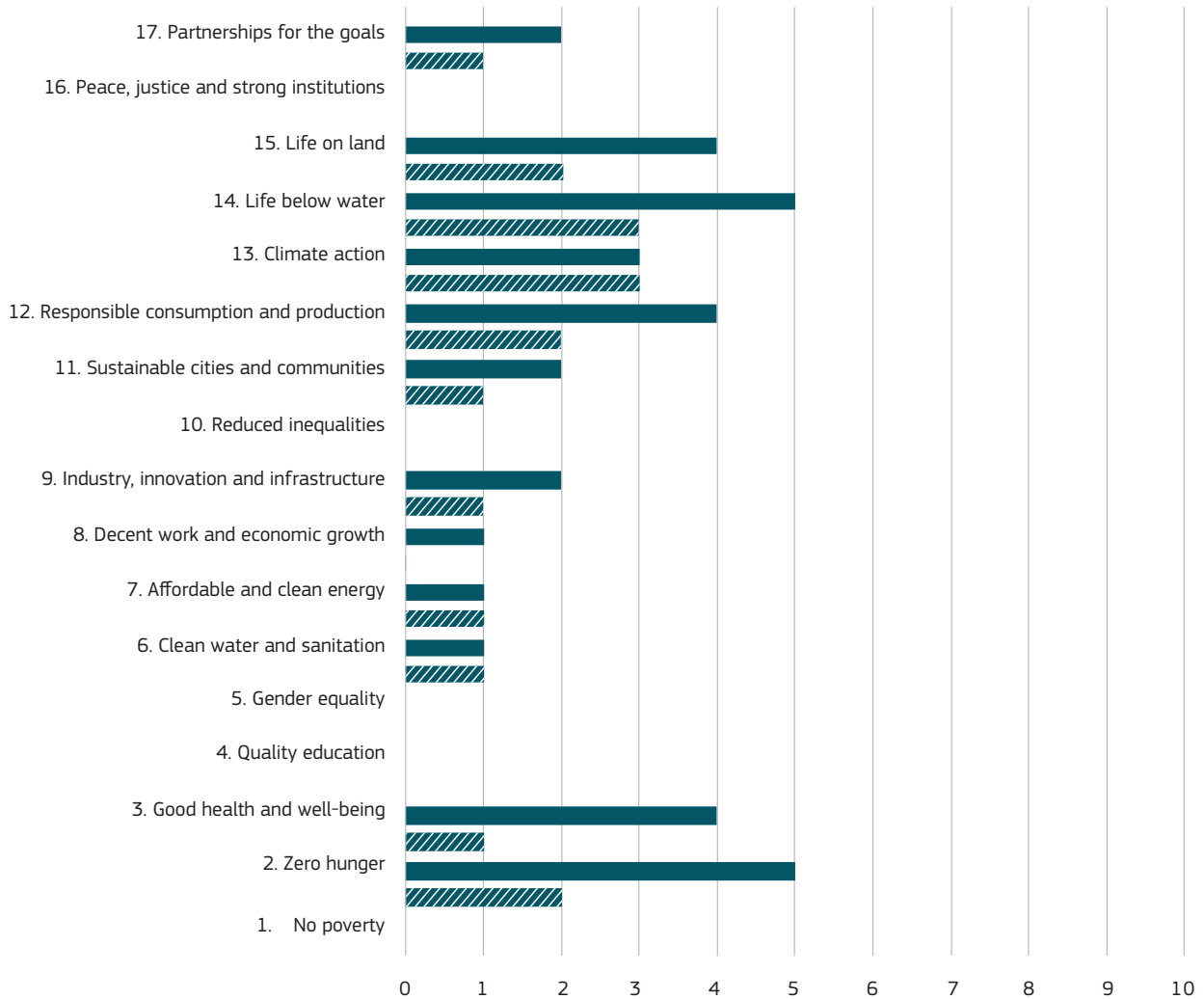
Source: Expert group analysis.

Identification of SDG 2 Zero hunger, 13 Climate action, 4 Life below water and 15 Life on land, as macro level objectives on top of the intervention logic (CSIP) for Cluster 6, is more emphasised by the analysis of data on SDG priorities from present partnership fiches, than in the first BMR.

Figure 30 presents a subset of data from Figure 23 for Cluster 6 partnerships and EIT Food (not present in the first report). New data from the European Partnerships, which provided input for the first time, not only changed the absolute values but also influenced the overall distribution pattern of interest in SDGs. Although a group of the highest rated SDGs remained almost unchanged from the first report, the importance of SDG 2 Zero hunger and 12 Responsible production and consumption, is more visible with SDG 3 Good health and well-being becoming one of the top-rated SDGs.

Each cluster creates its own specific pattern of supported SDGs which indicates areas of strategic focus. On the other hand, SDGs of strategic interest for other clusters, such as Cluster 5 (SDG 9), Cluster 4 (SDG 9 and 13), and Cluster 1 (SDG3), are still covered (even though some to a lesser extent) by Cluster 6 partnerships. It clearly shows the importance of cross-cluster relations and the possible contribution (synergy) of activities of partnerships from one cluster to achieving the goals of another cluster.

FIGURE 30. SDGs supported by Cluster 6 Partnerships



Source: Expert group analysis.

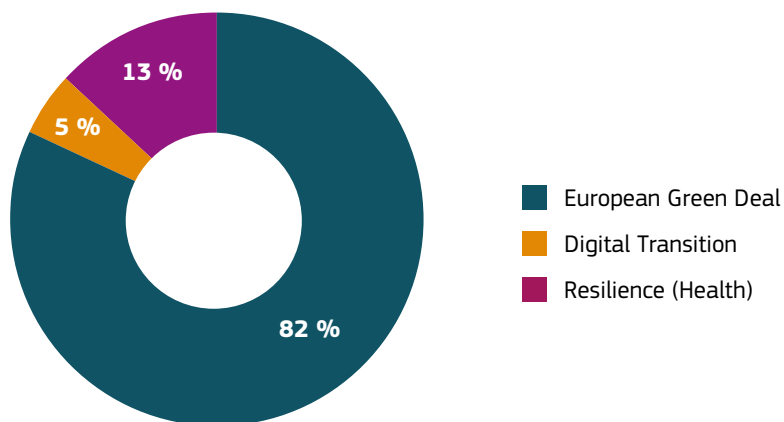
Note: Solid colour (2024), pattern (2022).

These cross-cluster relations and cross-cluster contributions are even more explicitly shown with the analysis of data presented in Figure 31. Figure 31 presents data from the partnership fiches on supported SDGs, from four Cluster 6 partnerships plus EIT Food, aggregated to overview their contribution to three European Commission priority policy areas: green transition, digital transition, and resilience. SDGs are aggregated to form proxies of partnership contributions⁵⁸. Figure 31 confirms that, besides the natural high contribution of Cluster 6 Partnerships to green transition, they also contribute to resilience in a measurable way. The distribution of contribution to European Commission priorities has slightly changed between the first and the present BMR, giving more priority to Resilience at the expense of the green transition.

58 Green transition: Green Deal (SDGs 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 official EC docs); Digital transition: Europe fit for digital age (SDGs 4 and 9 official EC docs); Resilience (limited to health): arbitrary expert allocation (SDGs 3 and 6).



FIGURE 31. Cluster 6 partnership contributions to European Commission Priorities based on the SDGs supported



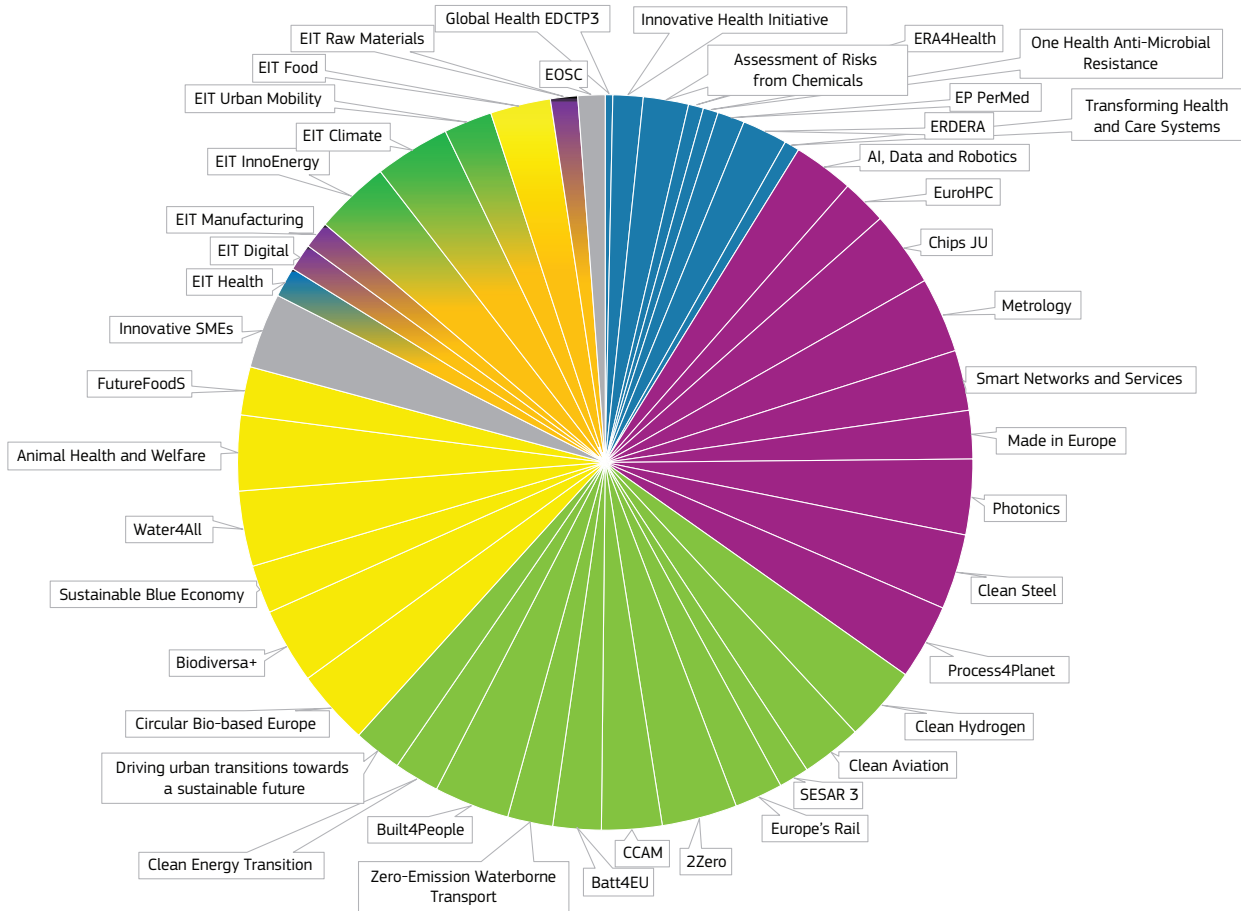
Source: Expert group analysis.

As in the first BMR, analysis of partnerships' expected contributions to European Commission policy objectives, based on the analysis of supported SDGs, is well confirmed by the data collected via the Common Indicators Survey. The comparison of data from the Figure 31, with data on the average shares of total partnership funding (public and private; in-kind and financial), mobilised by European Partners presented in Figures 10 and 11, confirms the highest priority given to the European Green Deal area, while the concentration of interest on SDGs related to the economic and social Resilience areas is not confirmed by mobilised funding, which follows with higher intensity in the digital transition area.

Figure 32 shows the thematic contribution (interest)⁵⁹ of Partnerships to the green transition. This figure slightly differs from the one in the BMR 2022 due to contributions from new partnerships not covered by the previous report. It shows that partnerships with a primary focus on the green transition (Cluster 5, Cluster 6 and relevant EIT KICs), account for more than a half of the total contributions of European Partnerships to the green transition. However, the total contributions of all other partnerships still represent a sizeable share. This indicates that there is significant potential to identify and capture synergies and further potential for cooperation, especially between Clusters 4, 5 and 6.

59 To avoid bias, thematic contribution (interest) is normalised to the number of SDGs selected by each partnership.

FIGURE 32. Contribution of all active European Partnerships to the green transition



Source: Expert group analysis.

Note: Cluster 1 – blue, Cluster 4 – violet, Cluster 5 – green, Cluster 6 – yellow, EIT – orange with a gradient towards a related cluster colour, no cluster – grey.

2.2.4 DIGITAL TRANSITION

The EU's digital transition refers to the adoption of new high-impact emerging technologies in businesses, science, and society. The EU's digital strategy⁶⁰ aims to make this transformation work for people and businesses, while helping to achieve the European Green Deal objectives⁶¹, as well as addressing challenges in society and the economy by increasing the need for Resilience. Europe must strengthen its digital sovereignty and set standards, rather than following those of others, with a clear focus on data, technology, and infrastructure.

Since the first BMR was published, a number of new initiatives and proposals have been adopted at EU level and entered into force, e.g. the Digital Service Act ensuring a safe and accountable online environment, the European Data Act to make more data available for use via the new rules on who can use and access data and for which purposes across all economic sectors in the EU, and the Chips Act strengthening Europe's competitiveness and resilience in semiconductor technologies. Moreover, the appearance of widely available tools based on generative Artificial Intelligence (AI) is changing many sectors of business, health, education as well as political and social life, opening new opportunities, but these tools are also generating unprecedented threats. The European Commission has taken actions to create a framework for the development of trustworthy AI, which could give people the confidence to embrace these technologies while encouraging businesses to develop them.

60 <https://digital-strategy.ec.europa.eu/en/policies/europes-digital-decade#ecl-inpage-kyvdswt>

61 <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A52021DC0118>

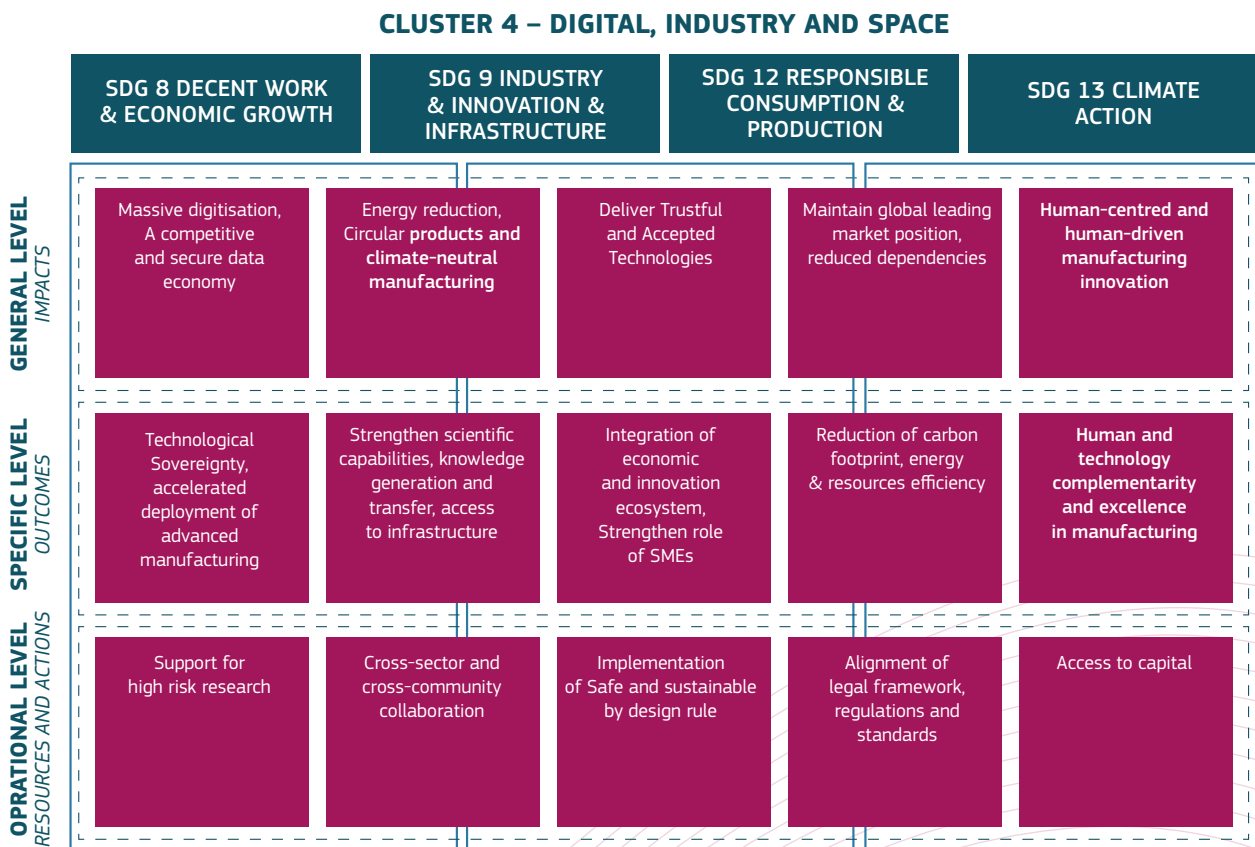
While all clusters contribute to the digital transition, the key enabling cluster enabling it is ‘Digital, Industry and Space’ that supports ‘the development and mastery of digital and key enabling technologies of the future’⁶². This is the reason why the focus of the following analysis is on the activities of the partnerships under Cluster 4.

CLUSTER 4: DIGITAL, INDUSTRY AND SPACE

The analysis of the aggregation of the PSIPs provided by the European Partnerships of Cluster 4⁶³ leads to the CSIP presented in Figure 33, which provides a cumulative overview of the dominant elements from PSIPs and allows definition of a limited amount of Impact Pathways through strategy mapping from resources and actions, towards outcomes and impacts. The present figure slightly differs from the one presented in the first BMR, as new input has been integrated from new or revised PSIPs.

The identification of dominant elements of PSIPs for this group of partnerships reveals many of the same elements of the other clusters at the operational level. Although, there are similar elements across different clusters for outcomes and impacts (e.g., related to strengthening scientific capabilities, start-ups or standards and regulations), there are also more sector and technology specific elements. Cluster 4 specific outcomes are related to technological sovereignty, accelerated deployment of advanced manufacturing, reduction of carbon footprint, energy & resources efficiency and human and technology complementarity and excellence in manufacturing. These lead to Cluster 4 specific impacts on massive digitisation, a competitive and secure data economy, reduced dependencies, energy reduction, circular products and climate-neutral manufacturing, as well as human-centred and human-driven manufacturing innovation.

FIGURE 33. Cluster Specific Impact Pathways for Cluster 4 - highlighting dominant characteristics



Source: Expert group analysis.

62 <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/3c6ffd74-8ac3-11eb-b85c-01aa75ed71a1> p 9.

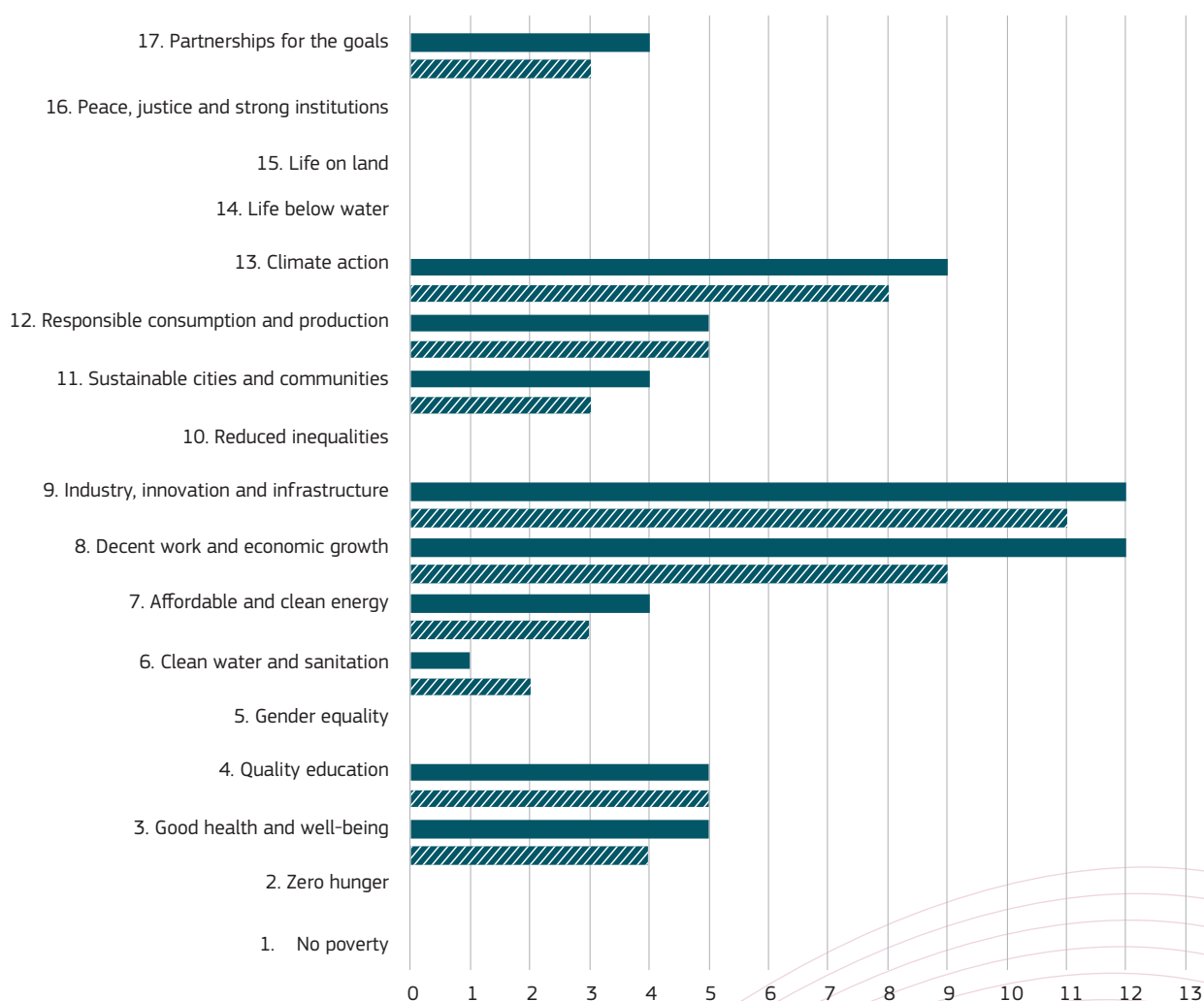
63 AI, Data and Robotics; EuroHPC; Chips JU; Metrology; Smart Networks and Services; Made in Europe; Photonics; Clean Steel; Processes4Planet.



The identification of SDG 8 Decent work and economic growth, SDG 9 Industry, innovation and infrastructure, SDG 12 Responsible consumption and production, SDG 13 Climate action, as macro level objectives overarching the intervention logic (CSIP) for Cluster 4, is confirmed by the analysis of data from partnership fiches on supported SDGs presented in Figure 34. Figure 34 presents a subset of data from nine Cluster 4 Partnerships plus EOSC and 3 EIT KICs: EIT Digital, EIT Manufacturing and EIT Raw Materials. The present distribution does not differ from BMR 2022, mostly reflecting change in absolute numbers due to new partnerships incorporated in the analysis, but not showing much change in pattern.

SDGs of strategic interest for other clusters (Cluster 1 (SDG 3) and Cluster 5 (SDG 11)) are still covered, although to a lesser extent, by Cluster 4 partnerships. It clearly shows the importance of cross-cluster relations and possible contributions (synergies) of activities of partnerships from one cluster to achieving goals of another cluster.

FIGURE 34. SDGs supported by Cluster 4 partnerships (9) and relevant EIT KICs (3)



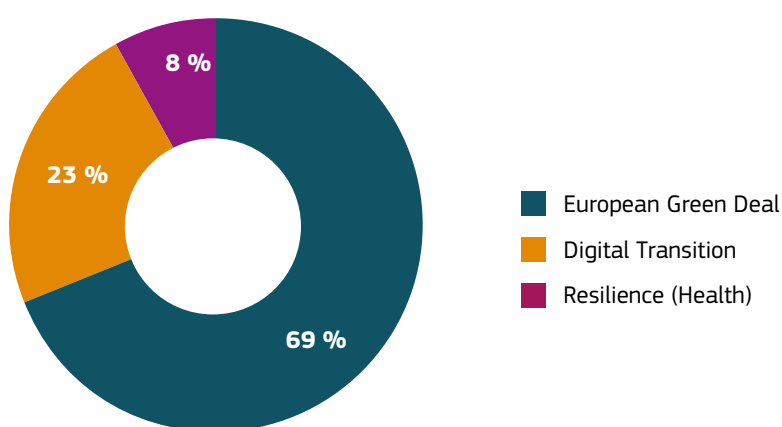
Source: Expert group analysis.

Note: Solid colour (2024), pattern (2022).



These cross-cluster relations and cross-cluster contributions are even more explicit through the analysis of data presented in Figure 35. Figure 35 presents the data from the nine cluster 4 partnership fiches on supported SDGs plus EOSC and 3 relevant EIT KICs aggregated to overview their contribution to three European Commission priority policy areas: green transition, digital transition, and resilience. SDGs are aggregated to form proxies of partnership contributions⁶⁴. Figure 35 confirms that, besides the concentration of contribution of Cluster 4 partnerships to the green transition (biased by the allocation of high number of SDGs, i.e. 12 out of 17 to that category), a large contribution goes to digital transition and smaller amount to the resilience objectives. The distribution of the contribution to European Commission priorities has slightly changed between the first and the present BMR, giving even more priority to the Green Deal and a little more to resilience at the expense of digital transition.

FIGURE 35. Cluster 4 Partnerships (10) and relevant EIT KICs (3) contributions to European Commission priorities based on the SDGs supported



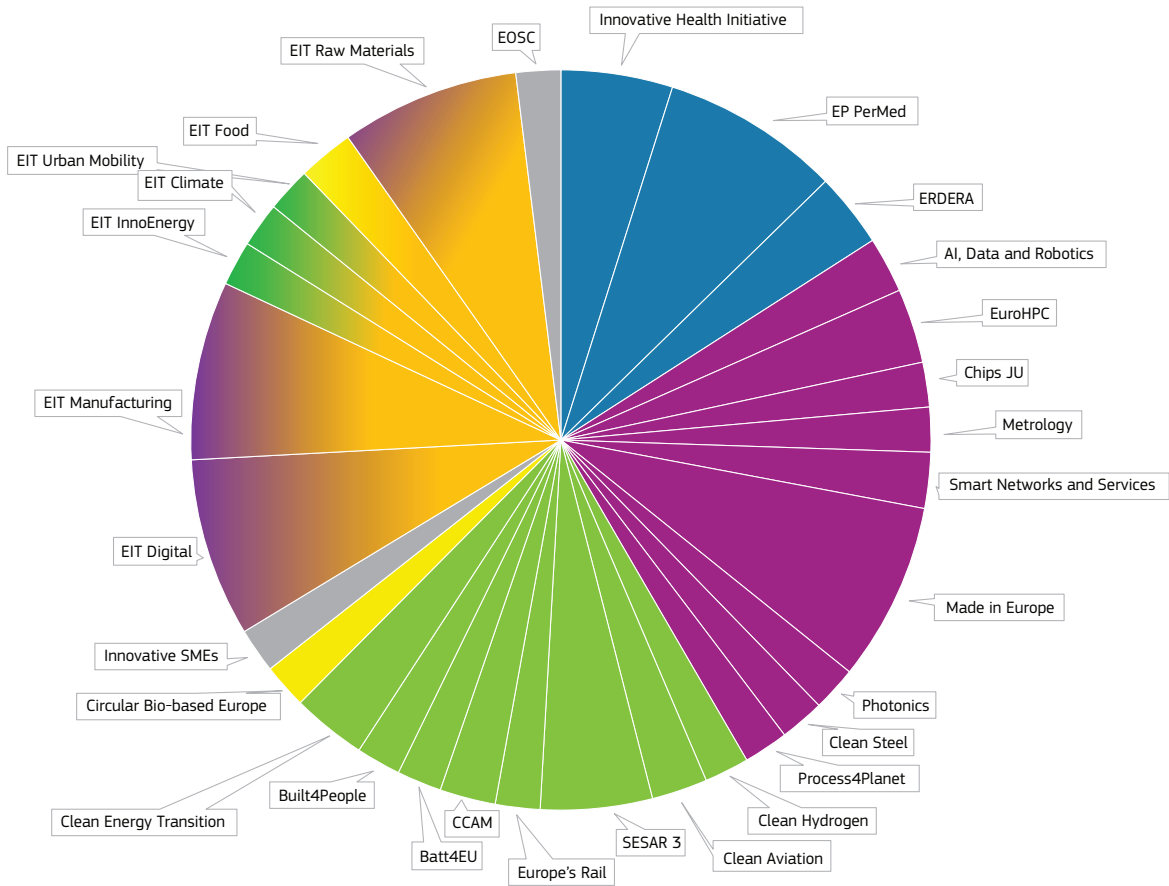
Source: Expert group analysis.

Although there is much consistency between the present and the first BMR in the above analysis based on the partnership's interests in different SDGs, the picture is dramatically different when compared to the financial data from the Common Indicators Survey. The comparison of data from the Figure 35, with data on the average shares of the total partnership funding (public and private; in-kind and financial) mobilised by the European Partners presented in Figures 10 and 11, shows a substantial difference compared to the previous BMR. In the previous report, the financial contribution to all policy priority areas was more balanced with visible contributions to all areas, while in the present report partnerships reported exclusive focus of funding on Digital transformation, which is not reflected in Figure 35.

64 Green transition: Green Deal (SDGs 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 official EC docs); Digital transition: Europe fit for digital age (SDGs 4 and 9 official EC docs); Resilience (limited to health): arbitrary expert allocation (SDGs 3 and 6).



FIGURE 36. Contribution of all European Partnerships to the Digital transition



Source: Expert group analysis.

Note: cluster 1 – blue, Cluster 4 – violet, Cluster 5 – green, Cluster 6 – yellow, EIT – orange with a gradient towards a related cluster colour, no cluster – grey.

Figure 36 shows the thematic contribution (interest) to the digital priorities for all partnerships covered by this report. This figure differs from BMR 2022, due to contribution from new partnerships previously not covered. While contributions from Cluster 4 partnerships and relevant EIT KICs account for more than a half of the total contribution, it can clearly be seen that the contributions from Cluster 5 and Cluster 1 partnerships are sizeable. The significant increase of Cluster 1 partnerships is mostly related to the contribution from five new partnerships covered by the present report, in comparison to the first BMR 2022. It is now likely that potential synergies may be identified and captured between partnerships allocating resources to address both digital transition, green transition and resilience (health).



2.2.5 RESILIENCE

The EU has strategically prioritised resilience as a core objective, reflecting a comprehensive approach to fortify its Member States against a multitude of challenges. This objective encompasses enhancing the capacity to withstand, adapt, and recover from adversities across various critical sectors, including health, economy, digital infrastructure, environmental sustainability, and the societal fabric. The essence of resilience within the EU framework is not just about responding to crises but also about anticipating, preparing for, and transforming in the face of global challenges, thereby ensuring the long-term well-being and stability of European societies.

In the domain of *health resilience*, the European Partnerships (Cluster 1) are critical in advancing medical research and innovation, focusing on enhancing the public health system's readiness and response to pandemics and other health emergencies. This includes the development of new vaccines, treatments, and healthcare technologies, aiming to safeguard public health and ensuring that Europe is better prepared for future health crises.

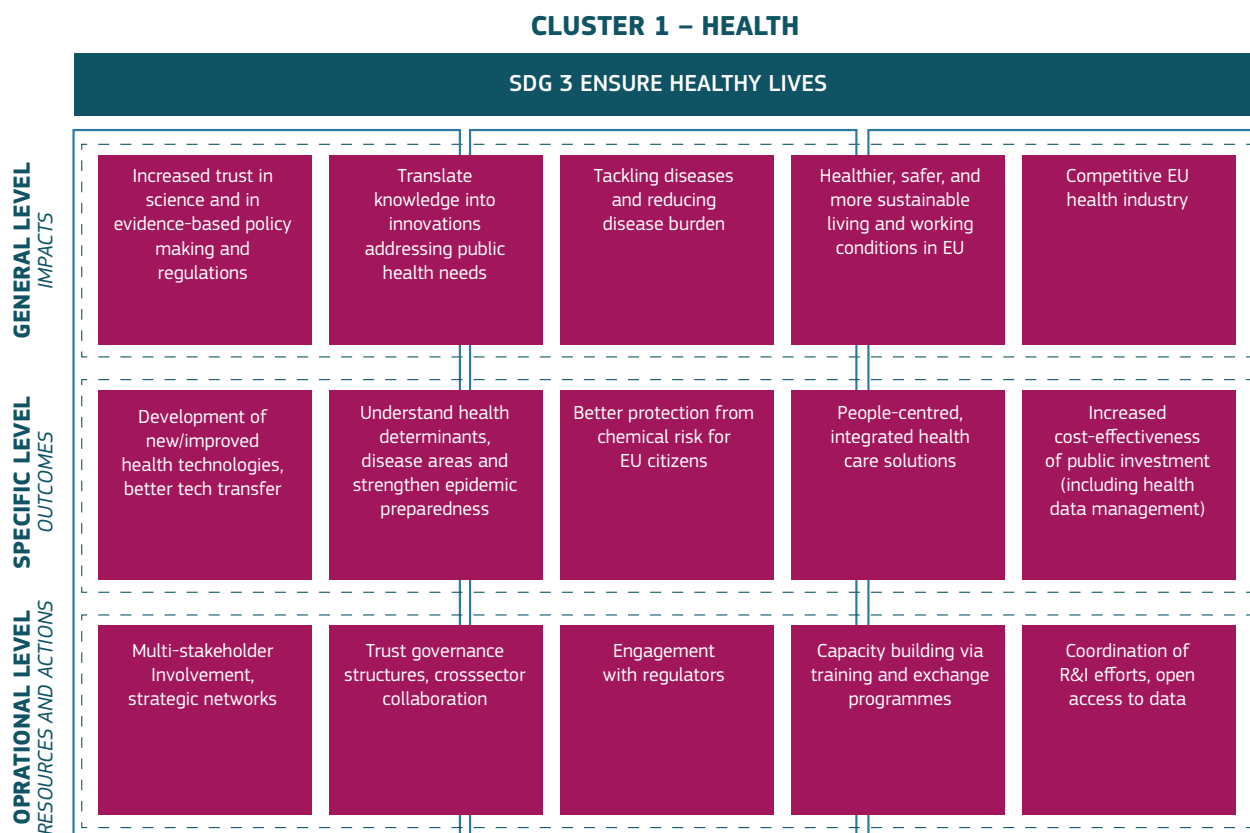
CLUSTER 1: HEALTH

The analysis of the aggregation of PSIPs provided by the partnerships of Cluster 1⁶⁵ leads to the CSIP presented in Figure 37, which provides a cumulative overview of the dominant elements from PSIPs and allows definition of a limited amount of Impact Pathways through strategy mapping from resources and actions, towards outcomes and impacts. It is important to note that since the first BMR, seven new partnership fiches have been developed, so this analysis is made on the basis of eight partnerships in Cluster 1 instead of only three in the first report. It is reflected in the visible update of the CSIP on Figure 37.

Despite the new input, several aspects of access to capital (access to risk capital or access to RDI financing), enhancement of cross-sector or cross-stakeholder activities (mobilisation of stakeholders), alignment of legal frameworks and regulations are still present as key resources and actions for Impact Pathways in Cluster 1. Similar elements across all clusters for outcomes and impacts (e.g. related to strengthening scientific capabilities or standards and regulations) are also mentioned for Cluster 1. However, there are sector and technology specific outcomes related to new health technologies, health determinants and epidemic preparedness, patient-centric perspective, protection from chemical risk, integrated health-care solutions etc. These lead to Cluster 1 specific Impacts on increased trust in science and regulations, diseases and disease burden, healthier, safer and more sustainable working conditions, etc.

65 Global Health EDCTP3, Innovative Health Initiative, Assessment of Risks from Chemicals, ERA4Health, One Health Anti-Microbial Resistance, EP PerMed, ERDERA, Transforming Health and Care Systems.

FIGURE 37. Cluster Specific Impact Pathways for Cluster 1 highlighting dominant characteristics



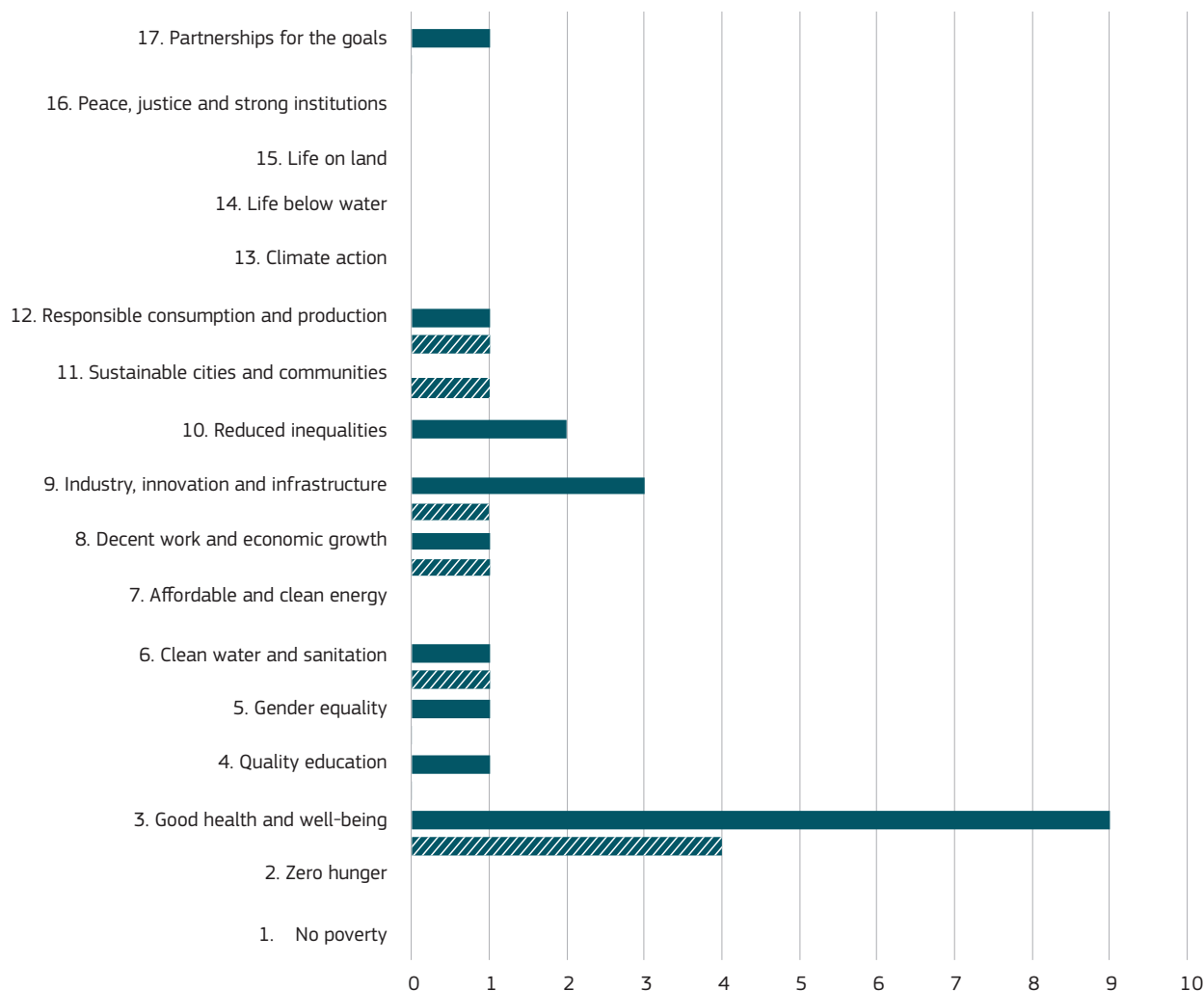
Source: Expert group analysis.

The identification of SDG 3 Ensure healthy lives, as the macro level objective overarching the intervention logic (CSIP) for Cluster 1, is strongly confirmed by the analysis of present data from partnership fiches on supported SDGs presented in Figure 38. Figure 38 presents subsets of data from Figure 23 for nine partnerships from Cluster 1 plus EIT Health. Despite the change in absolute numbers due to the increase of numbers of contributed partnerships since the first BMR, the overall distribution is very similar, with only the interest in SDG 9 Industry, innovation and infrastructure more visible.

SDGs of strategic interest for other clusters (respectively Cluster 4 (SDG 8) and Cluster 5 (SDG 11)) are still covered (even though to a lesser extent) by Cluster 1 partnerships. It clearly shows the importance of cross-cluster relations and the possible contribution (synergy) of activities of partnerships from one cluster to achieving goals of another cluster.



FIGURE 38. SDGs supported by Cluster 1 partnerships (8) and EIT Health



Source: Expert group analysis.

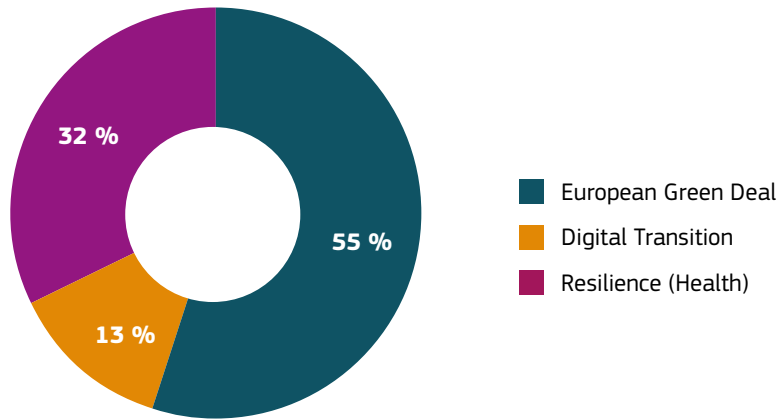
Note: Solid colour (2024), pattern (2022).

The cross-cluster relations and cross-cluster contributions are even more explicit in the analysis presented in Figure 39. Figure 39 presents data from partnership fiches on supported SDGs from three Cluster 1 partnerships plus EIT Health, aggregated to overview their contribution to three European Commission priority policy areas: green transition, digital transition and resilience. The SDGs are aggregated to form proxies of Partnership's contributions⁶⁶. Figure 39 confirms that, besides the statistically biased concentration of contribution of Cluster 1 partnerships to the green transition (but a little smaller than in the previous report), a large contribution goes to resilience and a small (but larger than in the previous report) contribution to the digital transition.

66 Green transition = Green Deal (SDGs 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 official EC docs); Digital transition = Europe fit for digital age (SDGs 4 and 9 official EC docs); Resilience (limited to health) = arbitrary expert allocation (SDGs 3 and 6).

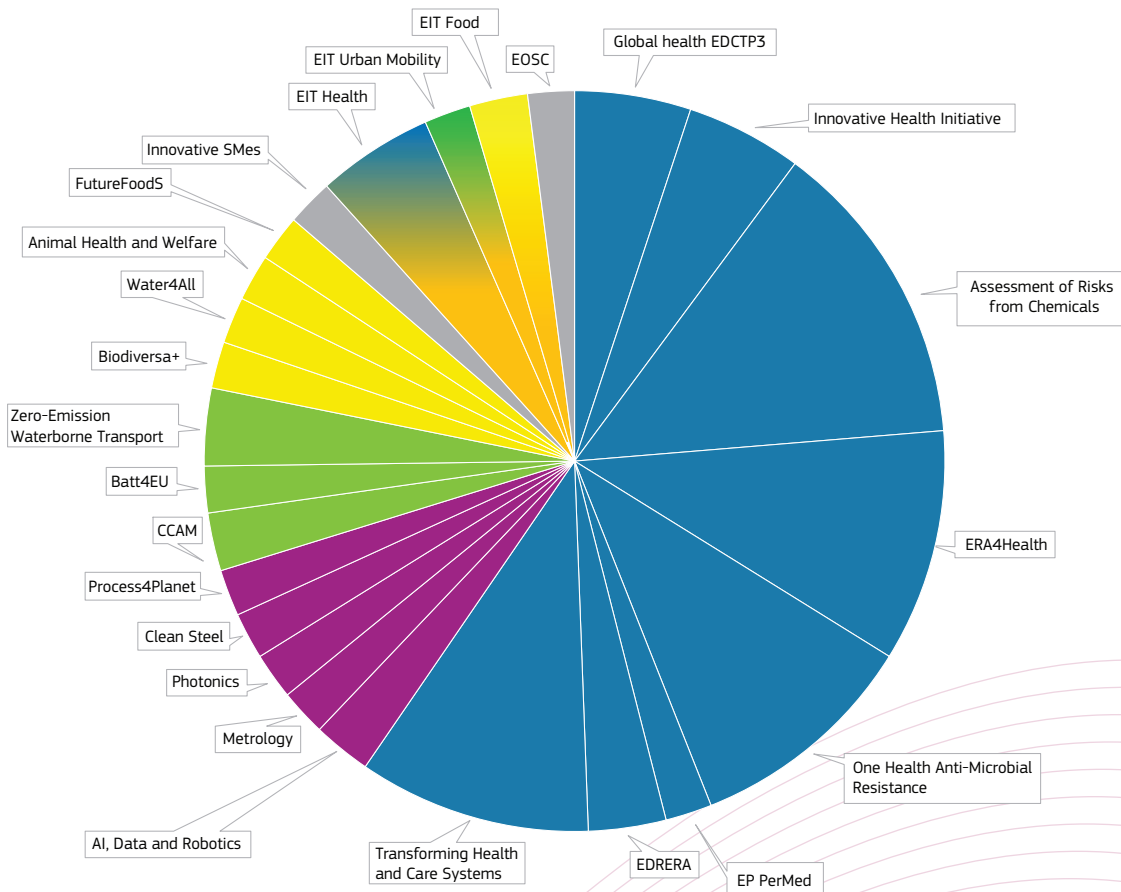


FIGURE 39. Cluster 1 partnerships (8) and EIT Health contribution to European Commission priorities, based on the SDGs supported



Source: Expert group analysis.

FIGURE 40. Contribution of all European partnerships to health-related Resilience



Source: Expert group analysis.

Note: Cluster 1 – blue, Cluster 4 – violet, Cluster 5 – green, Cluster 6 – yellow, EIT – orange with a gradient towards a related cluster colour, no cluster – grey.



Figure 40 shows the thematic contribution of European Partnerships to health-related Resilience. While the dominant contribution comes from Cluster 1 and related EIT KIC (as it was observed also in the BMR 2022), sizeable contributions are made also by all other clusters. The potential for synergies is evident in combinations of health with digitalisation, new materials, and processes, as well as environmental. The potential is likely to be much higher when all relevant dimensions of resilience are covered. Below are some other aspects of resilience that could be analysed in future BMRs.

Economic resilience is another key area, with partnerships aimed at supporting the green and digital transitions that are vital for sustainable growth and recovery. These initiatives are designed to promote economic stability by driving innovation in green technologies, digitalisation and sustainable practices, thereby fostering an economy that is resilient to shocks and capable of adapting to changing global conditions.

Digital resilience is addressed through initiatives that enhance cybersecurity, data sovereignty, and the digitalisation of public services. Partnerships in this area aim to ensure that Europe remains at the cutting edge of digital transformation, securing its digital infrastructure against emerging threats and ensuring that its digital economy thrives.

Environmental sustainability and climate resilience are pursued through collaborative research and innovation projects that tackle climate change, biodiversity loss, and environmental degradation. These partnerships aim to develop sustainable solutions and practices that contribute to a resilient and environmentally stable Europe, capable of facing the challenges of climate change and natural disasters.

Social resilience involves initiatives that promote social cohesion, equality, and inclusion, ensuring that the benefits of technological and economic advancements are shared across all segments of society. Through partnerships, the EU seeks to address societal challenges, reduce inequalities, and foster a resilient social fabric that can withstand and adapt to changes.

The potential for resilience can also be observed by analysing the anecdotal evidence – success stories – found in the partnership fiches (Chapter 4) – related to other. Some of these stories are presented in boxes below:

BOX 18. EIT FOOD PARTNERSHIP FOR RESILIENCE: THE PROTEIN DIVERSIFICATION THINK TANK

'Protein Diversification Think Tank Background: In 2022, experts from the EIT Food community established the EIT Food Protein Diversification Think Tank. As a neutral, independent body, the Think Tank engages stakeholders across the food system, in structured discussions to identify gaps, barriers, and opportunities, to co-create evidence-based roadmaps, and to recommend actions and policies for protein diversification to drive food systems transformation.

Outcome/Impact: In October 2023, the Think Tank launched the 'Accelerating Protein Diversification for Europe' policy brief. The paper puts forward a series of recommendations to EU decision makers, that protein diversification should be a cornerstone of future food strategies in order to feed a growing population while mitigating the adverse impacts of food production on the environment and human health. Further details on the recommendations and paper:

<https://www.eitfood.eu/news/eit-food-launches-policy-recommendations-protein-diversification>

RELEVANT EIT FOOD KPIS:

- Designed/tested innovations;
- Investment attracted by EIT Food Startups;
- Improve supply chain efficiency, integrity and transparency
- Circular and sustainable economy.

Source: Chapter 4: partnership fiches.



BOX 19. EIT RAWMATERIALS PARTNERSHIP FOR RESILIENCE: SECURING CRITICAL RAW MATERIALS

In a bid to secure large supplies of raw materials, we need to diversify our sources, both within Europe as well as beyond its borders. ERMA has supported the European Commission in driving the partnership with Ukraine and continues to represent EIT RawMaterials in high-level joint activities with Canada and Australia. Following the model developed for Ukraine, ERMA is leading the development of a comprehensive partnership with Kazakhstan. Discussions with the governments of Norway and Greenland on mechanisms to support ERMA projects in the respective countries are ongoing. Along with the international partnerships, meetings are regularly organised by ERMA to mobilise and engage the ERMA community, thus creating opportunities for its engagement with the various partnerships. ERMA is heavily involved in the Africa MaVal H2020 project in a bid to build an EU and Africa business network in CRM value chains. The aim is to develop a strategy for the integration of identified and emerging EU and African raw materials value chains for the twin transition. ERMA is also representing EIT RawMaterials in the EU-Latin America partnership on raw materials and is currently working with the European Commission on the development of a strategic framework to extend ERMA activities in South America, particularly in Chile, Argentina and Brazil.

Modern mining can only be achieved if it is done sustainably and this is one of ERMA's key roles - to scrutinise every business case to ensure it is done according to the highest ESG standards, which is a fundamental requirement of the investment community.

RELEVANT EIT RAWMATERIALS KPIS:

- Securing raw materials supply;
- Ensuring a stable RM workforce;
- Improving gender balance in the RM sector.

Source: Chapter 4: partnership fiches.



BOX 20. EOSC PARTNERSHIP FOR RESILIENCE: RESPONSE TO THE COVID-19 PANDEMIC

Response to the COVID-19 pandemic: The European Open Science Cloud (EOSC) recognises the importance of collaboration and data sharing on an international scale and is establishing connections beyond the EU, on the adoption of data interoperability principles and common standards, to address global societal challenges. The SARS-CoV-2 pandemic, marked by unprecedented genomic data, faces a challenge in global data analysis due to limitations in data interoperability, data sovereignty/security, analytical capability and computational capacity. Commercial clouds, often based outside the EU don't fully solve this, especially in developing countries where research computing infrastructure is scarce. Developed countries also struggle as expertise in infrastructure management is required. The INFRAEOSC-destination project 'Beyond COVID' and 'Galaxy' demonstrate an effective contribution to the European and global pandemic readiness, addressing those specific challenges:

- The *European COVID-19 Data Platform* enables the rapid collection and comprehensive data sharing of available research data from different sources, for the European and global research communities, in order to accelerate research on coronaviruses worldwide. It is a high-priority pilot to realise the objectives of the EOSC, providing resources for evidence-based decision-making across scientific, medical, public health and policy domains. The Portal is forming part of the pandemic preparedness toolkit to address future pathogen outbreaks, globally: <https://www.covid19dataportal.org/the-european-covid-19-data-platform>;
- The *Galaxy Project* pools free global computational resources, making deep sequencing analysis accessible and providing a framework for global pathogen surveillance. Public computational infrastructures (XSEDE, ELIXIR, Nectar Cloud) with open-source software offers a solution. However, a unified platform is needed, best supported by an international community. The two-stage platform on public Galaxy instances in the US, EU and Australia support hundreds of thousands of analyses monthly, providing nearly unlimited computation capacity: <https://www.nature.com/articles/s41587-021-01069-1>

RELEVANT EOSC KPIS:

- The EOSC EU Node is operational and a growing number of EOSC core functions are discoverable;
- Metadata are increasingly available for public research data sets;
- The EOSC Interoperability Framework is adopted by major EU Research Infrastructures.

Source : Chapter 4 : partnership fiches.

2.3 CONTRIBUTION OF EUROPEAN PARTNERSHIPS TO HORIZON EUROPE KEY IMPACT PATHWAYS

In the BMR 2022, a subchapter on the contribution of European Partnerships to the Horizon Europe Key Impact Pathways (KIPs) was introduced with a three-fold purpose. First, to illustrate the direct links of the Key Performance Indicators (KPIs) devised by European Partnerships with the KIPs indicators, reflecting the integration of partnerships as an instrument in the overall Horizon Europe monitoring and evaluation framework. Second, to suggest possible ways of analysis of the data on Horizon Europe KIPs as they become available for the next BMRs. Third, to select a subset of Horizon Europe KIPs that are worth presenting specifically for the Partnerships reflecting key elements of their intervention logic.

Unfortunately, due to the current lack of available data of KIPs-related indicators for proposed analysis for the present BMR, it is impossible to implement the proposed approach. However, the following observation from the first interim report of the Expert Group on support for the Strategic Coordinating Process for Partnerships⁶⁷ is still valid, although there may be significant overlap between the specific indicators of some European Partnerships and the KIPs. KIPs may be considered as a 'bridge' between activities and impacts of specific European Partnerships and the overall Horizon Europe Programme for which the KIPs will be applied to report on the achievement of the entire programme. Throughout the process of developing their monitoring and evaluation frameworks, the partnerships have tried to interpret the KIPs at the level of their own objectives.

In the BMR 2022, an illustration of such matching between individual, specific partnership KPIs and Horizon Europe KIPs was provided based on data from the fiche of the European Partnership for Photonics (this partnership actually links all of their indicators to the level 1 KIPs – Scientific/Societal/Economic). As seen in the partnership Fiches (Chapter 4), each partnership has developed its own Partnership Specific Impact Pathways (PSIP) to frame and guide its monitoring and evaluation task. For each dimension of PSIP (resources and actions, outcomes, and impacts) specific KPIs are set and presented in the fiche. Whereas the KPIs related to resources and actions mainly refer to managerial and organisational aspects, those related to outputs and impacts largely depict the expected short, medium, and long-term results, although without necessarily being characterised as such. Notwithstanding, they can easily be turned into short, medium, and long-term impacts in relation to science, economy, and society. As a result, the PSIPs, being the basis for the partnership 'storyline' are the appropriate framework and do incorporate European Partnership specific KPIs which can directly match many of the categories of the Horizon Europe KIPs.

Although data on both the actual and expected performance of the partnerships is still missing and hamper the measuring of their progress towards established targets (see Chapter 4), and data for the Horizon Europe KIPs are not yet available, the provided performance indicators for the vast majority of partnerships coupled to the known definitions of the Horizon Europe KIPs will allow the assessment of their relevance and fit, and make the future bridge between these various levels of monitoring. Subchapter 4.1.5 presents the results of that analysis to provide the link between the KPIs reported on the partnership fiches and the Horizon Europe KIPs for the whole partnership's portfolio and the detailed analysis by type of partnership and by cluster.

67 European Commission, Directorate-General for Research and Innovation, Carrozza, M., Romanainen, J., Amanatidou, E., et al., A robust and harmonised framework for reporting and monitoring European Partnerships in Horizon Europe : first interim report, Publications Office, 2021: <https://data.europa.eu/doi/10.2777/017792>.



3. EUROPEAN PARTNERSHIPS AT THE COUNTRY LEVEL

HIGHLIGHTS OF THIS CHAPTER

Based on the commitment letters sent by countries to the EU, the national commitments to European Partnerships reach EUR 15 billion in total, which is almost three times the EUR 5.5 billion committed to joint calls in H2020 partnerships, including JPIs and self-sustained networks since 2014.

Between H2020 and Horizon Europe, certain countries, all of which from the Widening cohort, doubled their shares of participation (Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Slovakia) or almost tripled it (Croatia). See figure 46.

Compared to the BMR 2022, the success stories contain more specific examples of impacts beyond the policy domain, to actual cases of building infrastructure, start-ups and innovation generation.

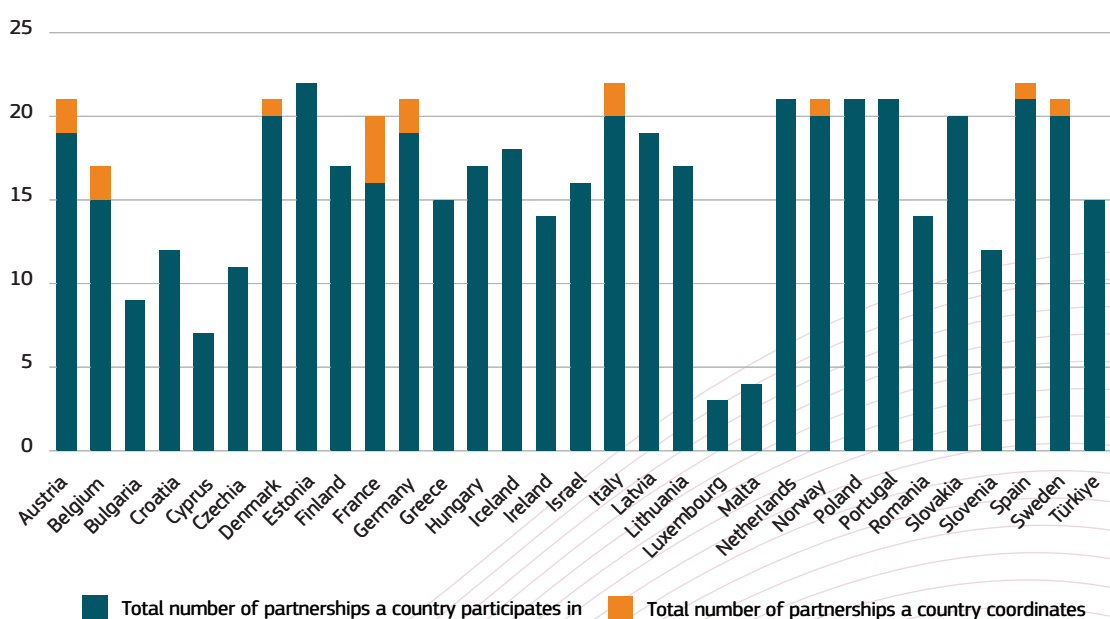
3.1 COUNTRY COMMITMENTS AND EXPECTATIONS

3.1.1 COMMITMENTS TO EUROPEAN PARTNERSHIPS IN HORIZON EUROPE

3.1.1.1 BMR 2024 AGGREGATED FIGURES

There are 22 European partnerships that are relevant to countries' participation. Of those, countries, through their national ministries or funding agencies, they coordinate 16 of them. Nine are coordinated by Member States with large research communities such as France, Italy, Germany, and Spain. The rest are led by countries with smaller research communities such as Austria, Belgium, Denmark, Sweden, and Norway.

FIGURE 41. Number of European Partnerships in which a country coordinates or participates

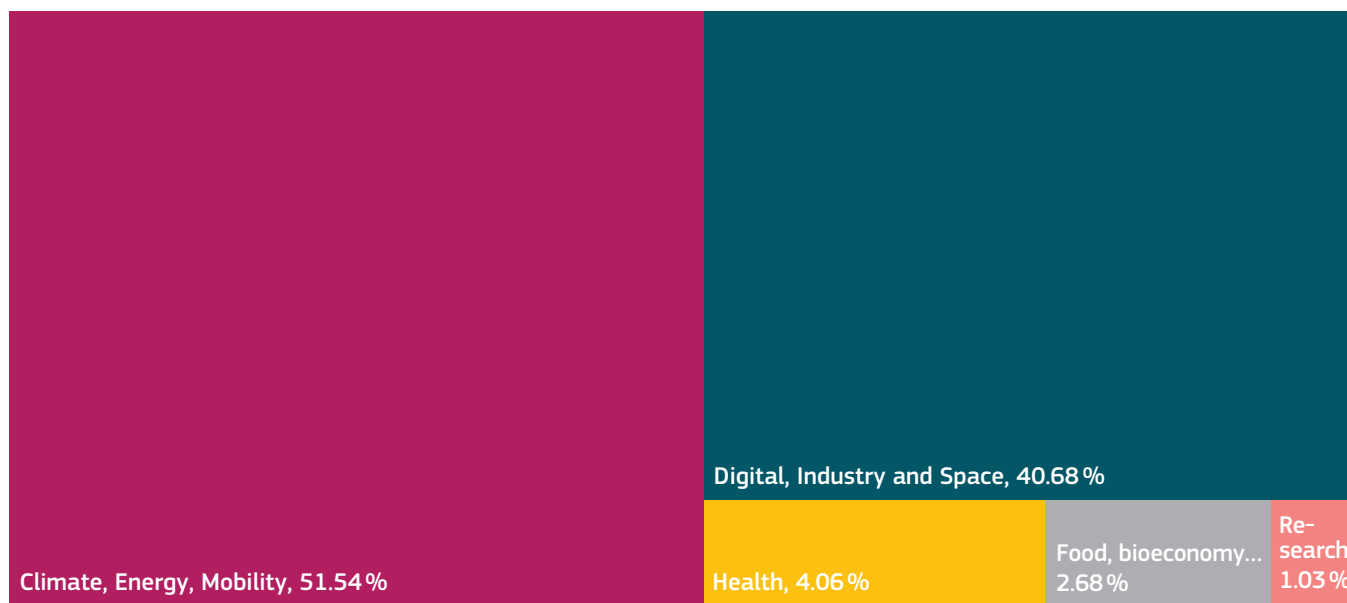


Source: EC and countries' commitment letters.



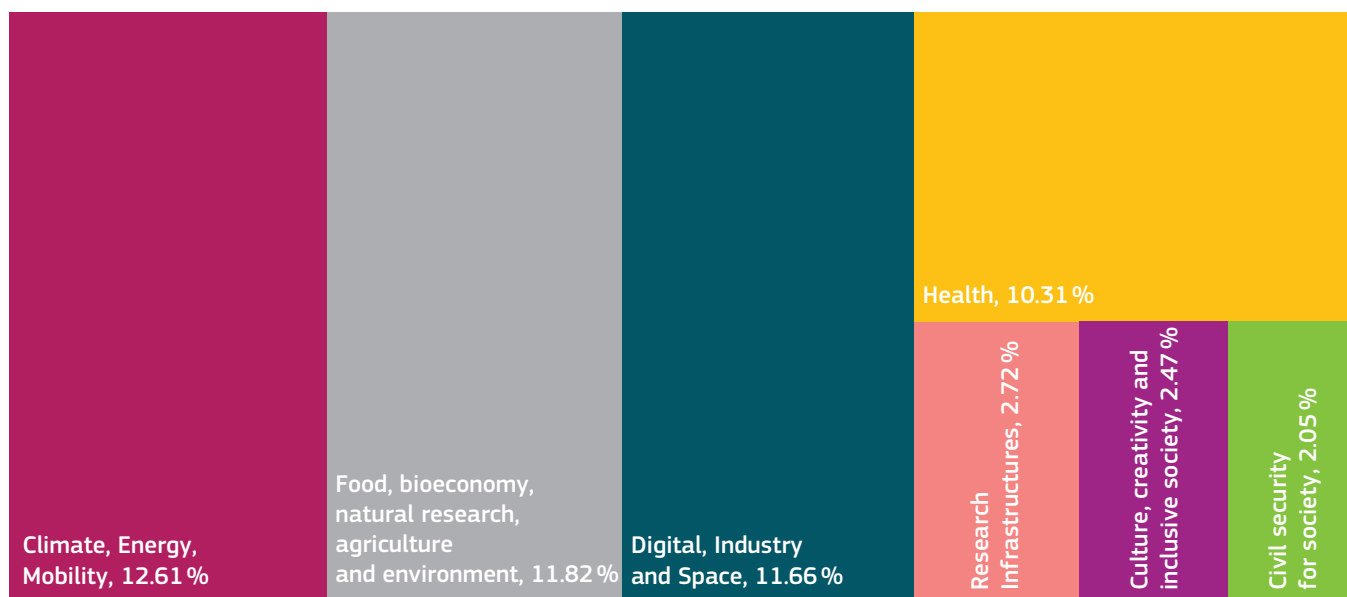
Comparing the thematic distribution of project funding (EU net contribution) across HE clusters between partnership projects and the rest of HE projects (Figure 42), partnership projects represent a larger share in Clusters 4 and 5. However, considering that eCORDA, from where the figures draw their data, does not yet include the Co-funded Partnership projects, a more balanced picture can be expected in the future.

FIGURE 42. Distribution of funding based on the EU net contribution in European Partnership projects



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type, was created manually in FFG, based on certain information in the database: call, topic, topic description and instrument.

FIGURE 43. Distribution of funding based on the EU net contribution in the rest of Horizon Europe projects

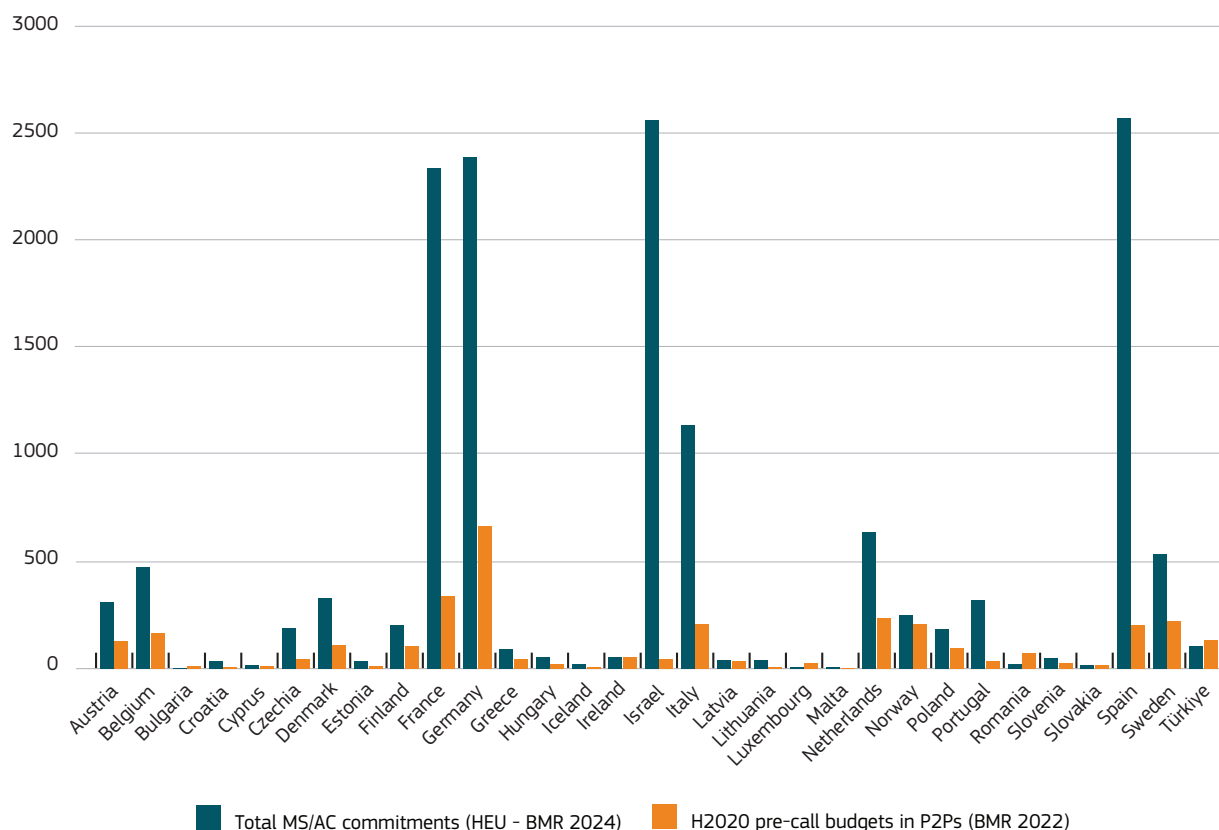


Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023.



3.1.1.2 COMPARISON OF COMMITMENTS, PARTICIPATION SHARES, SUCCESSION RATES AND TYPES OF BENEFICIARIES BETWEEN BMR 2022 AND BMR 2024

FIGURE 44. Comparison of national commitments in European Partnerships with pre-call budget commitments in H2020 partnerships (million euros)



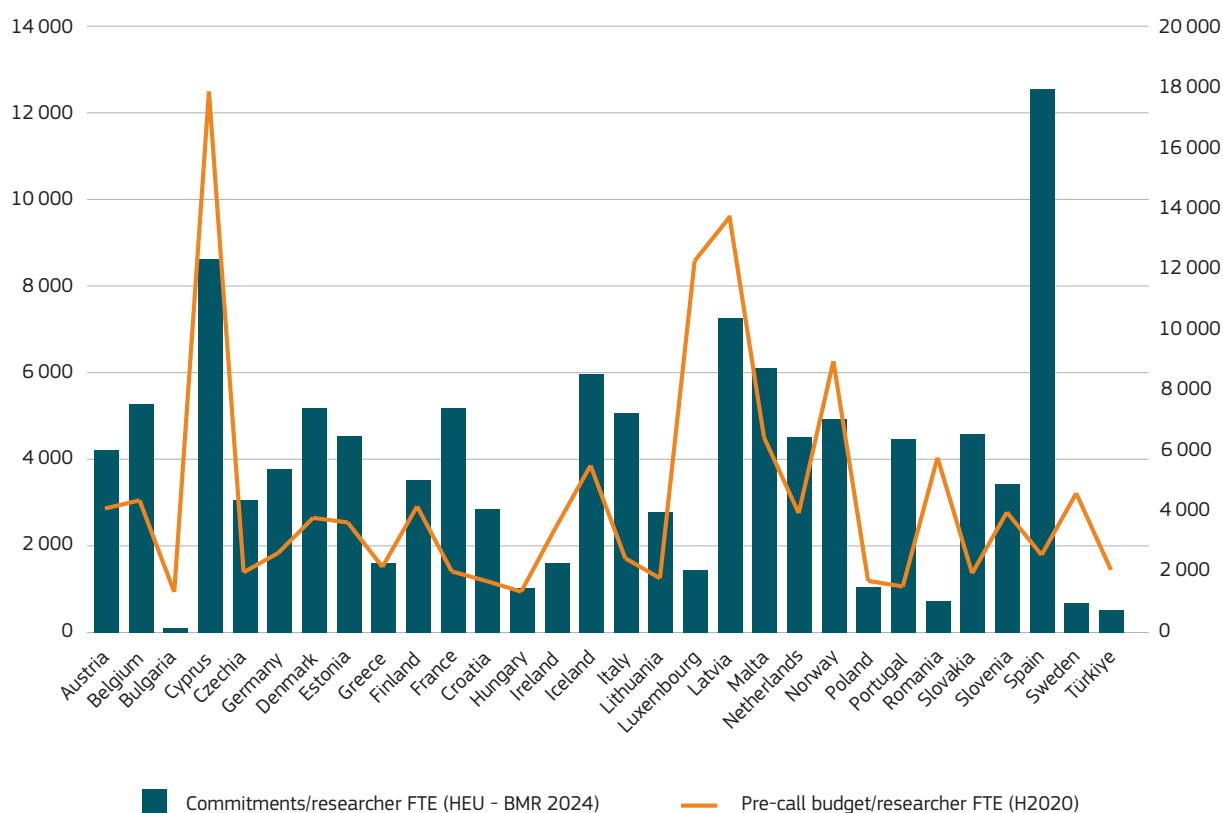
Source: Commitment letters by MS/ACs for European Partnerships and ERA-LEARN data (BMR 2022).

* The figures were based on the commitment letters sent by the countries to the EC. For the first batch of Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30% of the EU top-up and 50% for PARC. Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania were missing and thus not included in the total commitments.

** The country fiches in the previous BMR 2022 showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR 2022, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

The national commitments to the European Partnerships reach EUR 15 billion in total and has multiplied by five compared to the pre-call commitments that were made in the H2020 partnerships between 2014-2020 (EUR 3 billion).

FIGURE 45. National commitments per researcher FTE in European Partnerships – comparison with pre-call budgets in H2020 partnerships (euros)



Source: EC and countries' commitment letters.

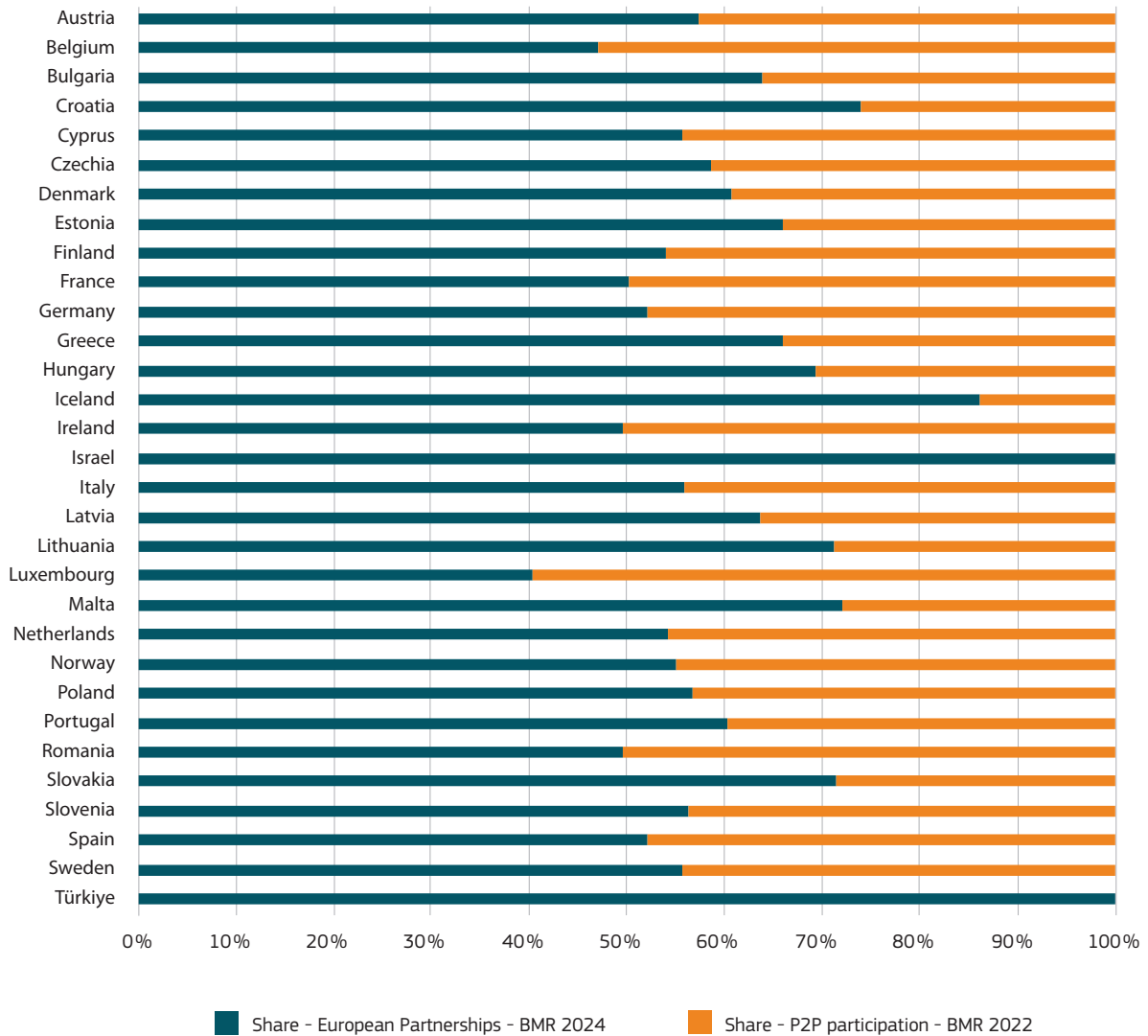
* The figures were based on the commitment letters sent by the countries to the EC. For the 1st batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30% of the EU top-up and 50% for PARC. Commitment letters for the second batch of the Co-funded partnerships from the countries Croatia, Luxembourg and Romania were missing and thus not included in the total commitments.

** The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

*** Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021 based on EUROSTAT data.

In most countries, except Bulgaria, Cyprus, Ireland, Luxembourg, Latvia, Norway, Romania, Slovakia and Türkiye, the amount of euros committed per researcher FTE to European Partnerships has significantly increased compared to H2020 P2Ps. In particular, the commitment per researcher was multiplied by ten for Spain, seven for Portugal, and more than five for France.

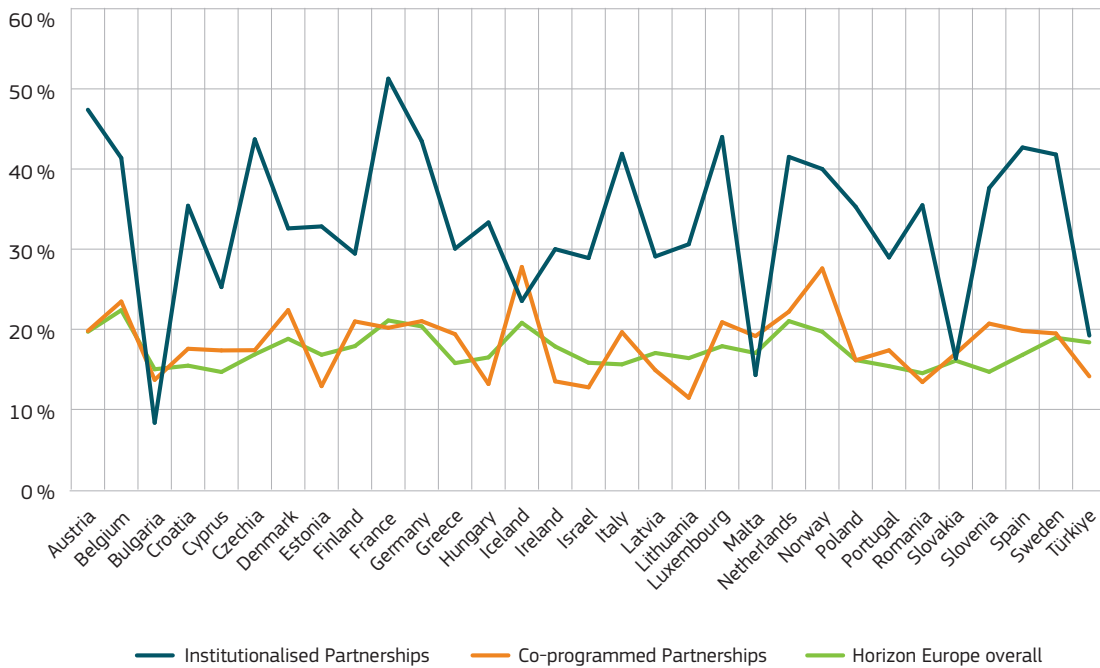
FIGURE 46. Comparison of shares (%) of participation of MS/AC in European Partnerships with H2020 P2P partnerships (BMR 2022)



Source: Commitment letters by MS/AC for European Partnerships and ERA-LEARN data (for BMR 2022).

Between H2020 and Horizon Europe, all the MS/AC – except Luxembourg – increased their share of participation in partnerships. Certain countries, all of which from the widening cohort, doubled their share (Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Slovakia) or almost tripled it (Croatia), and Iceland has multiplied it by six. It can be argued that the streamlining of the partnership landscape, enabled especially the widening countries to increase their participation by focusing their limited resources more effectively.

FIGURE 47. Success rates of Institutionalised and Co-programmed Partnerships versus Horizon Europe’s overall success rates

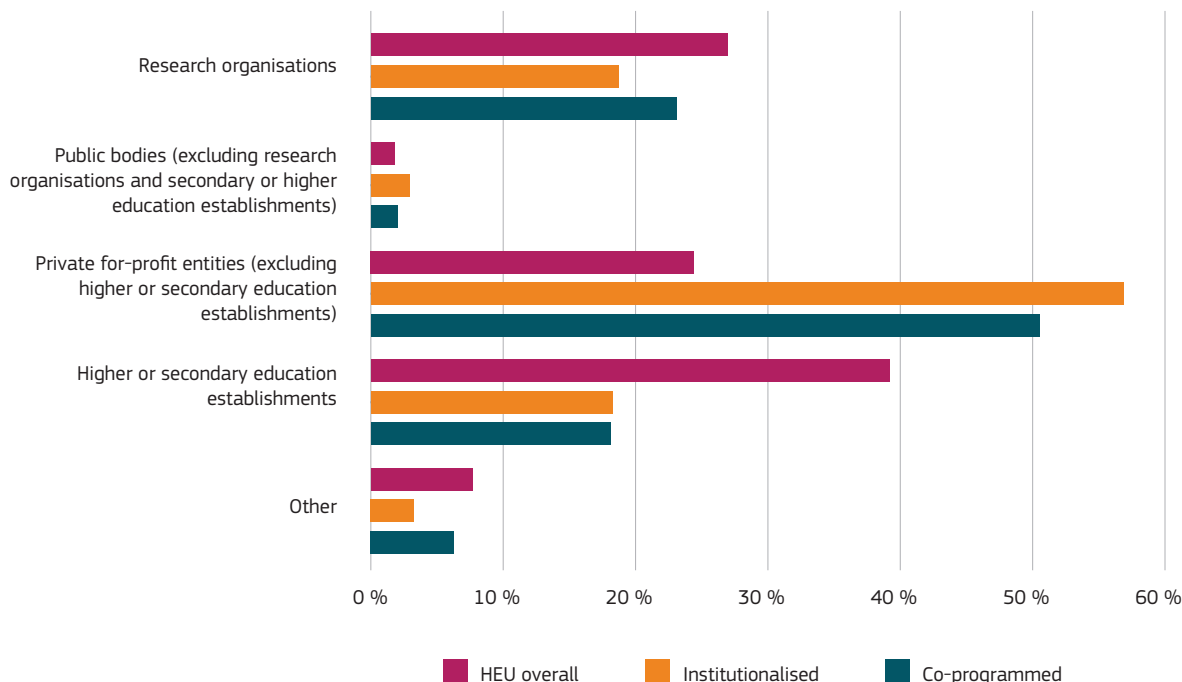


Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership, and hence a partnership type, was created manually in FFG, based on certain information in the database: call, topic, topic description and instrument.

Clearly, the Institutionalised Partnerships present much higher success rates than Co-programmed Partnerships. This has been explained in some country fiches stating that the specific focus of the Institutionalised Partnerships calls leads to applications by specialised organisations, and thus higher success rates. The Co-programmed Partnerships present success rates that are similar to the ones of Horizon Europe overall in the different countries, except in the cases of Iceland, Norway and Slovenia, where they are notably higher, and Estonia, Ireland, Lithuania and Türkiye, where they are lower.



FIGURE 48. Types of beneficiaries in European Partnership projects and in Horizon Europe overall (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type, was created manually in FFG, based on certain information in the database: call, topic, topic description and instrument.

The increased participation of private for-profit organisations is notable in Institutionalised and Co-programmed Partnerships in comparison with Horizon Europe overall. The participation of higher education establishments and research organisations in European Partnerships should be much higher when the Co-funded Partnership project data are embedded in the eCORDA system.

3.1.2 EXPECTED BENEFITS AND IMPACTS

Reports of **impacts in the policy domain** are frequent in the country fiches. As examples, DUT has a high impact on Austrian R&I in its domain and on the Cities Mission as well as on the Austrian national level transformative mission on Cites. The SRIAs of BiodivERsA, the predecessor of Biodiversa+, influenced the national strategy in Belgium and the national cancer plan benefitted from EU network research agendas. In addition, the requirement to collaborate at the national level contributes to the structuring of the R&I ecosystem in the Brussels region involving actors and funding instruments in a more holistic approach. In France, in quantum technologies, the structuring at European level, notably through the QuantERA network, has been key for the support at national level, and this domain is now well positioned in terms of national priorities.

The funding of the research projects under the BiodivRestore Call, jointly launched by Biodiversa+ and Water-JPI, led to the establishment of a Knowledge Hub for Biodiversity Restoration, integrating knowledge and sharing scientific excellence to support MSs in the development and implementation of the new EU Nature Restoration Law (country fiche for Germany).

Impacts also refer to the **policy implementation** side. Italy set up a dedicated Directorate General for the internationalisation of research and a new funding framework to simplify participation in partnerships. Additional simplification measures are also being implemented aiming at aligning national procedures to the Horizon Europe framework (country fiche for Italy). Full operation of a simplified national granting processes as a sort of ‘seal of excellence’, for the allocation of funds, by automatically accepting the peer review done during the international evaluation (country fiche for Spain).



Another set of impact cases highlights the **influence of partnerships**, not only in designing national policies, but also in the **interest of the research community in the areas addressed**, further enhancing national capacities. As an example, in the area of antimicrobial resistance, it has been shown that the participation of France in joint initiatives, in particular JPI AMR, has led to the increase of projects in this area also at national level.

Compared to the BMR 2022, the success stories contain more specific examples of impacts beyond the policy domain, going to **actual cases of building infrastructure, start-ups and innovation generation**. For instance, Resourcify is Europe's leading digital platform for waste management, enabling companies to monitor waste streams and increase their recycling rates. Founded in 2015, the start-up turned its basic concept into a business case with the help of EIT Climate, and then partnered with EIT RawMaterials to bring the solution to market. Today, Resourcify is used at over 15 000 locations in 7 countries and helps corporate customers such as Hornbach and Johnson & Johnson to recycle 50 % more of their waste on average. In 2018, the start-up was honoured as part of the German 'Land of Ideas' competition (country fiche for Germany).

The LuxHyVal project, supported by the Clean Hydrogen , will launch a flagship hydrogen valley in Luxembourg to boost the penetration of hydrogen by deploying green hydrogen initiatives across the entire value chain from local production to utilisation, including storage and distribution for a range of applications targeting industry and mobility, while aiming to connect with existing/planned infrastructures (country fiche for Luxembourg).

Slovenia has set up the VEGA supercomputer in 2021, which was funded with 34.2 % from EuroHPC and with 65.8 % from cohesion funds and the Slovenian national budget. HPC VEGA is currently one of the most popular systems of EuroHPC, mainly because of the high-quality service it provides and the fact that it was the first system co-financed by the EuroHPC that was made operational and available in open access for European users. HPC Vega is of outstanding importance for the quality and competitiveness of Slovenian science (country fiche Slovenia).

Greece highlighted the creation of a cross-European network of National Competence Centres in HPC-related topics, and particularly the EuroCC@Greece as one of the 33 HPC Competence Centres, built in the framework of the European High Performance Computing Joint Undertaking. The EuroHPC JU-funded National Competence Centre in Sweden (ENCCS) has become a successful national hub for industry, public administration and academia interested in using HPC resources (country fiches for Greece and Sweden).

The **importance of the regional level** has also been highlighted in some cases such as Portugal, with the contribution of the Regional Commissions in certain partnerships, by sharing technical expertise and important regional insights, but also by increasing the volume of national funding and maximising European co-funding. These Regional Commissions, and the respective Regional Autonomous Governments, have been very important for the expected qualitative leap in Portugal's participation in the European Partnerships (country fiche for Portugal).

Access to developing countries and other non-EU countries is another area where the impacts of partnerships are highly appreciated. French teams have successfully participated in networks and partnerships targeting developing countries (LeapAGRI, Water JPI, PRIMA, etc.), which have helped to extend the European Research Area towards the south.

3.2 COUNTRY FICHE READING GUIDE

The aim of the subchapter is to present the performance of the participating countries (MS and AC) in the European Partnerships and compare features of the performance against that of BMR 2022 or Horizon Europe overall.

TABLE 17. 22 Partnerships relevant for country participation

1	Co-pr	EOSC	European Open Science Cloud Partnership
2	Co-pr	Pandemic Preparedness	European Partnership on Pandemic Preparedness
3	Co-fund	PARC	European Partnership for the Assessment of Risk from Chemicals
4	Co-fund	ERA for Health	European Partnership - ERA for Health Research
5	Co-fund	THCS	European Partnership on Transforming Health and Care Systems
6	Co-fund	DUT	European Partnership – Driving Urban Transitions to a sustainable future
7	Co-fund	CETP	European Partnership for Clean Energy Transition
8	Co-fund	Biodiversa+	European Biodiversity Partnership
9	Co-fund	SBEP	European Partnership for a climate neutral, sustainable and productive Blue Economy
10	Co-fund	Water4All	European Partnership Water4All - water security for the planet
11	Co-fund	Innovative SMEs	European Partnerships Innovative SMEs
12	Co-fund	Rare diseases	European Partnership for Personalised Medicine
13	Co-fund	Pers med	European Partnership on Rare Diseases
14	Co-fund	One Health AMR	European Partnership for One Health Antimicrobial Resistance
15	Co-fund	Accelerate Farming	European Partnership accelerating farming systems transition: agroecology living labs and research infrastructure
16	Co-fund	Animal Health	European Partnership for Animal Health and Welfare (PAHW)
17	Co-fund	Agri data	European Partnership for Agriculture of Data
18	Co-fund	Food syst	European Partnership for Safe and Sustainable Food Systems
19	IP	Metrology	European Partnership on Metrology
20	IP	EDCTP3	European Partnership for Global Health
21	IP	EuroHPC	European Partnership for High Performance Computing
22	IP	Chips JU	European Partnership for Chips

■ First batch of European Partnerships in first strategic plan.

■ Second batch of European Partnerships in first strategic plan.



It is important to note that the BMR 2022 data referred to the H2020 partnerships between the period 2014-2020, due to the lack of data on partnerships under Horizon Europe at the time. Having said that, when comparisons are attempted, they draw on shares rather than absolute figures to compensate for the large differences between Horizon Europe and H2020 Partnerships.

The European Partnerships covered in this chapter include all those with relevance to countries' participation (Table 17). The countries that are addressed include the 27 EU Member states and Iceland, Norway and Türkiye as Associated countries.

The fiche retained the same structure as in BMR 2022. There has been one additional comment box to address the strategic autonomy and how relevant this is for partnerships from the country's point of view.

3.2.1 STRUCTURE AND INTERPRETATION GUIDELINES

The country fiche is structured in 4-5 pages. The start of the fiche is marked by certain key highlights about the overall country performance, or about a specific element the country wished to bring forward. The first page presents data regarding the participation of the MSs/ACs in the European Partnerships. The figures are also compared to the relevant figures from BMR 2022.

The financial information on the first page was initially based on the information included in the Grant Agreements of the Co-funded Partnerships of the first wave (9 partnerships) and the commitment letters of the countries for all other European Partnerships. However, due to the different time reference (letters for the total duration and Grant Agreements only for the initial period except PARC and THCS), it was decided to estimate the financial contributions based on the commitment letters for all the partnerships and only in the cases where some countries did not send commitment letters, to consider the respective figures in the Grant Agreements (even though only for the initial period).

The country fiches in the previous BMR (BMR 2022) showed the actual contributions instead of commitments and for H2020 partnerships instead of European Partnerships (under Horizon Europe). For the estimation of the share of change since the last BMR, the pre-call contributions were considered for H2020 partnerships instead of the actual national contributions to allow comparison.

The second page is dedicated to the 'key intentions for the future' along with the 'directionality' element of the European Partnerships addressing the thematic priorities targeted through the participation of the country in those partnerships or Horizon Europe overall. The directionality element is complemented by Table 1 in terms of the thematic areas (clusters) mainly being addressed by projects supported by partnerships. The data is based on eCORDA and particularly the EU net contributions received by the beneficiaries from a specific country that receive funds under projects supported by partnerships.

The eCORDA data does not include projects from Co-funded Partnerships nor projects supported under EIT KICs as the data is not yet in the European Commission's system.

The third page addresses the features of the country's participation, namely the success rates (Figure 1) and types of project beneficiaries (Figure 2). In Figure 1, due to the type of data available in eCORDA, the success rate is calculated as the number of main listed applications (for funding), divided by the total number of eligible applications (i.e. main listed, reserved and rejected). An application refers to an organisation that is applying and not to a proposal. A single proposal may include 2 or more applicants from the same country.



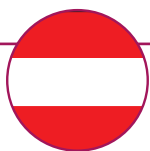
Here, the high success rate in the case of Institutionalised Partnerships is clear and the dominance of the private commercial entities which is attributed to the missing data in the eCORDA database of projects supported by Co-funded Partnerships. Additional activities triggered by the country's participation in European Partnerships are also reported, along with any progress in using additional funding sources in financing the country's participation in European Partnerships (complementary and cumulative funding).

Then comes the list of the top collaborator countries, Figure 3 which is based on eCORDA project data. Given the focus of BMR 2024 on internationalisation and technological sovereignty, the comments that follow also refer to non-EU countries. A list of success stories that comes next is an update of the list of success stories included in the previous BMR. They refer to impacts at national level including, for instance, impacts on policy, programme design/management, creation of national coordination mechanisms, funding levels of certain areas, research infrastructures, etc., as well as impacts on alignment of national policies. The qualitative inputs were provided by the MS/AC themselves under the guidance of the expert group.

3.3 COUNTRY FICHES

The 30 countries are:

1. Austria	11. Germany	21. Netherlands
2. Belgium	12. Greece	22. Norway
3. Bulgaria	13. Hungary	23. Poland
4. Croatia	14. Iceland	24. Portugal
5. Cyprus	15. Ireland	25. Romania
6. Czechia	16. Italy	26. Slovakia
7. Denmark	17. Latvia	27. Slovenia
8. Estonia	18. Lithuania	28. Spain
9. Finland	19. Luxembourg	29. Sweden
10. France	20. Malta	30. Türkiye



KEY HIGHLIGHTS

Austria has increased its already very active participation in European Partnerships. Researchers and policymakers appreciate the opportunities that European Partnerships offer.

Austria aims to align European and national priorities as part of its strategy towards partnerships towards strong, mutually beneficial European Partnerships. The European priorities of the Green Deal, the Green and Digital Twin Transition, as well as the UN SDGs, are among the guiding principles of our focus on participating in European Partnerships.

Participating in **21**
European Partnerships
out of 22(*) (95%)

Increased - BMR 2022
value: 71%

Coordinating **2**
European Partnerships
out of 16(**) (12.5%)

Increased - BMR 2022
value: 8%

Source: EC and country commitment letters – BMR 2022 refers to H2020 Partnership participation data.

(*) Out of the 49 partnerships, 22 are relevant for country participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 310 million

in commitments in European Partnerships

Or **2%** of total commitments (*)
139% increase since BMR 2022
(EUR 129 million) (**)

EUR 6 037

per researcher FTE(***)

119% increase since BMR 2022
(EUR 2 745) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions, and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021, based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Austria continues its active participation in European Partnerships, with a focus on strengthening national priorities as well as on European participation and integration.

Austria leads the Co-funded Partnerships Driving Urban Transition and Clean Energy Transition, where Austria has commenced correspondence with national missions demonstrating long-term impact, evaluation plans and secure funding.

Austria is also actively involved in ongoing and recently-established partnerships in the area of health and natural resources. The participation is connected with the Austrian Strategy for Research and Innovation 2030 and the Austrian long-term priorities for transformative innovation policy in domains such as energy transition, mobility transition, circular economy, and climate-neutral and smart cities.



DIRECTIONALITY

Austrian priorities for participation in European Partnerships follow national research and innovation policy objectives.

Austria aims to enable the active participation of Austrian academic and industry researchers. Partnerships are tools for the implementation of EU Missions in Austria.

Austria actively supports the participation in EU Missions with the implementation of the recommendations of the Austrian Working Group on EU Missions. This is particularly important for the Driving Urban Transitions to a Sustainable Future Partnership that corresponds to the transformative Mission for Climate-Neutral and Smart Cities, along with other Missions such as Mission: A Soil Deal for Europe.

In addition, Austria commenced its participation in the Mission for Climate-Neutral and Smart Cities with an impact and evaluation plan through to 2030 and a sufficient and stable budget.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	1,26		1,26
Health (Horizon 2.1)	0,05	4,43	4,48
Digital, industry and space (Horizon 2.4)	44,84	28,12	72,96
Climate, energy and mobility (Horizon 2.5)	36,73	30,30	67,03
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		2,22	2,22
Total	82,88	65,07	147,95

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

FIGURE 1: Eligible proposals, projects and success rates

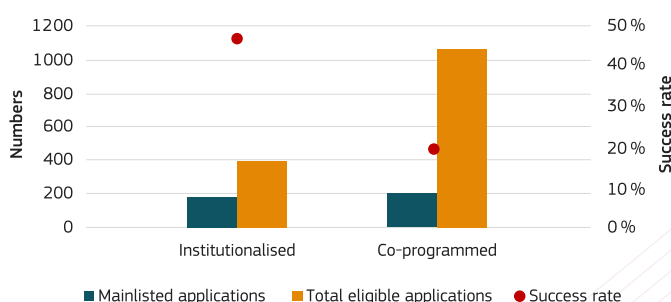
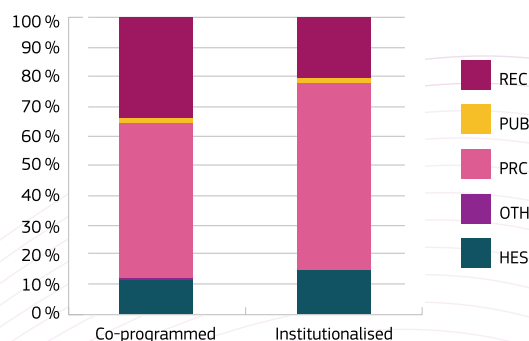


FIGURE 2: Types of project beneficiary (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.



In regard to industry-driven EU initiatives like Institutionalised Partnerships and Co-programmed Partnerships, Austria has slightly increased its successful participation since 2022. For example, the participation in the Chips Joint Undertaking (Chips JU) shows that even a small country like Austria can have a strong position and substantial impact when pursuing European goals such as strategic autonomy (EU-SA) and related research and innovation projects.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

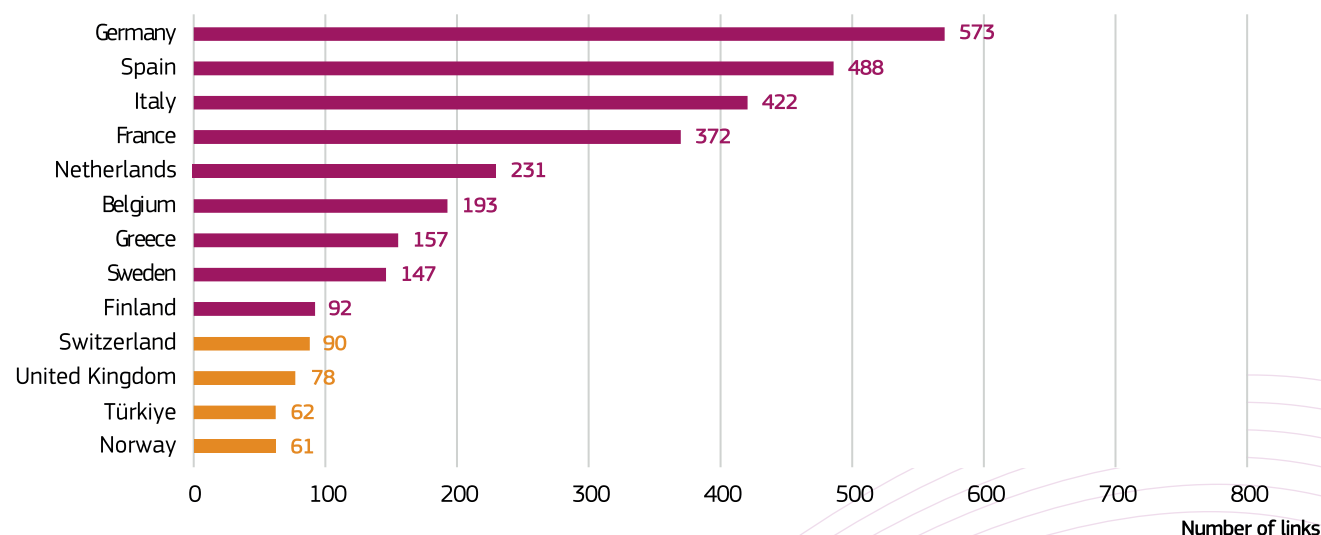
Austria launched four transformative national research and innovation missions that directly correspond to European Partnerships and that participate in the respective partnerships included in their strategy: mission Climate-Neutral City, the Clean Energy Transition, the Mobility Transition, and the Circular Economy Strategy. All aim to pursue Austrian and European policy goals such as Fit for 55, the Net Zero Industry Act, the Critical Raw Materials Act, the European Green Deal and many more.

For these four transformative missions, Austria has developed long-term impact and evaluation plans through to 2030, and has secured sufficient and stable R&I funding until 2026.

COMPLEMENTARY AND CUMULATIVE FUNDING

The Clean Energy Transition Partnership can be seen in the context of the Recovery and Resilience Facility (RRF). The RFF financed Austria's participation in two Important Projects of Common European Interest (IPCEIs) on Hydrogen along with the Chips JU, which further corresponds to its Participation in the two IPCEIs on Microelectronics. Austria builds on the Driving Urban Transition Partnership in defining R&I activities related to the Mission on Cities in Horizon Europe.

FIGURE 3: Top collaborators with Austrian researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

The values in Figure 3 are in line with the European Partnership average.



SUCCESS STORIES

The impact of Austria's participation in European Partnerships has had a notable impact, evident through numerous examples such as:

- ✦ The Driving Urban Transition Partnership has had a high impact on Austrian R&I in its domain, as well as on the EU Cities Mission, and at the Austrian national level with its transformative Climate-Neutral City mission.
- ✦ Austrian researchers successfully participated in ERA-NET BiodivERsA. This laid the groundwork for the new European Partnership Biodiversa+, in which Austria will participate and from which the Austrian research community can highly benefit.
- ✦ Austria implements its common position on alignment as agreed among the major R&D stakeholders. This was a collaborative process bringing together the relevant Austrian research stakeholders to work towards a common national agreement on transnational alignment in research strategy, planning and funding. For details, see https://www.era-learn.eu/documents/eralearn2020_t43_casestudyno4_commonalignmentpositioninaustria_final.pdf.
- ✦ When the European Chips Act – with the Chips JU as its R&I component – was launched, Austria substantially increased its already high commitment to the Chips JU and secured an additional EUR 71 million. To enable the establishment of manufacturing facilities as a follow-up to R&I and to ensure the security of supply and resilience of the EU's semiconductor sector, the Austrian Ministry in charge secured substantial additional funding sufficient for the requirements of Austrian industry.
- ✦ Corresponding to its participation in European Partnerships, Austria is actively participating in IPCEIs. IPCEIs focus on sectors important for addressing European strategic autonomy and technological sovereignty. Austria participates in a high share of the IPCEIs established thus far, namely in the IPCEI on Batteries, two IPCEIs on Hydrogen and the two IPCEIs on Microelectronics.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

As in many other countries, strategic autonomy and technological sovereignty is an increasingly important issue in Austria. Austria is exploring measures on how to tackle relevant aspects. As institutions are autonomous in their collaboration strategy, only guidance can be developed at the policy level.

One such aspect of strategic autonomy/technological sovereignty is the increased focus on research security and the avoidance of foreign interference in R&I. Here, Austria has anchored the topic in its national ERA Action Plan 2022-2025, along with a baseline study that is currently being conducted among Austrian Higher Education and Research organisations, which aims to raise awareness and identify areas of joint action.



KEY HIGHLIGHTS

The cumulated involvement of all Belgian federated entities illustrates the importance attributed to European Partnerships. They hold a solid position that the partnerships are beneficial, maintaining the overall opinion that partnerships concern important technologies and group together the most outstanding European partners. European Partnerships are, therefore, seen as being at the forefront of highly important European R&I.

Each Belgian entity applies its own strategy for its participation and the repartition of the funding. This leads to a relatively high number of participations. This strong, active engagement will be maintained.

The low number of coordinations may reflect the decentralised nature of the Belgian R&I system, where smaller administrations cannot afford to spend much time on coordinating multiple partnerships. This may be further explained by certain complexities and administrative rigidities within the partnerships.

Participating in **17**
European Partnerships
out of 22(*) (77%)

Decreased - BMR 2022
value: 86%

Coordinating **2**
European Partnerships
out of 16(**) (12.5%)

Increased - BMR 2022
value: 3%

Source: EC and country commitment letters – BMR 2022 referred to H2020 partnership participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 473 million

in commitments in European Partnerships

Or **3.14%** of total commitments (*)

189% increase since BMR 2022
(EUR 163 million) (**)

EUR 7 581

per researcher FTE(***)

157% increase since BMR 2022
(EUR 2 948) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions, and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021, based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

There will be no major change regarding the intentions and underlying motivations to participate in future European Partnerships. Belgium intends to participate in many of the partnerships of the second Horizon Europe Strategic Plan 2025-2027.

Belgium does not have a specific opinion on FP10 Partnerships, except that there should still be sufficient room for regular cooperative projects.

The original WIDERA CSAs should be more vigorously promoted as a so-called ‘incubator’ for future partnerships. If the consortium partners are willing to do so, co-funded calls could be organised.

In addition, public research institutions might be willing to better align their activities through a joint R(I)A – without the need to reach the scale and scope of the Co-programmed Partnerships.

DIRECTIONALITY

The difference in RFOs regarding the funding of fundamental/basic vs. applied research is reflected in their policies. Those RFOs that are oriented towards fundamental/basic research support as many topics as possible via Co-funded Partnerships, while those that support applied research tend to focus on fewer, more technology-oriented topics with a higher budget, and are more agnostic regarding the distinction between Co-funded and Co-programmed.

From this, it follows that directionality is not a primary concern for research funding organisations, while the innovation funding organisations pay more attention to it. The most important topics are: health and life sciences, digital technologies, agile production methods, circular materials, sustainable energy, agri-food, biotech, clean tech, water and blue economy, management of the environment and urban planning.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	4,18		4,18
Health (Horizon 2.1)	0,17	10,43	10,60
Digital, industry and space (Horizon 2.4)	85,98	36,02	121,99
Climate, energy and mobility (Horizon 2.5)	72,06	31,55	103,61
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		8,29	8,29
Total	162,38	86,29	248,67

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

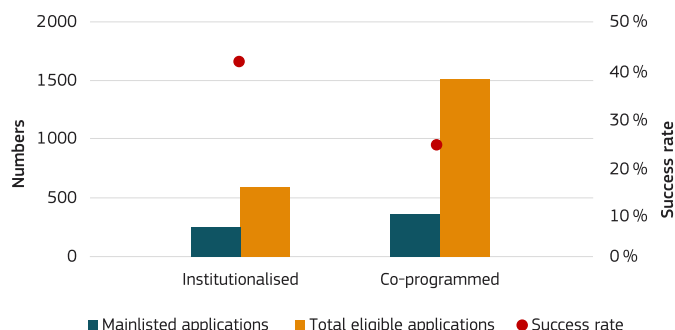
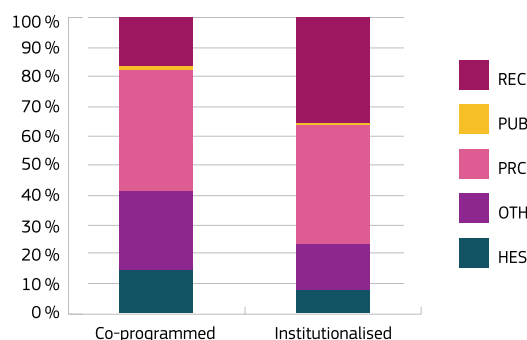


FIGURE 2: Types of project beneficiary (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, instrument. HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

Belgian researchers present a higher success rate in partnerships compared to their overall performance in Horizon Europe, which now stands at 22.4 %.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

Some reduced forms of Seal of Excellence funding are available for proposals awarded ERC Seals of Excellence and SME Instrument Seals of Excellence.

FP6/FP7 ERA-nets IraSME and CORNET continue to use regional funding only.

Networking and collaborations in some thematic areas have been built successfully – even if it is impossible for administrations or funding organisations to follow up on further investments by industrial partners or SMEs.

We do not have clear overviews of who is participating in Co-programmed Partnerships and Institutionalised Partnerships, as the Member State Representatives Groups are not always active – except for Institutionalised tripartite ones. Research programmes with a specific thematic focus are rather rare in the Belgian R&I landscape, and those that exist are not derived from European Partnerships.

COMPLEMENTARY AND CUMULATIVE FUNDING

Complementary funding has seen minimal change since 2021.

As stated in the BMR 2022, the Wallonia Brussels Federation has a strategy in place to participate in all Co-funded Partnerships where basic research can be performed.

ESIF funds in the Brussels Capital Region and in the Walloon Region are used to co-finance projects in the areas of S3. The level of ERDF investment varies considerably across the regions (very small amounts in Brussels; larger amounts in Wallonia).

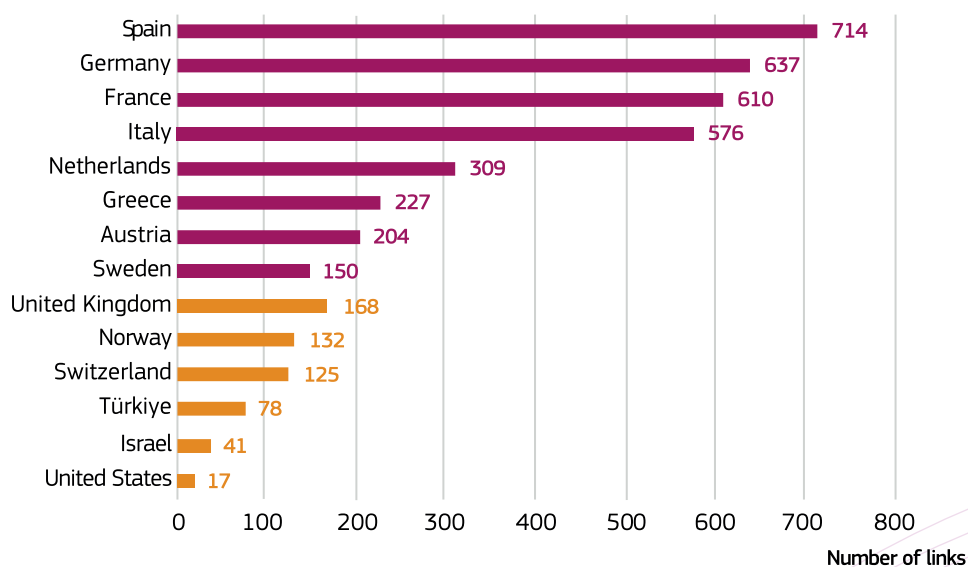
In Flanders, ESIF funds are not used for participating in partnerships. RRF money is used to support R&I activities but is not directly linked to European Partnerships.

The Flemish S3 priority areas, however, are considered strategic regarding the participation in European Partnerships. These are the main endogenously 'grown' focus areas of the Flemish R&I landscape. Hence, proposals for partnerships and participation in these areas are considered more important/relevant.

Participation is primarily achieved through the budget lines that support the regular funding instruments.

From this, it is implied that local project funding complements the participation in European Partnerships – even if only a few thematic regional/national programmes exist.

FIGURE 3: Top collaborators with Belgian researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

Given the autonomy of the RPOs, there is no specific Belgian country strategy for cooperating with non-EU countries/actors. Even if a strategy exists, it relates to the sub-national level where each Belgian entity can have its own focus or strategy.

The countries topping the list in Figure 3 represent a combination of large and neighbouring countries, which may influence their potential for links. However, it is important to note that partnerships are primarily selected based on their topic, rather than on the merits of the participating countries.



SUCCESS STORIES

- ✦ Regional programmes in Belgium complement EU funding in the areas of AI and digital technologies.
- ✦ Fundamental and basic research operates in a bottom-up manner, leading to broad participation across all scientific fields, but also to difficulties concerning alignment.
- ✦ SRIAs of BiodivERsA influenced the national strategy. The national cancer plan also benefitted from EU network research agendas.
- ✦ S3 allows for more effective preparation and alignment with partnerships for Regional Innovation (PRI); this represents a clear structuring effect.
- ✦ The elaboration of the European Partnerships encourages stakeholders to work together, co-create the programmes, and in some Belgian region(s), align the funding instruments, and identify and act on target groups.
- ✦ The requirement to collaborate contributes to the structuring of the R&I ecosystem in the Brussels region, thereby involving actors and funding instruments in a more holistic approach towards R&I.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Partnerships should comply with the European Commission's policy on strategic autonomy. The Commission can act using Art. 22(5) and Art. 22(6) of Regulation (EU) 2021/695 establishing Horizon Europe, which is the legal basis of supporting the partnerships. As the Commission is represented on the board of every partnership, it can bring potential issues to the attention of the partnership and ask for remediation and appropriate actions by the partnership. However, effectively restricting cooperation should remain an exception, and be soundly justified and applied with care. R&I cooperation can also be seen as a science diplomacy activity – particularly with less like-minded countries.



KEY HIGHLIGHTS

Bulgaria experienced relatively unsatisfactory participation in European Partnerships under H2020. A lack of national funding and inefficient mechanisms for collaboration with the industry are identified as the key challenges/factors which have led to this situation. National-level budgetary and re-prioritisation processes, as well as ad hoc factors, also contributed toward an inability to execute allocated resources. Bulgarian higher education institutions, research performing organisations, and in particular SMEs, also seem to be little interested and/or unable to participate in European Partnerships, mainly due to the challenges stated above.

In Horizon Europe, Bulgaria is addressing these challenges by allocating resources from the Programme for R&I and Digitalisation for Smart Growth (under ESIF) for national Co-funding and other relevant support schemes, implemented by the Ministry of Innovation and Growth. It also intends to establish an adequate coordination mechanism between sectoral Ministries and industry stakeholders. National resources are also being leveraged in ad-hoc cases. Bulgaria hopes these initiatives will significantly boost its participation and performance.

Participating in **9**
European Partnerships
out of 22(*) (40%)

Increased - BMR 2022
value: 23%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 refers to H2020 Partnership participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded Partnerships.

EUR 2 million

in commitments in European Partnerships

Or **0.02%** of total commitments (*)

78% decrease since BMR 2022
(EUR 10 million) (**)

EUR 133

per researcher FTE(***)

79% decrease since BMR 2022
(EUR 658) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021 based on EUROSTAT data.



KEY INTENTIONS FOR THE FUTURE

Bulgaria will continue to focus its efforts on several partnerships it perceives as being high priority, such as EuroHPC JU, Chips JU, and European Open Science Cloud, among others. Bulgaria has also joined PRIMA for the 2025–2027 period. Future efforts should be directed towards raising awareness among stakeholders to increase participation and success rates. Joining new partnerships, including those under the second Horizon Europe strategic plan 2025–2027, is also being considered.

DIRECTIONALITY

Currently, participation in the European Partnerships is decentralised, based on ad-hoc initiatives of sectoral Ministries and other stakeholders. This process is expected to be consolidated and better coordinated after the new R&I legislation is adopted and the new Innovation Board is established (expected in Q1 2024).

TABLE 1: Distribution of funding based on the EU net contribution to partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	0,06		0,06
Health (Horizon 2.1)			
Digital, industry and space (Horizon 2.4)	8,27	0,36	8,63
Climate, energy and mobility (Horizon 2.5)	0,52	0,32	0,84
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)			
Total	8,85	0,69	9,53

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.



FIGURE 1: Eligible proposals, projects and success rates

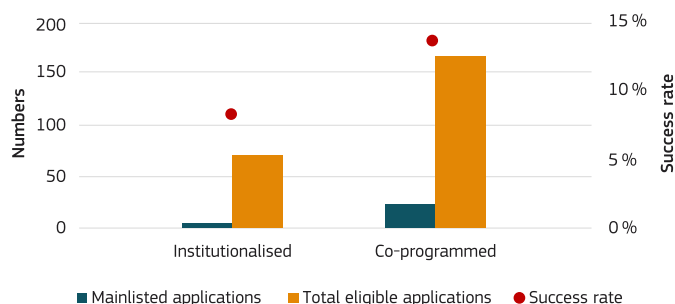
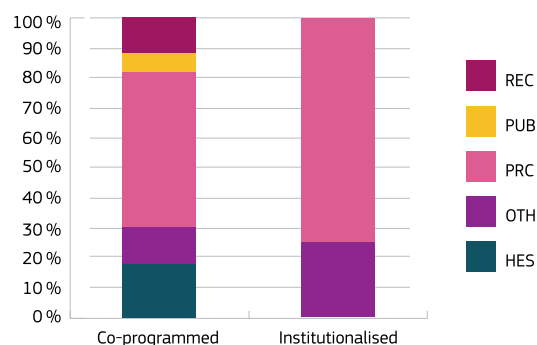


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, instrument.
 HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

The number of both eligible and main listed applications under Co-programmed Partnerships is significantly more than those under Institutionalised Partnerships. This may pertain to the current coordination and allocation of funding-related processes, as well as awareness among stakeholders.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

There is very little data and analysis on triggered additional investments and activities. National investments under EuroHPC to acquire a petascale HPC system can be pointed out as an exception.

As a result of the continuous efforts of universities, the research organisation Bulgarian Open Science Cloud (BPOS), as part of the national-level EOSC activities, continues its rapid development. Activities are being carried out to create and operate a public open science platform and institutional repositories for open access scientific publications and data, with a view to move from national subscriptions for scientific publications to open science.

The total number of publications in BPOS by access rights are: embargoed access – 39, restricted access – 63, metadata-only access – 5 091, and open access – 45 081.

There are currently 110 content providers, consisting of universities, research institutes, publishers, institutional repositories, and so on. There are almost 4 000 registered researchers, approximately 1/3 of whom are Bulgarian research staff. And in 2023, there were 182 organisation administrators, 284 moderators, and 3525 scientists.

BPOS is certified as a trustworthy repository by the CoreTrustSeal standards. The Ministry of Education and Science has subsequently concluded a new three-year agreement with Elsevier. The agreement is in alignment with the implementation of the National Strategy for the Development of Scientific Research in the Republic of Bulgaria, and provides subscription access for higher education institutions and scientific organisations to the publishing house’s databases.

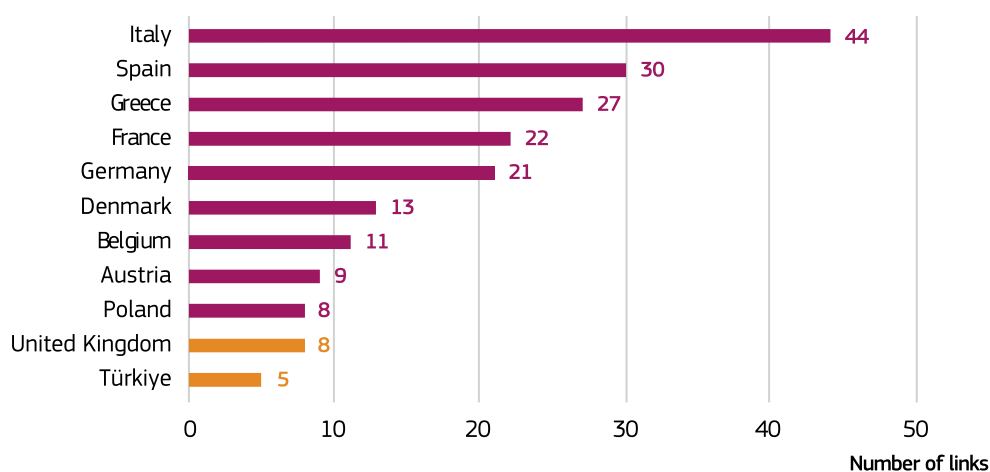
The most important feature of this agreement is the Open Access pilot project. The service grants the right to publish open access articles in the main hybrid journals owned by Elsevier. Corresponding authors from Bulgaria may publish a certain number of open access articles within the term of the agreement without paying a publication fee. In the event that the maximum number of articles per subscription year is reached, the agreement provides for preferential prices for Bulgarian users.

COMPLEMENTARY AND CUMULATIVE FUNDING

Necessary complementary and cumulative funding is allocated under the Programme for R&I and Digitalisation for Smart Growth (under ESIF), as well as under the national budget. Funds for participation in European Partnerships are also considered in next year's National Science Fund budget.

It is expected that a common decision will be reached on the overall interest for participation of different sectoral ministries and funding bodies, with confirmed research readiness to cooperate where applicable.

FIGURE 3: Top collaborators with Bulgarian researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

Internationalisation is a key factor for further R&I development. In this respect, the number of co-publications is essential in most of the monitoring mechanisms such as implementation of the National Programme for Development Bulgaria 2030, the Innovation Strategy for Smart Growth, and the National Strategy for Development of Research 2030. This key performing indicator is growing, together with increase of the number of bilateral and multilateral cooperation programmes. Internationalisation is part of the strategic programmes for research and innovation of the research HEIs in Bulgaria under the national RRP.

Driven by this understanding, participation in the European Partnerships is considered essential and well recognised. Efforts are expected to be invested in the national coordination of regulations, needs, competences and funding.



SUCCESS STORIES

- ✦ Bulgarian participation in EuroHPC JU, despite the challenges of the national budgeting and coordination processes related to European Partnerships, can be seen as a success story. The Bulgarian petascale supercomputer, among the 5 petascale acquired under EuroHPC JU, leveraged significant national resources (~ EUR 12 million) and high-level political engagement. The supercomputer, named Discoverer, currently ranks 91st among the global top 500.
- ✦ The project is implemented by the consortium Petascale Supercomputer Bulgaria, consisting of Sofia Tech Park JSC, the association National Centre for Computer Applications, and the Strategic Centre for Artificial Intelligence. The supercomputer was manufactured and delivered by Atos and officially commissioned on 21 October 2021.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Active participation in European Partnerships will contribute to achieving Bulgaria's aims of becoming more closely involved in global high-tech value chains, and boost re-industrialisation and dual transition efforts.



KEY HIGHLIGHTS

Croatia's participation is linked with the following partnerships: JPI Oceans, PRIMA, ERA-NETs (BlueBio, ERA PerMed), EuroHPC and EIT. The national strategic documents (e.g. Smart Specialisation Strategy) have indicated the importance of increasing R&I capacity and collaboration between research organisations and enterprises.

Croatia has expressed commitment to the following partnerships: European Open Science Cloud (EOSC) Partnership, European Partnership for Chemicals Risk Assessment, European Partnership – ERA for Health, European Partnership on Transforming Health and Care Systems, European Partnership – Driving Urban Transitions to a sustainable future, European Partnership for Clean Energy Transition, European Partnership Rescuing Biodiversity to Safeguard Life on Earth, European Partnership for Blue Oceans, European Partnership Water Security for the Planet, European Partnership for Innovative SMEs, European Partnership on Metrology (State Office for Metrology), and European Partnership for Key Digital Technologies.

For Croatian researchers and entities, participation in joint calls organised by European Partnerships may provide new skills that could contribute to increasing national participation in framework programmes.

Additionally, national strategic documents, including the National Recovery and Resilience Plan 2021-2026, encourage networking and strengthening of both academic and private sector cooperation.

Croatia will also announce the first call intended to achieve synergies between the ERDF and Horizon Europe, where funds will also be earmarked for partnerships.

Further, Croatia has visions regarding Chips JU, whereby it intends to connect outstanding Croatian scientists with large companies, especially in the context of the upcoming Chips JU calls.

Participating in **12**
European Partnerships
out of 22(*) (54%)

Increased - BMR 2022
value: 19%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 35.4 million

in commitments in European Partnerships

Or **0.35 %** of total commitments (*)

407 % increase since BMR 2022
(EUR 7 million) (**)

EUR 4093

per researcher FTE(***)

339 % increase since BMR 2022
(EUR 932) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021 based on EUROSTAT data.



KEY INTENTIONS FOR THE FUTURE

Croatia intends to participate more in European Partnerships (especially co-funded), and actively contribute to realising national goals and policies. Illustratively, one of Croatia's goals is to strengthen cooperation between the private and academic sectors; this is planned through European Partnerships. Croatia is in the process of consulting national bodies regarding new partnerships. However, it aims to join the partnerships that correlate with national documents, especially in relation to the thematic priority areas in the S3: Personalised Health; Smart and Clean Energy; Smart and Green Transport; Security: Awareness, Prevention, Response, and Remediation; Sustainable and Circular Food; Customised and Integrated Wood Products; and Digital Products and Platforms.

DIRECTIONALITY

Croatia's key intentions for the future focus on enhancing national R&I performance and capacity to boost competitiveness, promoting digital and green transformation, and bridging the gap between the research and business sectors. In this regard, seven thematic priority areas were defined: Personalized Health; Smart and Clean Energy; Smart and Green Transport; Security: Awareness, Prevention, Response, and Remediation; Sustainable and Circular Food; Customised and Integrated Wood Products; and Digital Products and Platforms.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)			
Health (Horizon 2.1)			
Digital, industry and space (Horizon 2.4)	1,99	0,10	2,09
Climate, energy and mobility (Horizon 2.5)	0,82	7,48	8,30
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		0,83	0,83
Total	2,81	8,41	11,22

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

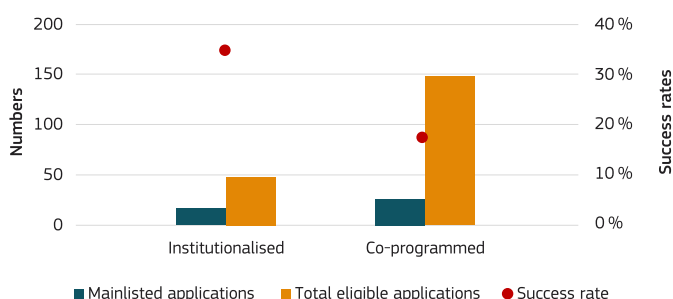
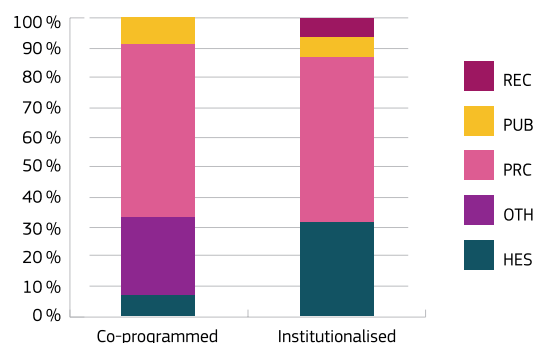


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, instrument.
 HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

Figure 1 shows the number of projects financed versus the proposals evaluated for Institutionalised and Co-programmed Partnerships. Clearly, the success rate is higher in the case of Institutionalised Partnerships, fundamentally because Institutionalised Partnerships are a group of highly directed initiatives, with work programs focused on very specific areas. As such, the number of Croatian companies with the capacity to access the calls is very small.

In Figure 2, the participation of the PRC stands out in both types of partnerships – although the sum of PUB and HES compensates – to reach a balanced position between the sectors dedicated to R&I.

Croatia has a 19 % success rate in Horizon Europe, which correlates with success in partnerships. The plan is to increase this level of success through national measures and calls for synergies.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

There was a steady increase in the number of entities interested in cooperation in H2020 Partnerships. Very good participation of Croatian beneficiaries in the PRIMA Partnership triggered Croatia’s expressed commitment to the new Partnership for Research and Innovation in the Mediterranean Area (PRIMA2).

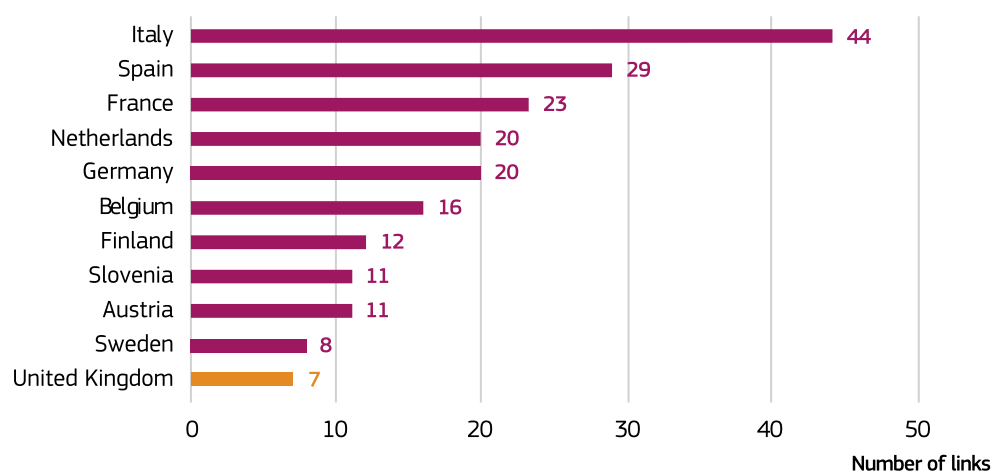
COMPLEMENTARY AND CUMULATIVE FUNDING

National funding agencies have not used other EU Funds for co-funding JTCs, and most JTCs were financed from the national State Budget. In this regard, for the Horizon Europe programme period, Croatia has secured funding from additional EU funds aimed at increasing R&I capacity.

In 2023, The Ministry of Science and Education funded different national calls on R&D under H2020 and European Partnerships, in personalised medicine, water and agri-food systems and supercomputing and data infrastructure areas in the amount of EUR 1 002 928 33.

As such, Croatia plans to announce a permanently open call for synergies between the Horizon Europe and ERDF programme. The call will be intended for programs that achieve the Seal of Excellence, as well as Co-funded and Institutionalised European Partnerships. Currently, the procedure is to create calls and calculate the budget intended for partnerships.

FIGURE 3: Top collaborators with Croatian researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

Croatia does not have a top-down strategy in relation to non-EU country collaborations. Croatia actively encourages its stakeholders to enhance dialogue and cooperation with many non-EU countries – namely the Western Balkans and the Mediterranean, but also all other regions – on the basis of their identified needs and in line with their autonomy to form and enter into collaborative projects.

Croatia has adopted the new Act on Higher Education and Scientific Activity with the following objectives:

1. Creating internationally competitive science.
2. Creation of a socially and economically relevant and internationally recognised higher education system.
3. Restoring trust in the system of research and higher education.
4. Establishment of quality cooperation between science, higher education and economy.
5. Efficient use of resources.

The Act on Higher Education and Scientific Activity promotes international cooperation and research projects. Cooperation with numerous countries and foreign partners with which the Government of the Republic of Croatia and the Ministry of Science and Education have not signed intergovernmental legal acts is realised based on direct inter-institutional agreements.



SUCCESS STORIES

- ✦ Croatia is included in the European initiative EuroQCI, whose goal is to build a secure quantum communication infrastructure that will cover the entire EU. EuroQCI will protect sensitive data and critical infrastructures by integrating quantum systems into existing communication infrastructures, providing an additional security layer based on quantum physics.
- ✦ Croatia is a member state of the Chips JU and the EuroHPC JU, and participates financially in the work of the European Processor Initiative. The Faculty of Electrical Engineering and Computer Science of the University of Zagreb is part of a consortium of 28 of the most prominent European industrial and academic partners participating in this initiative. with the aim of developing next-generation European microprocessors for the efficient computing of future exascale computers.
- ✦ Croatia's financial investment in the European Processor Initiative will be EUR 1,500,00.00

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

As a small economy, we agree with the overall objective of strengthening strategic autonomy of the EU, primarily by stimulating collaborations across its Member States, while simultaneously preserving an open economy.



KEY HIGHLIGHTS

Cyprus has a small but growing R&I ecosystem that plays a limited but slowly expanding role in economic growth. With an R&D expenditure of 0.83 % of GDP in 2021, but now recognised as a Strong Innovator at the EU level (EIS 2022 & 2023), international cooperation has long been identified as a key ingredient for boosting development.

Participation in H2020 has been satisfactory, but the small budget allocated and its fragmentation over a number of partnerships has limited the potential impact on the Cypriot R&I community. Thus, participation in European Partnerships has been more strategic, in order to best serve the needs of the R&I community and at the same time address national priorities, as illustrated by the updated Smart Specialisation Strategy of Cyprus (S3Cy 2030).

Now utilising ESIF funds, Cyprus aims to provide its R&I ecosystem with a number of opportunities across the thematic spectrum in order to enhance its international visibility and competitiveness. This is evidenced by the decision to participate in three further European Partnerships following the initial four of 2021: Driving Urban Transitions, Rare Diseases and Accelerating Farming Systems Transitions

Participating in **7**
European Partnerships
out of 22(*) (32%)

Increased - BMR 2022
value: 25%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnership participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 17 million

in commitments in European Partnerships

Or **0.17%** of total commitments (*)

31% increase since BMR 2022
(EUR 12 million) (**)

EUR 12 367

per researcher FTE(***)

Similar to BMR 2022
(EUR 12 595) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg, and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021, based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Limited funding availability and management/personnel resources, as well as the slight uncertainty regarding the success of ongoing European Partnerships (as most are still at an early stage of their implementation cycle) and the national ecosystem's response to them, means that countries should tread carefully with regards to their investments – especially smaller countries like Cyprus. Thus, Cyprus will periodically assess its participation in ongoing partnerships, while also examining the possibility of supporting future partnerships that generate sufficient interest at national level and are deemed to be aligned with national priorities.

The S3Cy 2015 was reviewed and updated in 2023, and is expected to complement the forthcoming National Strategy for R&I 2024-2026. Future selection of new European Partnerships for participation will be based on their alignment with national priorities.

DIRECTIONALITY

Tourism and Energy were identified as the major priority sectors for future investment in the S3Cy 2015. From the primary sector, Construction, Transport and Health emerged as secondary priority sectors. The Environment and ICT were defined as important horizontal sectors.

In line with the above, Cyprus had initially committed to participate in four European Partnerships under Horizon Europe, focusing on clean energy transition, blue economy, key digital technologies and SME support. The selection of the next three partnerships for Cyprus' participation was also in line with national priorities.

In the revised S3Cy of 2023 – S3Cy 2030 – all seven partnerships are explicitly mentioned, and are expected to play a central role in the development of the respective priority areas.

The data in the following table reveal a significant interest and successful participation in Horizon Europe calls for proposals announced by Institutionalised and Co-Programmed Partnerships of Cluster 4 (such as AI, Data and Robotics, Photonics and Smart Networks and Services) and Cluster 5 (such as Zero Emission Waterborne Transport). Digital technologies, advanced materials and the environment are some of the identified priority areas of the revised S3Cy 2030.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	0,52		0,52
Health (Horizon 2.1)			
Digital, industry and space (Horizon 2.4)	10,49	5,34	15,84
Climate, energy and mobility (Horizon 2.5)	6,71	0,25	6,97
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)			
Total	17,73	5,60	23,32

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

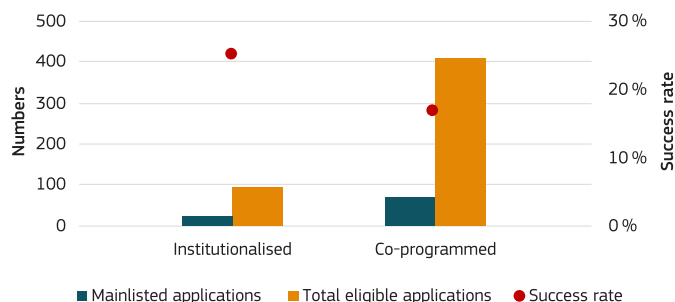
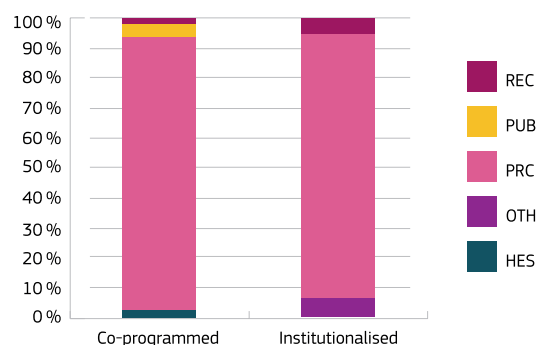


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument. HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

FIGURE 1

The types of European Partnerships included in BMR 2022 were rather different to those included in BMR 2024 and, thus, direct comparison is not possible. However, Cypriot teams have achieved success rates of 17% (Co-programmed) – 25% (Institutionalised), which compares favourably to the 15% – 21% range achieved previously for JUs, P2Ps, and other H2020 projects etc.

FIGURE 2

As reported in BMR 2022, private sector (PRC) involvement in Horizon Europe Partnerships included in this study has increased immensely compared to that in H2020. A staggering 90% of all project beneficiaries so far are PRC (88% in Institutionalised and 91% in Co-Programmed Partnerships), as opposed to 48% reported overall in BMR 2022 (31% for HES). Though the sample is much smaller for the time being and figures may balance out more when Co-funded Partnerships are also taken into account, this is still indicative of the increasing participation of Cyprus’ private sector in R&I activities at the European level.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

So far, Cyprus has been quite successful in Horizon Europe, securing total funding of EUR 157.1 million through 333 signed grants and 140 unique participants. This has been the result of the R&I ecosystem’s quality and pursuit of internationalisation, assisted by an active national NCP system.

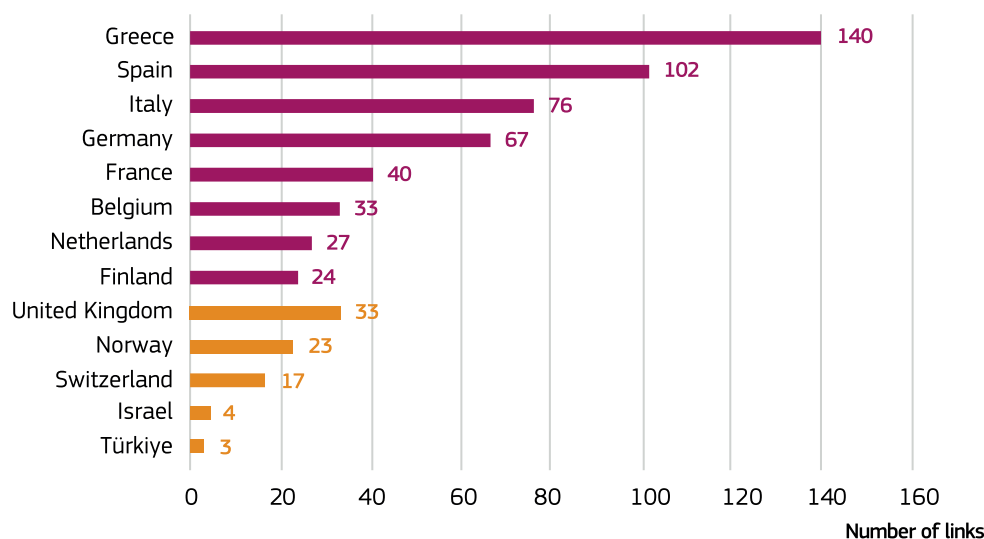
The Research and Innovation Foundation (RIF), the national R&I funding agency, has also announced various national initiatives supporting future – but also exploiting past – participation in Horizon Europe, such as:

- The 2nd Opportunity scheme to help implement excellent ideas not funded by the European Commission (the ERC Starting Grant, ERC Consolidator Grant and ERC Advanced Grant, Marie Skłodowska Curie Actions – Postdoctoral Fellowships, and the EIC Accelerator Programme), and
- The BRIDGE2HORIZON scheme, which aims to strengthen the capacities of Cypriot R&I entities and promote scientific excellence in specific thematic areas of S3Cy 2030, which in turn are aligned with the challenges that the EU seeks to address in the upcoming Horizon Europe work programmes.

COMPLEMENTARY AND CUMULATIVE FUNDING

ESIF 2021–2027 co-funding is being used to support participation in the seven European Partnerships selected under Horizon Europe (and any others to be selected during the course of the programming period).

FIGURE 3: Top collaborators with Cypriot researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

With 728 links in total, Cypriot participants appear to have been involved in extensive networking across Europe (mainly with EU countries) over a short period of time. Cyprus' top eight collaborator countries are the same as those under Horizon 2020 (and in the same order), meaning that Cypriot participants have most likely established strong networks.

Links to a number of Mediterranean countries are evident, which is expected given the existence of traditional inter-regional ties. In this vein, Greece tops the list due to the long-standing collaboration between the R&I communities of the two countries.

The effect of European Partnerships on enhancing networking is already in play. For example, Cyprus and Czechia have recently started working on promoting cooperation between their R&I ecosystems on partnerships of common interest.

Finally, though no specific strategy for non-EU countries/actors is in place, other tools such as bilateral collaboration programmes (involving signing MoUs and announcing joint calls for proposals) are used to promote collaborations with specific countries such as Israel.



SUCCESS STORIES

- ✦ Funding was secured for the development of six Centres of Excellence (CoE) in Cyprus through the H2020 TEAMING scheme. A seventh CoE has since been funded through the respective Horizon Europe scheme. All seven CoE are already developing (or are expected to develop) into R&I technology hubs for Cyprus and beyond, while making significant contributions to relevant partnerships.
- ✦ A National Strategy for R&I 2024-2026 has been developed by the Deputy Ministry for Research, Innovation and Digital Policy (DMRID). This both addresses and promotes the priorities of the government in the field of R&I and the needs and challenges of the national R&I ecosystem. It also oversees and guides Cyprus' participation in future partnerships.
- ✦ The importance of Cyprus' participation in European Partnerships is highlighted in the revised S3Cy 2030, which clearly states: 'Funding of R&I activities in the priority areas will be combined with international collaboration activities and the participation of Cyprus in European Partnerships aiming at creating synergies that further strengthen the research and innovation capabilities of Cypriot companies and research organisations. Such participation includes the rather horizontal in scope: Innovative SMEs (Eurostars-3) and the thematically focused Clean Energy Transition (CETP), Driving Urban Transitions (DUT), Key Digital Technologies (KDT), Sustainable Blue Economy (SBEP), European High-Performance Computing (EuroHPC), Rare Diseases (RD) and Accelerating Farming Systems Transition (AELLRI)'.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Cyprus stands firmly aligned with the overarching policy of European strategic autonomy and is of the opinion that in key areas, participation in partnerships should be limited to preserve technological sovereignty..



KEY HIGHLIGHTS

Czechia sees European Partnerships as a vital tool of Horizon Europe and international cooperation in research, development and innovation in general. In conjunction with the national funding providers and sectorial ministries, Czechia supports the involvement of Czech universities, RTOs and companies in the highest number of European Partnerships possible, as they constitute an excellent opportunity for Czech stakeholders to grow and cooperate with leading European research institutions.

However, given the increasing number of European Partnerships on one hand and national-level budgetary limitations on the other, unfortunately, Czechia is unable to be involved in as many partnerships as it would like. Subsequently, a new Council for International Cooperation in Research, Development and Innovation has been established in order to steer and prioritise Czech involvement in European Partnerships. Despite existing limits, Czechia sees the strategic importance of European Partnerships and participation in them as vital for ensuring sustainable growth and economic competitiveness.

Participating in **11**
European Partnerships
out of 22(*) (50%)

Increased - BMR 2022
value: 35%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnership participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 23 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded Partnerships.

EUR 188 million

in commitments in European Partnerships

Or **1.25%** of total commitments (*)

319% increase since BMR 2022
(EUR 44 million) (**)

EUR 4 382

per researcher FTE(***)

280% increase since BMR 2022
(EUR 1 150) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

In line with the National Research, Development and Innovation Policy of the Czech Republic 2021+ and its priorities, Czechia strives to continuously promote the involvement of Czech researchers and research organisations in the EU framework programmes for research and innovation, including in the European Partnerships instrument. We see the substantial involvement of Czech research teams in European Partnerships as a necessary prerequisite for further boosting the research and innovation performance and in making Czech research, development and innovation landscape more competitive.

With this goal, the Council for International Cooperation in Research, Development and Innovation, comprising representatives of ministries, other funding providers and other relevant stakeholders, was established in 2023. It is expected that it will provide strategic orientations and steer the national discussion in the area of European Partnerships, among others. It shall provide priority guidance in terms of identifying the partnerships to be involved in, which will be in line with Czech strategic documents.

Furthermore, given the nature of the Council and its cross-cutting composition in terms of stakeholders involved, it is expected that it will serve as a basis for discussion on the future FP10. Czechia actively participates in the Partnership Knowledge Hub and its working group in preparation for the PKH Opinion on FP10.

DIRECTIONALITY

The thematic priority areas for national participation within European Partnerships are not limited, and primarily depend on the absorption capacity of the research performing organisations, as well as the financial capacity of the state budget to co-finance their participation

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	0,17		0,17
Health (Horizon 2.1)		0,0038	0,0038
Digital, industry and space (Horizon 2.4)	9,09	5,46	14,55
Climate, energy and mobility (Horizon 2.5)	6,10	33,02	39,12
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		0,79	0,79
Total	15,36	39,27	54,63

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

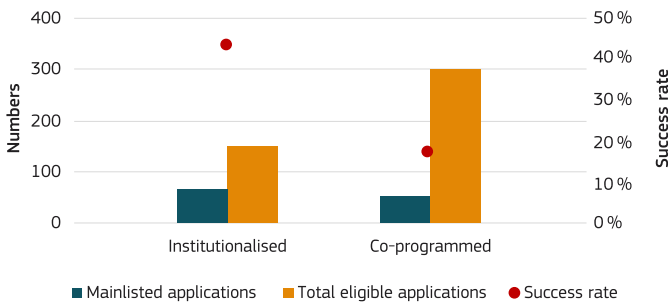
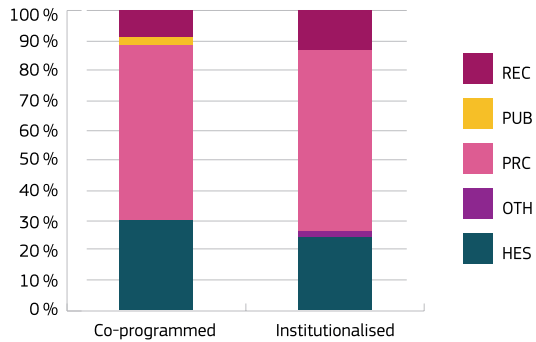


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, instrument.
 HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

The overall success rate of Horizon Europe calls for Czechia is slightly above 20 %. Therefore, a correlation can be seen between the success rate in Co-programmed Partnerships with Horizon Europe calls. On the other hand, the participation in Institutionalised Partnerships, i.e. the JUs, is above average. Indeed, in some of the JUs, it is evident that Czech participants have a solid reputation and often participate in the core groups of project consortia. This is enabled, among other reasons, thanks to existing long-term cooperation with international partners, quality results delivered by the Czech participants in past projects, stability in terms of implementation of the JUs, and stability and predictability of the national co-funding in the tripartite JUs.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

On the national policy-making level, a new strategic approach to international cooperation in research, development and innovation, including participation in EU framework programmes for Research and Innovation, has been implemented in 2023. Its main component is the newly established Council for International Cooperation in Research, Development and Innovation, in which representatives of relevant ministries, agencies and other stakeholders are included. Its aim is to provide strategic guidance and steer the priorities of international cooperation in research, development and innovation. One of its working groups is dedicated to European Partnerships and Missions; the goal of another is to set up measures that will lead to increased participation in EU framework programmes. However, as the Council has been established in 2023, it is too early to identify concrete outcomes of its work.

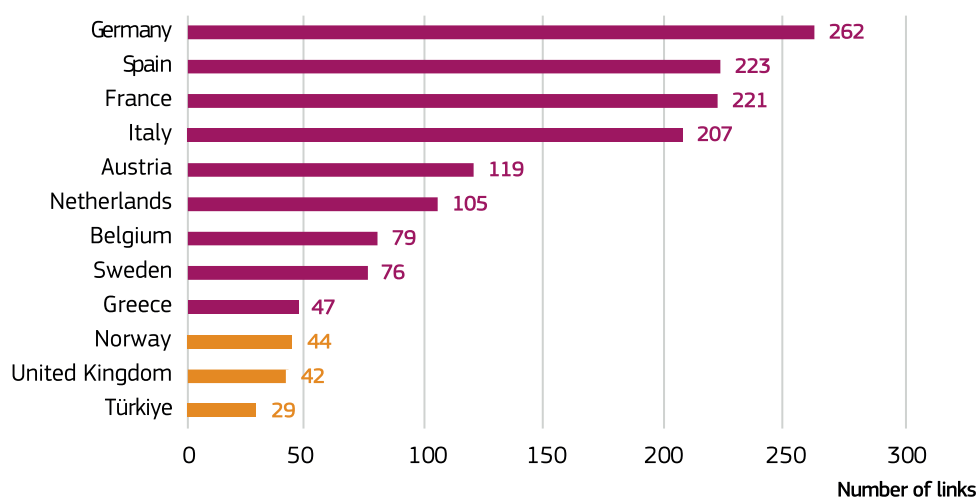
In general, the aim of the Ministry of Education, Youth and Sports – that is, the body responsible for the coordination of international cooperation in research and development, – is to closely link national sectoral policies to the European Partnerships portfolio, and to a broader extent, involve other sectoral ministries that can work as funding providers for Czech participants in European Partnerships. This will establish new links between the policy-making level and stakeholders, allowing them to cooperate even more closely in their respective thematic areas in order to achieve the maximum possible level of impact.

Overall, participation in European Partnerships is seen as a motivating factor for stakeholders, both in terms of financial contribution, but perhaps more importantly, in terms of international cooperation and establishing new and deepening existing partnerships with excellent European research-performing institutions.

COMPLEMENTARY AND CUMULATIVE FUNDING

Czechia highly supports the use of synergies in funding from European, national and regional levels. Through the use of ESIF, excellent research projects with international programmes, including European Partnerships, can be supported. For instance, Czechia utilises the Seal of Excellence for excellent MSCA, ERC, or EIC projects, and provides complementary funding from the ESIF to larger research infrastructures. Usage of ESIF funding for European Partnerships, is, however, rather limited.

FIGURE 3: Top collaborators with Czech researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

The values in Figure 3 reflect both geographical dimensions and excellence in research, development and innovation. The Czech government does not favour partners from any country for cooperation in research, development and innovation; the collaboration patterns are exclusively based on the decision of the project beneficiaries based on the project topic and their expertise.

When it comes to international cooperation, Czechia promotes open, international cooperation in research, development and innovation based on the principle 'open as possible, closed as necessary', and sees international cooperation as one of the important prerequisites for increasing competitiveness and growth of Czech research organisations.

Regarding third countries, Czechia supports open collaboration with like-minded countries, however, it is also well aware of issues such as foreign interference, intellectual property protection, and so forth. Czech authorities are undertaking practical steps aimed at combatting foreign interference, while also sensitising the research community about threats that emerge in this area.



SUCCESS STORIES

- ✦ On a strategic level, the experience acquired so far with European Partnerships has led to the creation of a functional coordination system in the form of the Council for International Cooperation in Research, Development and Innovation, which interconnects the Ministry of Education, Youth and Sports – which executes the central role in the research and development governance system – with sectorial ministries and agencies, in order to better define the needs and the necessities of the national research community and to find more effective forms of supporting the involvement of the research performing organisations into the international programmes and initiatives. The Council aims to provide strategic guidance and steer the priorities of international cooperation in research, development and innovation, while one of its working groups is dedicated to European Partnerships and Missions, and the goal of another is to set up measures that will lead to increased participation in EU framework programmes.
- ✦ Thanks to participation in some partnerships, Czechia established and further strengthened its collaboration with other National Funding Authorities from additional EU Member States and Associated Countries. This encourages better exchanges of experience and examples of best practices in the implementation of European Partnerships and the European Research Area in general.
- ✦ On the level of individual institutions that participate in the European Partnerships, international cooperation is contributing to achieving the expected results, such as broadening the portfolio of cooperation and, above all, enabling research organisations to establish the necessary networks with partner institutions from abroad. The research community could, therefore, benefit from the opportunity to build their international profile. Czechia sees further positive impacts on the development of the research community. For example, the establishment of new university study programmes as a result of international projects and their results, the scaling-up of companies, and the acquisition of new market opportunities. It is therefore evident that participation in European Partnerships has clear added value, and contributes significantly to increasing the competitiveness of Czech research-performing organisations.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Czechia supports the balanced approach to European strategic autonomy and technological sovereignty. Czechia sees the concept as an important tool for safeguarding European interests and competitiveness, and for ensuring Europe's independence in critical technologies. On the other hand, it also acknowledged the importance of cooperation based on reciprocity with like-minded countries who are our long-term partners and share European values and principles.



KEY HIGHLIGHTS

Danish participation in European Partnerships is based on a strategic prioritisation that focuses on the thematic priorities of green transition (climate, energy, environment, recycling, transportation), health, ICT and food/bio.

By maintaining a close dialogue with and involvement of stakeholders (universities, organisations, ministries etc.), Danish participation in European Partnerships is aimed at supporting the national political priorities for science and innovation.

Denmark has committed to participation in all partnerships from the first 'wave' of European Partnerships under the initial Strategic Plan.

Participating in **21**
European Partnerships
out of 22(*) (95%)

Increased - BMR 2022
value: 61.6%

Coordinating **1**
European Partnership
out of 16(**) (6%)

Increased - BMR 2022
value: 2%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 329 million

in commitments in European Partnerships

Or **2.19%** of total commitments (*)

199% increase since BMR 2022
(EUR 110 million) (**)

EUR 7 423

per researcher FTE(***)

195% increase since BMR 2022
(EUR 2 510) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021 based on EUROSTAT data.



KEY INTENTIONS FOR THE FUTURE

Danish prioritisation of and engagement in future partnerships will align with national research and innovation strategies. The general Danish position for the overall portfolio of European Partnerships is that too many partnerships overlap in theme and focus. Denmark is of the opinion that the partnerships should be rationalised, reduced in number, and exhibit stronger, more precise foci.

However, it is highly challenging for Denmark to actively participate in the strategic planning processes for all partnerships and to commit sufficient resources for, as an example, call implementation of Co-funded Partnerships, due to the high number of partnerships, each a R&I thematic programme in its own right. This challenge will be amplified when the number of partnerships is again increased, which will potentially threaten overall Danish participation.

DIRECTIONALITY

National science and innovation funding will focus on green areas such as climate, energy, environment, recycling and transportation. Denmark will also continue to prioritise Danish positions of strength such as health, ICT, digital, industry and food/bio.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	0,44		0,44
Health (Horizon 2.1)	0,07	6,89	6,96
Digital, industry and space (Horizon 2.4)	24,98	4,27	29,25
Climate, energy and mobility (Horizon 2.5)	12,19	14,93	27,12
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		2,14	2,14
Total	37,68	28,24	65,91

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

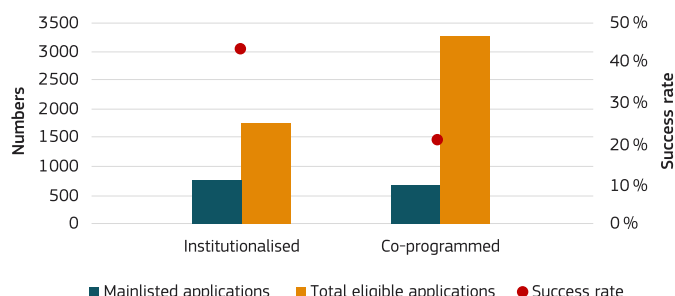
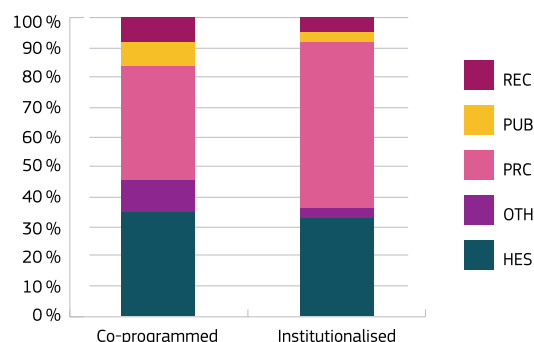


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.
 HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

There are no current Danish examples of the European Partnerships at programme level triggering further national investments or programmes.

COMPLEMENTARY AND CUMULATIVE FUNDING

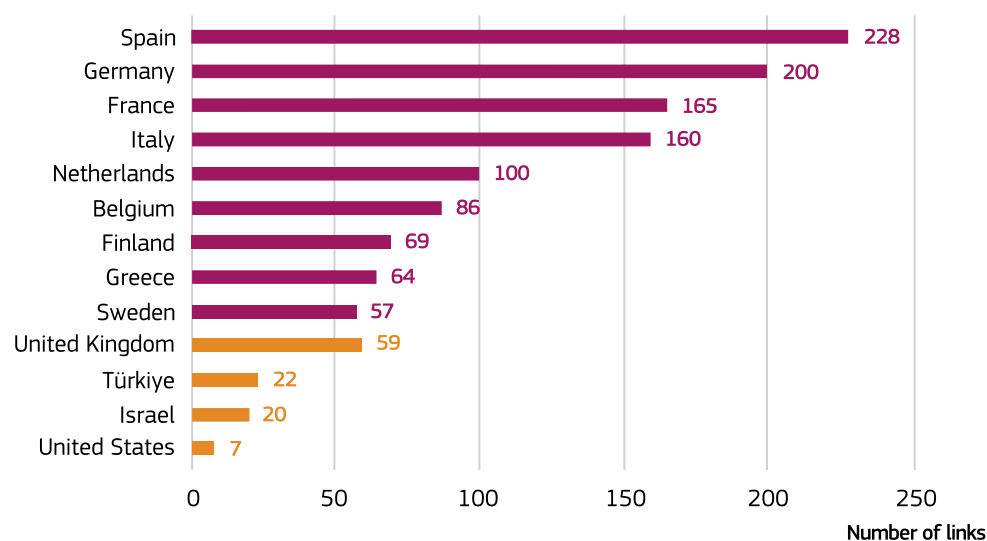
The main financial supporter of Danish participation in partnerships is the Innovation Fund Denmark. Other ministries (environment, transportation, health, etc.) primarily participate in partnerships on an in-kind basis.

An element in the Danish strategy for green science and innovation is the mapping of European funding sources for green science and innovation. The purpose is to secure Danish knowledge and access to international funding that can boost Danish (and European) implementation of green solutions, for instance through European Partnerships.

However, the possibility of directing funding from other EU instruments (such as ERDF) into partnerships has not been put into use, as the relevant national authority is sceptical about the added value of this option.



FIGURE 3: Top collaborators of Danish researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

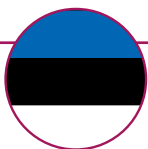


SUCCESS STORIES

- ✦ In 2020, the Danish government launched a new green science and innovation strategy. An element of this strategy is to establish a number of national partnerships or missions focusing on green research and innovation. The new green strategy emphasises that national partnerships should seek international collaborators, and partnerships in Horizon Europe are mentioned as important potential partners. So far, however, these national missions have not yet sought to participate in relevant European Partnerships.
- ✦ Danish stakeholders from universities, research institutions, ministries etc. have been active in the planning phase – particularly for green European Partnerships – coordinating and feeding national input into the partnership consortia via a setup of national sub-groups that gather the different stakeholders for specific areas or partnerships.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

The Danish approach is that international cooperation on R&I is essential to boost R&I leadership and competitiveness in the EU, while adhering to the guiding principle of ‘as open as possible, as closed as necessary’.



KEY HIGHLIGHTS

Compared to H2020, Estonia's participation in new European Partnerships has been more strategic and better aligned with national priorities. Participation is concentrated within the priority areas defined in the Research and Development, Innovation and Entrepreneurship (RDIE) Strategy for 2021-2035. In addition, the national-level co-funding mechanisms were redesigned to allow a wider range of actors to join European Partnerships.

Participating in **22**
European Partnerships
out of 22(*) (100%)

Increased - BMR 2022
value: 51%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded Partnerships.

EUR 32 million

in commitments in European Partnerships

Or **0.22%** of total commitments (*)

198% increase since BMR 2022
(EUR 10 million) (**)

EUR 6 522

per researcher FTE(***)

172% increase since BMR 2022
(EUR 2 397) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021 based on EUROSTAT data.



KEY INTENTIONS FOR THE FUTURE

For the new funding period (2021-2035), Estonia's participation in partnerships will be more strategic, with a primary focus on participation in initiatives related to the focal areas of the RDIE Strategy 2021-2035.

DIRECTIONALITY

In Horizon Europe, Estonia will continue participating in partnerships, with a primary focus on the following priority areas of the RDEI Strategy 2021-2035):

- Digital solutions across all areas of life
- Health technologies and services
- Valorisation of local resources
- Smart and suitable energy solutions
- Thriving Estonian society, language and cultural space.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	0,09		0,09
Health (Horizon 2.1)			
Digital, industry and space (Horizon 2.4)	4,29	1,26	5,54
Climate, energy and mobility (Horizon 2.5)	3,70	5,86	9,57
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		1,38	1,38
Total	8,08	8,49	16,57

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

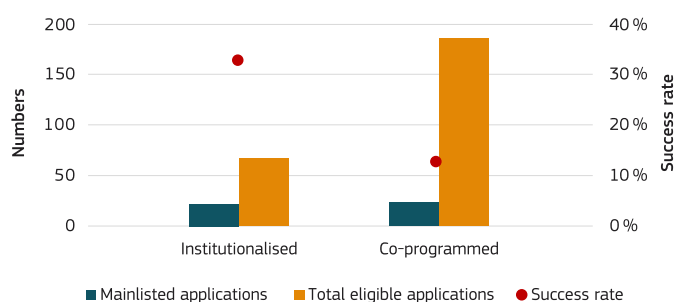
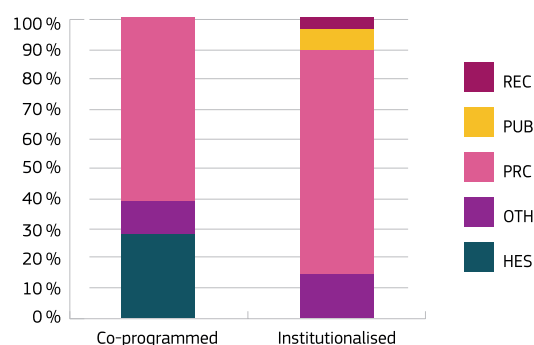


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument. HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

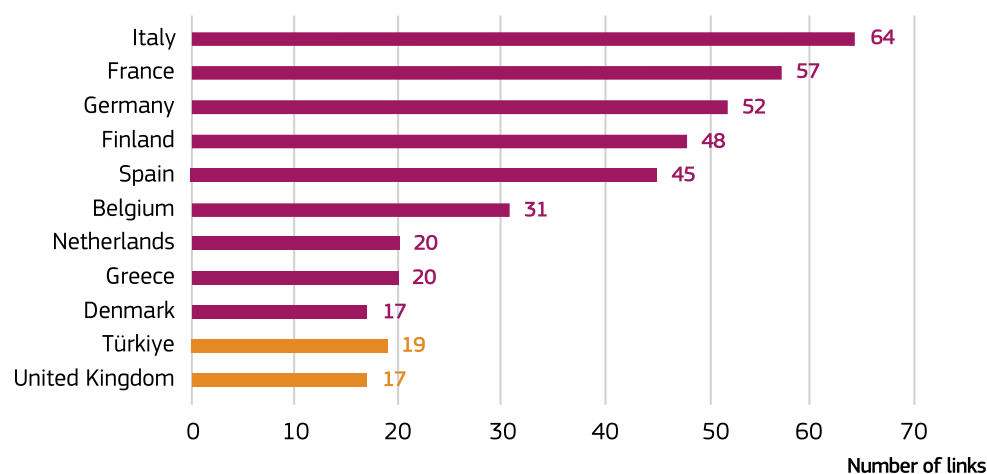
Currently, no additional activities have been detected.

COMPLEMENTARY AND CUMULATIVE FUNDING

- Participating in partnerships has been an example of synergy between different EU programmes: Estonia has supported participation in European Research Area activities (including partnerships) with ERDF, which remains an important funding source in Horizon Europe.
- In Estonia, the sectoral ministries are responsible for their sectorial partnerships. Therefore, the national ministries actively seek co-funding from both national level and EU funding sources.
- During H2020, the ministerial capacity to determine the R&D needs of society has improved considerably due to the active involvement in the strategic planning of partnerships on the national level. In Horizon Europe, six ministries have committed EUR 27 million in support of participation in partnerships and ensuring complementarity of national policy goals with global societal challenges.



FIGURE 3: Top collaborators with Estonian researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

There are some initial plans to engage additional strategic non-EU countries.



SUCCESS STORIES

- +** **Impact on programme design/management:** Participation in H2020 Partnerships has resulted in new national-level funding structures.
- +** **Impact on national coordination mechanism:** The Research and Development Council* revised the national coordination mechanism for new European Partnerships to better fit with the overall (budget) planning at the national and EU level (including the change in data collection timing)

Impact on alignment

- +** The abovementioned revision changed national co-funding criteria to also allow additional new partners to participate in partnership-related projects (e.g. SMEs and regional authorities). The aim is to align national co-funding rules with overall Horizon Europe principles, thereby encouraging different types of participants to engage in the programme).

* The Research and Development Council advises the Republic's government in matters relating to R&D strategy, thereby directing the systematic development of the national R&D&I system.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Addressing European strategic autonomy should not differ in the context of partnerships when compared to principles and procedures that are in place for the rest of the EU Framework Programmes.



KEY HIGHLIGHTS

Finland strategically participates in European Partnerships that play a key role in tackling the targets of the twin transition and recovery from the COVID-19 pandemic. Participation in European Partnerships is considered to be an effective way to build and execute RDI agendas with European partners. The implementation plan of the national Act on Research and Development Funding includes several actions that aim to increase participation in partnerships, such as improved advisory services and increased matching funding.

Participating in **17**
European Partnerships
out of 22(*) (77%)

Increased - BMR 2022
value: 66%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 1%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded Partnerships.

EUR 202 million

in commitments in European Partnerships

Or **1.34%** of total commitments (*)

91% increase since BMR 2022
(EUR 105 million) (**)

EUR 5 047

per researcher FTE(***)

80% increase since BMR 2022
(EUR 2 799) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Finland expects European Partnerships to play a significant role in the future. Partnerships that combine funding from two programmes are viewed as an efficient way to increase the impact of EU funding.

DIRECTIONALITY

Thematically, the weight of participation is in areas such as IT, industry, climate and energy, within which Finland has actively participated since H2020. These themes are also aligned with national policy priorities.



TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	2,08		2,08
Health (Horizon 2.1)		3,54	3,54
Digital, industry and space (Horizon 2.4)	34,40	25,85	60,25
Climate, energy and mobility (Horizon 2.5)	34,65	26,14	60,80
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		7,07	7,07
Total	71,14	62,60	133,73

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

FIGURE 1: Eligible proposals, projects and success rates

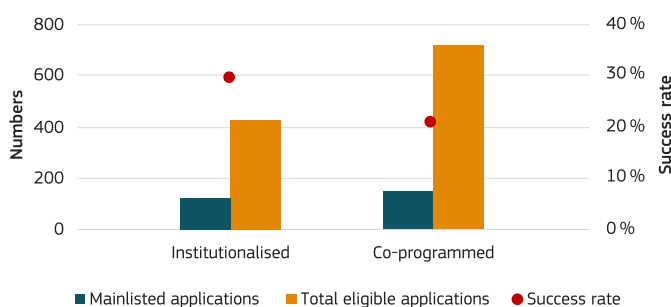
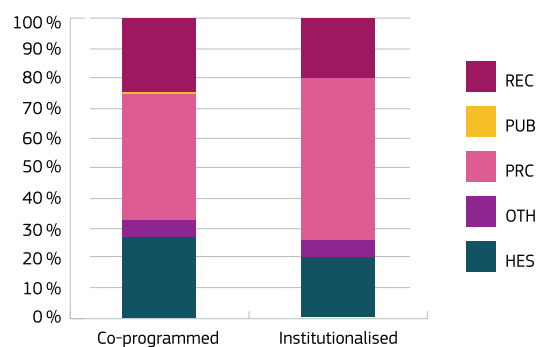


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

In general, success rates have been higher in European Partnerships compared to other instruments. This is an additional positive feature of European Partnerships, as a higher success rate reduces the overall cost of preparing the project proposals.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

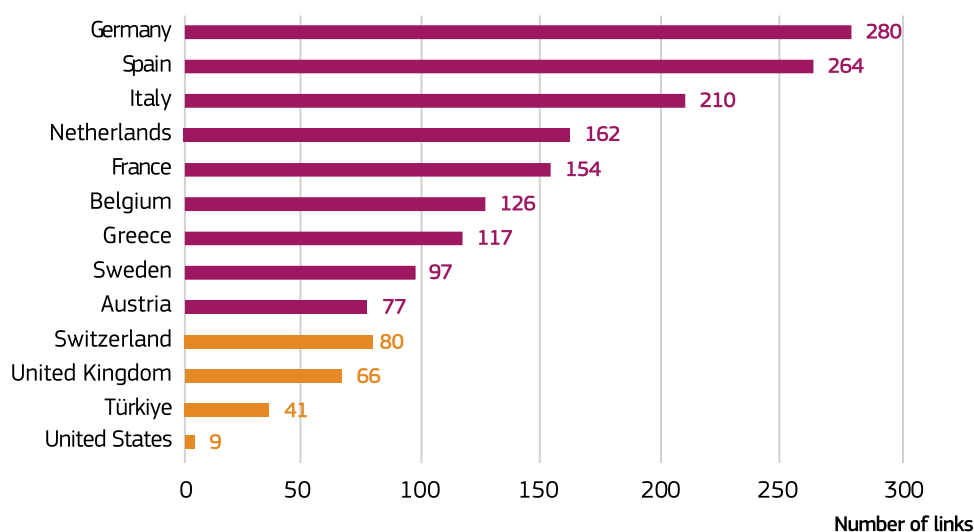
Not available

COMPLEMENTARY AND CUMULATIVE FUNDING

Not available



FIGURE 3: Top collaborators of Finnish researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.



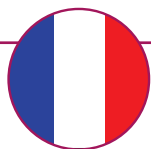
SUCCESS STORIES

- ✦ In the Candidate Partnership on Forests and Forestry for a Sustainable Future (Forest Partnership) planned for the second Horizon Europe strategic plan, Finland continues to lead preparations after coordinating four different ERA-NETs in the forest-based sector since 2004. The six calls implemented during these ERA-NETs were jointly funded by the national/regional organisations managing or funding R&I programmes and the EU (24 countries including 17 Member States) for a total of more than EUR 100 million. The expected initial volume of this co-funded European Partnership on Forests and Forestry Research and Innovation is EUR 233 million, inclusive of the European Commission’s contribution of EUR 70 million.
- ✦ Finnish participation is growing in the Clean Hydrogen Partnership, due to governmental actions like setting a 10 % goal for hydrogen production in Finland, and both national company (Vetyklusteri) and EU (Clean Hydrogen Alliance) activity. The Clean Hydrogen Partnership has been pushing up so-called Hydrogen Valleys where Finland has also been active by establishing the Baltic Sea Hydrogen Valley. EU support to this valley is the biggest in the partnership’s history.
- ✦ Finnish expectations for Key Digital Technologies (KDT) are already high given ECSEL had more than 100 different participating Finnish companies during the H2020 period, with many being SMEs. KDT is expected to offer even more possibilities for cooperation for the Finnish Electronic Components and Systems (ECS) industry, as funding for this new program is almost 50 % greater than it was in ECSEL. The same trend continued when the KDT JU became Chips JU to show the importance of microelectronics in the overall ECS industry in Europe .



ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Not available



KEY HIGHLIGHTS

Not available

Participating in **20**
European Partnerships
out of 22(*) (90%)

Similar to BMR 2022
value: 90%

Coordinating **4**
European Partnerships
out of 16(**) (25%)

Increased - BMR 2022
value: 23%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnership participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 2 345 million

in commitments in European Partnerships

Or **15.55%** of total commitments (*)

587% increase since BMR 2022
(EUR 341 million) (**)

EUR 7 437

per researcher FTE(***)

534% increase since BMR 2022
(EUR 1 172) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Not available

DIRECTIONALITY

Not available



TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	3,53		3,53
Health (Horizon 2.1)	0,44	11,95	12,39
Digital, industry and space (Horizon 2.4)	74,99	71,59	146,59
Climate, energy and mobility (Horizon 2.5)	99,70	324,25	423,95
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		16,95	16,95
Total	178,65	424,74	603,40

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

FIGURE 1: Eligible proposals, projects and success rates

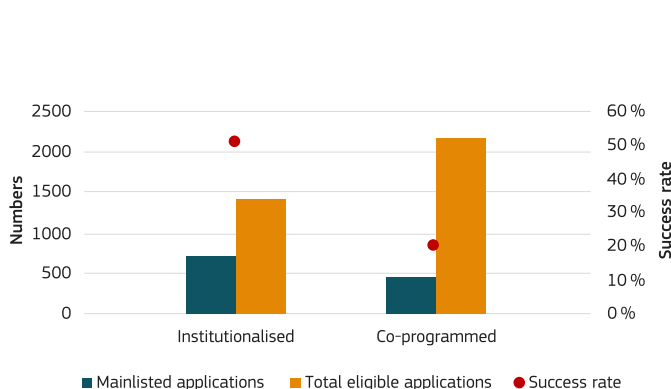
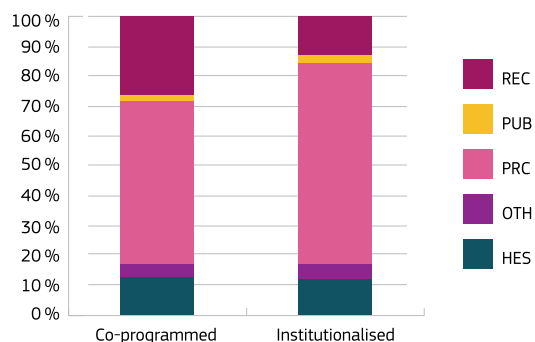


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

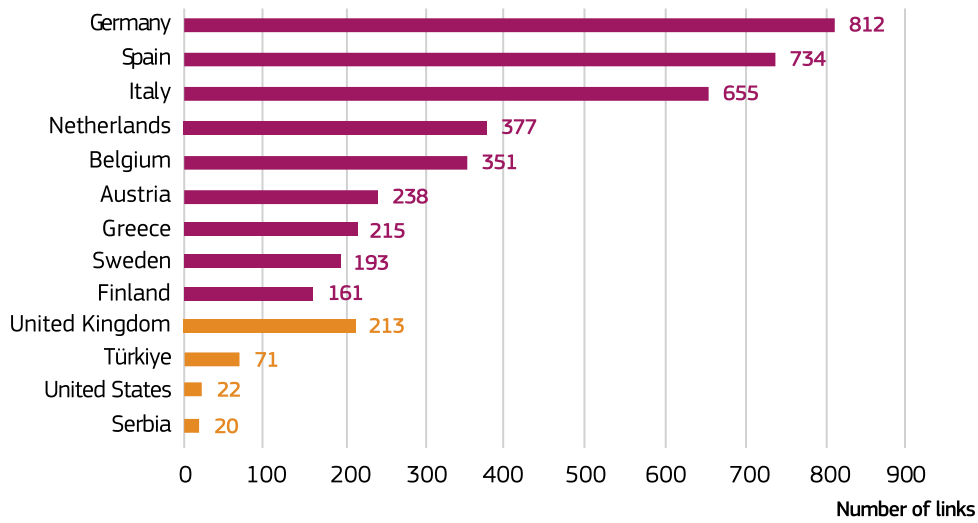
Not available

COMPLEMENTARY AND CUMULATIVE FUNDING

Not available



FIGURE 3: Top collaborators with French researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.



SUCCESS STORIES

Not available

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Not available



KEY HIGHLIGHTS

Germany is strongly committed to the European Partnerships that are engaged in a wide range of research areas covered under the partnership approach. This is reflected by a contribution of around EUR 2.4 billion of public funds to 21 partnerships under the first Strategic Plan of Horizon Europe. German federal and state ministries widely participate in the European Partnerships, as do universities, research institutions and companies. The German partners contribute to the strategic programming of the partnerships. They seek to achieve closer coordination of regional, national and European funding programmes and to advance the current state-of-the-art in each of these thematic areas. Germany provides a coordinated national contribution to the strategic European Partnership process to significantly advance the overall development of the partnership landscape

Participating in **21**
European Partnerships
out of 22(*) (95%)

Increased - BMR 2022
value: 87%

Coordinating **2**
European Partnerships
out of 16(**) (12.5%)

Decreased - BMR 2022
value: 21%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 2 397 million

in commitments in European Partnerships

Or **15.89%** of total commitments (*)

260% increase since BMR 2022
(EUR 665 million) (**)

EUR 5 411

per researcher FTE(***)

230% increase since BMR 2022
(EUR 1 635) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

The German government is committed to continuing its financial contribution to European Partnerships, subject to specific consideration of the thematic areas identified and modes of implementation chosen for the respective partnerships of the second strategic plan for Horizon Europe. Germany aims at an efficient implementation framework for partnerships, the exploitation of synergies between partnerships, missions and other programmes on the European, national and regional level, and the uptake of results by policy, enterprise and civil society.



DIRECTIONALITY

Germany is significantly supporting the implementation of the Institutionalised Partnerships KDT and EuroHPC in cluster 4 of Horizon Europe with its funding programmes, e.g. the Federal Government’s Microelectronics Framework Programme. The overarching goal is to strengthen Europe’s digital sovereignty and increase the competitiveness of European industry. National funding programmes also make a significant contribution to achieving the ambitious goals of the Co-funded Partnerships in clusters 1, 5 and 6 to support ecological transformation, adaptation to climate change and the promotion of health in Europe and beyond.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	5,53		5,53
Health (Horizon 2.1)	0,13	26,76	26,89
Digital, industry and space (Horizon 2.4)	153,72	115,34	269,06
Climate, energy and mobility (Horizon 2.5)	129,63	298,04	427,68
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		7,75	7,75
Total	289,02	447,89	736,91

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

FIGURE 1: Eligible proposals, projects and success rates

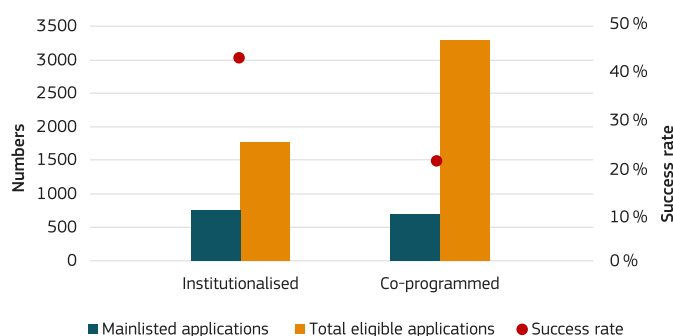
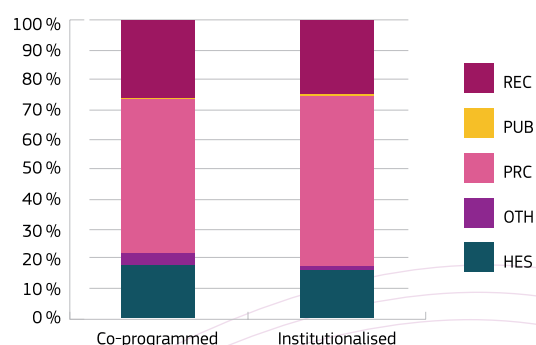


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

The German research and innovation community is successfully participating in calls issued by the European Institutionalised and Co-programmed Partnerships. Companies in particular, but also research and higher education institutes, are highly motivated to collaborate with European and international partners in areas of common European and national interest. By aligning European and national initiatives and consolidating financial resources, both public and private stakeholders are encouraged to seek funding, thereby elevating research and innovation from the national to the European scale.



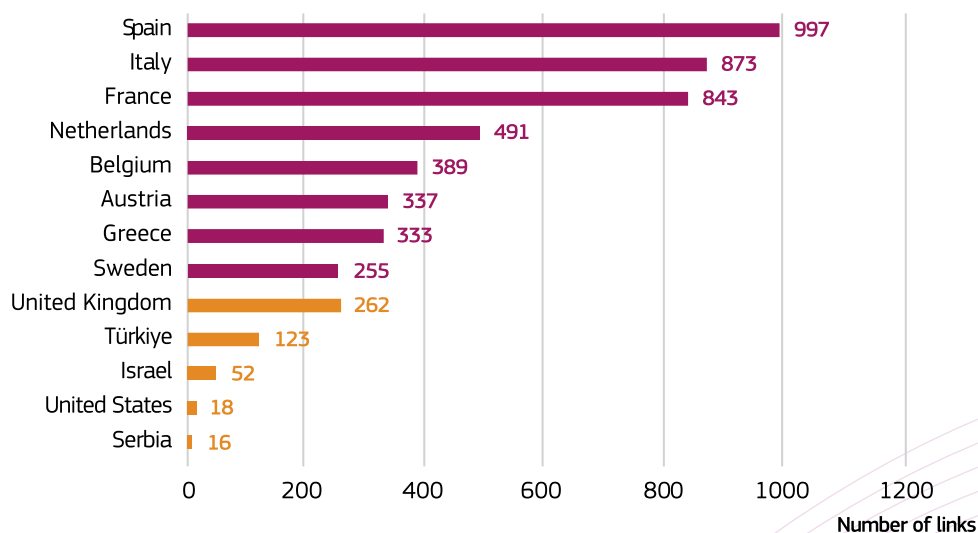
ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

The German federal government's new 'Zukunftsstrategie' (2023) ('Future Strategy') places an emphasis on national programmes and activities that also contribute to the European Partnerships, and to the aims of the EU Missions and other European initiatives across a wide range of thematic areas. The effect of this approach will be to increase the impact of joint research funding. Germany is striving within the European alliance to become a world leader in quantum computing and quantum sensor technology. In the health sector, Germany aims to make decisive progress in the fight against cancer through the implementation of the National Decade against Cancer, the EU Mission against Cancer, the National Cancer Plan and Europe's Plan against Cancer. The National Research Data Infrastructure (NFDI), which contributes to the implementation of the European Open Science Cloud, will be established as the central national infrastructure for networking and harnessing data from science and research

COMPLEMENTARY AND CUMULATIVE FUNDING

The German national contributions to the partnerships stem from five federal ministries, namely those with responsibility for education and research, economy, health, transport infrastructure, and agriculture. The federal state of Saxony provides an example of participation of the regional level (Länder), employing both state and structural funds in the partnerships CETP and PerMed to finance regional beneficiaries in partnership projects. Examples of joint national and regional initiatives also exist. The first exascale supercomputer in Europe will be set up at Forschungszentrum Jülich in 2024, under the EuroHPC JU. EuroHPC JU will provide EUR 250 million while a further EUR 250 million will be invested from national funds, divided equally between the German Federal Ministry of Education and Research (BMBWF) and the Ministry of Culture and Science of the State North Rhine-Westphalia.

FIGURE 3: Top collaborators with German researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

The German government has continuously expanded its European and international cooperation in education, science and research in recent years. The long-standing and robust partnerships with European and Western industrialised nations are progressively being complemented by collaborations with other regional areas that hold significant potential for cooperation with Germany. These areas include the Asian-Pacific region, Africa, the Mediterranean region and Latin America.

In view of the Russian attack on the Ukraine, the long-standing and trusting bilateral research cooperation with the Ukraine will be continued in the best possible way. German institutions are working together with partners from the Ukraine in various projects, which are being funded as part of the EIT HEI initiative. For example, in the INTREPID-HEI project, the German lead partner is working with at least one Ukrainian university as part of the consortium. This project began in July 2022 and will be funded with a maximum of EUR 1.2 million until June 2024.



SUCCESS STORIES

- ✦ Resourcify is Europe's leading digital platform for waste management, enabling companies to monitor waste streams and increase their recycling rates. Founded in 2015, the start-up turned its basic concept into a business case with the help of EIT Climate-KIC and then partnered with EIT RawMaterials to bring the solution to market. Today, Resourcify is used at over 15 000 locations in seven countries and helps corporate customers such as Hornbach and Johnson & Johnson to recycle 50 % more of their waste on average. In 2018, the start-up was honoured as part of the German 'Land of Ideas' competition.
- ✦ The Photonics Partnership promotes close synergies with the EU-wide Photon Hub Europe network, in which German RTOs and clusters are integral members. Through this network, European SMEs gain privileged access to cutting-edge photonics prototyping and pilot production capabilities for developing next generation products. The 'test before invest' approach enables non-tech-savvy SMEs to enhance competitiveness by accessing cutting-edge technology without the financial risk of purchasing expensive equipment.
- ✦ The BMBF and the German Research Foundation are contributing more than EUR 9 million to the first two funding calls in the European Biodiversity Partnership Biodiversa+. Research institutions from Germany were particularly successful in the call on 'Improved transnational monitoring of biodiversity and ecosystem change for science and society', as they are involved in two-thirds of the international research consortia that received a funding recommendation. The funding of 22 additional research projects under the BiodivRestore call, jointly launched by Biodiversa+ and Water-JPI, led to the establishment of a Knowledge Hub for Biodiversity Restoration, integrating knowledge and sharing scientific excellence to support Member States in the development and implementation of the new EU Nature Restoration Law.
- ✦ The Driving Urban Transitions Partnership (DUT) aims to tackle urban challenges through research, innovation and capacity building. Germany is one of 28 partner countries in the DUT and supports the partnership with two federal ministries. Among others, research projects are funded for sustainable urban mobility, such as the TuneOurBlock project from the DUT predecessor initiative JPI Urban Europe. Based on the 'Superblock' concept known from Barcelona, this project is about redesigning street space with people at the centre and with a focus on quality of life, health, social interaction between the population and the quality of public spaces. In 2023, the project brought together 15 European cities in Barcelona for an international superblock meeting and created a joint Superblock agreement.



- ✦ The European Partnership on Smart Networks and Services (SNS) plays a central role in 6G innovation. Germany is involved, to date, in 49 projects in the SNS JU calls in the years 2021-2023, i.e. over 80 % of the projects. With over EUR 53 million, Germany also receives the most funding of all countries participating in the SNS JU. Germany is working together with partners from 22 countries to create synergies through international expertise in the field of smart networks and services and to strengthen Europe's technological sovereignty.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

A key objective of the German federal government's new 'Zukunftsstrategie' (2023) ('Future Strategy') is to secure technological and digital sovereignty and to increase resilience towards sustainable development. Germany's security and competitiveness must be effectively protected against threats arising from intensifying geopolitical competition and an increasing number of cases in which authoritarian states, in particular, disregard the freedom of science and research.

The German government aims to strengthen Germany's and Europe's technological sovereignty by advancing key technologies, taking leading positions internationally, identifying new topics and occupying areas of innovation. This requires the adoption of a systemic, holistic approach. Enhancing the technological and digital sovereignty of both Germany and Europe stands as a key element in advancing the innovation system. This objective requires close collaboration with European and international partners. European Partnerships are just as important as bilateral cooperation with European innovation leaders and Israel to create new and effective research and innovation partnerships, especially with like-minded countries. Germany aims to strengthen transatlantic cooperation and expand cooperation with the USA and Canada in key areas.



KEY HIGHLIGHTS

Following a long-standing and successful participation in more than 25 ERA-NETS, Greece follows the evolution of them in the successor partnership schemes. Overall, the participation of Greece in the European Partnerships under Horizon Europe is considered beneficial as it encourages international networking and the creation of common agendas in R&I, while ensuring relevance with national priorities. Greece showcases an overall increase of active involvement in partnerships and respective work packages, tasks and subtasks. However, the heavier-than-expected administrative load, together with the differences between the timelines of partnership calls and the national funding procedures (including ESIF), have caused delays in implementation. CMFC options would help towards more efficient coordination and implementation.

More specifically, Greece is now actively taking part in 13 ⁽¹⁾ partnerships and has confirmed participation in 2 upcoming ones ⁽²⁾, combining funding sources (ESIF, RRF and national). Furthermore, Greece fully supports the continuation of PRIMA and CHIPS JU, the successor scheme of KDT JU, leveraging these kinds of funds.

Participating in **15**
European Partnerships
out of 22(*) (68%)

Increased - BMR 2022
value: 32%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 90 million

in commitments in European Partnerships

Or **0.60%** of total commitments (*)
105% increase since BMR 2022
(EUR 44 million) (**)

EUR 2 288

per researcher FTE(***)

78% increase since BMR 2022
(EUR 1 285) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021 based on EUROSTAT data.

⁽¹⁾ Co-funded (Innovative SMEs, Biodiversa+, DUT, CETP, Water4ALL, Sustainable Blue Economy, ERA4Health, THCS), Co-programmed (PARC, EOSC), Institutionalised (PRIMA, HPC-JU, KDT-JU).

⁽²⁾ Personalised Medicine, Pandemic Preparedness.

KEY INTENTIONS FOR THE FUTURE

There is currently an on-going internal ministerial consultation and collaboration within the Ministry of Development and the Ministry of National Economy and Finance, which is responsible for the ESIF funds, to define a working plan for participation in the proposed new partnerships (under the second Strategic Plan, 2025-2027). This will always define the future strategy according to the national R&I priorities and especially the National Research and Innovation Strategy for Smart Specialisation (RIS3) and the availability of funds.

DIRECTIONALITY

Greece participates in the first calls of Co-funded Partnerships (Innovative SMEs, DUT, Biodiversa+, CETP, Water for ALL) with national funds. Consistency with the National RIS3 is an on/off criterion for selecting calls and topics to participate in. The priorities of the National RIS3 (2021-2027) defined through the entrepreneurial discovery process are the agrofood chain, environment and circular economy, biosciences-health and pharmaceuticals, transport and logistics, materials-construction and industry, tourism-culture and creative industries, sustainable energy and digital technologies.

The absence of partnership projects in the health area is explained by the limited availability of purely national funds that hindered Greece from participating in the first calls of the health-related partnerships (Era4 Health and THCS). Participation will be accessed in their future calls using ESIF funds.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	7,26		7,26
Health (Horizon 2.1)			
Digital, industry and space (Horizon 2.4)	95,56	37,26	132,82
Climate, energy and mobility (Horizon 2.5)	33,73	37,09	70,82
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		2,30	2,30
Total	136,55	76,64	213,19

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

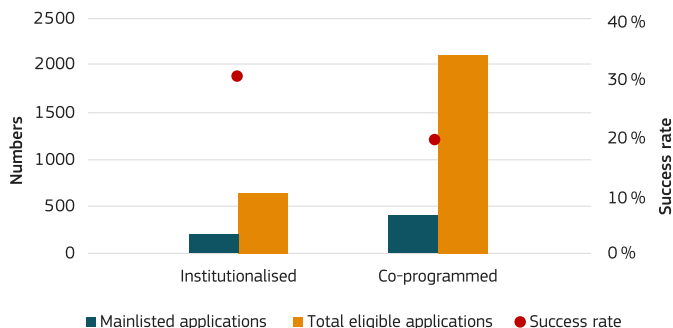
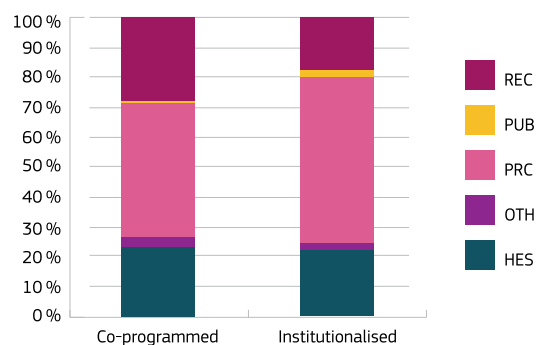


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

Overall, the success rate of the participation of Greek organisations in Horizon Europe calls is 16%. European Partnerships present a higher success rate for green organisations.

The dominance of private entities (PRC) is justified given that they are the main players in Co-programmed and Institutionalised Partnerships.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

The RRF budget was used to fund the 2021 and 2022 calls of EuroHPC and KDT JUs. The response of the national ecosystem (research and academic organisations and private enterprises) was very encouraging, resulting in a large number of successful proposals. However, it also raised an additional heavy administrative load, which may be solved when a central management of financial contributions is applied as provided for in the Single Basic Act for the JUs. Moreover, we witness a steady and growing participation of Greek stakeholders in the calls despite the difficulties arising from limited national funds and the lack of administrative resources at national level. Efforts were made to facilitate national funding and implementation with the introduction of a legal measure enabling a level of harmonisation of the funding procedures.

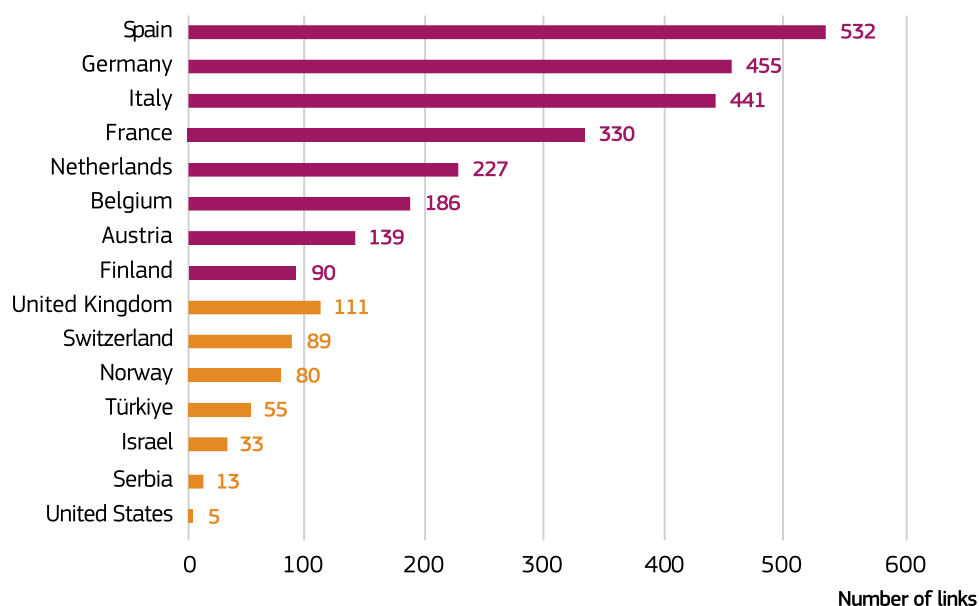
COMPLEMENTARY AND CUMULATIVE FUNDING

The participation of Greece in Co-funded Partnerships is being funded through national and ESIF funds. Greece participated in the 2021-2022 calls of EuroHPC and KDT using RRF funds.

Participation in the forthcoming calls will be funded by the ESIF budget.



FIGURE 3: Top collaborators with Greek researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

Networking and cross border interactions with teams within and beyond EU-27 is strong with Greek teams pursuing and establishing cooperation links also outside the traditional partnerships with countries where Greek diaspora is strong. Such a pattern is also becoming visible in Horizon Europe calls.



SUCCESS STORIES

- ✦ From a funding agency's, or a research-performing organisation's, perspective, PRIMA is a success story because it provides opportunities for cooperation with countries of our immediate neighborhood outside the EU and for addressing research & innovation fields that are not adequately covered in Horizon Europe calls.
- ✦ The partnership's impact has been amplified as the nexus projects are becoming more focused on the local level and offer scale-up at international level dealing with SDGs challenges.
- ✦ For GSRI, participation in EuroHPC-JU (the pilot phase and its successor in Horizon Europe) is also considered a success story despite the administrative burden caused by the setback on the use of the Central Management of Financial Contributions that was foreseen in the relevant regulations.
- ✦ In the pilot phase (H2020), participation of Greece in the 2019 call resulted in eight funded projects with 16 beneficiaries and the beginning of the setting-up of a cross-European network of National Competence Centres in HPC-related topics, with 31 participating members and associated states.
- ✦ EuroCC@Greece is one of the 33 HPC Competence Centres built in the framework of the EuroHPC JU.
- ✦ Also, ACT ERA-NET, in which Greece has participated since 2018, is a successful network which became self-sustained and even launched calls without EU funding and have contributed significantly to Accelerating Carbon Capture Use and Sequestration technologies in Europe and beyond (Canada, the United States and India). Most of its members currently participate in the successor scheme, the CETPartnership.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

We strongly support the Chips Act initiative for the autonomy and sovereignty of Europe in the area of semiconductors manufacturing. Furthermore, the European Chips Act initiated dialogue at national level for a respective supportive national R&D programme in this field.



KEY HIGHLIGHTS

Not available

Participating in **17**
European Partnerships
out of 22(*) (77%)

Increased - BMR 2022
value: 34%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 56 million

in commitments in European Partnerships

Or **0.37%** of total commitments (*)

176% increase since BMR 2022
(EUR 20 million) (**)

EUR 1470

per researcher FTE(***)

120% increase since BMR 2022
(EUR 666) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Not available

DIRECTIONALITY

Not available



TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)			
Health (Horizon 2.1)	0,02		0,02
Digital, industry and space (Horizon 2.4)	1,33	4,18	5,51
Climate, energy and mobility (Horizon 2.5)	2,77	1,91	4,69
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)			
Total	4,12	6,10	10,22

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

FIGURE 1: Eligible proposals, projects and success rates

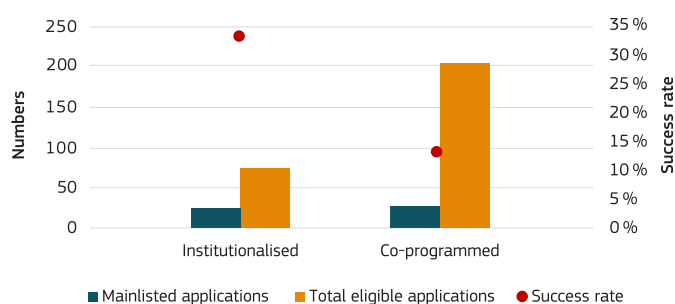
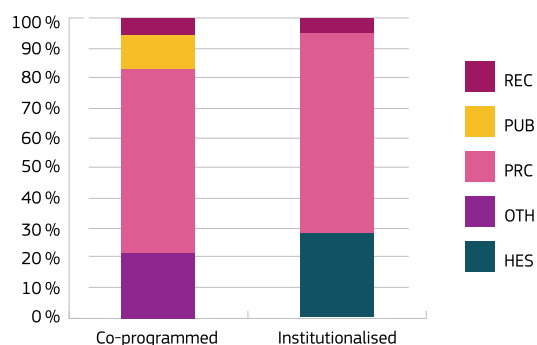


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument. HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

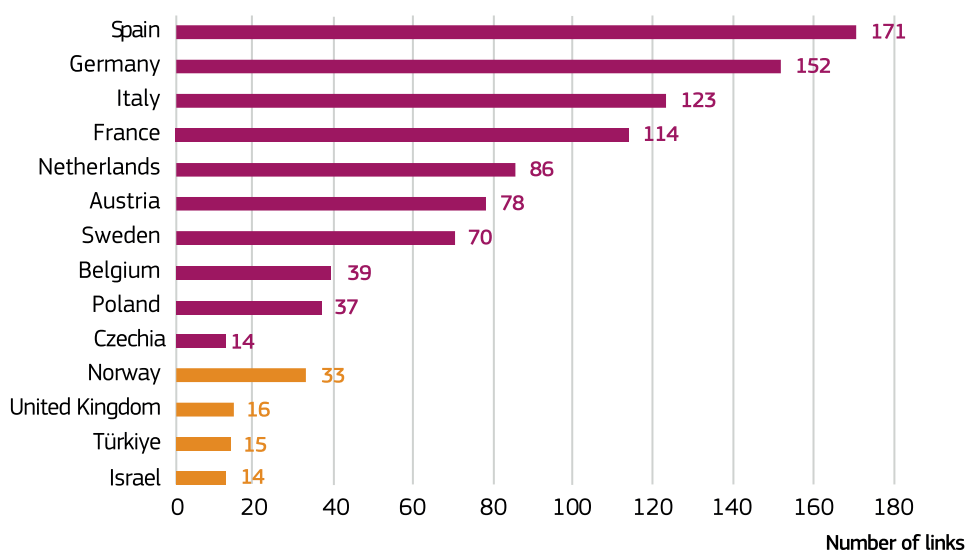
Not available

COMPLEMENTARY AND CUMULATIVE FUNDING

Not available



FIGURE 3: Top collaborators with Hungarian researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.



SUCCESS STORIES

Not available

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Not available



KEY HIGHLIGHTS

Iceland has been committed to participate as actively as possible in the European Partnerships already launched. At national level, the emphasis has been on the fields with strong national backgrounds, such as the blue economy and geothermal/hydropower energy and health. Of the 13 Co-funded Partnerships, Iceland has actively participated in six partnerships represented in these fields, which is to some extent reflected in our thematic success in H2020. This success has, in return, been a boost to national research and innovation activities in these fields – a clear synergy between international and national interests.

Participating in **18**
European Partnerships
out of 22(*) (81%)

Increased - BMR 2022
value: 13%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Decreased - BMR 2022
value: 1%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 19 million

in commitments in European Partnerships

Or **0.13%** of total commitments (*)

141% increase since BMR 2022
(EUR 7 million) (**)

EUR 8 557

per researcher FTE(***)

124% increase since BMR 2022
(EUR 3 819) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers estimated in full-time equivalents (FTE) average between 2017-2021 based on EUROSTAT data.



KEY INTENTIONS FOR THE FUTURE

Partnerships, by design, are resource intensive both financially and administratively and for a small country prioritisation is important. Iceland is of the opinion that partnerships should only be the choice of implementation when it is foreseen that Horizon Europe calls cannot achieve the overall objectives set out in the Strategic Agenda. Iceland will continue to participate in partnerships in the focus areas it has already committed to. Regarding participation in new partnerships, a decision has not yet been made to what extent Iceland will participate.

DIRECTIONALITY

The R&I policymaking body in Iceland has been restructured in the past couple of years. A new law was passed recently, forming a new policymaking body for Science and Innovation. Currently, a new policy recommendation is being prepared by the new body that will define short-term and long-term thematic priorities.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)			
Health (Horizon 2.1)			
Digital, industry and space (Horizon 2.4)	0,55	0,18	0,73
Climate, energy and mobility (Horizon 2.5)	2,48	0,59	3,07
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)			
Total	3,02	0,78	3,80

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

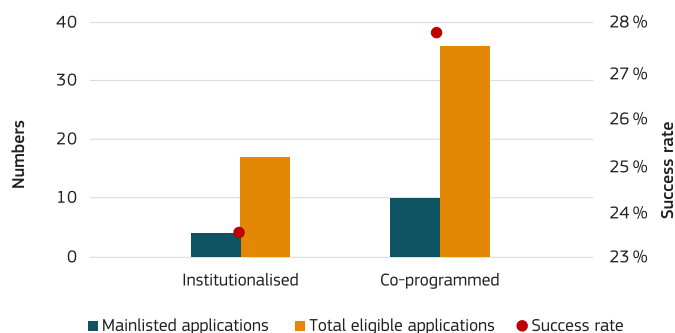
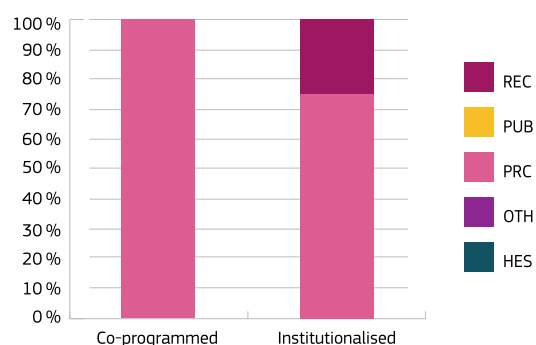


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument. HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

Iceland has mainly focused its efforts on participation in Co-funded Partnerships, which is reflected in low participation in both Institutionalised and Co-programmed Partnerships.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

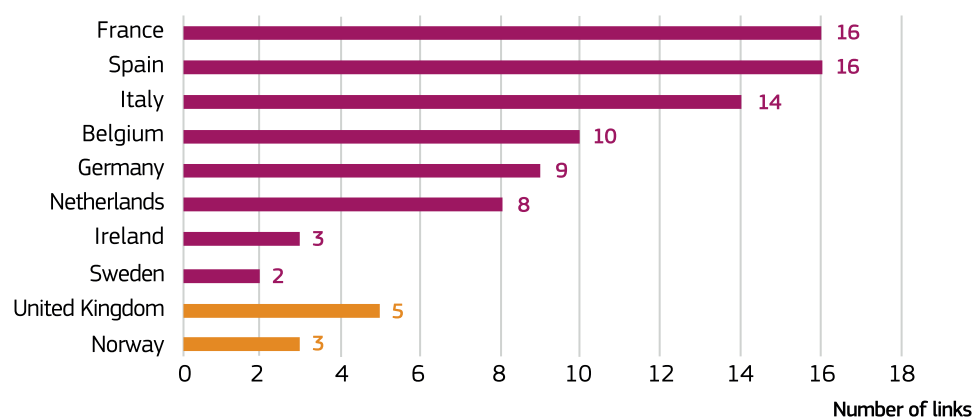
Strong participation by SMEs in partnerships has been facilitated by increased national support through tax incentive schemes. This, in turn, provides further justification for maintaining a generous tax incentive scheme in Iceland.

COMPLEMENTARY AND CUMULATIVE FUNDING

Business expenditure on research and innovation has grown quite significantly since 2014. This has been helped by active participation in European cooperation both through partnerships and research actions under H2020 and improved tax incentives for companies. National funding was increased significantly in response to the COVID pandemic, and this should provide a good basis for continued strong participation by Icelandic companies in future partnerships.



FIGURE 3: Top collaborators with Icelandic researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.

Among non-Member States, the United Kingdom and Norway are traditionally important collaboration partners for Icelandic entities. This is also reflected in the collaborations under Horizon Europe.



SUCCESS STORIES

- ✦ The GEOTHERMICA ERA-NET has been a successful component of Iceland’s strategy to increase and expand international cooperation in this field. This can be seen from the fact that 27 % of the funding to Icelandic participants in H2020 is within the field of secure, clean and efficient energy.
- ✦ Increased national support of research and innovation in SMEs, together with participation in Eurostars, has resulted in a notable success in the SME instrument under H2020. This is an example of good alignment between national and European policy.
- ✦ The Science and Technology Policy for Iceland 2020-2022 shows a clear alignment with European policy and major societal challenges, and the green and digital solutions to them. Active and increased participation in European cooperation is also a key component to that policy which resulted in participation programmes (Digital Europe, Life and Space), in which Iceland has not participated before, and have clear synergy with Horizon Europe and the partnerships.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Through the EEA Agreement, Iceland is fully integrated in the EU’s single market and participates in all parts of Horizon Europe. Iceland recognises the need to safeguard European strategic autonomy and the role of the partnerships to coordinate R&I efforts and, by doing so reducing, the fragmentation.



KEY HIGHLIGHTS

Grand challenges such as climate action, digital transformation, and economic and societal resilience are now centre stage in Ireland's research, innovation and enterprise policy development. Societal challenges feature prominently in Ireland's national R&I strategy, Impact 2030, which is framed as an enabler of social, cultural, ecological and economic innovation. Challenge-driven research is now on equal footing with innovation for economic prosperity, requiring heightened ambition and a renewed focus on international cooperation. Ireland views the potential of Horizon Europe and European Partnerships in the context of the current impact-oriented policy agenda. The steady level of Irish funding and participation rates through multiple Framework Programmes shows that Ireland's research community remains committed to European Partnerships as key vehicles for achieving research goals. Early examples of Horizon Europe success stories are encouraging and create enthusiasm for sustained engagement in European Partnerships, including the new batch of partnerships currently in development.

Participating in **14**
European Partnerships
out of 22(*) (63%)

Similar to BMR 2022
value: 65%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Decreased - BMR 2022
value: 1%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 54 million

in commitments in European Partnerships

Or **0.36%** of total commitments (*)

Similar to BMR 2022
(EUR 54 million) (**)

EUR 2 311

per researcher FTE(***)

Similar to BMR 2022
(EUR 2 275) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Ireland views participation in European Partnerships as a vital means of advancing Ireland's R&I policy goals, as outlined in Ireland's R&I strategy, Impact 2030, as well as contributing to the collective goals of joint European funding on shared societal challenges. Ireland is fully aligned with Horizon Europe's focus on climate action, digital transition and societal resilience, and its participation in Horizon Europe reflects this approach.

Partnerships such as the Sustainable Blue Economy, Biodiversa+, Clean Hydrogen, Sustainable Food Systems and the Clean Energy Transition (CET) will be instrumental in this process, providing the strategic direction and practical insights to enable larger systemic change. Sustained engagement with partnerships will be leveraged to produce societal and economic impacts, in collaboration with global partners in the EU and further abroad. Ireland looks forward to a continued process of rationalisation and streamlining of the European Partnership portfolio in future Framework Programmes, which will reduce administrative burden, increase the participation of smaller Member States and more efficiently progress EU policy priorities.

DIRECTIONALITY

Ireland's engagement with Co-programmed and Institutionalised Partnerships, as illustrated in Table 1, reflects Ireland's strengths in the areas of health, climate transition and agri-food. Ireland's major research-funding departments have a sectoral research strategy, which promotes the areas of strength in Irish research. The European Partnerships are important for the achievement of these strategies, in both advancing the sectoral research agenda and providing the evidence base for policy development.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	0,14		0,14
Health (Horizon 2.1)			
Digital, industry and space (Horizon 2.4)	23,24	12,00	35,24
Climate, energy and mobility (Horizon 2.5)	5,66	11,19	16,85
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		1,03	1,03
Total	29,04	24,22	53,26

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

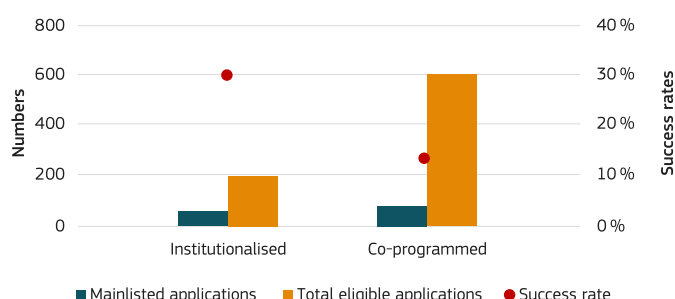
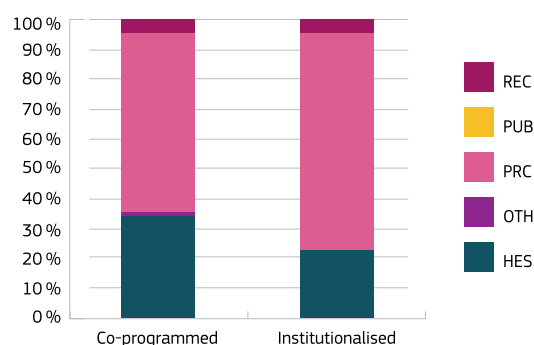


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, and instrument. HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

Comment: Figure 1, Evolution since BMR 2022 of success rates per partnership type and Figure 2, Evolution of SMEs involvement for specific country if possible.

The success rates for Ireland are 30 % for Institutionalised Partnerships and 13.5 % for Co-programmed Partnerships. As is to be expected, these partnership types are attractive primarily to private industry, with a small but integral contribution from higher education institutes. The success rates for Co-programmed Partnerships are lower than the average for Irish participants across the entire Horizon Europe programme. Ireland continues to support increased openness in European Partnerships to improve the opportunities available to smaller Member States.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

European Partnerships are at a very early stage of implementation, and as yet, there has been little time for downstream effects to manifest. However, one notable example of early impact is that the Health Research Board has launched the Rare Diseases Research and Innovation Catalyst Awards, laying the groundwork for further engagement with the European Joint Programme on Rare Diseases (EJP RD). The scheme will provide EUR 3 million in stimulus funding to create a more supportive environment for rare disease R&I. This will be used to expand capacity in both physical infrastructures and human capital, including early-career trainings and network building to promote clinical trial readiness.

In Ireland, many departments and agencies engaged in partnerships as research funders have a dual role in policymaking. Ireland’s national R&I strategy is working towards further integration between research and public policy, and the learnings from partnerships will play a role in the formation of policy and programmes. For example, the 2023 Joint Transnational calls in ERA4Health have a defined policy component, which is informing policymakers in Ireland’s Department of Health.

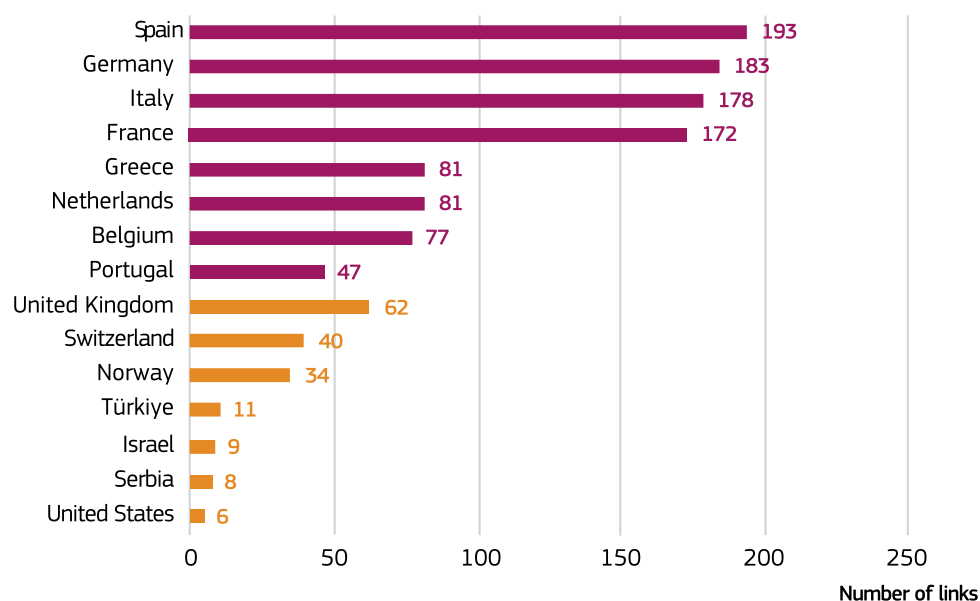
COMPLEMENTARY AND CUMULATIVE FUNDING

In Ireland, sectoral ministries are responsible for sectorial partnerships within the wider government framework for international R&I activities led by the Department of Further and Higher Education, Research, Innovation and Science. As such, ministries actively seek co-funding from national-level funding sources – and also from other EU funding sources – to contribute to the fulfilment of Ireland’s R&I policy objectives.

As a net contributor, Ireland does not utilise the structural and cohesion funds for R&I purposes. Synergies between national, Horizon Europe and other European funding sources are at a low level. Designing synergies into EU programmes would assist in this regard.



FIGURE 3: Top collaborators with Irish researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

As a small, globalised economy, Ireland actively pursues collaboration opportunities with a range of partners, including Member States, Associated Countries and Third Countries. Many of the most challenging problems are global in nature, and leveraging transnational research collaborations is vital in addressing such challenges. Ireland views European Partnerships as having a key role to play in this regard, allowing Irish researchers, industry and higher education institutions to tap into European and global networks in pursuit of innovative and transformative solutions.

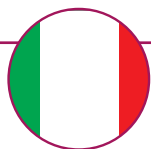


SUCCESS STORIES

- ✦ European Partnerships, currently in a preliminary stage, are paving the way for large-scale societal and economic impacts at both pan-European and Member State levels. In Ireland, for example, the Sustainable Blue Economy Partnership is currently implementing the first of several work packages, aimed at producing lasting benefits to Irish coastal communities and increased data-driven national marine policy.
- ✦ While system-level impacts are only beginning to coalesce, individual economic success stories are already evident. For example, InnoGlobal is an Irish company that places digitalisation and sustainability at the heart of high-tech manufacturing and creates strategies for industry 5.0 transitions. Under the Made in Europe Partnership, they have become a key member of the ONE4ALL project, which will produce sustainable and human-centred collaborative robots for use in the agri-food and pharmaceutical industries. InnoGlobal will assist with software and hardware development, as well as the assessment of sustainability and digitalisation elements. Beyond the project, this collaboration will allow InnoGlobal to deepen its connections to European markets, scale up research and leverage new industrial applications for future growth.
- ✦ Ireland is currently developing new governance and advice structures for R&I to enhance cross-government coordination and action, including oversight of Ireland's participation in European Partnerships.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Ireland's commitment to international research collaboration has been strengthened in the Global Citizens 2030 strategy published in January 2024, which seeks to expand research ties with an explicit focus on promoting European values and identity. The continued integration and expansion of the European research sector, with a common vision of open strategic autonomy, will be the key focus for advancing the global impact of Irish research. This new global approach will also be used for regional development, whereby European Partnerships are leveraged to deepen inter-regional research networks with other EU Member States. In line with the Horizon Europe regulations, Ireland supports an international collaboration framework that is as open as possible, while incorporating necessary exceptions that safeguard European strategic autonomy.



KEY HIGHLIGHTS

With respect to H2020 partnerships where a bottom-up approach has been used, in Horizon Europe, the identification of the themes where a partnership was needed, followed a more strategic and top-down approach.

In parallel with the definition of Horizon Europe, Italy defined its own National Research Programme 2021-2027, taking into account national priorities and needs, and the new European Framework Programme. National participation in European Partnerships has been included in this overall strategic planning, giving Italy the possibility to align its participation in European Partnerships with national strategies and thus sensibly increase its financial commitment and take up leadership roles in two of them. Italy's participation covers the entire European Partnerships portfolio to date, involving both the Ministry of University and Research as a general funding agency, and ministries dealing with sectoral policies (i.e. Ministry of Health, Ministry of Agriculture, Ministry of Industry) to ensure full alignment.

Participating in **22**
European Partnerships
out of 22(*) (100%)

Increased - BMR 2022
value: 78%

Coordinating **2**
European Partnerships
out of 16(**) (12%)

Increased - BMR 2022
value: 4%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 1 141 million

in commitments in European Partnerships

Or **7.56%** of total commitments (*)

448% increase since BMR 2022
(EUR 208 million) (**)

EUR 7 284

per researcher FTE(***)

385% increase since BMR 2022
(EUR 1 501) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Due to the dimension of its research and innovation landscape with specialisations in various disciplinary fields, Italy is participating in all Co-funded Partnerships currently ongoing and plans to participate in the partnerships in preparation under the second Strategic Planning. The strategic areas of interest are deep-technology, innovative materials, climate change and climate science and clean energy technologies.

DIRECTIONALITY

European Partnerships are contributing to mobilising investments in the sectors that better reflect the specialisations of the national research and innovation ecosystem. In particular, while public investment has a prominent role in mobilising the research system concentrating additional competitive resources on specific areas, the Institutionalised Partnerships demand private investment to focus on key strategic priorities to strengthen the national industrial basis and innovation capacities. The participation of Italian R&I actors in the governance of the European Partnerships, and namely in the industry-driven ones, allows the integration of national priorities in the broader European framework and, conversely, to play a role in the agenda-setting at EU level. The figures in the table confirm Italy as a manufacturing country with a strong industrial basis and an emerging role in clean energy technologies to support the decarbonisation pathways.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	4,38		4,38
Health (Horizon 2.1)	0,25	2,91	3,17
Digital, industry and space (Horizon 2.4)	140,22	56,60	196,82
Climate, energy and mobility (Horizon 2.5)	75,45	192,61	268,07
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		8,90	8,90
Total	220,30	261,03	481,33

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

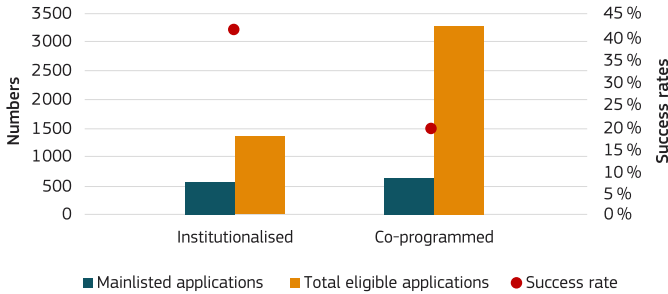
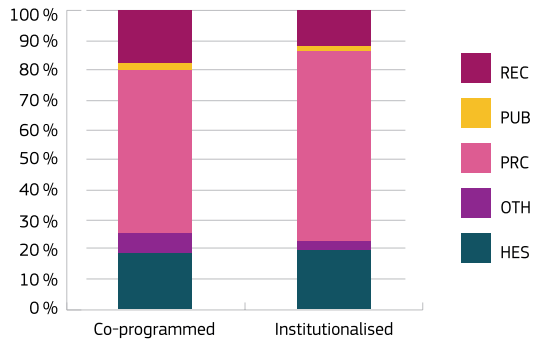


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, and instrument. HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

The higher success rate (close to 42 %) in the Institutionalised Partnerships, compared to the average success rate in Horizon Europe (19.4 % average success rate for Italy in Horizon Europe), is an important indicator of the effectiveness of the partnership instrument for the integration of national priorities at EU level.

Institutionalised and Co-programmed Partnerships, which are mainly industry-driven, confirm as important levers to engage the private sector and mobilise private investment. The opportunity they offer to co-design R&I priorities is particularly valued by Italian stakeholders and results in significant participation.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

At both the EU and international level, Italy is among the best performers in research, as assessed by the commonly used key performance indicators such as the number of scientific publications and citation indexes. The share of national scientific publications as a product of international cooperation (ranking fourth after France, the United Kingdom and Germany), testifies the integration in the international research landscape. However, turning excellent scientific results into innovation and impact, demands additional measures to bridge the gap between research and innovation. Partnerships are potential instruments to foster links between research and industry, in particular the Institutionalised Partnerships where there is a strong industrial involvement, and this is leading to promising results at the national level with increased research-industry collaborations.

To accompany this process, Italy is focusing first on consolidating the innovation ecosystems at the national level. A set of coordinated targeted measures have been set forth in the context of the National Recovery and Resilience Plan to create the enabling framework for a new system of collaboration research-to-industry to strengthen research, innovation and technology transfer value chains in key technology areas (EUR 4.3 billion investment). The objective is to stimulate deeper collaboration between universities and research centres with large companies and SMEs.

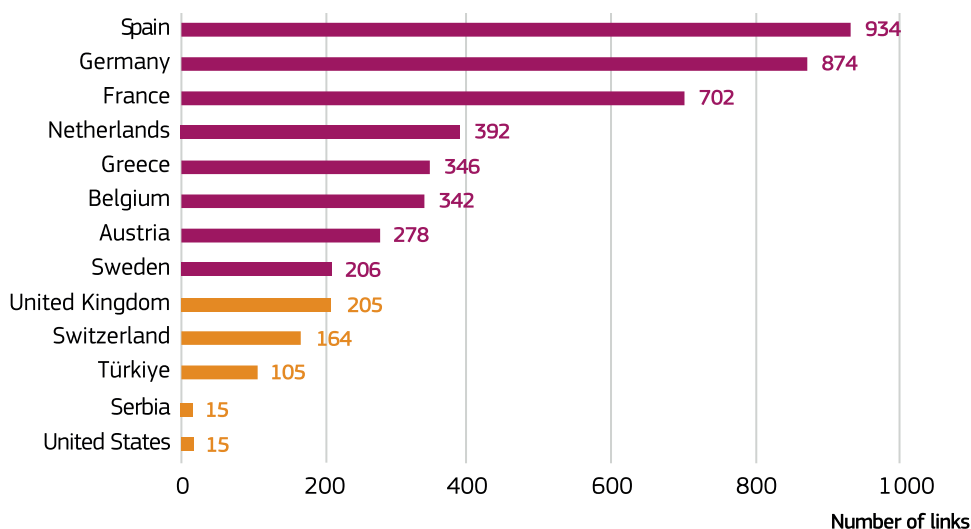
Although these measures are not related directly to European Partnerships, we expect that both levers, i.e. the measures to create national ecosystems and the partnerships, will operate in a synergetic way where national measures build capacities and enabling conditions, and partnerships are bringing in projects and results for further valorisation.

COMPLEMENTARY AND CUMULATIVE FUNDING

Partnerships are stimulating an increased and synergic cooperation among different ministries, including some that have been only marginally involved in European research activities in the past. This will result in additional investments either directly co-funding research projects and supporting new projects, or with improved additional activities.

Partnerships are triggering a synergic use of different funds, such as national/regional funds, cohesion funds (ERDF) and the Recovery and Resilience Fund (RRF), to create more opportunities for Italian researchers to participate in European projects. At present, Italy plans to commit approximately EUR 200 million of ERDF funding as its national contribution in the European Partnerships and has already committed EUR 200 million of RRF funding in selected partnerships whose objectives align with the National Recovery and Resilience Plan.

FIGURE 3: Top collaborators with Italian researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

Due to its geographical position and historical background, Italy considers the Mediterranean as a priority area of cooperation in research and innovation with third countries. In this regard, the partnership instrument has been a fundamental scheme to create a strategic partnership with southern Mediterranean countries (i.e. PRIMA).

At EU level, partnerships confirm and strengthen the integration of the Italian R&I system primarily with Germany, France, Belgium and the Netherlands due to the integration of national values and innovation chains in this geographical area, and the consolidation of a Mediterranean network of collaborations with Spain and Greece. Even though partnerships may encourage the widening of the collaboration spectrum beyond usual partners, the actual network reflects the predominance of consolidated relations over the creation of new interactions.

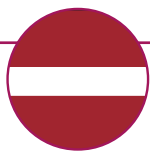


SUCCESS STORIES

- ✦ Streamlined funding framework: after the institution of a dedicated Directorate General for the internationalisation of research and a new funding framework to simplify participation in European Partnerships, additional simplification measures are being implemented. The objective is to align national procedures to the Horizon Europe framework, thus lowering the administrative burden on beneficiaries and reducing the differences between national funding schemes in the European Partnerships.
- ✦ Leadership roles in European Partnerships: Italy is coordinating two European Co-funded Partnerships — the Sustainable Blue Economy Partnership (SBEP) with MUR, and the Transforming Health and Care Systems (THCS) with the Ministry of Health, thus testifying to an increased engagement in the partnership instrument as a mean to align national priorities and concentrate investment in strategic areas.
- ✦ Concerning the SBEP, the objective is to enforce synergies with other European Partnerships and the EU Mission ‘Restore our Ocean and Waters’. A specific objective at the national level is to valorise and bring, as an added value to the partnership, relevant national assets and unique research infrastructures such as the Leonardo high performance computer and the Laura Bassi vessel for marine, ocean and polar research.
- ✦ Alignment: thanks to the opportunities provided by the partnerships, the dialogue and coordination among different ministries has increased, even if complete alignment is still far from being achieved (mainly due to the different sources of funding). The commitment of the RRF in strategic European Partnerships has contributed to aligning national R&I priorities at EU level.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Italy's position mirrors EU strategic orientations as defined in the Global Approach to International Cooperation. We do acknowledge the necessity and the importance for Europe to have a consistent level of strategic autonomy in key technology areas such as digital, high-performance computing and energy. This is reflected in the high level of financial commitment in the related European Partnerships such as the Clean Energy Technologies Partnership, EURO HPC and the Chips JU (formerly KDT JU), where Italy has concentrated a consistent share of its overall budget overall allocated for European Partnerships.



KEY HIGHLIGHTS

Having a strong link with the National Research and Innovation Strategy for Smart Specialisation (RIS3) is essential for participation in European Partnerships. It also contributes to the development of policies for a smart and green Europe, energy independence and efficiency, and increasing resilience and security in the region. Latvia has been an active participant in Member State initiatives and a leader in the Baltic region, thus its European Partnerships optimally follow on from earlier activities in program-level coordination such as the ERA-NET, ERA-NET+ and ERA-NET Co-fund.

Participating in **19**
European Partnerships
out of 22(*) (86%)

Increased - BMR 2022
value: 49%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 39 million

in commitments in European Partnerships

Or **0.26%** of total commitments (*)

19% increase since BMR 2022
(EUR 33 million) (**)

EUR 10 415

per researcher FTE(***)

9% increase since BMR 2022
(EUR 9 551) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Latvia is looking to intensify its participation in Co-funded Partnerships corresponding to the RIS3 strategy, and in Co-funded Partnerships of high national relevance to cultural heritage.

An absolute priority for Latvia is a Co-funded Partnership on innovative materials, continuing the M.ERA-NET success.

It has become evident that, for countries similar to Latvia, the Co-funded Partnerships are fostering the way towards integration into the ERA.

Latvia is planning to join new partnerships from the second Horizon Europe strategic plan, in addition to its existing participation on Innovative Materials, Brain and Forests and Forestry partnerships, all three of which correspond to RIS3. Latvia also envisages participation in the Cultural Heritage and Raw Materials partnerships, which are overlapping partnerships in the field of Social Sciences and Humanities (SSH).

DIRECTIONALITY

According to mid-term planning documents, Latvia is planning to contribute EUR 19 million of national funding to Co-funded Partnerships, EUR 15 million from the ERDF towards Institutionalised Partnerships and program-level collaboration, and EUR 5 million will be contributed from other sources, including in-kind contributions by sectorial actors. This way Latvia can fund RIS3 and, in exceptional cases, non-RIS3 partnerships in fields relevant to economic transformation.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)			
Health (Horizon 2.1)			
Digital, industry and space (Horizon 2.4)	0,91	2,30	3,21
Climate, energy and mobility (Horizon 2.5)	1,77	0,80	2,57
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		0,25	0,25
Total	2,68	3,35	6,03

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

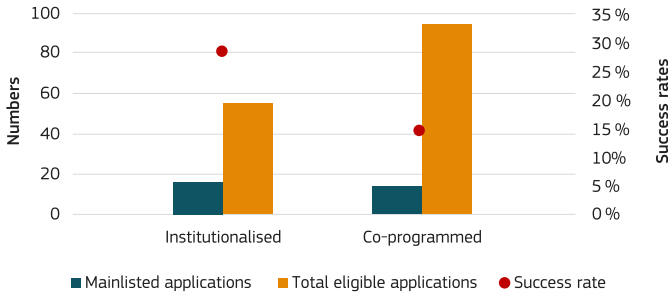
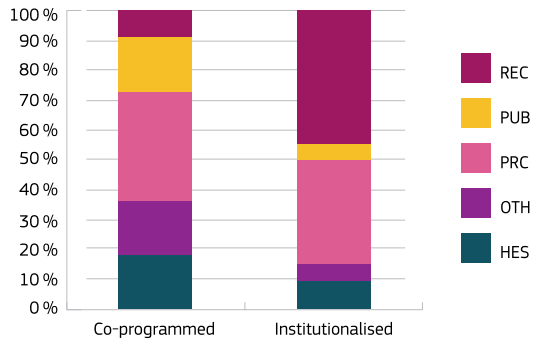


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, and instrument.
 HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

Participation in Institutionalised Partnerships is very focused and explains their high success rate.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

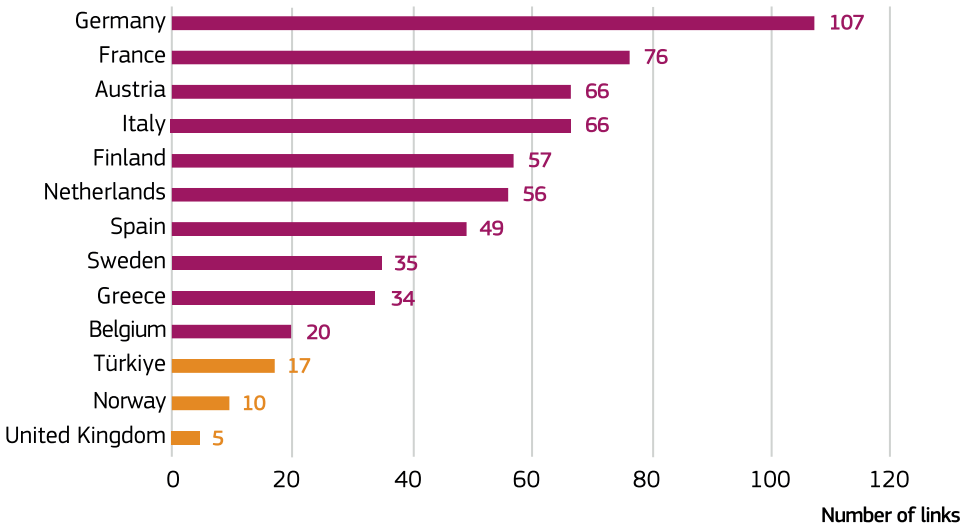
Latvia is planning to support, with EU structural funds, the preparation of high-quality proposals for Horizon Europe, including European Partnerships

COMPLEMENTARY AND CUMULATIVE FUNDING

Latvia is planning to use ERDF funding for Institutionalised Partnerships.



FIGURE 3: Top collaborators with Latvian researchers under European Partnership projects and links with selected third/Associated Countries.



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.

As was the case for the ERA-NETs, Latvia will continue to support the participation of the United Kingdom, Japan, Australia and the United States in European Partnerships.



SUCCESS STORIES

- + Latvia’s participation in the Driving Urban Transitions (DUT) and transforming Health and Care Systems (THCS) partnerships, where three proposals will be funded in each of them, demonstrates the high competitiveness of Latvia’s integrated IT sector, and its good links with startups and industry in general.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Latvia is co-funding proposals in areas where the EU strategic autonomy is of importance.



KEY HIGHLIGHTS

Lithuania's participation in the new European Partnerships has been designed on the analysis of country research potential and participation in H2020 co-fund instruments. National funding mechanisms seek to align national research funding with the European Research Area (ERA) policy priorities, the European Social Fund (ESF) and Recovery and Resilience Facility (RRF), where special dedicated national-level funding instruments for Horizon Europe acceleration were created.

Joining the European Partnerships will create opportunities for the national research community to conform to European strategies and ERA standards. This will significantly help to achieve the objectives of the National Research Development Programme, which is a long-term programme until 2030. The country's legal and financial efforts will focus on challenges such as strengthening human resources and competencies to develop high-quality science and research-based technologies, building high-level scientific knowledge that enhances the country's competitiveness, building science-intensive businesses and strengthening science and business cooperation, and the development of an entrepreneurial culture in research and study institutions, strengthening the potential of participation in international R&D programmes.

Under the National Recovery and Resilience Plans (NRRP), the Ministry of Education, Science and Sports created a tool aimed to encourage science and business participation in Horizon Europe and other international R&D funding programs.

For the period 2022–2023, Lithuania has joined five new Co-funded Partnerships with the Ministry of Agriculture being a new funder for three of them.

Participating in **17**
European Partnerships
out of 22(*) (77%)

Increased - BMR 2022
value: 31%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 38.7 million

in commitments in European Partnerships

Or **0.26%** of total commitments (*)

336% increase since BMR 2022
(EUR 8.8 million) (**)

EUR 3 988

per researcher FTE(***)

297% increase since BMR 2022
(EUR 1 002) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017–2021 based on EUROSTAT data.



KEY INTENTIONS FOR THE FUTURE

Lithuania will continue participating in European Partnerships, with primary focus on priority areas of smart specialisation, which are in line with the strategic goal set in the National Progress Plan to move towards sustainable economic development based on scientific knowledge, advanced technologies, and innovation and increase the country's international competitiveness:

- health technologies and biotechnology
- new production processes, materials and technologies;
- information and communication technologies.

DIRECTIONALITY

Using the European Partnerships as an instrument, the objectives of closer integration to the ERA and overcoming the lack of international dimension in national science and research projects, is deemed to facilitate the innovation potential of research results.

For the new funding period 2021-2027, Lithuania's participation in partnerships is more strategically oriented to the national R&D and R&I priorities. This participation is primarily focused on priority areas of smart specialisation.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)			
Health (Horizon 2.1)			
Digital, industry and space (Horizon 2.4)	4,55	0,81	5,36
Climate, energy and mobility (Horizon 2.5)	0,77	1,30	2,07
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)			
Total	5,33	2,10	7,43

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

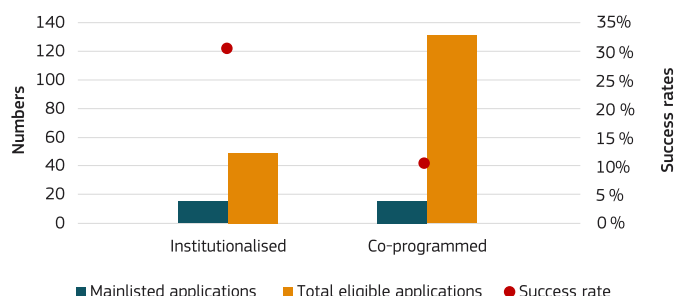
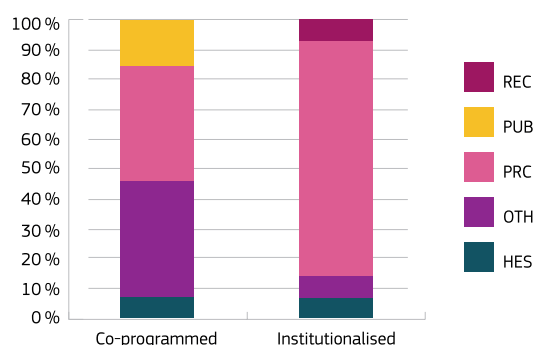


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, and instrument. HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

Half of the applicants in the European Partnerships are from higher education and research sectors. This is perceived as an excellent instrument for closer integration to ERA and overcoming the lack of international dimension in national science and research projects. The same applies to the national industry and SMEs performing R&I, which mainly apply to the Co-programmed Partnerships.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

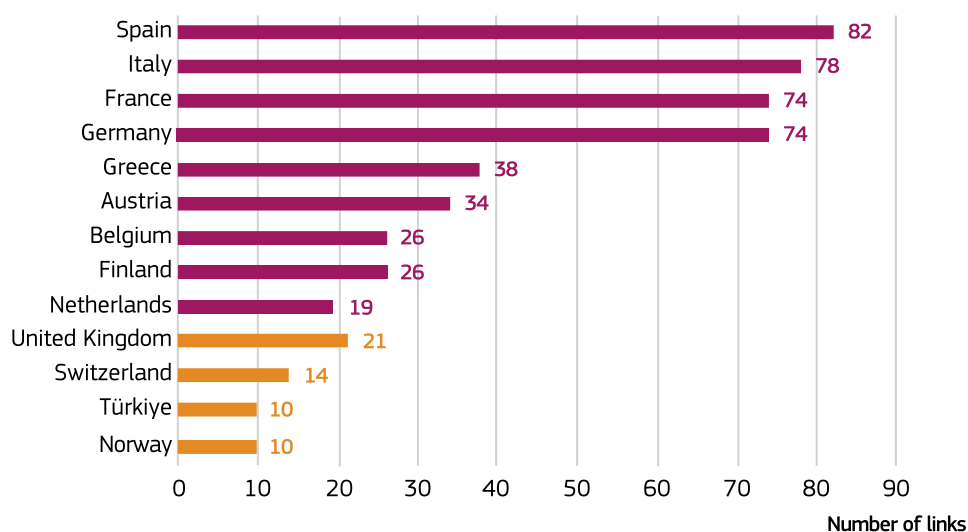
Lithuania’s participation in H2020 co-funded schemes was designed to align thematic priorities according to nationwide Science and Research Programmes and was funded from the national budget. This allowed reinforcement of local research objectives and strengthened the local research community’s focus on internationalisation.

COMPLEMENTARY AND CUMULATIVE FUNDING

For Horizon Europe, three ministries (Ministry of Science, Education and Sport, Ministry of Energy and Ministry of Agriculture), have committed to supporting participation in partnerships with approximately EUR 15 million and ensuring complementarity of national policy goals with global societal challenges. The Research Council of Lithuania (the main national research funding body), is designated to join and finance Co-funded Partnerships. Since the Research Council has not been nominated as an intermediate body for the European Regional development Fund (ERDF), the funding is provided from the national budget. Some projects or activities of Institutionalised Partnerships, such as EuroHPC and Metrology are funded from the ERDF. Additionally, funds from the RRF, under the dedicated Horizon Europe EIC Accelerator tool and national science advancement programme run by the Ministry of Education, Science and Sports, are being used to encourage and motivate the research community to join international projects.



FIGURE 3: Top collaborators with Lithuanian researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

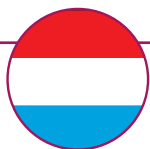


SUCCESS STORIES

- **Impact on management:** joining European Partnerships has resulted in new national-level structures for funding. For example, the Ministry of Agriculture has joined three cluster 6 partnerships addressing agriculture themes, the Ministry of Health decided to follow and learn from the Transforming Health Care Systems partnership activities, and the Ministry of Energy is planning to allocate additional funds for national research aligned with the Clean Energy Transition Partnership.
- **Impact on national administration mechanism:** the Ministry of Education, Science and Sport, together with dedicated agencies and other sectoral ministries, revised the national coordination mechanism for the new European Partnerships to better fit with the overall (budget) planning at national and EU levels.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Not available



KEY HIGHLIGHTS

Participation in European Partnerships has been targeted, and used to maintain collaborative networks, which are now coalescing into projects in other parts of the framework programme. National schemes offer complementary opportunities for international collaborations. The decision to participate in a specific partnership is based on a number of factors, most importantly the critical mass of researchers in the country and the workload associated with the administrative duties of the participation, which are both critical elements for a small country.

Participating in **3**
European Partnerships
out of 22(*) (13.4%)

Decreased – BMR 2022
value: 21%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 6 million

in commitments in European Partnerships

Or **0.04%** of total commitments (*)

74% decrease since BMR 2022
(EUR 24 million) (**)

EUR 2 056

per researcher FTE(***)

76% decrease since BMR 2022
(EUR 8 672) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.



KEY INTENTIONS FOR THE FUTURE

Due to the specific characteristics of Luxembourg, it will participate in partnerships in areas where there is a critical mass of researchers, such as the health research domain.

DIRECTIONALITY

Public partnerships have been used prominently in the area of health research, in accordance with the significant investment of the government in that area. Digitalisation and green transition are key priorities in the country; the research areas associated to these priorities are integral parts of Luxembourg's economy and feature a high degree of private participants. As an example, the Luxembourg Hydrogen Strategy is strongly aligned with the priorities of the Clean Hydrogen Partnership, and since its publication, participation in the partnership has increased significantly.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	0,19		0,19
Health (Horizon 2.1)	0,29	4,35	4,63
Digital, industry and space (Horizon 2.4)	12,51	3,09	15,60
Climate, energy and mobility (Horizon 2.5)	3,45	0,25	3,70
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		0,52	0,52
Total	16,44	8,21	24,65

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

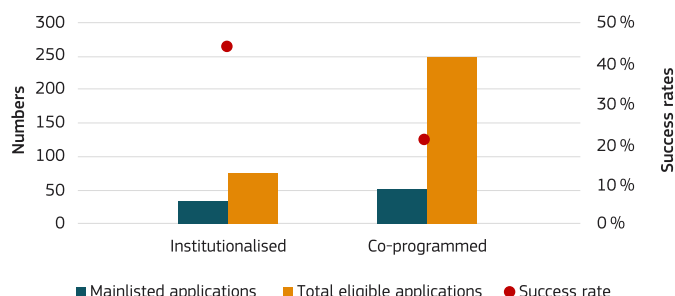
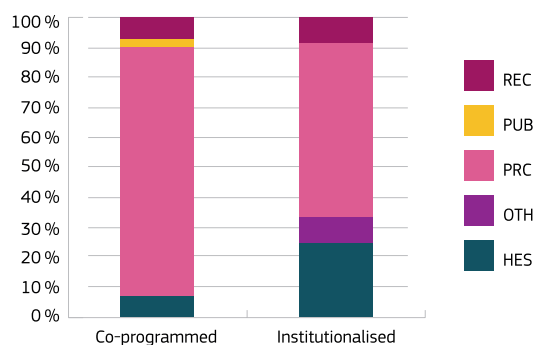


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, and instrument. HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

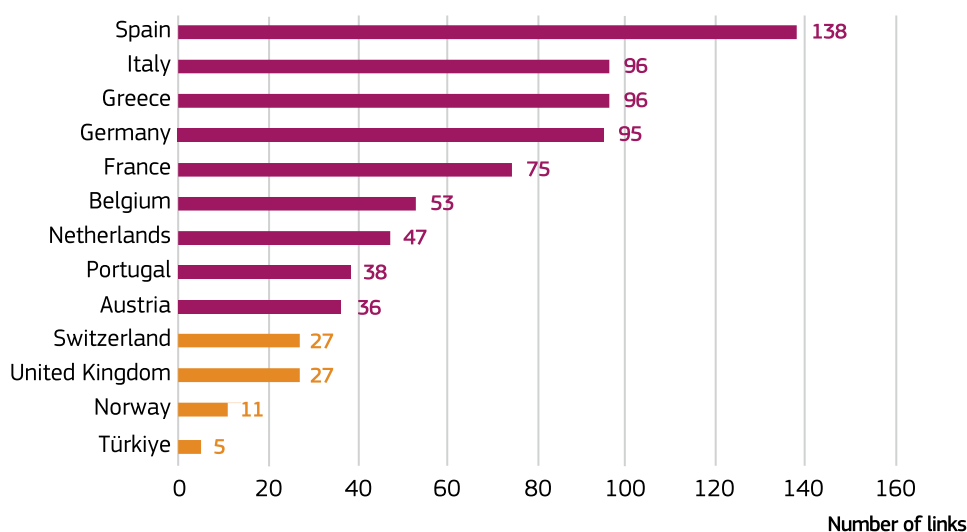
Luxembourg has a high overall success rate under Horizon Europe. The participation in an Institutionalised Partnership is, in particular, very successful due to punctual participation by stakeholders that have clear priorities and unique selling propositions that are particularly relevant for the calls. Figure 2, shows that Luxembourg has an above-average participation of the private sector, due to a significant share of specialised private companies active in the field. This happens in general. In Institutionalised Partnerships, participation tends to be relatively in line with the overall figures, while it is stronger in Co-programmed Partnerships due to the strong alignment of the industrial sectors active in Luxembourg with the priorities of the partnerships in clusters 4 and 5.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

Partnerships are complemented by additional national funding instruments that support bilateral and multilateral RDI projects, some of which are follow-up projects or initiators of EU-funded projects.

COMPLEMENTARY AND CUMULATIVE FUNDING

Public research centres that are the most successful in Horizon Europe, including those participating in Co-programmed and Institutionalised Partnerships, can receive an additional research funding bonus.

FIGURE 3: Top collaborators with Luxembourg researchers under European Partnership projects and links with selected third/Associated Countries

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic and topic description, and instrument.

Two main directions of collaborations can be seen for Luxembourg, the first towards southern Europe, with the three top collaborating countries being Spain, Italy, and Greece, and the next three being its surrounding countries, which can help foster common geographical priorities (e.g. mobility corridors).



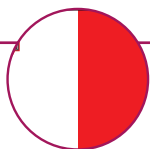
SUCCESS STORIES

- + Overall, participation in European Partnerships has contributed to structuring the national RDI landscape. Health-related partnerships, for example, have contributed to the consolidation of that domain, which has only been defined as a national priority area a little over 10 years ago. For example, national flagship projects such as the National Centre of Excellence in Research on Parkinson's Disease (NCER-PD) have been complemented by participation in the JPND and other Horizon Europe programmes.
- + National strategies such as the Data-Driven Innovation Strategy for the Development of a Trusted and Sustainable Economy, as well as the National Research and Innovation Strategy, are strongly aligned with, and complement, participation in partnerships such as EuroHPC, whose offices are also established in Luxembourg.
- + Other relevant partnerships, in the areas of clean steel, hydrogen, energy transition and process industries, are also strongly aligned with key industrial sectors in the country and the national priority of sustainable development.
- + As a very recent success story, the LuxHyVal project, supported by the Clean Hydrogen JU, launched a flagship hydrogen valley in Luxembourg to boost the penetration of hydrogen. This is done by deploying green hydrogen initiatives across the entire value chain from local production to utilisation, including storage and distribution for a range of applications targeting industry and mobility, while aiming to connect with existing/planned infrastructures. The project includes 19 partners from seven countries (six from Europe plus Australia).



ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Not available



KEY HIGHLIGHTS

Malta continued strengthening its participation in European Partnerships by substantially increasing its available national budget. In Horizon Europe, Malta's participation was strategic. By following Malta's research and innovation gaps and by consulting with relevant ministries and stakeholders, and also seeking alignment with Malta's Smart Specialisation Strategy 2021-2027, Malta identified the most relevant partnerships, those which are now implemented and administered by the Malta Council for Science and Technology, the Energy and Water Agency and Malta Enterprise.

Participating in **4**
European Partnerships
out of 22(*) (18%)

Increased – BMR 2022
value: 7%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 referred to H2020 Partnerships participation data.

(*) Out of the 49 partnerships, 22 are relevant for countries' participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 8.4 million

in commitments in European Partnerships

Or **0.06%** of total commitments (*)

112% increase since BMR 2022
(EUR 4 million) (**)

EUR 8 753

per researcher FTE(***)

93% increase since BMR 2022
(EUR 4 522) (**)

Source: EC and country commitment letters.

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of the Co-funded Partnerships, the respective figures from the Grant Agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30 % of the EU top-up and 50 % for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from the countries Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the share of change since the last BMR, the pre-call contributions were considered instead of the actual national contributions to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Malta is dedicated to providing ongoing support to various stakeholders and entities through national funding for the entire duration of the pertinent European Partnerships. Additionally, Malta is committed to actively participating in the call Steering Committee meetings, where decisions are made to ensure the protection and prioritisation of applicants, including those based in Malta, whenever feasible. The Malta Council for Science and Technology (MCST) plays a proactive role in multiple work packages within partnerships such as Transforming Health and Care Systems, Clean Energy Transition, and Sustainable Blue Economy. This involvement includes responsibilities related to call monitoring and quality assurance.

Moreover, Malta ensures its engagement in activities organised by these partnerships and strives to include key national stakeholders and specialists whenever possible. This comprehensive approach underscores Malta's commitment to fostering collaboration, supporting stakeholders, and actively contributing to the success of European Partnerships.

DIRECTIONALITY

Malta continues its participation in partnerships with primary focus on the following priority areas: sustainable blue economy, health systems and technologies, clean energy transitions, digital technologies, high performance computing, water management, and agriculture and food systems, while remaining updated of current national advancements and priority areas within such sectors by engaging with key stakeholders.

The existing plans outlining prospective thematic areas align with the latest smart specialisation strategy, offering a snapshot of Malta's economic, research, and innovation potential at the time of publication. Given Malta's status as a microstate with a highly open economy, stakeholders unanimously acknowledge the potential for substantial changes in the economic landscape over the next seven years. Consequently, while the current thematic areas are defined, there is a recognition that future thematic areas are subject to determination.

Despite the evolving nature of Malta's economic landscape, the commitment to participating in partnership initiatives remains steadfast. Ongoing discussions about the second wave of partnerships indicate Malta's continued involvement in shaping collaborative efforts. Moreover, the national financial commitment to support these partnerships is assured until 2027, underscoring Malta's dedication to sustaining and strengthening collaborative endeavours. Efforts are underway to enhance financial support for partnerships, reflecting Malta's proactive approach to fostering enduring and fruitful collaborations beyond the current timeframe.

TABLE 1: Distribution of funding based on the EU net contribution in partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)			
Health (Horizon 2.1)			
Digital, industry and space (Horizon 2.4)	1,29		1,29
Climate, energy and mobility (Horizon 2.5)	0,23	0,34	0,57
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)			
Total	1,52	0,34	1,86

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

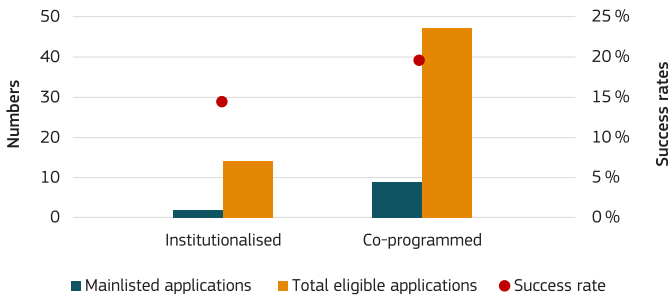
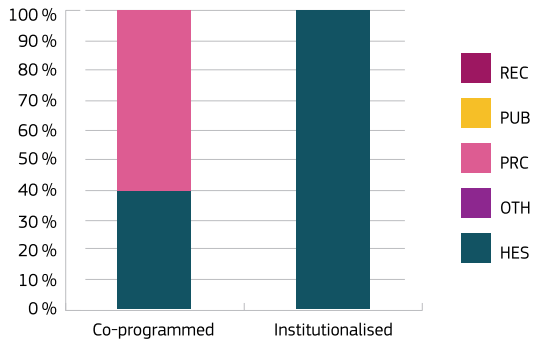


FIGURE 2: Types of project beneficiaries (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument. HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

Currently, there is a lack of private sector and public sector participation in the Institutionalised Partnerships because Malta minimally participates in these kinds of partnerships. Although, for the few partnerships of this type that Malta is involved in, they are still in their infancy stages and thus local participation is small, but this should change in the future once opportunities are shared locally for participation.

However, Malta’s participation is more prominent in Co-funded Partnerships that are more relevant to Malta and its R&I strategy, as seen by Malta’s current Co-funded Partnership participation. Malta has always sought to participate effectively in the partnerships which are closer to its R&I strategy, whilst respecting the limited resources in terms of budgets and capacity.

Malta’s success rate in terms of project participation in partnerships is in line with the success rate that Malta achieves in the Horizon Europe projects, which is always higher than the EU average. This reflects the continuous involvement of Maltese entities in high-quality consortia and proposals.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

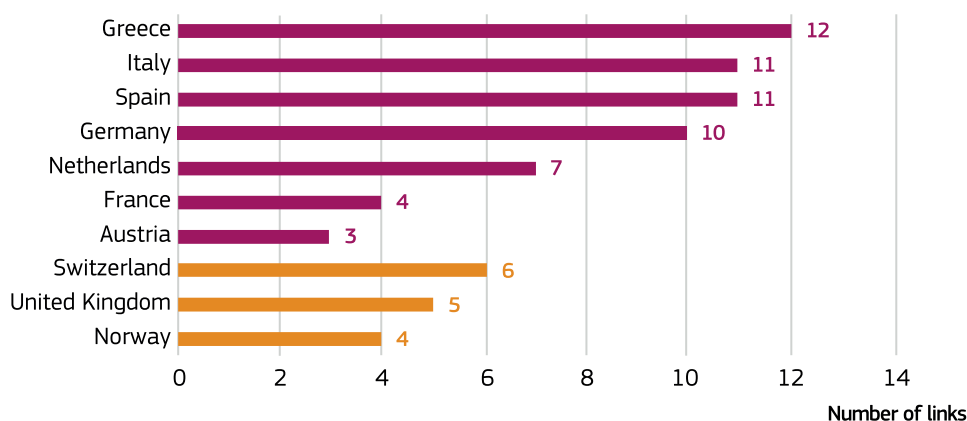
Additional activities, such as participation in the development of partnerships prior to the signing of Grant Agreements, have been an excellent opportunity for including the Maltese R&I priorities in the EU research agenda. Further activities included launch events organised by the MCST for three Co-funded Partnerships, which were sterling opportunities to disseminate information about the new European Partnerships and what stakeholders from the quadruple helix can obtain from Malta’s participation within such partnerships. Participation in additional joint calls seems to be a successful mechanism for increasing R&I project funding while supporting the priority thematic areas, especially in view of the increase in national funding dedicated to such calls.



COMPLEMENTARY AND CUMULATIVE FUNDING

Despite Malta's engagement in proactive discussions aimed at securing additional funding for partnerships through various mechanisms, no supplemental funding has been used to date. Consequently, all Co-funded Partnerships continue to be exclusively funded through national financial resources. The ongoing efforts to explore and negotiate additional funding streams underscore Malta's commitment to enhancing financial support for partnerships, yet the current status reflects the reliance on national funding as the primary source for sustaining collaborative initiatives. Despite the absence of supplementary financial resources, Malta remains actively involved in seeking opportunities to diversify funding avenues for partnerships, demonstrating a persistent commitment to fostering sustained and impactful collaborations in line with its strategic goals.

FIGURE 3: Top collaborators with Maltese researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.

The Internationalisation Unit, within the MCST, oversees the administration of two highly successful bilateral funds – one with China and another with Turkiye. The SINO-Malta Fund, a bilateral initiative jointly managed by MCST and the Ministry of Science and Technology of the People's Republic of China, facilitates research, development, and innovation collaborations between Maltese and Chinese researchers. In operation since 2019, each call for proposals focuses on distinct thematic areas, tailored to the mutual interests of the collaborating parties.

Additionally, as part of PRIMA Section 3 activities, a collaborative agreement was signed in 2020 between the MCST and the Scientific and Technological Research Council of Turkiye (TUBITAK) to support bilateral cooperation in science, technology, and innovation between Malta and Turkiye. Subsequently, two joint calls for proposals were initiated to facilitate bilateral research and innovation projects. These calls are integral to the PRIMA programme, aligning with its goal to bolster research and innovation in the three priority areas outlined in PRIMA SRIA. The third joint call has further introduced new thematic areas for research, development, and innovation cooperation.



SUCCESS STORIES

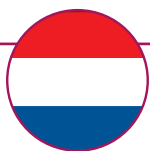
- ✦ In the years 2022 and 2023, the inaugural calls for the European Partnerships were initiated, encompassing five distinct co-funded collaborations. The successful administration of these calls was undertaken collectively by the MCST, the Energy and Water Agency, and Malta Enterprise. Notably, the calls witnessed the active participation of approximately 20 Maltese partners who submitted proposals for the initial joint calls. Among these submissions, around five applicants assumed the role of coordinators, reflecting a substantial engagement from the Maltese community in these collaborative initiatives.
- ✦ Given that the call process typically spans around one calendar year, the evaluation and award of proposals through these partnerships are currently underway. Malta remains dedicated to fostering participation in these initiatives, actively working to attract more applicants. The Co-funded Partnerships present invaluable opportunities, and Malta is committed to ensuring that its stakeholders leverage these opportunities to the fullest. The ongoing efforts emphasise Malta's proactive stance in facilitating and maximising the benefits derived from these collaborative ventures.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

The objective of advancing towards a world-class ecosystem underscores the necessity for a more strategic approach to internationalisation. In 2019, the MCST established a dedicated unit and team to fortify internationalisation efforts, concentrating on cultivating strategic bilateral and multilateral partnerships in R&I and actively contributing to pivotal European and international initiatives. It is emphasised from the outset that the internationalisation pillar must be adequately resourced, as this factor significantly influences its scope, effectiveness, and long-term sustainability. Resources are imperative for three primary categories of activities:

- 1.** fulfilling existing commitments to international, European, and bilateral programs and initiatives;
- 2.** entering into new commitments, facilitating participation in pertinent programs and initiatives, including international fora where key policies, programs, or initiatives are being formulated or launched;
- 3.** undertaking performance and impact assessments to monitor and evaluate initiatives from a national perspective.

This strategic allocation of resources is pivotal to ensure MCST's commitment to existing and emerging international collaborations, and its ability to assess the performance and impact of initiatives on a national scale.



KEY HIGHLIGHTS

Internationalisation is an important part of the Dutch national R&I strategies. Active participation in European Partnerships remains highly important for the Netherlands. Instead of pre-deciding on a specific thematic focus, the Netherlands continues to focus its participation within the broader landscape of European Partnerships. In selecting these partnerships, societal relevance and impact are taken into account in the procedure, which is generally aligned with broad thematic interests and existing excellence within the Netherlands. Dutch participation has become much more policy oriented than under H2020, with the country seeking alignment with national R&I missions, the [Dutch Top Sectors](#) and the [Dutch Research Agenda \(NWA\)](#). These large-scale initiatives include collaborative programming which facilitates the creation of complex consortia combining academia and the public and private sectors. National ministries actively seek co-funding from national-level funding sources, like existing subsidy programmes on health, energy and climate innovations, as well as digitalisation. In the first few years of Horizon Europe, the Netherlands has invested and participated in almost all large public-private and public-public partnerships. The continuing high participation rate of 95% reflects the close involvement and high level of ambition of the Netherlands in the overall partnership landscape.

Participating in **21**
European Partnerships
out of 22(*) (95%)

Increased - BMR 2022
value: 80%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Decreased - BMR 2022
value: 8%

Source: EC and country commitment letters – BMR 2022 refers to H2020 Partnership participation data

(*) Out of the 49 partnerships, 22 are relevant for country participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded Partnerships.

EUR 637 million

in commitments in European Partnerships

Or **4.23%** of total commitments (*)

169% increase since BMR 2022
(EUR 236 million) (**)

EUR 6477

per researcher FTE(***)

146% increase since BMR 2022
(EUR 2630) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of Co-funded Partnerships, the respective figures from the grant agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30% of the EU top-up and 50% for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the change since the last BMR, the pre-call contributions were considered, instead of the actual national contributions, to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Overall Horizon Europe coordination in the Netherlands continues to be combined with a delegated approach at strategic content level. This means that decisions about participation in future European Partnerships, roles and budget are under the responsibility of the respective sectoral ministries and their agencies or research funders. This ensures a policy-oriented, impact-driven approach, as well as a scientific rationale, including for the future. With this, the Dutch Government continues to express a clear preference for those topics that are already key scientific areas in the Netherlands, or those that have a large overlap with the Dutch Top Sectors, Missions, and Key Technologies. Besides the thematic partnerships, the Netherlands also stresses the value of partnerships focussed on collaboration between innovative SMEs across the EU.

DIRECTIONALITY

Alignment of European and national initiatives is an important part of decision-making about participation in European Partnerships within relevant existing national funding structures, such as the Dutch mission-oriented innovation policy. The science and innovation base in the Netherlands is very broad. The ambition regarding science policy remains the further development of the national portfolio, together with national research institutes, public bodies and companies, and in close alignment with developments in the Dutch and international knowledge community. As a result, Dutch participation in European Partnerships is strongly aligned with national sectoral research priorities, such as climate research and digital and key enabling technologies, and with the country's commitment to open science, e.g. through EOSC research infrastructure.

TABLE 1: Distribution of funding based on the EU net contribution to partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	5,20		5,20
Health (Horizon 2.1)	0,25	25,91	26,16
Digital, industry and space (Horizon 2.4)	65,93	63,78	129,70
Climate, energy and mobility (Horizon 2.5)	53,47	85,36	138,83
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		6,04	6,04
Total	124,85	181,09	305,94

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, instrument.



FIGURE 1: Eligible proposals, projects and success rates

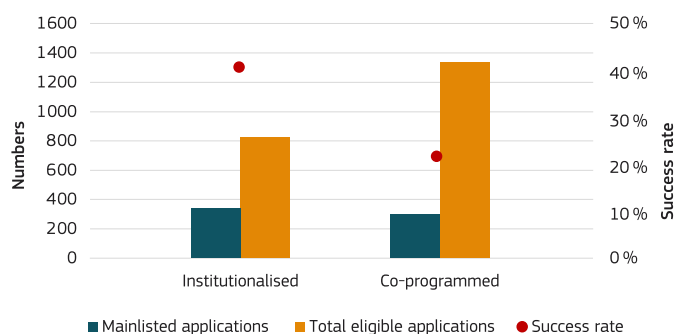
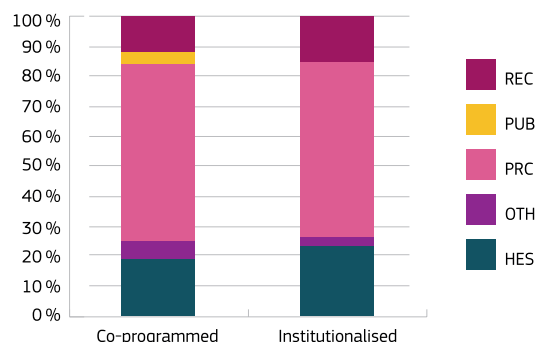


FIGURE 2: Types of project beneficiary (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

In general, Dutch participants are very successful in Horizon Europe, with an above-average success rate and a high participation rate in funded projects. Similarly high rates were therefore also expected for partnerships. Dutch participation is aligned with existing national R&I funding schemes that support large knowledge and innovation consortia. Dutch private companies participate substantially, accounting for around 60% of the beneficiaries (Figure 2).

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

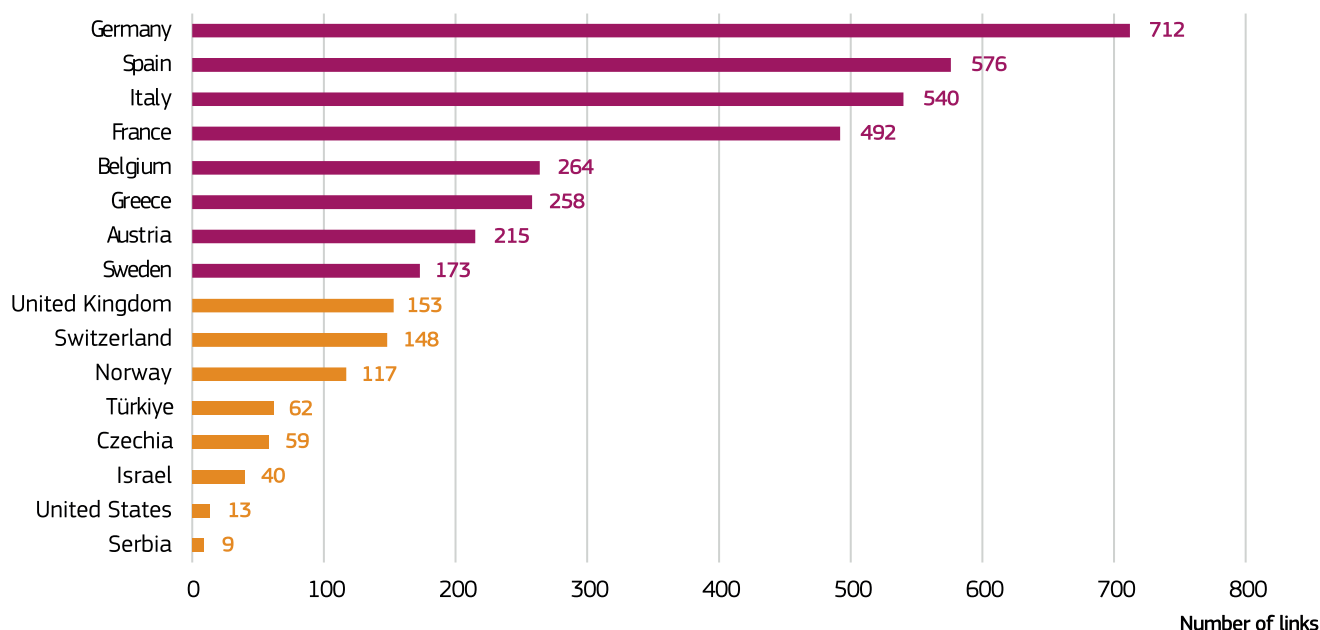
The Dutch government has made additional national investments with the goal of preparing and complementing the contributions of Dutch participants to some of the Co-programmed Public-private Partnerships. In addition, temporary extra investment of EUR 12 million per year in national funding has been allocated to allow the Dutch Research Council (NOW and ZonMw) to make extra investments in Co-funded Partnership calls that are of specific interest to the Dutch scientific community and to allow for more flexibility and strength in funding excellent projects involving Dutch participants in transnational consortia.

COMPLEMENTARY AND CUMULATIVE FUNDING

Synergies with existing national funding programmes are actively sought. For example, national and regional stakeholders are working together to capture synergies between EU programmes like Horizon Europe and ESIF and the national and regional programmes for enhancing coherence across the Dutch R&I landscape. Furthermore, the participation of universities of applied sciences is boosted by investing extra amounts in partnerships and partnership calls that are of specific relevance to them. Also, national sustainability investments are used to complement some of the European Partnerships. Synergies with other European funding instruments beyond Horizon Europe develop bottom-up and are primarily driven by partnership participants and based on specific opportunities when they arise.



FIGURE 3: Top collaborators with Dutch researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.

International cooperation in science, research and innovation is very important for the Netherlands. This international orientation is necessary for maintaining the high quality of Dutch science, research and innovation. At the same time, geopolitical developments demand more strategic choices in terms of cooperation with other countries. The Ministry of Education, Culture and Science has therefore developed an international knowledge and talent strategy which offers a framework and more focus for international collaboration from a policy perspective. European countries are important partners, as well as the US and other Anglo-Saxon countries outside Europe. The Netherlands also has successful bilateral partnerships, such as those with Indonesia, South Africa and Brazil. Also, other Asian countries, like India, Japan and South Korea are of specific interest when it comes to science, research and innovation policy. Opening up European Partnerships to third countries stimulates and facilitates international cooperation by Dutch participants with partners from these countries, but international collaboration policy for the Netherlands is mostly developed separately from these partnerships and includes bilateral agreements with various of the aforementioned countries, often based on long-standing bilateral relations and cooperation with them.



SUCCESS STORIES

- ✦ Based on past experience, it has become more important for the Netherlands to integrate decision-making about participation in European Partnerships under Horizon Europe with relevant existing national funding structures. The result is improved alignment of European and national initiatives and informed decision-making by the main Dutch national research funders, often jointly with sectoral ministries. A good example is the Biodiversa+ Partnership, in which two recent calls focussed on biodiversity protection and biodiversity monitoring. This is in line with the Dutch Research Agenda programme on living labs for biodiversity recovery in rural areas. Furthermore, Biodiversa+ is closely connected to the objectives of the Dutch Delta Plan for Biodiversity Recovery and the policy agenda of the Ministry of Agriculture, Nature and Food Quality.
- ✦ Technological progress, such as the development of key enabling and industrial technologies, may lead to (disruptive) innovation, strengthened European competitiveness and solutions to (future) societal challenges. Public-private partnerships play a pivotal role in this pillar as they engage large corporations and SMEs strategically. The Dutch Top Sectors actively support participation in Public-private partnerships and build on strong business sector private investment. The Digitalisation (ICT) Top Sector is an important sector for the Dutch economy and is connected to European Partnerships on high-performance computing and the Chips JU (and its predecessors), which are of critical importance to many Dutch academic institutions and semiconductor companies, including the global chip machine builder, ASML, which adds significantly to the creation and development of a high-tech, hypercompetitive ICT knowledge and innovation ecosystem in Europe. The Chips JU-funded large-scale R&I projects are expensive, need critical mass and have a potentially huge impact. Individual public research organisations and businesses simply cannot realise these projects on their own. Therefore, it is important to build these ecosystems – involving all stakeholders – in order to address these issues on a European scale. The whole value chain of electronic components and systems (including microprocessors) and their applications is addressed by the Chips JU. The multi-year, international, public-private strategic cooperation between these stakeholders has resulted in stronger European and Dutch ecosystems, which have made it possible to perform R&I faster, in a more broad-based and in-depth manner, and more successfully. In the Netherlands, these activities have become integrated in national roadmaps and innovation contracts with the Dutch High-tech Systems and Materials Top Sector. The role of large companies in these ecosystems should not be underestimated: they offer a platform for SMEs to act on a European level. Furthermore, they contribute roughly 50% to the partnerships. If we want to foster Europe's innovation-based competitiveness, it is vital that participation of industry is promoted in these innovative ecosystems. Otherwise, we risk producing excellent knowledge, and perhaps even spin-offs, which will be farmed out to our main competitors.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

The Netherlands strongly supports industrial leadership through specific Public-private Partnerships with a long-term commitment to industry (larger companies and SMEs), public research organisations and government. It is vital to join forces on technological and societal issues. The Netherlands actively seeks cooperation on R&I with EU Member States and countries outside the EU that respect Dutch academic values and principles. The country believes that without these principles and values, such as academic freedom, reciprocity and open science, safe and open international scientific cooperation is not possible. In connection with this principle and the principle 'as open as possible, as closed as necessary', Dutch science policy is preparing a generic regulation in relation to 'knowledge security'. In this field, the Netherlands is also cooperating closely, both bilaterally and multilaterally, with other (like-minded) countries. As indicated above, international collaboration policy is mostly developed separately from the partnerships. The Netherlands views the European Partnerships as a trustworthy funding instrument that secures access to critical technologies and industries.



KEY HIGHLIGHTS

The Norwegian long-term plan for research and higher education (2023-2032) emphasises that policy instruments in the Norwegian research system should be coordinated with those in the European system to maximise the use of resources. A government strategy for Norwegian participation in Horizon Europe and the ERA states that the responsible ministries, the Research Council and Innovation Norway should have a special focus on securing funding for partnerships in areas of major national importance. A national action plan on ERA for 2022-24 underlines that the links between partnerships and national R&I programmes should be strengthened and synergies exploited.

Based on this, Norway participates in partnerships where participation constitutes added value for Norwegian research and/or industry, the implementation of the partnership is cost-effective and there is a good match with national R&I policy. Through the participation in European Partnerships, Norway also contributes competence and knowledge that enable the partnerships to help reach EU objectives, including those of the Green Deal. Norway also contributes to widening objectives through the EEA Grants, including as regards more effective participation by beneficiary states in ERA and partnerships.

Participating in **21**
European Partnerships
out of 22(*) (95%)

Increased - BMR 2022
value: 78%

Coordinating **1**
European Partnership
out of 16(**) (6%)

Increased - BMR 2022
value: 3%

Source: EC and country commitment letters – BMR 2022 refers to H2020 Partnership participation data

(*) Out of the 49 partnerships, 22 are relevant for country participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded Partnerships.

EUR 253 million

in commitments in European Partnerships

Or **1.68%** of total commitments (*)
20% increase since BMR 2022
(EUR 210 million) (**)

EUR 7 086

per researcher FTE(***)

10% decrease since BMR 2022
(EUR 6426) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of Co-funded Partnerships, the respective figures from the grant agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30% of the EU top-up and 50% for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the change since the last BMR, the pre-call contributions were considered, instead of the actual national contributions, to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Norway is closely following the process of enlargement of the European Partnership portfolio. The country provided input to the Horizon Europe strategic plan for 2025-27 and emphasised the following areas for new partnerships: brain health, forests, polar research, climate action and materials. Future partnerships in these areas will be a Norwegian priority. Other partnership proposals that complement the current Norwegian R&D portfolio will also be considered. Norway is of the opinion that the number of partnerships should not be too high. There should be a good balance between ordinary calls through the work programmes and partnerships. New partnerships should only be established where such partnerships meet the criteria in the framework programme, notably where the objectives cannot be reached through traditional calls. Norway strongly supports strategic alignment and synergies between the partnerships and missions, and also between the partnerships and other EU programmes where relevant.

DIRECTIONALITY

Norwegian participation in public partnerships is, to a large degree, in line with the priority areas set out in the national long-term plan for research and higher education 2023-2032¹. These include climate, the environment and energy, oceans and coastal areas, health, and enabling and industrial technologies. Industry-driven partnerships mainly fall within the enabling and industrial technologies and energy priorities in the plan.

The relatively high investment in Co-programmed Partnerships compared with Institutionalised Partnerships reflects Norway's industrial structure. Most Norwegian companies are SMEs and are dependent on the Norwegian institutional sector. Compared with e.g. Sweden, Norway has few large industrial companies. The thematic areas of the Co-programmed Partnerships correspond particularly well to Norwegian industrial interests. Also, barriers for participation in Co-programmed Partnerships are lower since these are implemented as normal calls under Horizon Europe. Thus, Co-programmed Partnerships are seen as easier to join than Institutionalised Partnerships, which are considered more complicated.

TABLE 1: Distribution of funding based on the EU net contribution to partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	1,09		1,09
Health (Horizon 2.1)	0,07	1,69	1,76
Digital, industry and space (Horizon 2.4)	47,43	7,04	54,48
Climate, energy and mobility (Horizon 2.5)	61,79	23,31	85,10
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		4,70	4,70
Total	110,38	36,75	147,13

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, instrument.

¹ <https://www.regjeringen.no/en/dokumenter/meld.-st.-5-20222023/id2931400/>



FIGURE 1: Eligible proposals, projects and success rates

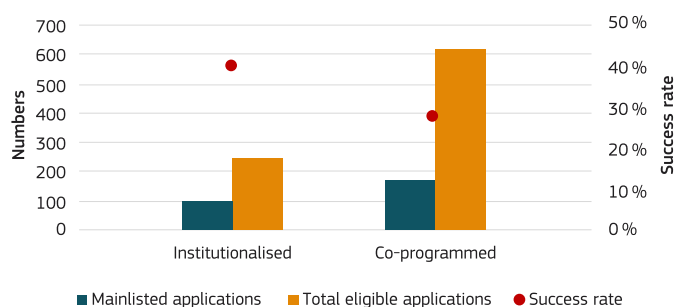
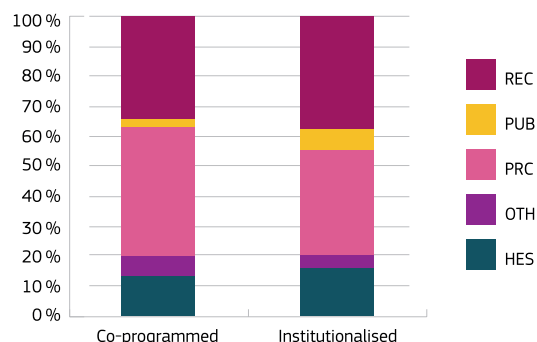


FIGURE 2: Types of project beneficiary (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

The Norwegian success rate in Institutionalised Partnerships is relatively stable compared to results in H2020. We see an increase both in the success rate and the number of applications for Co-programmed Partnerships. This can be explained by the highly relevant topics for Norwegian organisations in co-programmed calls (e.g. the Zero-emission Waterborne Transport Partnership – ZEWT). SME participation is, as expected, higher in Co-programmed than in Institutionalised Partnerships as Institutionalised Partnerships are often driven by large industry and Norway mostly has SMEs. That is also why Norwegian RECs are important for Norwegian participation.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

Norway has a strong focus on combining funding from Horizon Europe with national and private funding to strengthen the areas important to Norwegian R&I and society and the economy. The country focuses in particular on European Partnerships.

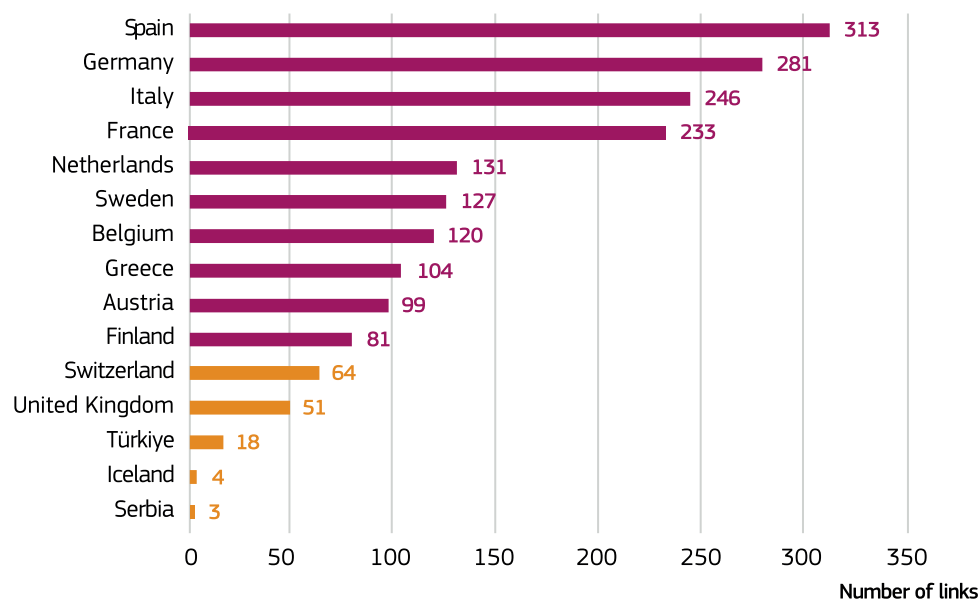
The Research Council of Norway has launched a supplementary funding programme (FORSTERK), with the aim of following up on exploitation of Horizon project results, and thereby increasing the impact of the projects. Several Norwegian participants in partnership projects applied for FORSTERK funding. The country has also developed a national programme to fund Norwegian participation in the Article 185 Eurostars Partnership (now Innovative SMEs).

COMPLEMENTARY AND CUMULATIVE FUNDING

Norway is not involved in cohesion policy funding and therefore only uses national funding for transnational R&I projects within the partnerships. The European Investment Bank is relevant for Norway and is used in Horizon Europe Pillar 3 but not for partnership participation. No cumulative funding from the European Central Bank is used to strengthen Norwegian participation in the partnerships.



FIGURE 3: Top collaborators with Norwegian researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.

Traditionally, the United Kingdom has been an important collaboration partner for Norway. It is assumed that the collaboration will increase now that the United Kingdom is associated to the EC. Norway’s strategy is to collaborate with non-EU countries through participation in Horizon Europe.



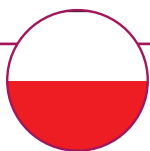
SUCCESS STORIES

Norway has been highly successful in Horizon Europe and its predecessor H2020 and actively participates in most European Partnerships. Examples illustrating impacts on the economy, society and policy include the following.

- ✦ Norway is actively engaged in the EOSC Co-programmed Partnership and has seen a steady increase in institutions involved in the EOSC Association and a high success rate in INFRAEOSC calls. Norwegian participation in the EOSC Partnership, involving Norwegian R&D institutions, data infrastructures and service providers, plays a vital role in advancing open science as the prevailing global and national standard.
- ✦ The participation in JPI Oceans and now co-coordination of the **Sustainable Blue Economy Partnership** contributes to the alignment of research policy in this field in Europe and complements and strengthens Norway's national priorities and efforts in an area of great economic importance for the country.
- ✦ The **Clean Hydrogen Partnership** is an important part of the Norwegian ecosystem of R&I activities in hydrogen, as was its predecessor, the Fuel Cells and Hydrogen JU, from the outset. Norwegian academia, research and industry have been well positioned in key strategic bodies, contributing significantly to synergies and alignment of national and international activities and priority setting. Increasing numbers of projects with Norwegian participation are emerging from both the Clean Hydrogen Partnership and the more application-oriented partnerships like ZEWT. They are contributing significantly to Norwegian national priorities and strategies in energy, transport and climate.
- ✦ The **Key Digital Technologies** JU (Chips JU) has helped research organisations such as SINTEF and Norwegian industrial partners – both SMEs and large enterprises – to stay at the cutting edge of technology development, invest in new technologies, benefit from and contribute to economic growth and be better prepared to compete on the European and international markets. Norwegian companies participating over the years in the European Partnerships have invested significantly in development of key digital technologies. The partnerships have played an essential role in enhancing the companies' technological expertise and fostering their growth. For example, NxTech AS in Fredrikstad grew from five employees in 2008, when they were involved in the first ENIAC Partnership – which was followed by involvement in the Chips JU – to over 30 employees today. In the Chips JU, through working with talented researchers from throughout Europe, Jotne Connect AS, an innovative IT SME, was able to develop a new concept, the Open Standard Based Digital Twin, for Industrial Data and explore other new business opportunities. The Jotne solutions are now offered to the aeronautics, space, defence and built environment markets to improve data exchange and sharing processes.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Norway recognises the need to safeguard strategic autonomy and security. Work is ongoing on a more strategic approach to security in sensitive disciplines and technology of importance to national security, including through international cooperation. Through the EEA Agreement, Norway is fully integrated in the EU single market and participates in all parts of Horizon Europe. In its position as a reliable provider of energy to the EU, Norway makes an important contribution to the EU's strategic autonomy and security. Norway has a leading position in R&I in sustainable energy and a strong position and high potential in the provision of minerals and critical raw materials. In these areas, Norway is prepared to play an active part in relevant partnerships. The Government's strategy for cooperation in research and higher education outside of the EU/EEA – the Panorama strategy – has included nine countries: Brazil, Canada, India, Japan, China, Russia (until 24.2.2022), South Africa, South Korea and the US. The strategy is based on the principle of responsible international cooperation.



KEY HIGHLIGHTS

Both researchers and policymakers find partnerships to be a good possibility for collaboration. However, budgetary and procedural limitations mean that it is not always easy to be fully engaged in newly launched partnerships. Nevertheless, Poland joined the second batch of partnerships under the Horizon Europe strategic plan 2021-2024 and is involved in the planning for the new partnerships under the strategic plan for 2025-2027. Decisions are made on the basis of Poland's previous participation in H2020 and general potential in a given sector. Compatibility between national and EU framework programmes is enshrined in the Strategy for Responsible Development (SRD) – with a perspective up to 2030. The SRD also defines the goals of Poland's participation in the framework programmes. In addition, there is a National Science Policy and Productivity Strategy up to 2031, both with links to EU programmes.

Participating in **21**
European Partnerships
out of 22(*) (95%)

Increased - BMR 2022
value: 72%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Decreased - BMR 2022
value: 3%¹

Source: EC and country commitment letters – BMR 2022 refers to H2020 Partnership participation data

(*) Out of the 49 partnerships, 22 are relevant for country participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 186.89 million

in commitments in European Partnerships

Or **1.24%** of total commitments (*)

98% increase since BMR 2022
(EUR 93 million) (**)

EUR 1 523

per researcher FTE(***)

62% increase since BMR 2022
(EUR 935) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of Co-funded Partnerships, the respective figures from the grant agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30% of the EU top-up and 50% for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the change since the last BMR, the pre-call contributions were considered, instead of the actual national contributions, to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.

¹ BMR 2022 was based on data from H2020 Public-public Partnerships and Poland coordinated three of them.



KEY INTENTIONS FOR THE FUTURE

Poland is committed to maintaining its involvement in partnerships in general and is hoping to strengthen it wherever possible. The country chooses its level of commitment to specific partnerships based on its national priorities and R&I strategies. Poland supports further harmonisation and simplification of rules in partnerships and is interested in continuing to improve the openness of all partnerships for new members. The country is participating in all Horizon Europe pillars and intends to promote inclusiveness in research and the ERA. The largest shares of resources will be allocated to areas related to a healthy society, the green economy, innovative technologies and industrial processes.

DIRECTIONALITY

The partnerships have also mobilised investments in a way that reflects the national R&I ecosystem. Priority areas are in line with the SRD and RIS3, as well as with the proposal for the productivity strategy and smart specialisations. Poland recognises the importance of digital technologies and those that can ensure Europe's security and technological sovereignty: computing, microelectronics, quantum photonics, digitalisation in manufacturing. Twin transformation (green and digital) and social sciences and humanities (SSH) are also of high importance. The distribution of funds in the table below illustrates that Poland is interested in a vast array of topics and aims to support different parts of the Horizon Europe programme.

TABLE 1: Distribution of funding based on the EU net contribution to partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	1,83		1,83
Health (Horizon 2.1)	0,02		0,02
Digital, industry and space (Horizon 2.4)	14,44	11,71	26,14
Climate, energy and mobility (Horizon 2.5)	4,52	24,98	29,50
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		1,12	1,12
Total	20,81	37,80	58,61

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, instrument.



FIGURE 1: Eligible proposals, projects and success rates

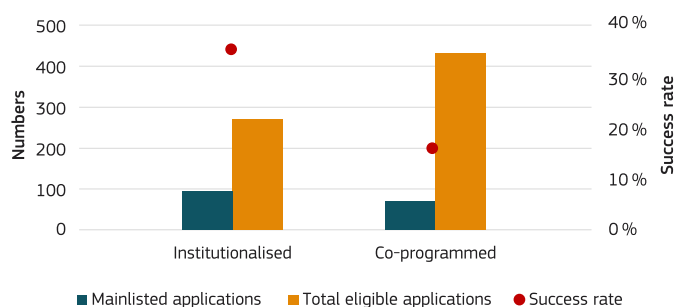
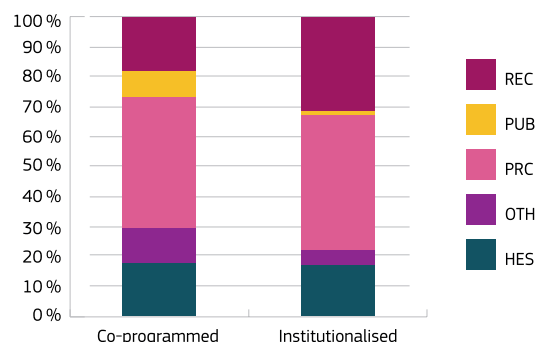


FIGURE 2: Types of project beneficiary (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

Figure 1 shows that the number of proposals in Co-programmed Partnerships is higher than that in Institutionalised Partnerships; however, the success rate in Institutionalised Partnerships is much higher. That might mean that, while the participants in Institutionalised Partnership consortia may be fewer in number, they are better prepared for applying. It seems that there is quite a good distribution between different types of applicants, but companies are the most highly represented entities. This is not surprising given the fact that partnerships are trying to attract companies. Nevertheless, research institutes and universities are also rather well represented.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

Interest in partnerships among Polish participants is on the rise. It is hoped that it will contribute to mobilising extra funding on different levels (regional, national, European) to support the growing demand.

Industrial Contact Points were created within the framework of the Łukasiewicz Research Network to support Polish participation in partnerships and encourage more institutions to get actively involved. Such initiatives need more time to prove their efficiency but already show that the R&I community needs enhanced support activities for the partnerships.

The coordination group of representatives of the R&I funding agencies, national contact points (NCPs) and the Ministry of Science and Higher Education was continuously active in monitoring the preparation and implementation of the partnerships.

Involvement of sectoral ministries in the partnership planning phase continued: the national hub for the Biodiversa+ Partnership was set up within National Science Centre (NCN) structures, with expertise being provided by relevant stakeholders (e.g. the Ministry of Climate and Environment). Among other things, the hub has the role of providing decision-making advice, e.g. on flagship programmes, consultation of the SRIA or call topics.

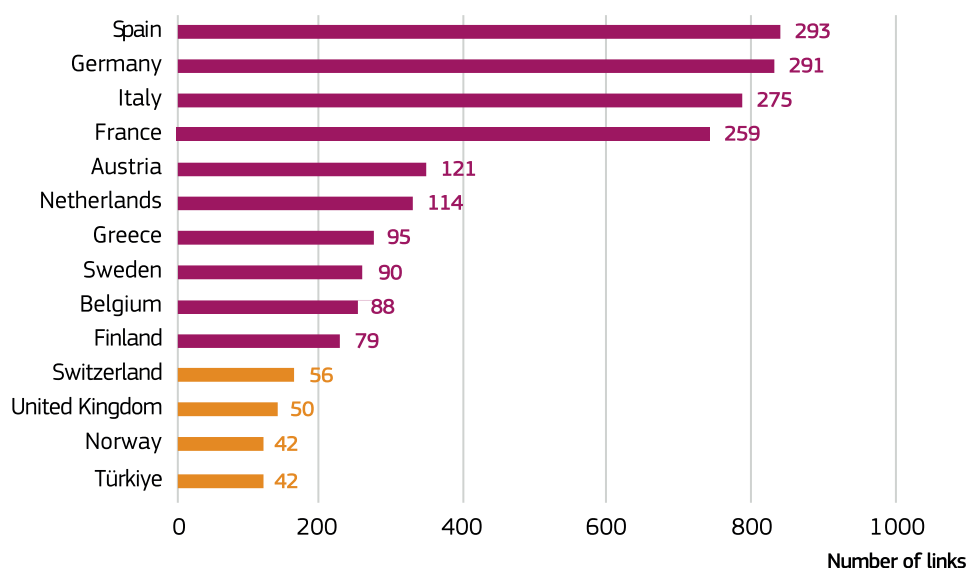
Massive open online courses on research data management have been launched by the NCN on the Navoica platform. They are aimed at scientists who work with research data on a daily basis, providing researchers with comprehensive and practical knowledge of data management based on the principles of findability, accessibility, interoperability and reusability (FAIR), as well as educating data stewards in supporting researchers in their work. The courses have been prepared as part of Poland’s participation in the EOSC.

ERDF and national R&I funding also promote internationalisation.

COMPLEMENTARY AND CUMULATIVE FUNDING

Complementary funding is largely provided by two main R&I funding agencies: NCN (national funding) and the National Centre for Research and Development – NCBR (national, ERDF and ESF funding). This should be understood not as cumulative funding, but rather as complementary to other programmes. Poland is interested in implementing actual synergies in funding between ERDF and Horizon Europe, provided that detailed guidelines are developed by the EC. Operational programmes for 2021-2027 and national funding provide opportunities to further exploit possible synergies.

FIGURE 3: Top collaborators with Polish researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.

Traditionally, Poland has had a high level of cooperation with countries which are strong actors in Horizon Europe (Germany, Spain, France, Italy). The level of cooperation with the UK is currently lower but, given that country's association with Horizon Europe from 2024, it will probably grow rapidly. The NCP office and liaison offices in Brussels (NCBR and Polish Academy of Sciences) are working actively to support Polish institutions in international cooperation. Cooperation with Ukraine is growing, which is very important given the geopolitical situation. Poland also has a number of bilateral cooperation arrangements with non-EU countries, which can lead to higher cooperation with those countries through European Partnerships. In addition, funding programmes with countries such as Norway, under the EEA and Norway Grants, and Switzerland trigger higher cooperation between Poland and those countries within Horizon Europe.



SUCCESS STORIES

- ✦ An increased leadership role for Polish entities in international consortia under the Innovative SMEs Partnership (Eurostars-3) and also the European High-Performance Computing JU (EuroHPC). The only project recommended for funding in the 2022 call related to centres of excellence for high-performance computing applications is led by the Poznan Supercomputing and Networking Centre (PSNC). PSNC is an internationally renowned node of ERA in the field of IT infrastructure for science and an important ICT R&D centre.
- ✦ High interest among Polish applicants in applying for funding under the first European Partnership calls: e.g. 43 pre-proposals from Polish applicants in the Driving Urban Transitions (DUT) Call 2022, of which 11 projects were recommended for funding. Interest among stakeholders in participating in additional activities organised by European Partnerships: e.g. for the Urban Doers Grant under the DUT Partnership, Poland had the highest number of applicants.
- ✦ Likewise, a very high success rate for proposals with Polish participation in first two calls under the Key Digital Technologies JU (now Chips JU), far exceeding the funds allocated by NCBR.
- ✦ High success rate in the first Sustainable Blue Economy Partnership joint transnational call. Interest among Polish entities in applying for funding was high (17 applications submitted), with 5 out of the 19 applications ultimately selected including Polish partners. NCBR was involved in WP6 as contact point/liaison officer for the Baltic Sea region.
- ✦ The NCN-coordinated programmes introduced measures supporting participation of researchers from less successful countries in funded projects.
- ✦ NCBR was responsible for implementing the call secretariat for the THCS and PIANOFORTE Partnerships.
- ✦ Within the framework of the THCS and Era4Health European Partnerships, as well as some of the H2020 programmes (ERA-NET Transcan, EIG CONCERT-Japan, M-ERA.NET 3 and Neuron Cofund) the PartFinder tool developed by NCBR has become the official partner search engine. This platform enables researchers, entrepreneurs and other interested parties from all over the world to connect with each other in order to realise joint R&I projects.
- ✦ NCN ran the secretariat for two Biodiversa+ joint calls: BiodivProtect and BiodivMon and acts as the follow-up team for projects funded under BiodivMon. An NCN representative is a member of the executive board and the widening working group.
- ✦ In the framework of EOSC activities, the Polish R&I ecosystem has identified a growing number of data management plans prepared by researchers. Over 30 000 were created between September 2019 and December 2023, increasing the quantity of research data shared in line with FAIR principles and the number of open access publications (in line with Plan S).



ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Poland acknowledges that European strategic autonomy and sovereignty are very important given the unstable geopolitical situation both in Europe and beyond. Partnerships can help solve the looming challenges. The involvement of good-faith actors representing the whole variety of value chains is of the utmost importance. It is just as important to involve industry and connect it with research institutions and to ensure a balance across Europe, so that no European country is left behind.

Broad-based participation in partnerships can be crucial in ensuring strategic autonomy and global R&I cooperation – depending on needs and challenges. These challenges are being addressed, such as by the entry into force of the Chips Act and the resulting transformation of the Key Digital Technologies JU into the Chips JU. This helps put in place a comprehensive set of measures to ensure the EU's security of supply, resilience and technological leadership in semiconductor technologies and applications. It is crucial to remember that semiconductors remain the essential building blocks of digital and digitised products and are central to the modern digital economy. They are also at the very heart of strong geostrategic interests and the global technological race.

Poland supports and joins forces with other European countries contributing to the achievement of the EU's goal of becoming the first climate-neutral continent by 2050, i.e. by participation in the Clean Energy Transition Partnership. Boosting and accelerating the energy transition, developing adequate technologies and solutions, and building innovation ecosystems constitute substantial contributions to Europe's autonomy in this area.



KEY HIGHLIGHTS

Portugal has always played a very active role in the discussion of policies related to R&I and its participation in European framework programmes for R&I contributes to financing investment in areas of strategic importance to the country. The participation in the framework programme is of paramount importance to the R&I ecosystem as it fosters excellence and supports research with high societal and economic impact.

The National System of Science and Technology finds in these partnerships a wide range of opportunities, particularly given the opportunity that they offer to participate in the development of strategic R&I agendas at European and international level. Among the most relevant benefits are:

- effective international collaboration through the coordination and participation of national researchers in international projects (such as the exchange of scientists and students, training and the initiation of new lines of research);
- the participation of the national scientific community in international-scale projects with access to state-of-the-art R&I and technological infrastructure;
- the affirmation of the excellence of the national R&I ecosystem in an international context through the coordination of joint transnational projects;
- the promotion of the national R&I community through its participation in international networks, evaluation panels, scientific advisory boards and thematic workshops, among other things;
- networking, knowledge sharing and creation/consolidation of international networks with the participation of national scientists;
- boosting of scientific excellence through increased international networking;
- increased societal and economic impact of research results;
- possibility of synergies between the various funds (European Structural Funds, Horizon Europe and regional/national funds), in accordance with the provisions of the various European regulations.

Since the last BMR, Portugal has joined seven new Co-funded Partnerships and the Pandemic Preparedness Partnership from the second batch of partnerships, deepening its participation in the Horizon Europe instruments.

Portugal continues to support the effort to streamline and rationalise the number of European Partnerships and to ensure the use of this instrument only in areas where the selection criteria are clear. Moreover, new European Partnerships should only be launched for specific areas and value chains that cannot be fully addressed in open competitive calls.

Participating in **21**
European Partnerships
out of 22(*) (95%)

Increased - BMR 2022
value: 62%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Decreased - BMR 2022
value: 2%

Source: EC and country commitment letters – BMR 2022 refers to H2020 Partnership participation data

(*) Out of the 49 partnerships, 22 are relevant for country participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded Partnerships.



EUR 323 million

in commitments in European Partnerships

Or **2.14%** of total commitments (*)

831% increase since BMR 2022
(EUR 34 million) (**)

EUR 6 410

per researcher FTE(***)

703% increase since BMR 2022
(EUR 797) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of Co-funded Partnerships, the respective figures from the grant agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30% of the EU top-up and 50% for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the change since the last BMR, the pre-call contributions were considered, instead of the actual national contributions, to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Portugal continues to participate in European Partnerships within clusters 1, 4, 5 and 6 and simultaneously contributes to the decision-making process regarding the second wave of European Partnerships under the second Strategic Plan 2025-27. Portugal's decision on whether to take part in the new candidate Co-funded Partnerships will be taken as soon as the European Commission initiates the process of requesting commitment letters from Member States as an ex-ante demonstration of the partners' long-term commitment.

DIRECTIONALITY

Within Horizon Europe, Portugal will continue to participate in partnerships, with a focus on the following broad strategic areas:

- raw materials and advanced materials;
- energy transition;
- environmental and ocean sustainability;
- health;
- key strategic sectors;
- digitalisation;
- social sciences and humanities, arts and culture.



TABLE 1: Distribution of funding based on the EU net contribution to partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	0,50		0,50
Health (Horizon 2.1)	0,10		0,10
Digital, industry and space (Horizon 2.4)	29,46	10,44	39,89
Climate, energy and mobility (Horizon 2.5)	11,62	3,60	15,22
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		2,70	2,70
Total	41,68	16,74	58,42

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, and instrument.

FIGURE 1: Eligible proposals, projects and success rates

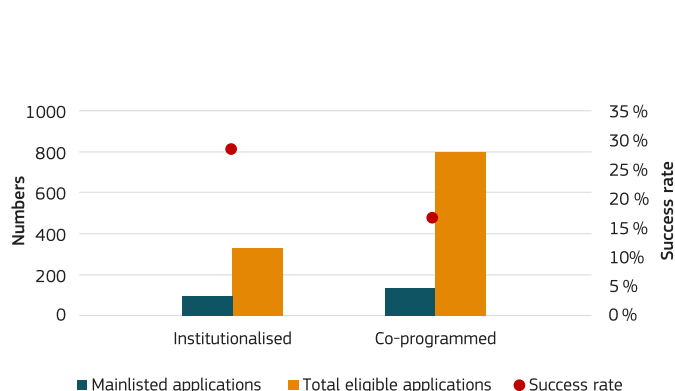
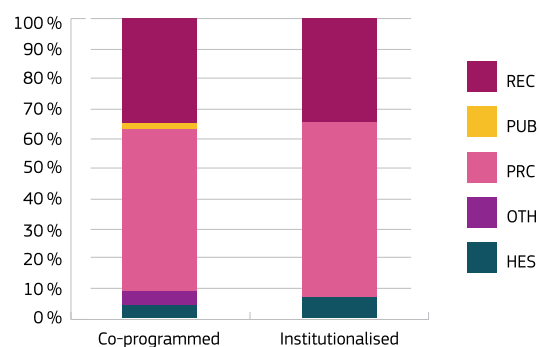


FIGURE 2: Types of project beneficiary (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.
 HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

Portuguese researchers achieve higher success rates in partnership projects than in Horizon Europe calls overall (15.38 %).

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

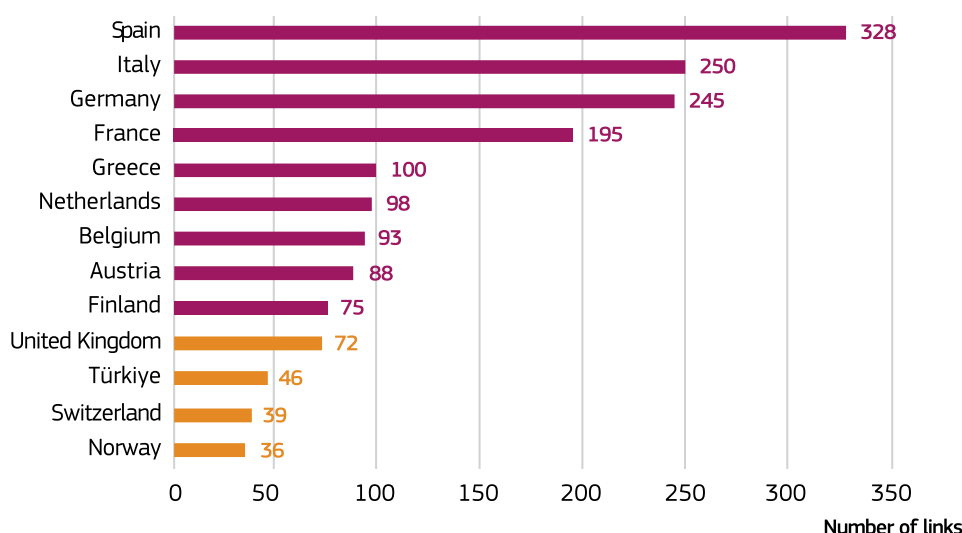
Portuguese participation at sectoral and regional level in European Partnerships contributes to funding R&D activities in various areas of activity; mobilising partners in academia, business and industry; and opening up additional investment opportunities. Portugal believes that interregional and international collaborations and synergies, as well as the leverage effect of investment at regional level, can produce spillover effects in the medium term.



COMPLEMENTARY AND CUMULATIVE FUNDING

Portugal implements project-level synergies within Horizon Europe at both national and regional level. ERDF is the funding source used to boost synergies. In specific Co-funded Partnerships, such as Driving Urban Transitions (DUT), Biodiversa+, Sustainable Blue Economy Partnership (SBEP), Transforming Health and Care Systems (THCS) and the European Partnership for Personalised Medicine (EP PerMed), Portugal, in certain regions, uses ERDF to provide national contributions for project beneficiaries based in the regions of application of the relevant ERDF operational programmes. Regional and managing authorities, which are also beneficiaries of the partnerships, provide funding for calls through Co-funded Partnerships to support the national contribution, thus strengthening national R&I.

FIGURE 3: Top collaborators with Portuguese researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.

Although most collaborations involving Portuguese researchers are with research institutions in EU countries, Portugal deeply values the participation of international partners from Associated and third countries. As a widening country, Portugal appreciates the collaboration and networking with non-EU countries/actors, as well as Horizon Europe’s complementary funding mechanisms and the European Research Council implementing arrangement, which support such collaborations.



SUCCESS STORIES

- ✦ In Horizon Europe, and particularly in the European Partnerships, Portugal is deepening the inter-ministerial/inter-institutional collaboration established in the previous framework programme. This creates national mirror working groups in strategic and priority areas for the country, with non-traditional actors such as policymakers, civil society agents, regulators and other stakeholders providing greater technical capacity, sustainable connections with scientific communities and industry and more robust participation in Horizon Europe.
- ✦ Portugal would like to emphasise the contribution of the Regional Commissions in this regard. They share technical expertise with specifically regional insights that favour European Partnerships, which is ideal for the policymaking process, and also increase the volume of national funding and maximise European co-funding. Two Regional Commissions (out of five) are beneficiaries of DUT and one is a beneficiary of three other partnerships (SBEP, THCS and EP PerMed). These commissions, and the respective Regional Autonomous Governments, have played a very important part in the expected qualitative leap in Portugal's participation in European Partnerships by seeking to promote synergies, stimulate inter-regional R&I, increase the economic impact of R&I and support the green and digital transitions.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Portugal supports the view that areas that are critical for the digital and green transitions and deeply dependent on global value chains should be strengthened. Raw materials and advanced materials are pivotal for securing Europe's strategic autonomy and supporting its industry in key sectors like renewables, mobility, health systems and advanced computing. Semiconductors are another key area for the EU, and European Partnerships, in synergy with other funding mechanisms, namely those based on state aid, must be seen as pivotal instruments for securing autonomy with regard to raw materials from specific regions of the world.

To conclude, Portugal fully supports a global approach to R&I, which must be balanced with actions to safeguard the EU and its assets.



KEY HIGHLIGHTS

Not available

Participating in **14**
European Partnerships
out of 22(*) (63%)

Similar to BMR 2022
value: 64%(**)

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%(***)

Source: EC and country commitment letters – BMR 2022 refers to H2020 Partnership participation data

(*) Out of the 49 partnerships, 22 are relevant for country participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

(***) RO has not sent commitment letters for the second batch, i.e. 7 Co-funded Partnerships and the Pandemic Preparedness Partnership.

EUR 18 million

in commitments in European Partnerships

Or **0.13%** of total commitments (*)

73% decrease since BMR 2022
(EUR 70 million) (**)

EUR 1 054

per researcher FTE(***)

73% decrease since BMR 2022
(EUR 4 015) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of Co-funded Partnerships, the respective figures from the grant agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30% of the EU top-up and 50% for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the change since the last BMR, the pre-call contributions were considered, instead of the actual national contributions, to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Not available

DIRECTIONALITY

Not available



TABLE 1: Distribution of funding based on the EU net contribution to partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)			
Health (Horizon 2.1)		0,28	0,28
Digital, industry and space (Horizon 2.4)	5,92	6,45	12,37
Climate, energy and mobility (Horizon 2.5)	1,99	3,15	5,13
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)			
Total	7,90	9,87	17,78

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, instrument.

FIGURE 1: Eligible proposals, projects and success rates

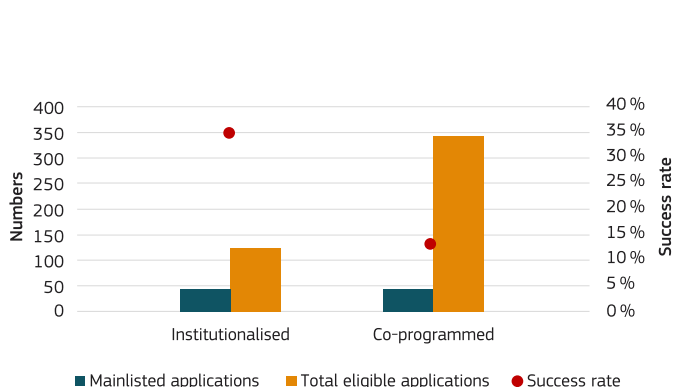
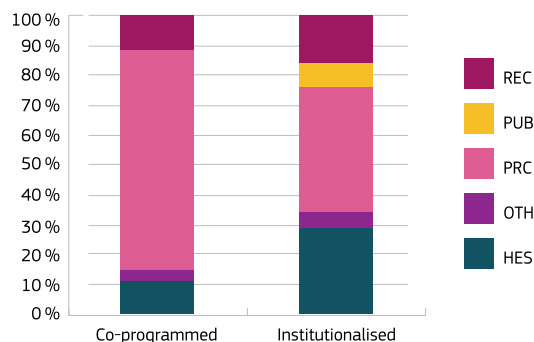


FIGURE 2: Types of project beneficiary (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

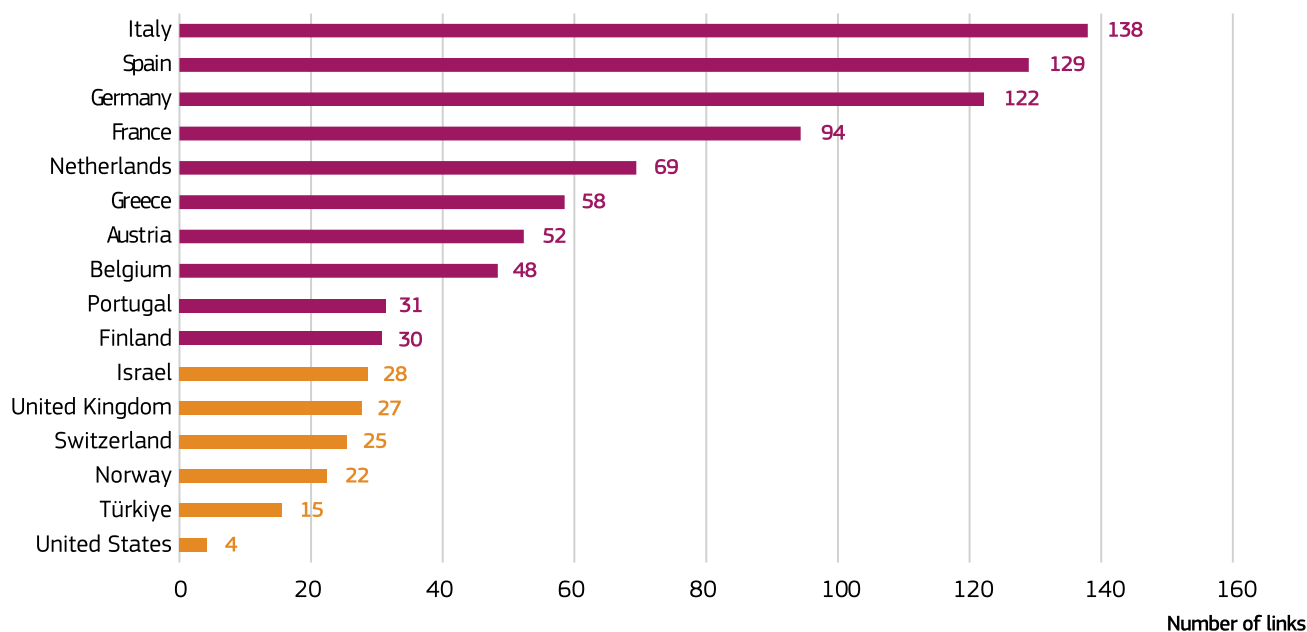
Not available

COMPLEMENTARY AND CUMULATIVE FUNDING

Not available



FIGURE 3: Top collaborators with Romanian researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.



SUCCESS STORIES

Not available

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Not available



KEY HIGHLIGHTS

The ambition to increase participation in partnerships is reflected in the new national Strategy on Research, Development and Innovation by 2030 approved by the Slovak Government on 28 March 2023. In the strategy, the Slovak Government makes it a priority to support participation in partnerships which are aligned with national R&I priorities and RIS3 strategy domains, with relevant public agencies and institutions to act as national funding bodies in Co-funding Partnerships. However, other types of partnership should not be excluded. It is thus necessary to identify potential tools and schemes to support participation in Co-programmed and especially Institutionalised Partnerships, including EIT KICs. The strategy acknowledges the role of partnerships in supporting ERA by stimulating cross-border cooperation, aligning national R&I policies and programmes, enhancing skills and increasing the absorption capacity of European industry.

According to the action plan for the national strategy, resources for participation in partnerships should be increased, with concrete support schemes introduced during the first quarter of 2024. Support will be administered by the Slovak Research and Innovation Authority, backed by the Slovak Government Office and implemented by the Ministry of Education, Science, Research and Sport of the Slovak Republic.

Participating in **20**
European Partnerships
out of 22(*) (90%)

Increased - BMR 2022
value: 36%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 refers to H2020 Partnership participation data

(*) Out of the 49 partnerships, 22 are relevant for country participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 16 million

in commitments in European Partnerships

Or **0.11%** of total commitments (*)

6% decrease since BMR 2022
(EUR 17 million) (**)

EUR 963

per researcher FTE(***)

14% decrease since BMR 2022
(EUR 1 127) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of Co-funded Partnerships, the respective figures from the grant agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30% of the EU top-up and 50% for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the change since the last BMR, the pre-call contributions were considered, instead of the actual national contributions, to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Increasing participation in European Partnerships will remain an R&D policy priority for Slovakia in 2024.

Support for participants will be provided through the activities of the new national Strategy on Research and Development by 2030 and its action plan.

Slovak participation in European Partnerships will be aligned with the updated Slovak Smart Specialisation Strategy (RIS3 SK 2021+), which includes the following priority domains: vehicles for the 21st century, industry for the 21st century, digital Slovakia and creative industry, population health and medical technology, and healthy food and environment.

One priority will be the establishment of an effective co-funding mechanism. This will be a significant step towards better representation of Slovak researchers and institutions in co-funded transnational calls within the partnerships starting in 2024 and an opportunity to support synergies with ERDF.

Steps will be taken to improve communication and coordination at intergovernmental and inter-sectoral level in support of Slovak participation in partnerships, ensuring the involvement of all relevant actors and preventing duplication and fragmentation.

Work will continue with ministries and public institutions and approaches will be made to academic and industrial actors to ensure the dissemination of information on possibilities to be part of the existing and new European Partnerships.

DIRECTIONALITY

Participation in partnerships is based on the results of Slovak participation in Horizon Europe activities focused on health, digital technologies, research infrastructure, agriculture and the environment.

As stated, the priority should be to increase public investment in Co-funded Partnerships through synergies with ERDF (while supporting synergies in accordance with the established rules, thematic priorities of Co-funded Partnerships should be aligned with the RIS3 SK 2021+ strategic domains) and to identify support schemes to increase investment in Co-programmed and Institutionalised Partnerships, with emphasis on EIT.

Regarding participant profiles, in line with overall Horizon Europe participation, Slovakia has achieved significant involvement of the private sector. Private companies are strong actors, equal to public-sector bodies such as universities and public research institutions, and are found among the top 10 Horizon Europe participants from Slovakia.

TABLE 1: Distribution of funding based on the EU net contribution to partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	0,97		0,97
Health (Horizon 2.1)			
Digital, industry and space (Horizon 2.4)	1,57	1,03	2,60
Climate, energy and mobility (Horizon 2.5)	0,95	0,78	1,73
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)			
Total	3,49	1,81	5,30

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic and topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

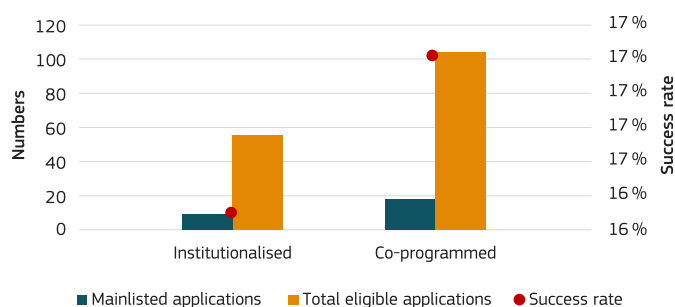
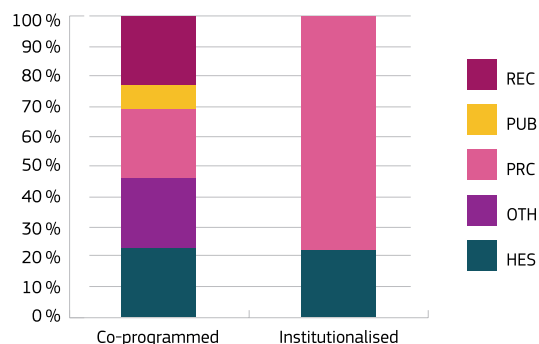


FIGURE 2: Types of project beneficiary (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

European Partnerships have created opportunities for Slovak universities and research institutions to participate in excellent European research teams, building their research capacities and supporting the internationalisation of research teams.

The relevant ministries provide continuous support to partnerships that originated in H2020. For example, the Ministry of Education, Science, Research and Sport of the Slovak Republic continues to support and co-fund Slovak participation in the Key Digital Technologies JU (following its transformation into the Chips JU and with the ambition of establishing a national competence centre) and the European Partnership on Innovative SMEs, leading to successful participation by Slovak universities and other entities in their calls.

There is strong emphasis on partnerships relevant to health and healthcare R&D, with support from the Ministry of Health, which actively coordinates Slovak participation with Slovak universities, such as in the case of the Transforming Health and Care Systems (THCS) Partnership and the Partnership for the Assessment of Risks from Chemicals (PARC).

As a leading national research institution, the Slovak Academy of Sciences participates extensively, co-funding the successful participation of its institutes in the Water4All, Biodiversa+ and ERA Health Partnerships.

However, limited opportunities to participate in co-funded transnational calls have hampered Slovakia's role in European Partnerships, mainly due to the lack of a systematic solution for engaging in Co-funded Partnerships, which has limited positive spillover effects in the research community. This might change with the use of structural funds to capitalise on opportunities for synergies in European Partnerships, with a national call envisaged for 2024. The call could kick-start Slovak participation in partnerships and ensure wider involvement of both academia and the entrepreneurial sector.

Future participation could also be enhanced by other support mechanisms which were introduced under the Slovak recovery and resilience plan, for example grants funding the preparatory phase of Horizon Europe projects or matching of grants to Horizon Europe projects.

COMPLEMENTARY AND CUMULATIVE FUNDING

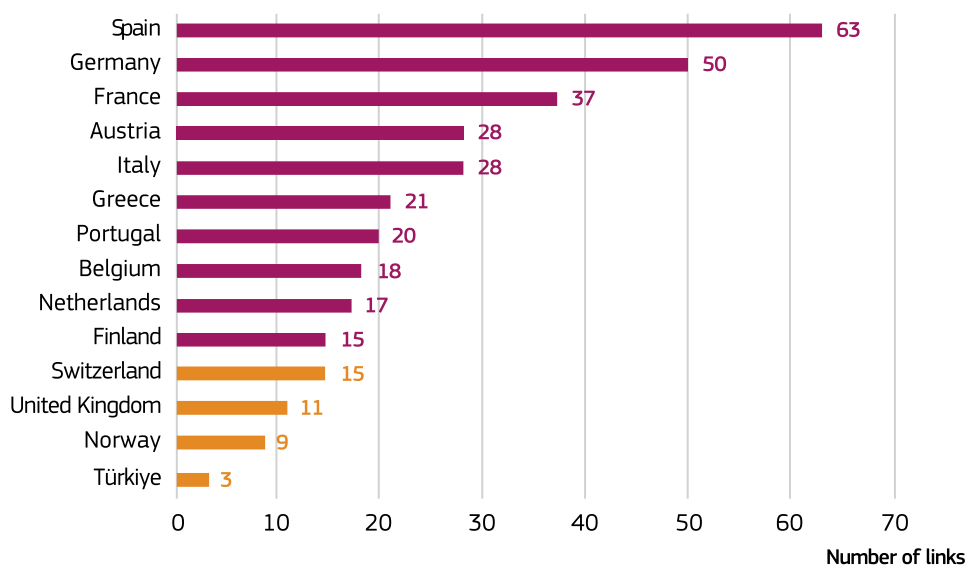
The operational programme Slovakia 2021–2027 includes priority action 1.1.3 ‘Support for international cooperation in research, development and innovation’, which gives details of the expected support and a subsequent call to increase participation in European Partnerships.

Using the opportunity to exploit synergies between Horizon Europe and ERDF, Slovakia would like to open a national call to provide the Slovak research community with much-needed systematic solutions and effective schemes to support participation in transnational European Partnership calls.

The first draft of the call is currently being finalised and there is intensive communication between the experts responsible for research and ERDF policies and schemes within the Ministry of Education, Science, Research and Sport and the Slovak Research Agency, which, based on the experience with ERDF, will be the central national funding body for Co-funded Partnerships.

The call is yet to be approved by the relevant bodies, but it is expected to be published in 2024.

FIGURE 3: Top collaborators with Slovakian researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.

In Slovakia, bilateral cooperation on R&D with non-EU countries is, in general, supported by long-term links and established bilateral agreements. These activities mostly include joint mobility and also, increasingly, research projects.

Slovakia agrees that European Partnerships could contribute to cross-border cooperation, creating links between various partners, including non-EU countries; establishing long-term ties; and supporting the alignment of joint economic and societal priorities.

There is no specific policy in Slovakia to involve non-EU actors; however, as part of the support for Slovak participation in Horizon Europe, there is a strong emphasis on networking activities, with Slovak NCPs and the Slovak Liaison Office for Research and Development in Brussels, which is engaged in matchmaking activities, actively supporting links between Slovak universities and research institutions and their counterparts from EU and non-EU regions, as well as building databases of potential partners for Horizon Europe projects.



SUCCESS STORIES

- ✦ Support to increase the participation of Slovak institutions in new partnerships was recognised as a priority and was included in all major strategic documents on R&I support, including the updated RIS3 SK 2021+, the Strategy on Research, Development and Innovation by 2030 and its action plan and the Slovak recovery and resilience plan.
- ✦ Support for participation in partnerships was endorsed by the Council for European R&D Policies in Slovakia, which consists of representatives of relevant ministries, the Slovak Academy of Sciences, universities and business associations.
- ✦ Slovakia acknowledges the increasing activity and ambition of its research community and institutions with regard to participation in existing and proposed new partnerships.
- ✦ Representatives of the Ministry of Education, Science, Research and Sport of the Slovak Republic maintain close contact and cooperate with Horizon Europe NCPs, the Slovak Liaison Office for Research and Development in Brussels and Slovakia's Permanent Representation to the EU, disseminating information about the possibilities and opportunities that partnerships can offer Slovak universities, research institutions and enterprises as potential partnership members.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Slovakia recognises the role of the partnerships, as strategic joint EU and Member State initiatives, in pooling resources and talent from all EU countries and regions, creating critical mass, aligning national R&D policies and programmes and reducing the potential for fragmentation.

By involving the industrial sector and all relevant actors and supporting entire innovation and value chains, partnerships have become a crucial part of the EU's attempts to reduce dependencies and develop and, most importantly, apply critical technologies in industries and society, thereby supporting the strategic autonomy of the EU in the context of an increasingly difficult and complex geopolitical reality.



KEY HIGHLIGHTS

Slovenia's approach to European R&I Partnerships is closely aligned with its national policies, including the Scientific Research and Innovation Activities Act, adopted in December 2021 and in force from 1.1.2022. The Act provides a legal framework for fostering collaboration, driving innovation and enhancing research activities. The Resolution on the Slovenian Scientific Research and Innovation Strategy 2030 (from 23.3.2022) serves as a cornerstone document guiding Slovenia's long-term vision and approach to R&I. The Resolution provides a comprehensive strategic framework for aligning national efforts with European collaborative initiatives. The goal of investing at least 5 % of public funds in RDI activities for joint programmes and European Partnerships, as outlined in the strategy, is closely connected to the vision for European Partnerships. This specific goal reflects Slovenia's commitment to dedicating a significant portion of its resources to collaborative research efforts, including participation in joint programmes and European Partnerships. By earmarking funds for these initiatives, Slovenia aims to actively engage in transnational projects facilitated by European Partnerships.

Participating in **12**
European Partnerships
out of 22(*) (54%)

Increased - BMR 2022
value: 42%

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Similar to BMR 2022
value: 0%

Source: EC and country commitment letters – BMR 2022 refers to H2020 Partnership participation data

(*) Out of the 49 partnerships, 22 are relevant for country participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 51 million

in commitments in European Partnerships

Or **0.34%** of total commitments (*)

112% increase since BMR 2022
(EUR 24 million) (**)

EUR 4929

per researcher FTE(***)

85% increase since BMR 2022
(EUR 2 651) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of Co-funded Partnerships, the respective figures from the grant agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30% of the EU top-up and 50% for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the change since the last BMR, the pre-call contributions were considered, instead of the actual national contributions, to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Slovenia's foremost intention is to strengthen and expand its participation in existing European Partnerships, capitalising on the expertise and resources offered by its European counterparts. By actively contributing to ongoing initiatives, the country aims to enhance its collaborative efforts, address shared challenges and leverage collective knowledge to find innovative solutions, especially in areas where Slovenian research organisations and participants have excellent research potential.

Furthermore, there is a need to alter the prevailing mindset that responsibility for European Partnerships lies solely with the ministry responsible for research. Such a shift would align with the evolving dynamics of collaborative R&I. While the ministry responsible for research plays a crucial role, involving other ministries, such as those responsible for agriculture, the environment, culture and industry, would bring diverse perspectives to the table. This kind of cross-ministerial collaboration would ensure a more comprehensive approach, addressing not only research aspects but also education, industry engagement and policy alignment.

In addition, Slovenia will advocate for Co-funded Partnerships, as they can greatly benefit Slovenian researchers and innovation initiatives within the European context. It would even support smaller scale partnerships with a stronger focus on the conduct of meaningful research and fewer additional activities.

As for European Partnerships under the next R&I framework programme, Slovenia advocates an approach that stipulates that implementation should take the form of partnerships only if they will bring clear added value and if conditions related to directionality, additionality, coherence and synergies are met.

DIRECTIONALITY

As outlined in the Research Act, Slovenia takes a bottom-up approach to directionality and thematic priorities in research. This approach values the autonomy of researchers focusing on specific areas that are relevant for academic and industrial collaboration, such as smart specialisation strategies. The country's commitment to this bottom-up approach is grounded in the principle that researchers, when given the freedom to pursue their ideas, can generate ground-breaking discoveries and innovations that have the potential to shape the future. Slovenia's focus on directionality is not rigid; it evolves based on emerging challenges, technological advancements and societal demands, with a higher degree of directionality at higher technology readiness levels. The country actively encourages interdisciplinary collaboration and the exploration of new research horizons. By fostering a culture of innovation and flexibility, Slovenia enables researchers to adapt their work to address pressing issues and seize new opportunities as they arise.

TABLE 1: Distribution of funding based on the EU net contribution to partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)			
Health (Horizon 2.1)		0,30	0,30
Digital, industry and space (Horizon 2.4)	13,80	1,84	15,64
Climate, energy and mobility (Horizon 2.5)	10,66	17,99	28,65
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		0,59	0,59
Total	24,47	20,72	45,19

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

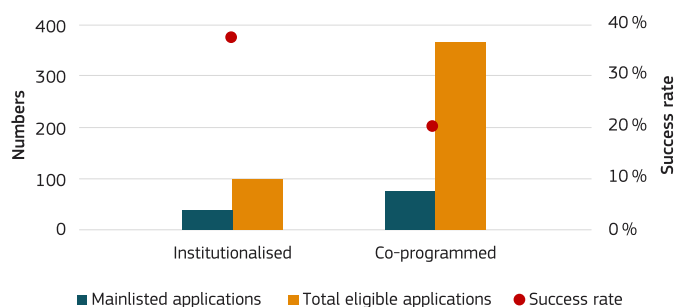
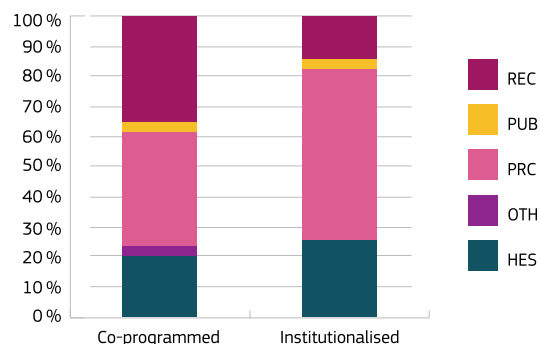


FIGURE 2: Types of project beneficiary (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

In relation to the figures above, Slovenia is satisfied with the success rates. The country's Horizon Europe success rate, which stands at 22.67 % overall, rises considerably if only Institutionalised Partnerships are taken into account. However, the question remains as to whether the higher success rate in Institutionalised Partnerships is a result of less competitive calls with fewer applications or whether it truly reflects the exceptional quality of the proposals. In this sense, the findings illustrated in figure 2, where it can be seen that the majority of beneficiaries in Institutionalised Partnerships come from the private sector, may be significant.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

Entering into European Partnerships has triggered a series of additional activities in Slovenia, including the first-ever comprehensive national analysis of European Partnerships, starting with H2020. This in-depth analysis will be pivotal to understanding the impact and potential of Slovenia's collaborative efforts, allowing the country to strategically align its resources and expertise with European initiatives in the future. By conducting this analysis, Slovenia aims to harness the lessons learned, capitalise on successful strategies and pave the way for more effective and impactful participation in future European Partnerships, ensuring that the country remains at the forefront of collaborative R&I in the European arena.

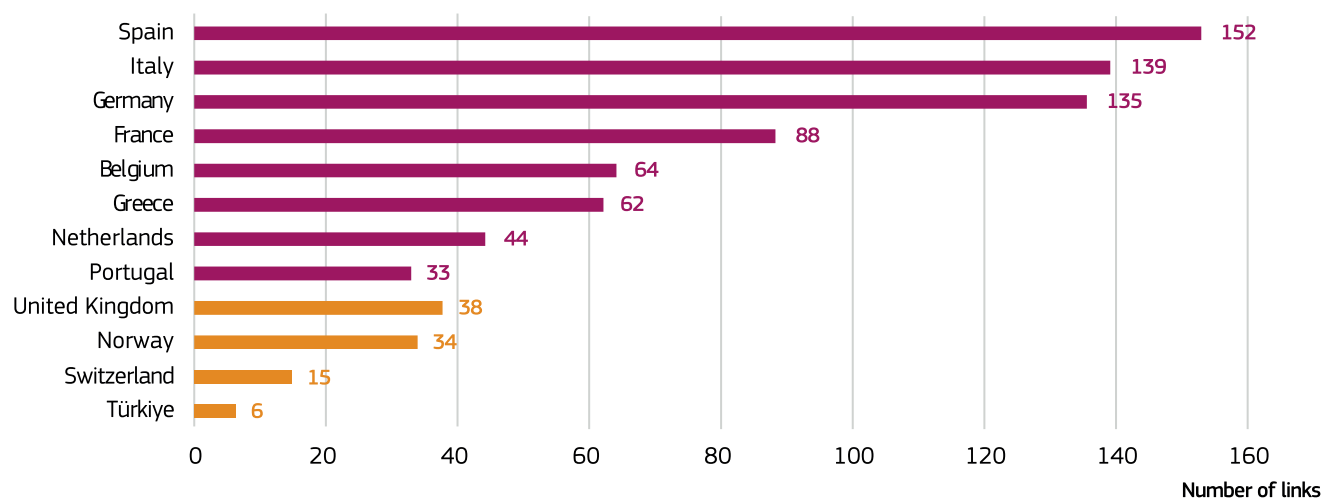
COMPLEMENTARY AND CUMULATIVE FUNDING

Within European Partnerships, Slovenia mainly uses state budget funding. The country has also endorsed cumulative funding through ESIF and national funding within the EuroHPC JU and the European Partnership on Innovative SMEs.

Co-financing of EuroHPC JU projects represents a significant administrative burden for Slovenia. This is why co-financing was not provided in 2023. It will be available in 2024.



FIGURE 3: Top collaborators with Slovenian researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.

There is no substantial difference in collaboration with other countries through European Partnerships and regular Horizon Europe calls. The first four countries are the same, as are the top third/Associated Countries, amongst which the highest levels of collaboration, both in terms of partnerships and Horizon Europe calls, are with Switzerland and Türkiye. The countries with which levels of collaboration are the highest correspond to a large degree to those which are the main destinations for Slovenian exports: Germany, Switzerland and Italy.



SUCCESS STORIES

- + Slovenia set up the VEGA supercomputer in 2021, 34.2 % of the funding for which came from the EuroHPC JU and 65.8 % from cohesion funds and the Slovenian national budget. HPC VEGA is now running at full computing power and with efficiency of over 80 % at all times, which is, in fact, close to maximum efficiency given the architecture of the embedded processors. The computer is currently one of the most popular EuroHPC systems, mainly because of the high-quality service it provides and the fact that it was the first system co-financed by the EuroHPC JU that was made operational and available in open access for European users. HPC Vega is of vital importance for the quality and competitiveness of Slovenian science.



ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Overall, Slovenia supports aspirations for greater open strategic autonomy. However, the country will continue to defend an open, fair, ambitious and balanced trade policy based on international rules. While working towards the objective of establishing the EU as an international science and innovation powerhouse and a valuable international partner in R&I, Slovenia also seeks to carve out a distinctive role for itself in the international community. In this respect, remaining as open as possible and closed only when absolutely necessary should continue to serve as the country's guiding principle. Although it acknowledges concerns related to European strategic autonomy, Slovenia stresses that measures to mitigate risks must not hinder work to address pressing global challenges, which cannot be done without honest and open global cooperation. Slovenia is of the view that any risks arising from international collaboration must be balanced against the risks of non-collaboration. In March 2023, the country adopted a strategy of internationalisation of higher education and science in the Republic of Slovenia until 2030 and, as stated, will raise the level of and strengthen bilateral cooperation with key European and global partners. Bilateral and multilateral cooperation will take place in line with the EU principle and value of a global approach in R&I, which will be transferred to the national internationalisation strategy, of which open strategic autonomy is a key part.



KEY HIGHLIGHTS

Spain currently participates in all of the European Partnerships, demonstrating the country's global interest and commitment in all thematic areas.

Spain's participation in partnerships has been very high from the beginning of Horizon Europe, and the country is currently one of the most active in the EU. The level of participation has been maintained, both at national and regional level, partly because European Partnerships have been opened to several types of institution, including research performing organisations (RPO).

The integration of the Spanish Research, Technology and Innovation System (SECTI) in the European Research Area (ERA), and specifically that of the Spanish State Plan for Scientific, Technological Research and Innovation (PEICTI), is one of the main reasons why Spain holds this prominent position in the European Partnership landscape, as it addresses the alignment of the main objectives and promotes the participation of Spanish entities (mainly RPOs and RFOs) in partnerships.

Participation in joint calls organised by partnerships allows Spanish researchers and entities to open their research to the ERA and encourages the internationalisation of research centres, so that they gain contacts and skills for future participation in framework programme calls and in other international environments.

Participating in **22**
European Partnerships
out of 22(*) (100%)

Increased - BMR 2022
value: 92%

Coordinating **1**
European Partnership
out of 16(**) (6%)

Similar to BMR 2022
value: 5%

Source: EC and country commitment letters – BMR 2022 refers to H2020 Partnership participation data

(*) Out of the 49 partnerships, 22 are relevant for country participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 2 579 million

in commitments in European Partnerships

Or **17%** of total commitments (*)
1 151% increase since BMR 2022
(EUR 206 million) (**)

EUR 17 990

per researcher FTE(***)

1 035% increase since BMR 2022
(EUR 1 584) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of Co-funded Partnerships, the respective figures from the grant agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30% of the EU top-up and 50% for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the change since the last BMR, the pre-call contributions were considered, instead of the actual national contributions, to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Spain considers partnerships a key European instrument for strengthening ERA, and its intention is to continue investing in the internationalisation of its national research system.

Spain actively participates in all areas of knowledge with links to European Partnerships and maintains a funding commitment that is balanced with its potential to participate in projects linked to Co-funded Partnership calls and also in the Institutionalised projects that require national contributions, such as the Key Digital Technologies Joint Undertaking (Chips JU) or the European High-Performance Computing JU (EuroHPC JU).

On the other hand, Spain considers that this type of instrument should be implemented only when it is not possible to achieve the desired objectives through the classic competitive instruments of the framework programme. This will be the basis of the Spanish contributions to the discussions on the new partnership environment foreseen during FP10.

DIRECTIONALITY

European Partnerships can be an appropriate tool for enhancing the coordination and directionality of regional, national and EU R&I policies and achieving Europe's objectives. Examples of directionality are evident in the development and acquisition of large equipment such as that promoted by the EuroHPC JU, where common effort has made possible the relaunch of European supercomputing with the ambition of leadership and autonomy.

In the field of health, Spain is specifically fostering different strategic areas in the framework of different European Partnerships and ERA-NETs, such as clinical studies initiated by investigators (ERA4Health), personalised medicine (EP PerMed), transformation of healthcare systems (THCS), rare diseases, cancer, neurosciences and pandemic preparedness.

Also, on the basis of participation in partnerships and H2020 calls, as well as the priorities of the Spanish Plan for R&I, Spain is willing to support strategic research areas such as energy, health, ICT and the environment, among others.

TABLE 1: Distribution of funding based on the EU net contribution to partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	3,39		3,39
Health (Horizon 2.1)	0,11	7,27	7,37
Digital, industry and space (Horizon 2.4)	183,21	60,50	243,71
Climate, energy and mobility (Horizon 2.5)	98,30	165,18	263,49
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		36,22	36,22
Total	285,01	269,17	554,17

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

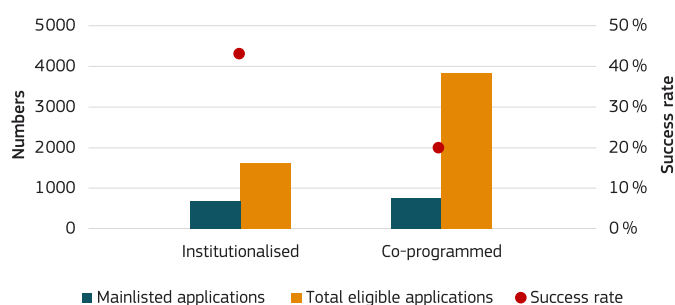
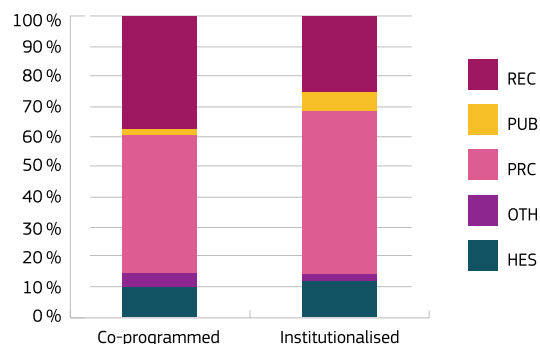


FIGURE 2: Types of project beneficiary (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

Fig 1: The differences between the success rates of Spanish proposers in Institutionalised and Co-programmed Partnerships are caused by internal differences between the instruments. The figures for Spain are very similar to the EU average. Those differences might be due to the fact that Institutionalised Partnerships have work programmes focused on very specific areas. Regarding the type of participants (Fig 2), the distribution of Spanish entities in partnerships is similar to that in the overall Horizon Europe programme, with private for-profit entities accounting for the highest share. The main differences between the two types of instrument are: higher participation of enterprises in Institutionalised Partnerships (55 % vs. 40 %), much higher participation of private research centres in Co-programmed Partnerships (35 % vs. 16 %) and very similar participation of universities in both types of partnership (11 % in Co-programmed Partnerships and 9 % in Institutionalised Partnerships).

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

Partnerships have contributed to the development of internationalisation activities and policies, including at bilateral level beyond the EU. The participation in the development of thematic SRIAs offers opportunities for including the Spanish R&I priorities in the EU research agenda and vice versa.

An example of additionality could be the case of EuroHPC JU. A common European effort has created a network of interests that has enabled the implementation and updating of high-performance computing in Europe.

Follow-up of R&I projects is mandatory for funding organisations. There have been success stories, but also failed projects, due to several causes, such as lack of funding in other countries, poor coordination and excessive interdependence of work packages, putting at risk the whole project in the event of the failure to deliver one work package.

In the field of personalised medicine, the dedicated ERA-Net, ERA PerMed, which is coordinated by Spain, has increased the participation of the research community, creating awareness of the importance of this approach. Additionally, alignment at Spanish national and regional level has been achieved in the area of personalised medicine, through specific specialisation strategies and dedicated programmes in this field (e.g. IMPACT).



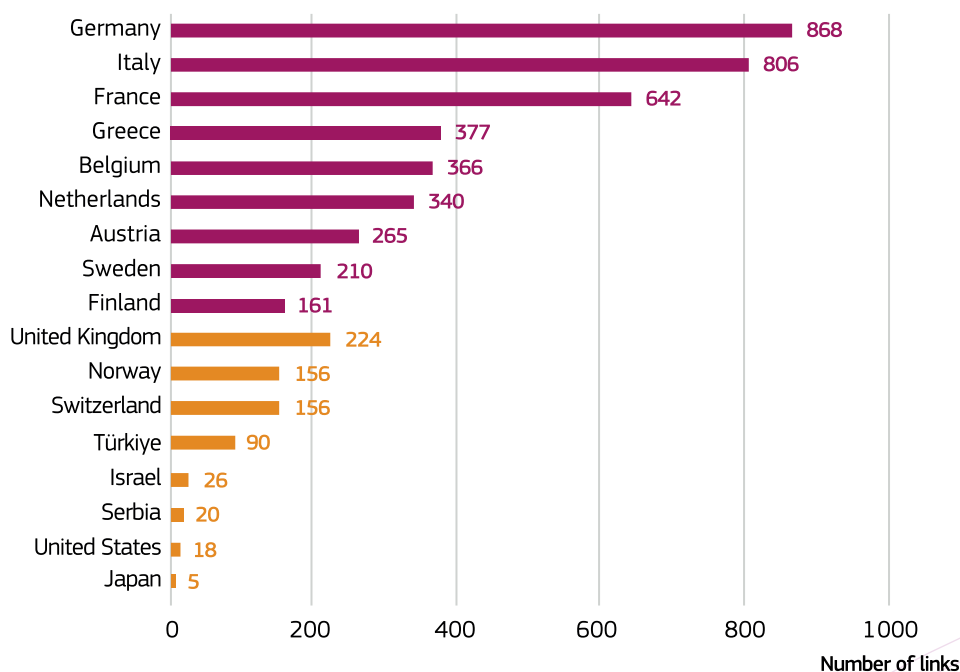
COMPLEMENTARY AND CUMULATIVE FUNDING

The Agencia Estatal de Investigación (AEI) has financed different national calls for funding for R&I projects thanks to the Recovery and Resilience Funds (RRF). Among them, proposals from European Partnership initiatives have been co-financed with RRF. In particular, six Proyectos de Colaboración Internacional (PCI) calls have been financed with an RRF contribution of EUR 78 million.

The Carlos III Health Institute (ISCIII) has funded different national R&D calls under H2020 and Horizon Europe, including from partnerships, in the public health and biomedical areas thanks to RRF, with a total contribution of approximately EUR 24.2 million.

An Institutionalised Partnership, the Circular Bio-based Europe JU (CBE JU), funded a demonstration project coordinated by an SME from Extremadura. This was the first pilot plant funded by the partnership and led by an SME. The company, which had its origins in a different Spanish region, established its newest factory in Extremadura with the support of Structural Funds (the European Regional Development Fund – ERDF) managed by the regional authority. This is a good example of synergies between a partnership and a different European funding instrument.

FIGURE 3: Top collaborators with Spanish researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.

Figure 3 demonstrates that Spain is very open to collaborating with all countries participating in European Partnerships. The number of collaborations clearly relates to the research potential of the different countries and their intensity of participation in partnerships. The possibility for Spanish researchers to collaborate with countries beyond the Member States at multilateral level in the framework of European Partnerships is an added value, since it is not easy to develop bilateral collaborations with all countries. In addition, there is a certain degree of assurance that third countries taking part in partnerships share European values, and this is also important.



SUCCESS STORIES

- ✦ Alignment of PEICTI and the Horizon Europe programme with ERA.
- ✦ Maintenance of a national Joint Programming Working Group, under the auspices of the Ministry of Science, Innovation and Universities, for monitoring and coordination of Spanish participation in European Partnerships and other related activities.
- ✦ Operation of a simplified national grant process as a sort of 'seal of excellence' for the allocation of funds, based on the automatic acceptance of peer reviews carried out during the international evaluation.
- ✦ Spain actively participates in the EuroHPC JU and thanks to this common European effort, during the Spanish Presidency of the Council of the EU in the second semester of 2023, one of the world's most complete and versatile systems serving the scientific community was inaugurated in Spain.
- ✦ Partnerships with a dual objective – scientific-technical and bringing two neighbouring regions together – such as the Partnership for Research and Innovation in the Mediterranean Area (PRIMA), are undoubtedly a good example of pan-European effort and development of the ERA concept.
- ✦ Spain continues to participate in partnership initiatives promoted by the European Commission in previous framework programmes, which have proven to be excellent fora for R&I collaboration with other regions. Good examples include EU-LAC ResInfra, EULAC PerMed, SINCERE, ENIRCH in LAC and the European Interest Group (EIG) CONCERT-Japan.
- ✦ The impact of the JUs in general, and the new Chips JU in particular, will presumably be very important for the Spanish research community but especially for industry and its involvement in pilot lines and competence centres.
- ✦ The Clean Aviation JU builds on extensive experience on synergies with regions and countries gained from the Clean Sky 2 JU through the signature of 18 memoranda of understanding and the launch of 52 national/regional-funded projects in the period 2014–2020. In this new stage, the Clean Aviation JU is looking for concrete actions with a real commitment, mainly focusing on RIS3 frameworks and utilising the ERDF operational programmes in place or under preparation for 2021–2027. So far, the Clean Aviation JU has signed memoranda of cooperation with three Spanish regions to define a joint strategic roadmap on net-zero aviation at a first stage, and to align programmes and funding at a second stage.
- ✦ In addition, Clean Aviation JU has put in place a system of agreements to make it possible to fund projects regionally, thus offering a good example of synergies. One of the examples was the agreement reached by the JU and the Region of Andalusia.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Spain is committed to the technological independence of Europe in a manner that ensures the conservation of its values, a sustainable economy and the maximisation of scientific and technical collaboration beyond its borders.

European Partnerships are an interesting tool for the promotion of scientific collaboration between regions. Examples include PRIMA and other self-sustaining initiatives such as EIG CONCERT-Japan or ERANet-LAC (currently EIG EU-CELAC).



KEY HIGHLIGHTS

Sweden has a long history of active participation in numerous public and industry-led European Partnerships. The country's high investment in R&I and international collaboration contributes to its status as a frontrunner in innovation and a knowledge society in which R&I promotes climate neutrality, fairness, resilience and industrial competitiveness. European Partnerships make a vital contribution to this and are a tool for reaching common objectives. In the national Horizon Europe strategy, partnership funding has been further integrated with national R&I funding priorities. The National Research Bill is currently being revised, with a new bill likely to be proposed in late 2024. Moreover, the effectiveness of the national Horizon Europe strategy will be assessed during spring 2024.

Participating in **21**
European Partnerships
out of 22(*) (95.45%)

Increased - BMR 2022
value: 78%

Coordinating **1**
European Partnership
out of 16(**) (6.25%)

Similar to BMR 2022
value: 6%

Source: EC and country commitment letters – BMR 2022 refers to H2020 Partnership participation data

(*) Out of the 49 partnerships, 22 are relevant for country participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 536 million

in commitments in European Partnerships

Or **3.55%** of total commitments (*)

139% increase since BMR 2022
(EUR 223 million) (**)

EUR 6 584

per researcher FTE(***)

110% increase since BMR 2022
(EUR 3 126) (**)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of Co-funded Partnerships, the respective figures from the grant agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30% of the EU top-up and 50% for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the change since the last BMR, the pre-call contributions were considered, instead of the actual national contributions, to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017-2021 based on EUROSTAT data.



KEY INTENTIONS FOR THE FUTURE

Swedish engagement in ongoing European Partnerships will continue. The country plans to commit substantial resources to the upcoming partnerships under the second strategic plan.

Sweden has already increased its engagement in many partnerships, contributing to management, strategic development and co-creation of calls, as well as substantially increasing its financial contribution. Moreover, the country has taken up key coordination, board and chair functions and engaged in consultations with relevant stakeholders for the benefit of the partnerships and the development of communities in the field of science policy.

Sweden is positive about efforts to establish partnerships in the social sciences and humanities, as these partnerships will close existing gaps.

DIRECTIONALITY

Swedish national R&I priorities are climate and the environment, health and welfare, digitalisation, skills and working conditions, and a strong and democratic society.

The priorities are well reflected in the commitments made to European Partnerships under Horizon Europe, as are Swedish industrial strengths: transport, health, ICT, energy technology, forestry, raw materials and manufacturing. The upcoming European Partnerships cover these areas well and Sweden is committed to participating in most of these partnerships. Some partnerships have proven useful for integrating industrial actors into EU-funded R&I activities.

TABLE 1: Distribution of funding based on the EU net contribution to partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	0,70		0,70
Health (Horizon 2.1)	0,03	4,72	4,75
Digital, industry and space (Horizon 2.4)	23,26	22,40	45,66
Climate, energy and mobility (Horizon 2.5)	41,50	40,05	81,54
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		3,47	3,47
Total	65,48	70,63	136,12

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.



FIGURE 1: Eligible proposals, projects and success rates

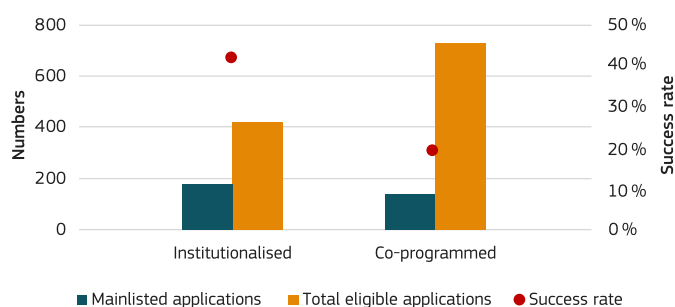
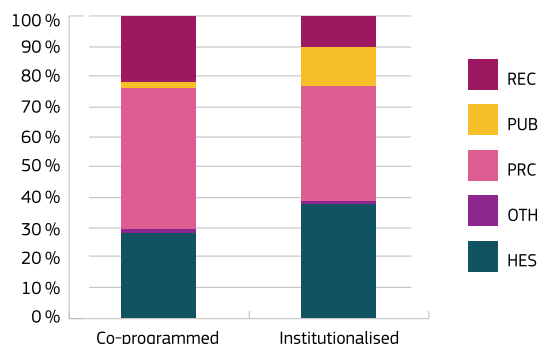


FIGURE 2: Types of project beneficiary (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.

HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

Compared with its participation in partnerships under H2020, Sweden has increased its influence on the directionality of the partnerships, their SRIAs and the policy output that they will generate for future EU programmes. In line with this, Sweden has increased its financial commitments to several partnerships.

Moreover, during the Swedish Presidency of the Council of the EU in the first half of 2023, Sweden arranged several meetings and fora for exchange on ongoing and upcoming European Partnerships.

COMPLEMENTARY AND CUMULATIVE FUNDING

Sweden has launched 13 national research programmes and 17 strategic innovation programmes to tackle common challenges that the EU and its Member States face. Strengthening links with European research and implementing ERA are among the aims of these programmes, which are important instruments for creating synergies between national funding and European Partnerships.

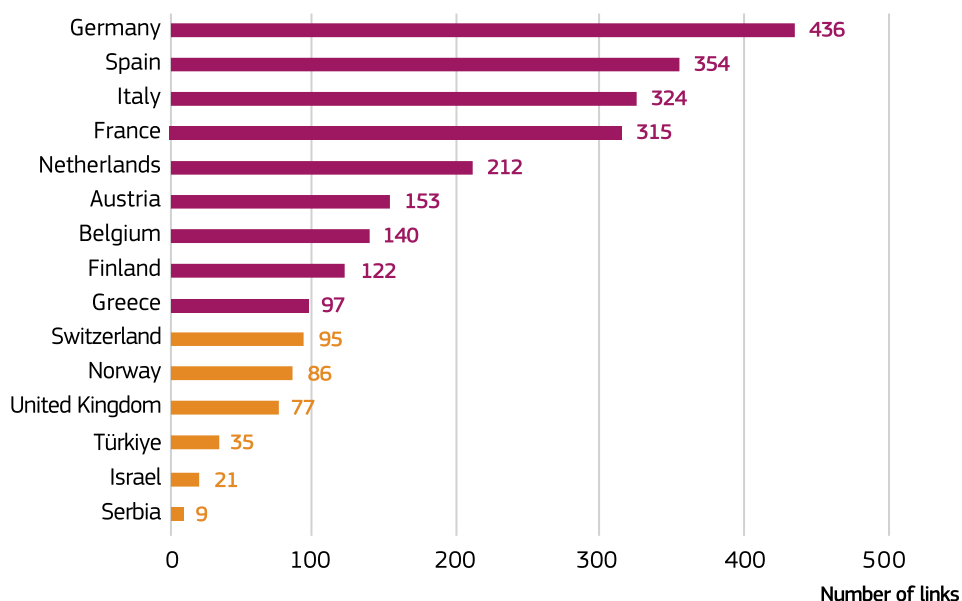
Potential synergies between partnerships and other EU funds have not hitherto been used to any great extent. Sweden has followed up on its ambition to leverage synergies under Horizon Europe more effectively. This has been done through wider implementation of smart specialisation. A recent report has identified potential actions to further develop synergies from the regional to the national and international level (2021-03174-slutrapport-inkl.-bilagor.pdf (vinnova.se)).

Moreover, Sweden invests heavily in funding Seal of Excellence holders planning to join Swedish institutions through the MSCA or the ERC. It also provides opportunities for former MSCA fellows to embark on careers in Swedish industry.

The national strategic innovation programmes are currently being refined. Suggestions of how they could better match EU programmes have been made as part of the elaboration of the new national R&I strategy.



FIGURE 3: Top collaborators with Swedish researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.

Among non-EU countries, Switzerland, Norway, the UK and Israel are traditionally important collaboration partners for Swedish entities. This is reflected in the collaborations under Horizon Europe. Specific national innovation initiatives are in place for Germany, France, Switzerland and Israel, among other countries.



SUCCESS STORIES

- ✦ FP7 inspired Sweden to create an EU-coordination function to enhance cooperation and synergies between national funding agencies. As reported in BMR 2022, the coordination function is continuing its activity under Horizon Europe. Around EUR 20 million a year is earmarked for national co-funding of partnerships via the EU-coordination function.
- ✦ The Joint Programming Initiative on Antimicrobial Resistance (JPIAMR), which is still ongoing and is coordinated by Sweden, has inspired national R&I programmes in Sweden, as well as improving policy alignment in the area of antimicrobial resistance.
- ✦ European Partnerships and Swedish thematic R&I programmes have derived mutual inspiration for the definition of priorities for their respective actions. Under H2020, European Partnership programmes inspired Swedish programmes to tackle societal challenges through national programme committees and strategic R&I agendas.
- ✦ The EU has created additional opportunities for funding and allows Swedish stakeholders to collaborate more widely across the EU, thereby widening ERA, stimulating co-production of knowledge, building trust and increasing the visibility of results.
- ✦ Eurostars is a valuable instrument for innovative Swedish SMEs performing R&D. Sweden has seen a general rise in competitiveness and project quality. The country is particularly successful in the areas of biological sciences, energy, ICT, manufacturing and materials – thematic areas that are in line with national priorities.
- ✦ Sweden's strong position in computational science has been reinforced by its participation in the EuroHPC JU. Swedish researchers have been very successful in securing high-performance computing (HPC) resources, both in allocation rounds and as participants and coordinators of EuroHPC JU-funded projects. In the 2022 EuroHPC JU call for centres of excellence, 5 of the 10 successful consortia had a Swedish member.
- ✦ The EuroHPC JU-funded Swedish National Competence Centre for HPC (ENCCS) was renewed for a further 3 years. It has become a successful national HPC-resource hub for industry, public administration and academia.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Sweden wants to see the EU take a balanced position, in which long-term EU competitiveness and openness to the world economy are at the core of European strategic autonomy. Sweden maintains that open global cooperation is beneficial for European R&I.



KEY HIGHLIGHTS

European Partnerships are structured and strategic initiatives which facilitate cooperation on strategic research policies, global challenges and common goals. Their priority areas are aligned with Turkish national R&I policy.

Türkiye's 12th development plan (2024–2028) sets out the country's main strategy for the coming years. It focuses on the green and digital transitions, which are also prominent areas of focus for the European Partnerships.

Allocation of national funds to support the participation of national stakeholders in European Partnerships is of critical importance for the further integration of the Turkish Research Area (TARAL) with ERA. Participation in European Partnerships is an efficient way of facilitating closer cooperation of Turkish stakeholders with the EU.

A new national support programme, TÜBİTAK 1709 – EUREKA-EUROSTARS, has been developed to facilitate industry-academia cooperation on Eurostars-2 projects and the results of the first calls are very promising.

Participating in **15**
European Partnerships
out of 22(*) (68%)

Coordinating **0**
European Partnerships
out of 16(**) (0%)

Source: EC and country commitment letters – BMR 2022 refers to H2020 Partnership participation data

(*) Out of the 49 partnerships, 22 are relevant for country participation – this is the 'total' number of participations referred to here.

(**) Out of the 22 partnerships that are relevant for country participation, countries can coordinate 16 Co-funded ones.

EUR 103.6 million

in commitments in European Partnerships
or **0.69%** of total commitments (*)

EUR 748

per researcher FTE(***)

Source: EC and country commitment letters

(*) The figure is estimated based on the commitment letters sent by the country to the EC. For the first batch of Co-funded Partnerships, the respective figures from the grant agreements were considered in the absence of commitment letters for Bulgaria, Luxembourg and Romania, i.e. FSTP as the in-cash contributions and the rest as in-kind contributions minus 30% of the EU top-up and 50% for PARC.

(*) Commitment letters for the second batch of the Co-funded Partnerships from Croatia, Luxembourg and Romania are missing and thus not included in the total commitments.

(**) The country fiches in the previous BMR showed the actual contributions instead of commitments. For the estimation of the change since the last BMR, the pre-call contributions were considered, instead of the actual national contributions, to allow comparison.

(***) Commitments per researcher are the total commitments by a country divided by the number of researchers, estimated on the basis of the FTE average for 2017–2021 based on EUROSTAT data.

KEY INTENTIONS FOR THE FUTURE

Türkiye was an active member of Horizon Europe during the first wave of European Partnerships and has made financial and in-kind contributions to the second wave. The country will be part of the new partnerships to be identified in the Horizon Europe strategic plan 2025–2027. The European Partnerships should continue to foster cooperation between the EU and Türkiye.



DIRECTIONALITY

Türkiye's 12th development plan is the main document outlining the country's principal strategic targets, including science, technology and innovation objectives. The plan embraces a vision of Türkiye as a resilient, environmentally friendly, prosperous country that creates value based on advanced technology and focuses on the green and digital transitions. The national priority areas listed in the plan are aligned with the targets of European Partnerships and EU policies. Türkiye will continue to commit to the European Partnerships in order to meet its national targets.

TABLE 1: Distribution of funding based on the EU net contribution to partnership projects (million euros)

HE CLUSTERS	CO-PROGRAMMED	INSTITUTIONALISED	TOTAL
Research infrastructures (Horizon 1.3)	0,06		0,06
Health (Horizon 2.1)			
Digital, industry and space (Horizon 2.4)	6,51	10,20	16,71
Climate, energy and mobility (Horizon 2.5)	15,33	11,58	26,90
Food, bioeconomy, natural resources, agriculture and environment (Horizon 2.6)		0,42	0,42
Total	21,90	22,20	44,09

Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument.

FIGURE 1: Eligible proposals, projects and success rates

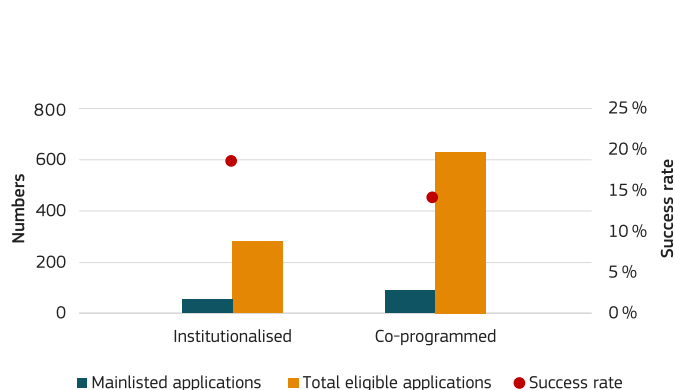
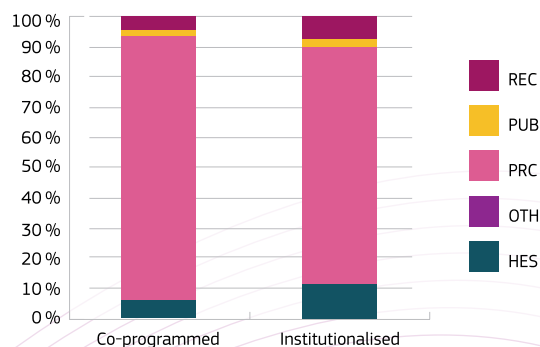


FIGURE 2: Types of project beneficiary (%)



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG based on certain information in the database: call, topic, topic description, and instrument. HES: higher education; OTH: other; PRC: private for-profit companies; PUB: public bodies; REC: research organisations.



Based on the findings shown in figure 1, the success rates of Turkish stakeholders in the calls of both Institutionalised and Co-programmed Partnerships are higher than the country's overall success rate in Horizon Europe. The number of applications for Co-programmed Partnerships is higher since the content of these partnerships is better aligned with national priorities such as batteries and zero-emission vehicles. Also, it is easier to establish collaborations within co-programmed calls. With regard to Institutionalised Partnership calls, the number of funded projects per topic is quite low and it is difficult to get into the right consortia. Turkish stakeholders that have managed to join the core group for carrying out flagship projects have been successful. Additionally, Turkish stakeholders are much more active in Institutionalised Partnerships like the KDT JU (now Chips JU), which require national co-funding.

Private-sector organisations are the most successful in terms of project participation, both in Horizon Europe overall and through partnerships. Their level of success is even higher in Institutionalised and Co-programmed Partnerships since the content of such partnerships is of interest to Turkish industry.

ADDITIONAL ACTIVITIES TRIGGERED / IMPACT OF EU CONTRIBUTION

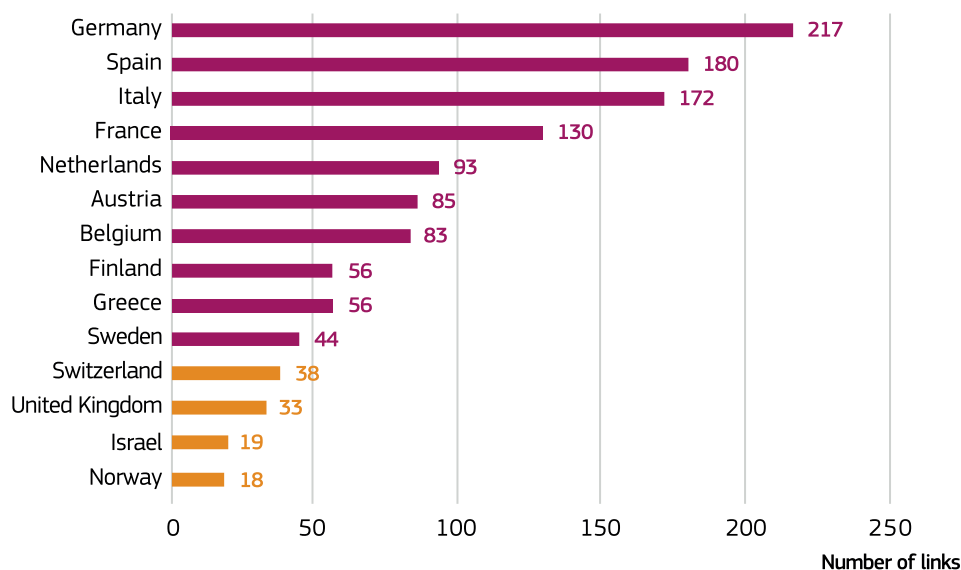
Increased involvement of SMEs in international R&I collaboration activities is strategically important for fostering cooperation and competitiveness in European and Turkish industry. Eurostars-3 is a key tool for facilitating transnational collaboration between countries in close geographical proximity in order to address societal challenges. TÜBİTAK 1709 – EUREKA-EUROSTARS should enhance the participation of Turkish stakeholders in Eurostars-3 calls. It is intended to support international R&D projects aimed at developing innovative products, processes and services for the market and involving partners from Türkiye and at least one other Eurostars member country. It should thus increase knowledge levels among Turkish companies, universities and public institutions through technology transfer from international organisations working in similar fields. In projects submitted for these calls, higher education institutions, public research centres and institutes, training and research hospitals, and research infrastructures within the scope of Law No. 6550 can partner with companies. The R&D costs of the projects are covered at the following rates: 60 % for large companies, 75 % for SMEs and 100 % for other entities.

COMPLEMENTARY AND CUMULATIVE FUNDING

As an EU Candidate Country, Türkiye cannot use other EU programmes to create synergies with EU Partnerships. Turkish stakeholders therefore receive support from national funds as a complement to the EU contribution. For instance, in KDT JU calls, Türkiye has committed a significant amount of national funding as a complement to the European Commission contribution in order to ensure the active participation of the Turkish R&I ecosystem.



FIGURE 3: Top collaborators with Turkish researchers under European Partnership projects and links with selected third/Associated Countries



Source: EC eCORDA – Cleaned up and further elaborated by FFG and the expert group. Cut-off date: August 2023. No Co-funded Partnership projects are covered as the data are not yet in the system. The status of a project belonging to a partnership and hence a partnership type was created manually in FFG, based on certain information in the database: call, topic, topic description, and instrument.

Türkiye has been trying to expand international collaboration in STI areas by establishing bilateral and multilateral cooperation both with EU and non-EU countries. Horizon Europe and its European Partnerships are efficient tools for joining forces to co-create solutions to common problems.

In Horizon Europe, Turkish stakeholders are open to cooperating with all EU Member States and Associated Countries. For the most part, Turkish stakeholders have collaborated with the same countries in both general Horizon Europe calls and European Partnership projects. Although figure 3 does not include numbers of Co-funded Partnerships, it has been observed that Co-funded Partnerships are important steps for Turkish researchers in starting international collaboration, creating networks and channelling the links they have established into Horizon Europe calls for proposals.



SUCCESS STORIES

- ✦ Türkiye committed a considerable amount of its national budget to the KDT JU, and Turkish stakeholders participated in KDT JU calls more actively than in calls launched by the KDT JU's predecessor, ECSEL JU. In the 2021 calls for proposals, Turkish participants were involved in almost half of the eligible proposals and KDT JU-funded projects. The success rate of the Turkish participants was approximately 50 %. This rate was maintained in 2022.
- ✦ Turkish stakeholders have shown great interest in the calls of partnerships such as SBEP, DUT, CETP and Water4All which work towards green transition objectives and involve high numbers of proposals. The level of dedication is quite promising in terms of maintaining levels of commitment to European Partnerships.
- ✦ The TÜBİTAK 1071 programme is a commonly used instrument for partnership calls that necessitate national contributions. It facilitates targeted international cooperation and the establishment of strategic R&I partnerships, offering flexibility tailored to the requirements of transnational calls. Its popularity in partnership calls like those for Co-funded Partnerships and the KDT JU stems from its ability to effectively coordinate collaboration among academia, industry and public organisations at national level.
- ✦ The TÜBİTAK 1709 – EUREKA-EUROSTARS programme has been launched to enhance the participation of Turkish stakeholders in Eurostars-3 calls. It fosters industry-academia cooperation, and a dramatic increase has been observed in terms of numbers of applications and funded projects under Eurostars-3 compared with Eurostars-2.

ADDRESSING EUROPEAN STRATEGIC AUTONOMY

Technological sovereignty is the ability to develop, deploy, apply, source and guarantee the integrity of a number of key technologies that have become instruments of power in a period characterised by intensive geopolitical competition. In order to ensure European technological sovereignty, EU Member States and Candidate Countries should strengthen collective means of protecting these key technologies. As for the partnerships, cooperation plays a crucial role in ensuring European technological sovereignty, along with competition and co-competition. Digital technologies are the hot topic in this regard. A legal framework should be established to lay down common rules and check lists should be drawn up. Associated Countries, and particularly Candidate Countries, should not be excluded from the development and implementation of these frameworks, given their short/long-term membership perspectives.



4. PROFILES OF EUROPEAN PARTNERSHIPS

HIGHLIGHTS OF THIS CHAPTER

The landscape of European Partnerships and how it has evolved since the BMR 2022 is described in Chapter 1.

The **alignment between PSIPs and KPIs, and Horizon Europe objectives and other major European objectives can already be considered good**. However, longer-term efforts to establish a more coherent and consistent set of indicators related to key European objectives could ensure an even more solid basis for monitoring and verifying performance and impacts within the European Partnership landscape and across wider ranges of policies and policy initiatives.

While still somewhat variable in quality, the **partnership fiches provide a good overview of and insight into European Partnerships**.

4.1 ANALYSIS OF EUROPEAN PARTNERSHIP KPIS

4.1.1 METHODOLOGICAL NOTES

First, while most partnerships in line with the definition and recommendations from the BMR 2022 and related expert reports and guidelines, have defined and selected between 10 and 20 KPIs for inclusion in the BMR (see the extensive guidelines developed in the interim Report 1 of the previous expert group⁶⁸, it has to be acknowledged that, in particular, the content on the concrete quantitative or qualitative baselines, targets, and objectives is largely missing. Only a minority of partnerships presents a fully completed KPI table. The expert group will further analyse the reasons of this high degree of incompleteness, in spite of this being the second exercise, and report to the European Commission including recommendations to achieve a fully completed set of KPI tables for the BMR 2026. The current status of (in)completion complicates any aggregated analysis with respect to, for example, the contribution to higher-level objectives in terms of climate, digital transition and resilience, alongside other perspectives.

Therefore, only a **content-based analysis** of the selected KPIs themselves could be executed (not the progress against them), which only provides the main directions or orientations of KPIs towards certain larger input, outcome or impact categories. **The analysis which follows does not permit to take any conclusions towards either the actual performance of the partnership(s) in terms of efficacy or impact, nor the quality of their monitoring system(s) or defined KPIs.** Both of these elements are to be evaluated by specialised expert groups within formal evaluation processes, while this chapter in the BMR mainly serves the purpose to provide a harmonised overview of individual partnership performance, based on the KPIs the partnerships themselves select within the proposed format to be communicated to a broader audience of policy makers at various government levels, the broader public and other stakeholders with an interest in the EU R&I partnership landscape. Any comparison between individual partnerships, or individual partnerships against aggregated cluster or type performance is thus inappropriate given the freedom offered to partnerships to work with the harmonised concepts available, such as the PSIPs and the structure of the KPI table with strict limits, e.g. in terms of the number of KPIs, as well as differences in terms of overall orientations, scope and history/context (including the lifecycle), which makes any head-to-head benchmarking largely irrelevant.

68 [A robust and harmonised framework for reporting and monitoring European Partnerships in Horizon Europe - Publications Office of the EU \(europa.eu\)](#)



To provide at least some actionable insights into the KPIs reported in the BMR we employ a basic content analysis⁶⁹. This approach involves clustering the available KPIs into groups, to explore their characteristics from both qualitative and quantitative angles. This methodology, which allows us to work with datasets that are only partially complete, is described in the separate technical document complementing the BMR 2024.

In addition to the breakdown of KPIs based on the input/output-outcome/impact model, all partnership KPIs were allocated to five key areas, typically used in the literature to assess R&I programme performance. These areas are:

1. Innovation and research output;
2. Impact on policy and society;
3. Collaboration and network expansion;
4. Resource utilisation and efficiency;
5. Capacity building and skills development.

This framework facilitates a better understanding of the direction of the selected KPIs for the sole purpose of the BMR, i.e. an externally-oriented document aimed at a broader audience. Each area highlights distinct and essential facets of a partnership's expected contributions.

(1) 'Innovation and research output' is scrutinised to gauge the concrete advancements in knowledge and technology emanating from collaborative endeavours. This area focuses on the genesis of transformative ideas that have the potential to redefine industry standards or everyday practices. The associated indicators form a monitoring framework to gauge the effects and progress along several dimensions of innovation and research. Indicators such as the number of patents filed or granted, publications in peer-reviewed journals, citation indexes, and the development and market impact of new products or technologies are quintessential in this area.

These kinds of metrics collectively offer a robust measure of an entity's contribution to the advancement of knowledge and innovation. They not only showcase the intellectual output but also highlight the practical applicability and economic significance of research efforts, serving as critical benchmarks for evaluating the efficacy and influence of research and development activities. The rationale behind 'Innovation and research output' are fundamental drivers of competitiveness, economic growth, and societal progress. This group of indicators is grounded in the innovation systems approach, which emphasises the importance of generating new knowledge and translating it into practical applications.

(2) The evaluation of **'impacts on policy and society'** involves an analysis of how these collaborative efforts extend their influence beyond their immediate scope, affecting lives and shaping policies. This dimension assesses the broader implications of partnerships, emphasising their role in addressing societal issues and enhancing collective well-being. The purpose here delves into evaluating the influence of research and organisational activities on policymaking, social change, and tackling societal issues. It leverages indicators such as those mentioned in policy documents, case studies that highlight social impact, research-driven changes in regulations, and contributions towards major societal challenges, including social advancements at the levels of, for example, health and education, economic growth, and environmental sustainability. These kinds of metrics serve as a barometer for gauging the real-world impact and relevance of these endeavours in shaping societal and policy landscapes.

69 Our first approach envisaged was to carry out a horizontal and vertical analysis of the submitted KPI tables and, in particular, the KPIs based on the data collected for BMR 2022 and 2024. However, after sifting through 44 partnership fiches, each lacking in envisaged KPI targets and their realisation (about 75 % of the desired metrics - in particular the targets towards 2025 and 2027, were absent), a pivot to a basic content analysis of the KPIs was needed.



(3) The aspect of **'collaboration and network expansion'** examines how partnerships contribute to forging stronger connections within their ecosystems. This group of indicators scrutinises the scale and depth of an entity's collaborative efforts. It assesses the diversity and volume of partnerships, such as liaisons with academia, industry, and government. Further, it evaluates participation in joint projects, co-authorship in publications, co-patenting, and the extent of international cooperation. These kinds of indicators highlight the essential role of interdisciplinary and cross-sectoral collaborations in driving forward innovation and expanding the knowledge ecosystem.

(4) Focusing on **'resource utilisation and efficiency'**, this area examines how efficiently an entity manages and employs its resources, be it financial, human, or material, to fulfil its objectives and deliver results. It employs indicators like the ratio of research or innovation outputs and/or outcomes relative to investment, project cost-effectiveness, the usage rates of facilities and equipment, the efficiency of project completion, and the returns on investment for various endeavours. These metrics are essential for assessing the strategic and productive use of resources towards impactful achievements. In the context of the BMR as a report towards external parties (including broader stakeholder communities), and the often technical nature of resource efficiency indicators and/or lack of stand-alone meaningfulness, we expect these to be somewhat underreported within the BMR (whereas they are reported in other formal processes both internal and external to the partnership). For example, weighing a Circular Economy factory of the future, which costs EUR 5 million to develop in one year, against a new treatment of a rare disease costing the same over three years, makes little sense within the perspective of what the BMR intends to achieve. It is up to individual, formal evaluations with domain experts involved to make those assessments.

(5) Finally, **capacity building and skills development** concentrates on the human element of partnerships. This criterion valorises initiatives aimed at enhancing the capabilities and opportunities of individuals and organisations, thereby fostering a culture of continuous learning and growth. The focus here is on assessing the commitment to enhancing skills, knowledge, and capabilities within an organisation or the broader society. It looks at the number and scale of training programs, initiatives aimed at improving skills, mentorship, and development opportunities for newcomers in the field, the expansion of educational infrastructure, and efforts in curriculum development in relevant areas. These kinds of indicators are crucial for understanding how dedicated an entity is to fostering growth and development among its members and the community it serves.

Collectively, these dimensions encapsulate the essence of what constitutes a truly effective and impactful collaboration, offering a holistic assessment framework.

A common visualisation and representation pattern in order to set up synthetic analysis is to use heatmaps. The heatmaps were developed calculating the number of indicators per category. Through a simple visual representation, heatmaps offer comparative analysis, facilitating the comparison of the orientation of KPIs across different dimensions and allow to identify patterns and correlations. This visualisation method was chosen as a standard graphical representation in the next sections.

4.1.2 ANALYSIS OF KPIS PER CATEGORIES

The different KPIs collected are all relatively different in terms of units of measurement, number and quality, depending on the different partnerships. However, the data collection standard means that the number of KPIs is relatively homogeneous and can be interpreted from the different heatmaps without having to standardise the different responses.

An initial analysis of the different heatmaps show that the 'innovation and research output' category of indicators clearly takes over across the portfolio of European Partnerships.



Several factors contribute to the relative ease of developing and reporting KPIs within the domain of innovation and research output. This category is characterised by the presence of quantitative indicators, such as the number of research papers published, or prototypes developed. The direct measurability of these metrics significantly simplifies the process of defining and monitoring KPIs, reinforced by the definition of clear objectives for these activities within innovation and research. These elements collectively explain the tendency for the innovation and research output KPIs to facilitate the future aggregation of KPIs in this domain. Through the lens of this analysis, it becomes evident that the innovation and research output KPIs category is the most prevalent among all partnership monitoring frameworks. This category is therefore also present within the Key Impact Pathways where an aggregated measurement over all partnerships will be conducted. In our content-based exercise, we only highlight to which extent partnerships put this category of indicators at the forefront when reporting a limited set of KPIs within a report oriented at a broader stakeholder audience.

The first analysis was led by clusters. Looking at each cluster’s key performance indicators pattern, this analysis offers insights into the operational effectiveness and strategic focus of these partnerships.

The EIT KICs’ indicator frameworks are notable for their concentration in innovation and research output indicators. This suggests its interest to serve as a foundation for groundbreaking discoveries and transformations.

FIGURE 49. EIT KPI’s analysis

Cluster	Innovation and research output	Impact on policy and society	Collaboration and network expansion	Resource utilisation and efficiency	Capacity building and skill development
EIT	6	1	1	5	0
EIT	5	3	1	1	0
EIT	4	2	1	2	1
EIT	11	3	0	0	2
EIT	5	2	3	1	1
EIT	7	2	4	0	0
EIT	7	1	3	1	3
EIT	10	0	0	1	2

The indicator frameworks of Custer 1, especially pronounced in collaboration and network expansion alongside capacity building and skill development, is balanced and reflects a core and common strategic alignment towards providing advanced health and medical high value-added results.



FIGURE 50. Cluster 1 KPIs analysis

Type of Partnership	Innovation and research output	Impact on policy and society	Collaboration and network expansion	Resource utilisation and efficiency	Capacity building and skill development
Institutionalised Partnerships	6	1	6	1	1
Institutionalised Partnerships	3	2	1	2	3
Co-Funded Partnerships	4	2	4	1	2
Co-Funded Partnerships	2	3	1	4	1
Co-Funded Partnerships	9	4	5	2	0
Co-Funded Partnerships	8	2	1	3	4
Co-Funded Partnerships	2	3	1	1	3
Co-Funded Partnerships	8	1	14	2	5

Cluster 4 encompasses a diverse array of partnerships with technological or industrial orientations with different types of funding. A moderate to high balance is achieved across various indicator categories, although there is overall a relatively lower focus on policy and society, despite Cluster 4 being an area ripe for enhanced engagement and influence. This could be linked to the methodological challenges related to linking their outcomes in a causal way to impacts, and/or the very specific nature and orientation of some partnerships (in terms of technology or sector). In general, given the larger footprint of industry partners within the partnership’s management, these are also prone to a more focused, ‘less-is-more’ approach when it comes to reporting indicators, as recommended by the expert group, and thus somewhat leading to bias when comparing them against other clusters or partnerships. In particular, the Co-programmed Partnerships such as Photonics, Clean Steel, Made In Europe and Processes4Planet truly serve as best-in-class examples for the entire portfolio of partnerships in terms of KPI definitions and high-quality monitoring systems as a whole (some even being the only ones reporting actual performance against targets in the 2024 BMR).

FIGURE 51. Cluster 4 KPIs analysis

Type of Partnership	Innovation and Research Output	Impact on Policy and Society	Collaboration and network expansion	Resource utilisation and efficiency	Capacity Building and skill Development
Institutionalised Partnerships	9	1	3	1	0
Institutionalised Partnerships	5	1	2	1	0
Institutionalised Partnerships	5	2	3	1	0
Institutionalised Partnerships	4	2	0	2	1
Co-Programmed Partnerships	8	1	1	1	2
Co-Programmed Partnerships	1	2	3	2	2
Co-Programmed Partnerships	10	0	1	0	1
Co-Programmed Partnerships	5	2	3	2	1
Co-Programmed Partnerships	7	2	1	1	1

Cluster 5 stands out for its particularly high focus on innovation and research output, along with its impact on policy and society. This cluster orients their performance management system towards generating innovative outcomes and shaping policy and societal norms, thereby establishing a model for impactful engagement. Most partnerships are mature partnerships with predecessors from the previous Framework Programme and established monitoring systems, some being also best-in-class when it comes to the content delivered on the partnership fiche.

FIGURE 52. Cluster 5 KPIs analysis

Type of Partnership	Innovation and research output	Impact on policy and society	Collaboration and network expansion	Resource utilisation and efficiency	Capacity building and skill development
Institutionalised Partnerships	14	2	2	3	2
Institutionalised Partnerships	6	3	4	1	0
Institutionalised Partnerships	7	0	2	3	1
Institutionalised Partnerships	12	4	0	2	0
Co-Programmed Partnerships	7	2	2	1	0
Co-Programmed Partnerships	6	1	3	1	0
Co-Programmed Partnerships	8	1	0	1	0
Co-Programmed Partnerships	7	1	0	0	1
Co-Programmed Partnerships	3	2	2	0	2
Co-Funded Partnerships	3	1	5	0	1
Co-Funded Partnerships	2	5	4	1	0

Cluster 6 showcases a high focus on aspects of collaboration and network expansion, as well as capacity building and skill development. However, resource utilisation and efficiency is particularly lightly addressed by their monitoring frameworks. This cluster mainly comprises of new partnerships, some of which have just started operating, and are potentially in need of more experience and maturity when it comes to designing balanced monitoring systems.

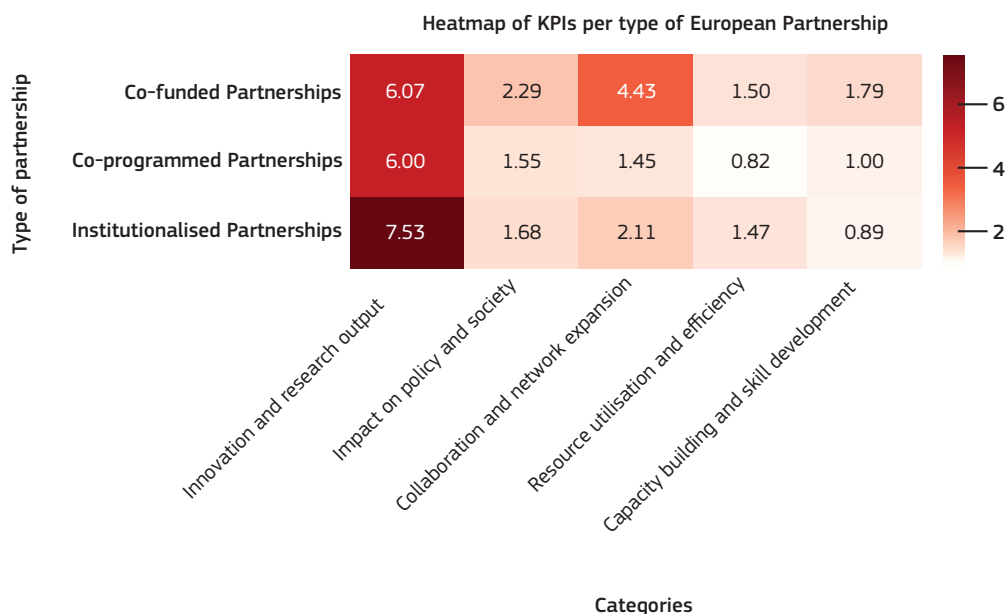
FIGURE 53. Cluster 6 KPIs analysis

Type of Partnership	Innovation and research output	Impact on policy and society	Collaboration and network expansion	Resource utilisation and efficiency	Capacity building and skill development
Institutionalised Partnerships	17	0	4	0	0
Co-Funded Partnerships	2	2	7	2	0
Co-Funded Partnerships	7	4	5	2	2
Co-Funded Partnerships	14	0	2	0	3
Co-Funded Partnerships	6	2	3	0	0
Co-Funded Partnerships	14	2	3	0	4

4.1.3 KPIS ANALYSIS BY TYPE OF PARTNERSHIP

The distribution of European Partnerships across types (14 Co-funded, 11 Co-programmed, 19 Institutionalised) suggests a relatively balanced representation allowing for a comprehensive comparison. Before leading a precise analysis by type of partnership, an average evaluation was launched.

FIGURE 54. Average number of KPIs by category and by type of European Partnership



This heatmap provides a comparative overview of how the different types of partnerships cover the five indicator categories. Institutionalised Partnerships take the lead in innovation and research output indicators. In contrast, Co-funded partnerships show the most KPIs in fostering collaborations and expanding networks, evidencing their interest in effectively engaging with a broad spectrum of stakeholders. Resource utilisation and efficiency is equally addressed across all types of partnerships. Co-funded Partnerships have the most KPIs on capacity building and skill development, highlighting their focus on human capital enhancement.

Comparing partnerships by type shows that only 37 % of partnerships employ the full spectrum of five distinct categories of KPIs. However, this conceals underlying variations between different types of partnerships. Specifically, Co-funded Partnerships exhibit the highest utilisation rate, with 50 % employing all categories of KPIs to monitor and assess their performance. This is closely followed by Co-programmed Partnerships, where 45.5 % have adopted a comprehensive KPI framework. In stark contrast, Institutionalised Partnerships demonstrate a significantly lower adoption rate, with only 25.6 % using a full set of KPIs. This data suggests a correlation between the type of partnership and the extent to which KPIs are integrated and used for performance measurement, indicating varying levels of strategic emphasis on comprehensive performance tracking across different partnership models. Next to this, the lifecycle of the partnerships needs to be considered as well. Typically, partnerships with predecessors have higher quality and established monitoring systems. Similarly, industry-led partnerships have higher quality and more focused and quantitatively oriented monitoring systems.

The expert group nevertheless pinpointed commonalities in this analysis. Upon examining the commonalities among various partnership models, two significant themes emerge, meriting academic scrutiny. First, an emphasis on ‘collaboration and network expansion’ is prevalent across all partnership types, albeit to varying degrees. This trend underscores widespread acknowledgment of the critical roles that networking and collaborative efforts (including synergies) play in the success of partnerships, regardless of their specific nature.

Secondly, the monitoring of ‘resource utilisation and efficiency’ across these partnership types reveals uniformly lower attention when juxtaposed with other performance indicators. This pattern suggests either a pervasive challenge encountered by partnerships in defining and measuring such indicators, or possibly a diminished prioritisation of this metric in assessing partnership performance, especially when it concerns KPIs destined for a report oriented at broader stakeholders’ audiences. Such findings prompt a deeper inquiry into the strategic alignment and operational efficiencies within partnership monitoring frameworks, highlighting areas for potential improvement and re-evaluation of performance assessment criteria.

Looking at the landscape of partnership models, different types focus on various areas of strengths.

For the Institutionalised Partnerships, they lead the pack with higher average numbers of indicators on innovation and research output. This may be attributed to the inherent nature of Institutionalised Partnerships, possibly benefiting from more abundant resources or the intrinsic organisation of their programs designed to spur innovation, within a longer-term orientation.

FIGURE 55. Number of KPIs by category for Institutionalised Partnerships

Cluster	Innovation and research output	Impact on policy and society	Collaboration and network expansion	Resource utilisation and efficiency	Capacity building and skill development
1	6	1	6	1	1
1	3	2	1	2	3
4	9	1	3	1	0
4	5	1	2	1	0
4	5	2	3	1	0
5	14	2	2	3	2
5	6	3	4	1	0
5	7	0	2	3	1
5	12	4	0	2	0
6	17	0	4	0	0
EIT	6	1	1	5	0
EIT	5	3	1	1	0
EIT	4	2	1	2	1
EIT	11	3	0	0	2
EIT	5	2	3	1	1
EIT	7	2	4	0	0
EIT	7	1	3	1	3
EIT	10	0	0	1	2
4	4	2	0	2	1



The Co-funded Partnerships shine in ‘collaboration and network expansion’, scoring higher on average than their counterparts. This suggests a pronounced emphasis on forging and broadening networks, an intrinsic and vital component for the success and sustainability of these partnerships.

FIGURE 56. Number of KPIs by category for Co-funded Partnerships

Cluster	Innovation and research output	Impact on policy and society	Collaboration and network expansion	Resource utilisation and efficiency	Capacity building and skill development
1	4	2	4	1	2
1	2	3	1	4	1
1	9	4	5	2	0
1	8	2	1	3	4
1	2	3	1	1	3
1	8	1	14	2	5
5	3	1	5	0	1
5	2	5	4	1	0
6	2	2	7	2	0
6	7	4	5	2	2
6	14	0	2	0	3
6	6	2	3	0	0
6	14	2	3	0	4
Inno SMEs	4	1	7	3	0

Co-funded Partnerships again show the highest number of indicators for influencing policy and societal impacts, compared to other types of partnerships. This distinction could signal a targeted focus in shaping policy and societal outcomes, reflecting their strategic objectives or the operational frameworks that prioritise engagement with policy and societal issues. This is consistent with the partnership leaders and composition, which are mainly government agencies working around broader, horizontal societal challenges.

On average, for the category ‘capacity building and skill development’, Co-funded Partnerships have a stronger monitoring than Co-programmed and Institutionalised Partnerships. This trend underscores a potential prioritisation of skill development and capacity building within their networks or communities, highlighting their commitment to nurturing talent and enhancing capabilities within their broad network. For some of them, these KPIs are considered an end, and not just a means to an end.



FIGURE 57. Number of KPIs by category for Co-programmed Partnerships

Cluster	Innovation and research output	Impact on policy and society	Collaboration and network expansion	Resource utilisation and efficiency	Capacity building and skill development
4	8	1	1	1	2
4	1	2	3	2	2
4	10	0	1	0	1
4	5	2	3	2	1
4	7	2	1	1	1
5	7	2	2	1	0
5	6	1	3	1	0
5	8	1	0	1	0
5	7	1	0	0	1
5	3	2	2	0	2
special	4	3	0	0	1

4.1.4 KEY IMPACT PATHWAYS

4.1.4.1 OVERALL ANALYSIS

In order to complement the previous analysis, this analysis aims to provide the link between the KPIs reported on in the partnership fiches and the Key Impact Pathways (KIPs). The European Commission’s proposal for Horizon Europe includes a framework for capturing and communicating impact - the KIPs. This approach aligns with a new level of ambition to boost the diversity of impact of EU research and innovation funding⁷⁰.

TABLE 18: The 9 KIPs proposed by the European Commission are gathered in 3 clusters

Scientific impact	<ol style="list-style-type: none"> 1. Creating high-quality new knowledge 2. Strengthening human capital in research and innovation 3. Fostering diffusion of knowledge and open source
Societal impact	<ol style="list-style-type: none"> 4. Addressing EU policy priorities and global challenges through research and innovation 5. Delivering benefits and impact through research and innovation missions 6. Strengthening the uptake of research and innovation in society
Technological/economic impact	<ol style="list-style-type: none"> 7. Generating innovation-based growth 8. Creating more and better jobs 9. Leveraging investment in research and innovation

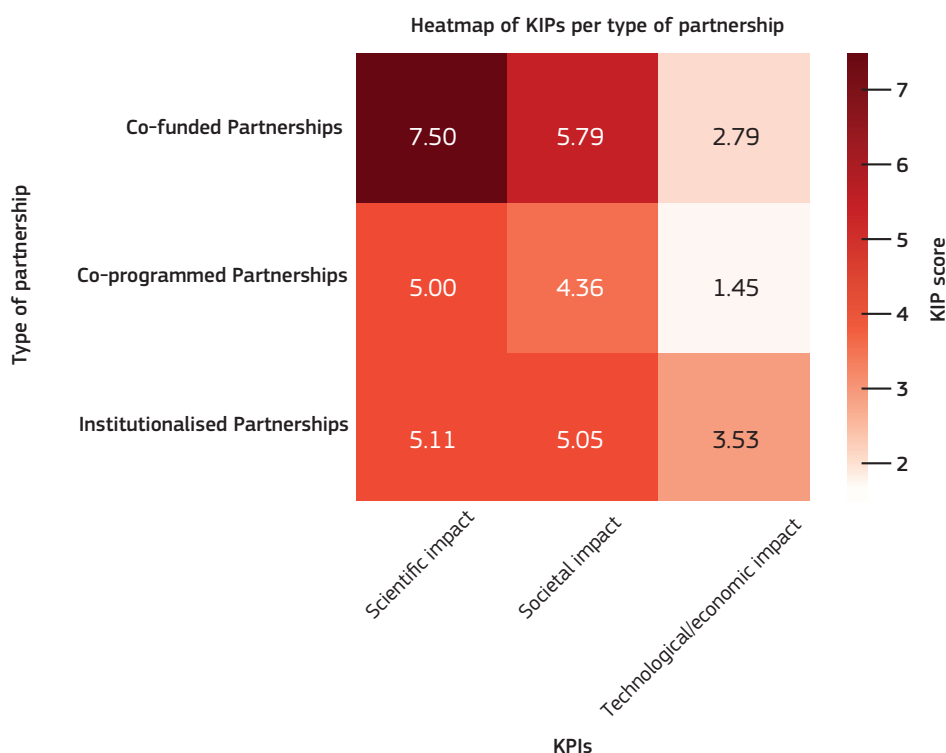
⁷⁰ https://research-and-innovation.ec.europa.eu/strategy/support-policy-making/shaping-eu-research-and-innovation-policy/evaluation-impact-assessment-and-monitoring/horizon-europe-programme-analysis_en



In Table 18 above, each partnership indicator was attributed to a category of the KIPs: scientific impact, societal impact and technological/economic impact. The partnerships' indicators could not be attributed to the 9 KIPs specifically as an indicator may be allocated or linked to different KIPs. Despite the a priori of similar semantics of these categories compared to the previous analysis, the results interestingly provide different patterns.

An average analysis of the KIPs was done using a heatmap of the average number of KIPs per KIPs category by type of partnership.

FIGURE 58. Average number of KIPs per KIPs category type of Partnership



The technological/economic impact is less present, notably for Co-programmed Partnerships. This may reflect challenges of attributability, as these impacts are often related to employment and investment creation where there are notable and documented difficulties to assess the causality between a partnership's activities and the actual impact on employment and investment levels.

The average number of KIPs dedicated to scientific and societal impacts are relatively close on average for the Institutionalised and Co-programmed Partnerships categories.

In order to be more precise upon the outcomes of the analysis, a detailed analysis by type of European Partnership and by cluster, was undertaken.

4.1.4.2 ANALYSIS BY TYPE OF EUROPEAN PARTNERSHIPS

An analysis of the detailed picture per type of partnership was conducted to identify the potential singular patterns that can emerge. This approach was taken to delve into the potential distinctive traits or trends that could be present among the various forms of collaborations.



FIGURE 59. KIPs analysis for Institutionalised Partnerships

Cluster	Scientific impact	Societal impact	Technological/ economic impact
1	6	3	6
1	2	5	4
4	NA	NA	NA
4	9	3	2
4	6	3	0
4	7	3	1
5	14	6	3
5	9	3	2
5	6	4	3
5	11	6	1
6	4	16	1
EIT	1	5	7
EIT	1	3	6
EIT	1	4	5
EIT	3	9	4
EIT	4	3	5
EIT	5	5	3
EIT	3	7	5
EIT	2	7	4
4	3	1	5

The analysis of the Institutionalised Partnerships is interesting as it clearly highlights 2 distinctive patterns: the pattern gathering the Articles 185 and 187 Institutionalised Partnerships, with high focus on the scientific impact category, and a contrasting pattern observed with the EITs, which show divergent results.

This difference is related to a stronger focus of EIT partnerships towards societal impacts, and towards technological/economic impacts. This movement suggests a dynamic landscape where the emphasis of impact can vary significantly, highlighting the diverse priorities and outcomes across different types of collaborations.



FIGURE 60. KIPs analysis for Co-programmed Partnerships

Cluster	Scientific impact	Societal impact	Technological/economic impact
4	4	7	2
4	4	2	4
4	6	5	1
4	9	2	2
4	3	7	1
5	7	4	1
5	7	4	0
5	2	7	1
5	3	4	2
5	2	6	1
special	8	0	0

In Co-programmed Partnerships, scientific and societal impacts significantly dominate the number of indicators focused on technological/economic impact. Interestingly, in 45 % of the cases, the societal impact KPIs even overtake the scientific impact ones. This suggests a strong orientation towards addressing societal needs and challenges within Co-programmed Partnerships, underscoring their commitment to making a tangible difference in the community.

FIGURE 61. KIPs analysis for Co-funded Partnerships

Cluster	Scientific impact	Societal impact	Technological/economic impact
1	2	6	5
1	6	4	1
1	9	9	2
1	7	8	3
1	4	4	2
1	10	12	8
5	5	2	3
5	7	4	1
6	5	7	1
6	11	6	3
6	12	6	1
6	6	3	2
6	14	7	2
Inno SMEs	7	3	5



Co-funded Partnerships clearly put the emphasis on scientific impacts as the primary indicator category being reported in the BMR. However, there are instances where the societal impact indicators are either on par, or marginally surpass, the others. Despite these close comparisons, the technological/economic category is by far the least addressed. This indicates that while the emphasis on societal impacts may vary, it consistently remains a dominant focus, overshadowing the indicators related to the third category encompassing technological/economic impacts.

4.1.4.3 ANALYSIS BY CLUSTER

FIGURE 62. Cluster 1 KIPs analysis

Type of Partnership	Scientific impact	Societal impact	Technological/economic impact
Institutionalised Partnerships	6	3	6
Institutionalised Partnerships	2	5	4
Co-Funded Partnerships	2	6	5
Co-Funded Partnerships	6	4	1
Co-Funded Partnerships	9	9	2
Co-Funded Partnerships	7	8	3
Co-Funded Partnerships	4	4	2
Co-Funded Partnerships	10	12	8

For Cluster 1, the scientific and societal impacts are broadly equally addressed by the monitoring frameworks, while a technological/economic impact lags a bit behind. All the KIPs categories are, however, represented in all the partnerships.

For Clusters 4, 5 and 6, scientific impact KPIs are clearly predominant. All the KIPs categories are represented, but in a less balanced way than in cluster 1, with scientific impact standing out and the technological and economic impact category being the least represented category of KPIs.



FIGURE 63. Cluster 4 KIPs analysis

Type of Partnership	Scientific impact	Societal impact	Technological/ economic impact
Institutionalised Partnerships	N/A	N/A	N/A
Institutionalised Partnerships	9	3	2
Institutionalised Partnerships	6	3	0
Institutionalised Partnerships	7	3	1
Institutionalised Partnerships	3	1	5
Co-Programmed Partnerships	4	7	2
Co-Programmed Partnerships	4	2	4
Co-Programmed Partnerships	6	5	1
Co-Programmed Partnerships	9	2	2
Co-Programmed Partnerships	3	7	2

FIGURE 64. Cluster 5 KIPs analysis

Type of Partnership	Scientific impact	Societal impact	Technological/ economic impact
Institutionalised Partnerships	14	6	3
Institutionalised Partnerships	9	3	2
Institutionalised Partnerships	6	4	3
Institutionalised Partnerships	11	6	1
Co-Programmed Partnerships	7	4	1
Co-Programmed Partnerships	7	4	0
Co-Programmed Partnerships	2	7	1
Co-Programmed Partnerships	3	4	2
Co-Programmed Partnerships	2	6	1
Co-Funded Partnerships	5	2	3
Co-Funded Partnerships	7	4	1

In some particular cases, we observe these shifts towards a more pronounced emphasis on societal benefits. It stands out as a unique characteristic, especially within the overarching trend that typically leans more towards scientific impact.



FIGURE 65. Cluster 6 KIPs analysis

Type of Partnership	Scientific impact	Societal impact	Technological/ economic impact
Institutionalised Partnerships	4	16	1
Co-Funded Partnerships	5	7	1
Co-Funded Partnerships	11	6	3
Co-Funded Partnerships	12	6	1
Co-Funded Partnerships	6	3	2
Co-Funded Partnerships	14	7	2

Delving deeper into the findings from the group of EIT partnerships analysis reveals some compelling insights. What stands out is the distinct divergence of this particular group of partnerships. Unlike others, it demonstrates a pronounced inclination towards showcasing societal impact alongside technological/economic impact metrics. This trend underscores the essence of what these partnerships are fundamentally about. It confirms that a strong emphasis on societal and technological/economic advancements is not just incidental, but a core attribute ingrained in the DNA of KICs which support innovation and entrepreneurship and generate breakthroughs.

FIGURE 66. KIPs analysis for EIT cluster

Scientific impact	Societal impact	Technological/ economic impact
1	5	7
1	3	6
1	4	5
3	9	4
4	3	5
5	5	3
3	7	5
2	7	4



4.2 EUROPEAN PARTNERSHIP FICHE READING GUIDE

The main objective of the individual European Partnership fiches within the BMR is to allow the readership to broadly discover the individual partnerships and understand their essential specific objectives in relation to broader societal objectives, as set out by the major EU and global policies (such as, but not limited to, the European Green Deal and UN SDGs). Each partnership fiche includes the interactive links necessary to find more detailed content.

This version of the BMR contains 44 partnership fiches, meaning that the larger majority of partnerships (44 out of 49 partnerships) have submitted a partnership fiche. Compared to the BMR 2022, 7 new partnership fiches were added.

To facilitate the monitoring of individual performances of European Partnerships, a harmonised format, accessible to a broader readership of policymakers and citizens, was developed, within which partnership-specific content could be presented. The partnership fiche itself follows a similar structure than the previous exercise.

Section 1: Basic information on the European Partnership (name, type, partner composition, budget), a short mission and vision statement, the main UN SDGs the partnership contributes to, and the strategy map (also called 'Partnership Specific Impact Pathways' or PSIPs). This explains, in a schematic narrative, how each partnership is built up from its implemented actions, resources and processes during its lifetime, towards its expected outcomes and impacts both within and beyond its lifetime.

Section 2: A table providing the most relevant partnership specific KPIs, in accordance with the strategy map presented in Section 1. This KPIs table outlines the most significant performance indicators across the three categories of resources and actions, outputs and outcomes, and impacts. Note that most partnerships report more performance indicators to be found in their annual publications and on their website. For the purpose of the BMR, partnerships are typically asked to report between 10 and 20 indicators (as a maximum).

Section 3: Thematic-inspired qualitative content in the form of past or ongoing success stories or intended/expected results. Up to five examples per partnership are described. The broader theme for this BMR is technological sovereignty and international positioning.

Section 4: Overview of the partnership members per type and geographical coverage. For a few Institutionalised Partnerships, the membership structure and respective associations are provided.

4.2.1 STRUCTURE AND INTERPRETATION GUIDELINES

Similar to the 2022 BMR cycle, this 2024 cycle still took place within a context of partnerships' ongoing negotiations (for new partnerships) and renegotiations (for existing/renewed partnerships) with both the European Commission and partnership internal stakeholders. Thus, most fiches are not yet (fully) developed as the respective partnerships have yet to finalise defining their strategy map, objectives and KPIs. However, some partnerships were able to deliver a fully completed fiche, even with first results towards the achievement of 2023 targets.

The different stages of maturity in terms of the availability of monitoring systems and the associated content, coupled with ongoing (re)negotiation processes, implies that more often than not, KPIs tables are not yet complete in terms of content (e.g. targets for 2023, 2025 and 2027 still need to be defined, or baselines must be defined and calculated). In other words, we still expect that the current content presented on the individual partnership fiches will be subject to minor, but certain changes (modifications, deletions and additions) towards the next BMR. We do hope that by the next BMR, all remaining voids are filled and a full reporting against 2023 set targets is possible.



The definition of KPIs, measurement methods and target setting for partnership-specific indicators requires substantial interactions with stakeholders, often requiring a lead-time of six to nine months to develop a first monitoring system. The observation between two BMR cycles is that R&I European Partnerships are much more complex in terms of governance and stakeholder interaction than traditional organisations, leading to substantially longer lead times to achieve even a first functioning and endorsed monitoring system. Next to that, most human resources involved are focused towards the negotiation processes with the European Commission and stakeholders, as well as ensuring resources and actions get deployed in the initial phases, e.g. to launch the first calls (even for existing/renewed partnerships), with the set-up of monitoring systems receiving second-order attention only. Finally, we observe a significant resource and capability heterogeneity between partnerships when it comes to the capacity and skills to set up monitoring systems (including relating to the culture existing within the organisation and/or industry).

However, it is expected that the next BMR will contain final, stabilised content at the level of the KPIs tables and the KPIs targets in particular (since most strategy maps have remained stable).

Finally, it is important to stress that while partnership fiches are fully consistent with legally binding documents (such as, but not restricted to: MoUs, SRIA, SBAs, Annual Activity Reports, etc.) describing joint commitments, rights and obligations between the European Commission and the European Partnerships (and potentially other legal entities), the content on the partnership fiches itself is not to be considered legally binding, nor exhaustive (e.g. in terms of stated objectives or KPIs (due to some partnerships' vast area(s) of intervention). Therefore, interested readers are invited to visit either the European Commission and/or individual partnership websites to discover formal documents and/or additional and more detailed information on monitoring and evaluation. The individual partnership fiches actually contain various hyperlinks towards these more elaborate documents.



4.3 EUROPEAN PARTNERSHIP FICHES

PARTNERSHIPS (* = new fiche) (** = no fiche)	
<p>Cluster 1</p> <ul style="list-style-type: none"> <u>EDCTP3 - Global Health Partnership</u> <u>ERA4Health</u> <u>ERDERA - Rare diseases*</u> <u>Innovative Health Initiative</u> <u>One-Health Anti Microbial Resistance*</u> <u>PARC - Chemicals risk assessment</u> <u>Personalised Medicine</u> <u>Transformation of health and care systems*</u> <u>Pandemic Preparedness**</u> 	<p>Cluster 4</p> <ul style="list-style-type: none"> <u>6G Smart Networks & Services</u> <u>Adra - AI-Data-Robotics</u> <u>Chips (formerly KDT)</u> <u>Clean steel – low-carbon steelmaking</u> <u>EuroHPC – High Performance Computing</u> <u>Made in Europe</u> <u>Metrology (Art. 185)</u> <u>Photonics</u> <u>Process4planet</u> <u>Globally Competitive Space Systems**</u>
<p>Cluster 5</p> <ul style="list-style-type: none"> <u>2Zero - Zero-emission road transport</u> <u>Built4People</u> <u>BATT4EU</u> <u>CCAM - Connected, Cooperative and Automated Mobility</u> <u>Clean Energy Transition</u> <u>Clean Aviation</u> <u>Clean Hydrogen</u> <u>Driving Urban Transitions</u> <u>Europe's Rail</u> <u>SESAR 3 - Single European Sky ATM Research 3</u> <u>Zero-emission waterborne transport</u> 	<p>Cluster 6</p> <ul style="list-style-type: none"> <u>Animal Health and Welfare</u> <u>Biodiversa+</u> <u>Circular Bio-based Europe</u> <u>FutureFoodS -Safe & Sustainable Food System*</u> <u>SBEP - Sustainable Blue Economy</u> <u>Water4all</u> <u>R&I in the Mediterranean Area (PRIMA) (ART. 185)**</u> <u>Accelerating Farming Systems Transitions**</u> <u>Agriculture of Data**</u>
<p>EIT</p> <ul style="list-style-type: none"> <u>EIT Climate KIC</u> <u>EIT Digital</u> <u>EIT Food</u> <u>EIT Health</u> <u>EIT InnoEnergy</u> <u>EIT Manufacturing</u> <u>EIT Urban Mobility</u> <u>EIT Raw Materials</u> <u>EIT Cultural and Creativity**</u> 	<p>Other</p> <ul style="list-style-type: none"> <u>European Open Science Cloud</u> <u>Innovative SMEs</u>



CLUSTER 1 HEALTH



MISSION AND VISION STATEMENT

The Global Health EDCTP3 JU supports global collaborative research, capacity strengthening and international initiatives to accelerate the development, evaluation and implementation of interventions to prevent, identify and treat infectious diseases and emerging/re-emerging infections in SSA with the overarching goal of reducing overall mortality and morbidity.

The partnership's general objectives are to:

- reduce the socio-economic burden of infectious diseases in SSA, promoting the development and uptake of new or improved health technologies;
- increase health security in SSA and globally by strengthening R&I-based preparedness and response capacities to control infectious diseases.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 1: Health

Type of Partnership: Institutionalised Partnership – JU

Coordinating entity: Global Health EDCTP3 JU - EDCTP3 members are represented by the EDCTP Association

Total estimated budget: EUR 1.6 bn

EU commitments: up to EUR 800 m

Partners' commitments: EUR 839 m*

Predecessor under Horizon 2020: EDCTP1 and EDCTP2

*Out of which the members of the JU (EDCTP Association) is expected to contribute at least EUR 439 m and contributing partners EUR 400 m.

FIND OUT MORE

<https://www.globalhealth-edctp3.eu>

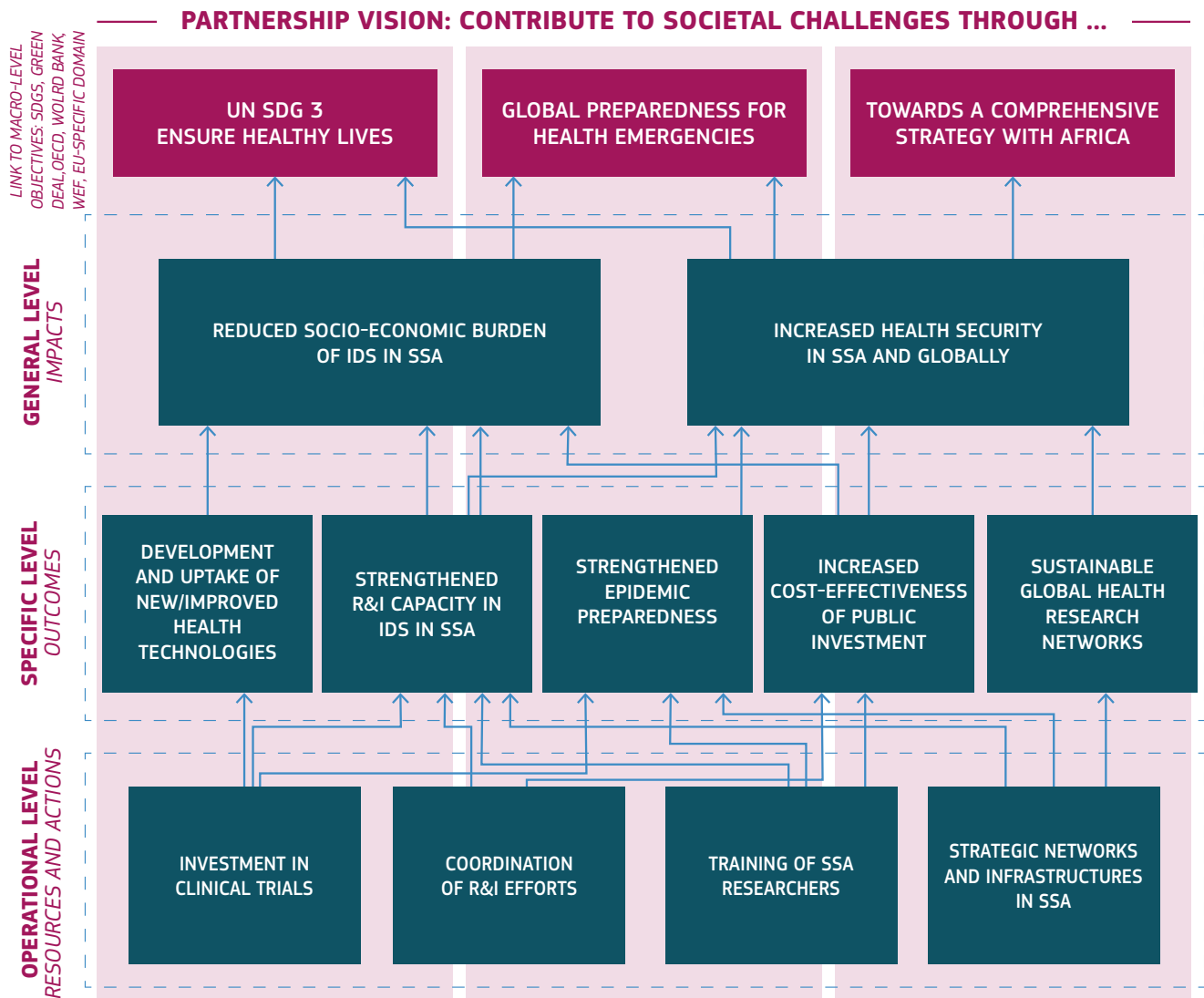
[in https://www.linkedin.com/company/global-health-edctp3](https://www.linkedin.com/company/global-health-edctp3)

[X https://x.com/EDCTP3](https://x.com/EDCTP3)

[✉ EC-GLOBAL-HEALTH-EDCTP3@ec.europa.eu](mailto:EC-GLOBAL-HEALTH-EDCTP3@ec.europa.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)



ID: infectious diseases
SSA: sub-Saharan Africa



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Investment in R&I in SSA	# RIAs RIA funding (euros) # calls launched	2022	At least 10 RIAs in programme portfolio	>50 % of RIA grant portfolio involving late-stage (phases III, IV) and product-focused implementation research	TBD	Sustained and increased	On track
Investment in training and capacity building in SSA	# CSAs # RIAs CSA funding (euros) RIA funding (euros) # calls launched	2022	9 CSAs 2 RIAs € 7.6 m CSA funding € 10 m RIA funding 2 calls	15 CSAs 2 RIAs € 12 m CSA funding € 10 m RIA funding 3 calls	TBD	Sustained and increased	On track
Strategic partnerships established	# partnerships # calls launched with partners	2022	1 1	2 2	3 3	Strengthened	On track
Investment in clinical trials	# RIAs involving CTs CT funding (euros)	2022	10 RIAs € 44.9 m funding	TBD	> 80 % overall value of grant investments	Sustained and increased	On track
OUTCOMES							
New health technologies	# developed # licensed # marketed	2022	0	At least one phase III trial funded every year	2	Development and increased uptake	On track
Digital health initiatives in SSA	# projects	2022	0	1	TBD	Increased	On track
Health-related climate change initiatives in SSA	# projects	2022	0	Health-related climate component incorporated in all new RIA calls	TBD	Increased	N/A
Communication and dissemination	# peer-reviewed publications # webpages developed # workshops # social media activities	2022	0	TBD	TBD	Sustained and increased	N/A
Training and capacity building	# trainees # trainings	2022	0	TBD	TBD	Sustained and increased	N/A
IMPACTS							
Socio-economic burden of infectious diseases in SSA	Qualitative	WHO data: country mortality profile leading causes of disability - adjusted life years (who.int)	N/A	N/A	N/A	Reduced	N/A
Health security in SSA	Qualitative # epidemic preparedness projects	WHO AFRO data: e-SPAR Public (who.int)	N/A	N/A	N/A	Increased	N/A

General note to the reader: further details and possible edits on the Global Health EDCTP3 JU-specific KPIs will be discussed within and incorporated into the future strategic research and innovation agenda.



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

As a new JU of the European Commission and the EDCTP Association, the Global Health EDCTP3 JU was created to build on the success of the first and second EDCTP programmes. It has established its autonomy as the reference funding agency for clinical trial-related research in SSA and as the main opportunity for SSA countries to become global health R&I leaders. Since the inception of the Global Health EDCTP3 JU, its private co-funder (the EDCTP Association) has grown its SSA membership pool from 16 to 28 countries as of the end of 2023, clearly highlighting the value that SSA countries attribute to international collaboration with the European countries that are part of the EDCTP Association. To date, the Global Health EDCTP3 JU has funded projects involving institutions from 43 different countries, including 11 EU Member States and 28 African Union countries.

The [Multi-Stage Malaria Vaccine Consortium \(MMVC\)](#), supported by EDCTP, the Wellcome Trust and the European Investment Bank (EIB), progressed the clinical development of the R21/Matrix-M™ malaria vaccine, culminating in the 2023 [WHO recommendation for its use](#) for the prevention of malaria in children. This highly effective vaccine was developed by the Jenner Institute at Oxford University and the Serum Institute of India. It is an easily deployable vaccine that can be manufactured at mass scale and modest cost, allowing hundreds of millions of doses to be supplied to countries which are suffering a significant malaria burden. The vaccine thus has the potential to save and improve the lives of millions of children and their families all over the world.

The Global Health EDCTP3 JU has engaged in regular dialogue with various international partners to ensure alignment, complementarity and synergies. For instance, Global Health EDCTP3 calls for proposals and research outputs are aligned with the European Commission Directorate-General for International Partnerships' Team Europe Initiatives in SSA. The recently approved 2024 work programme strongly encourages collaboration with relevant Team Europe Initiatives, including the initiative on manufacturing and access to vaccines, medicines and health technologies (TEI-MAV+). More broadly, the Global Health EDCTP3 JU is a flagship programme of the EU global health strategy and is actively contributing to the achievement of its objectives.

In December 2023, the Committee for Medicinal Products for Human Use (CHMP) of EMA adopted a [positive scientific opinion of the use of Fexinidazole Winthrop](#) as the first oral treatment for sleeping sickness caused by *Trypanosoma brucei rhodesiense*. EDCTP supported the trials of the treatment in Malawi and Uganda, which were implemented with EU funds and co-financing from Germany, the Netherlands and the UK through product development partnership, DNDi. The treatment has already been registered in the Democratic Republic of the Congo (DRC) and Uganda and is recommended for use in a further 10 African countries.

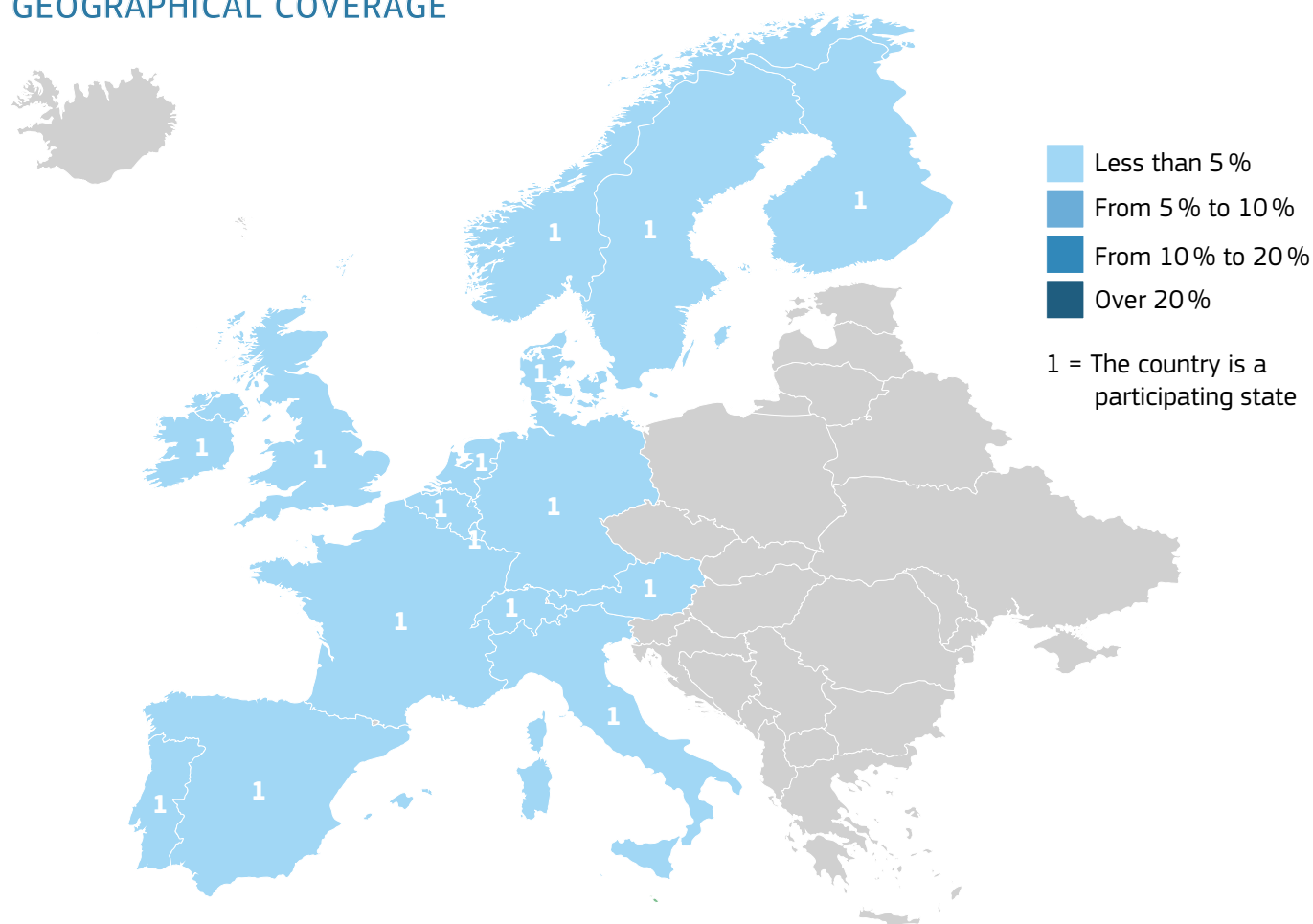
One of the EDCTP epidemic preparedness networks, PANDORA-ID-NET, in partnership with the EDCTP regional networks of excellence, played a critical supporting role in consultations on and the drafting and final publishing of the [Africa CDC framework for One Health practice](#) in national public health institutes. The consortium contributed to a global One Health stakeholder analysis, which was published in a four-paper [Lancet Series](#) in January 2023. This series explores the adoption of One Health approaches to improve health security and includes an analysis of the current landscape of preventive, surveillance and response measures for outbreaks of emerging and re-emerging infectious zoonotic diseases with epidemic potential, as well as other potential public health emergencies such as neglected endemic diseases, antimicrobial resistance, environmental and chemical hazards and natural disasters. The networks are also helping to advance representation of women in science globally. Furthermore, scientists from the Trials of Excellence in Southern Africa (TESA) network were recognised in 2023 by the WHO Director-General for their part in the discovery of the Omicron variant of COVID-19. Moreover, the [supplementary report on implementing World Health Assembly resolution 75.8](#) on strengthening clinical trials to provide high-quality evidence on health interventions and to improve research quality and coordination, recognises the clinical trial capacity developed in Africa by the EDCTP programmes.

OVERVIEW OF MEMBERS

MEMBERS PER TYPE

No applicable

GEOGRAPHICAL COVERAGE



Total number of participating states : 43

35 % of the participating states of the association are represented in the map.

Other partners that do not fit on the map are Benin, Burkina Faso, Cameroon, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Gabon, Guinea-Bissau, Guinea-Conakry, Kenya, Liberia, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Tanzania, The Gambia, Uganda, Zambia and Zimbabwe.



MISSION AND VISION STATEMENT

ERA4Health funds transnational collaborative research, including investigator-initiated clinical studies (IICS), through a funding body for joint programming, applying responsible R&I principles. It identifies priority areas for advancing translational research addressing European public health needs, stimulates capacity building and promotes synergies between sister initiatives to increase cohesion between participating countries.

The outcomes of the funded research will promote a better quality of life for citizens by providing data/outputs which contribute to the generation of evidence-based policies that strengthen disease prevention and health promotion; provide better healthcare for patients thanks to improved evidence of the benefits and harms of health interventions; and improve the way in which healthcare providers use medical solutions to prevent and treat disease.

ERA4Health will place Europe at the forefront of science and innovation in health research by 2050 and will contribute to making European public health systems more effective, efficient, equitable, accessible and resilient.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 1: Health

Type of partnership: Co-funded

Name of coordinating entity: Instituto De Salud Carlos III (ISCIII)

Total estimated budget: EUR 220.2 m

EU commitments: EUR 110 m

Other commitments: EUR 110.2 m

Predecessor under Horizon 2020: New Partnership

Start date–end date: 1.11.2022–31.10.2029

FIND OUT MORE

<https://era4health.eu/>

[in https://www.linkedin.com/company/era4health](https://www.linkedin.com/company/era4health)

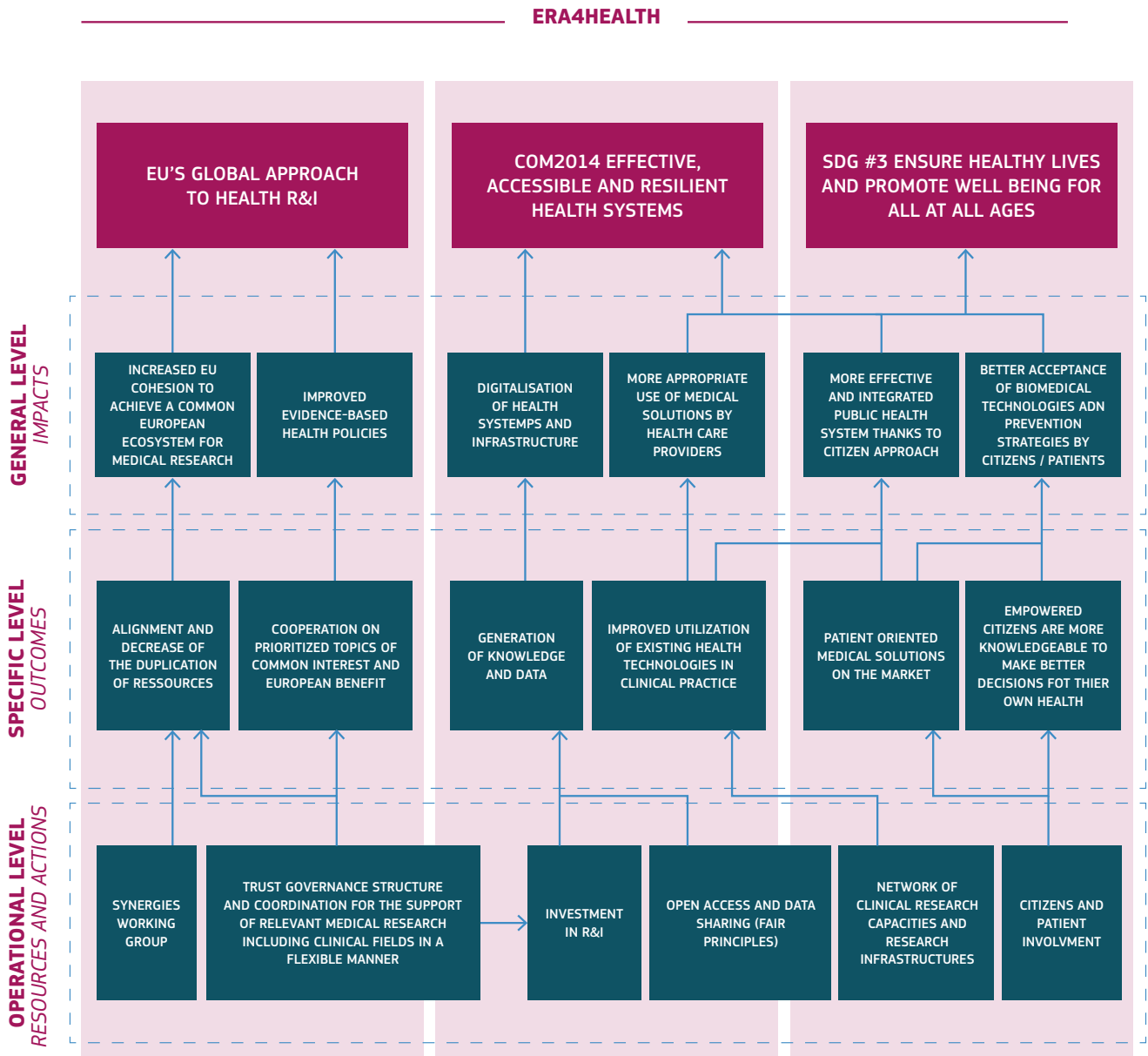
[X https://x.com/ERA4Health_EU](https://x.com/ERA4Health_EU)

[f https://www.facebook.com/PARC.chemicals](https://www.facebook.com/PARC.chemicals)

[✉ ERA4Health@isci.es](mailto:ERA4Health@isci.es)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Number of partners in ERA4Health consortium	#	32	33	36	36	36	33
Number of guidelines and standard operating procedures produced	#	0	6	12	15	18	4
Sum of funding allocated to research	Million EUR	0	0	60	110	110	0
Proportion of projects where EU citizens and end-users contribute to the co-creation of R&I content	%	0 %	0 %	25 %	30 %	50 %	0 %
Number of funding organisations supporting IICS in ERA4Health consortium	#	13	13	18	18	18	13
Number of FAIR data workshops, especially on data harmonisation and data sharing	#	0	0	2	4	6	0
Number of organisations/ sister initiatives involved in the synergies working group	#	0	20	30	30	30	33
OUTCOMES							
Number of activities organised with another sister initiative	#	0	2	4	6	8	2
Number of peer-reviewed scientific publications (projects)	#	0	0	15	225	400	0
Percentage of publications with a field-weighted citation index of peer-reviewed publications higher than the world average (projects)	%	0 %	0 %	0 %	10 %	30 %	0 %
Number of times the process to select research priorities is implemented within ERA4Health	#	0	0	1	2	3	0
Number of new and updated datasets in repositories	#	0	0	0	40	100	0
Number of communications to general public on the research outcomes (projects)	#	0	0	10	50	100	0
Percentage of projects in which collaboration with industry or clinicians took place	%	0 %	0 %	50 %	70 %	90 %	0 %



KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
IMPACTS							
Percentage of projects which improve a medical solution or protocol	%	0 %	0 %	0 %	30 %	50 %	0 %
Number of innovations and scientific results addressing specific EU policy priorities	#	0	0	0	5	10	0
Case studies presenting better acceptance of biomedical technologies and prevention strategies by citizens/patients	#	0	0	0	0	2	0
Case studies presenting a successful project with a citizen-centred approach	#	0	0	0	2	5	0
Number of ERA4Health activities with participation from widening countries	#	0	2	5	8	11	3
Proportion of countries involved in the Early Career Scientist Network	%	0 %	0 %	55 %	60 %	65 %	0 %

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

TRANSLATION OF RESULTS

ERA4Health supports the generation of knowledge which can provide the evidence base for the development of interventions and disease prevention strategies and, with use of appropriate tools, contribute to more effective translation of pre-clinical results and shorten the time required for new product development (e.g. complex in vitro setup models, relevant animal models). To ensure that research results can be translated, co-creation has an important place in ERA4Health and the funded research. The inclusion of clinicians and industrial and operational stakeholders in the funded research consortia is encouraged and is mandatory for specific types of research. The involvement of such actors at the beginning of the research projects will facilitate the translation of the research outcomes. The generation of new knowledge and use of research results will make it possible to develop evidence-based strategies and policies and deploy good practices in European countries and regions. ERA4Health activities include actions to increase Europe's attractiveness for the performance of clinical trials, identification of barriers to the market uptake of health research results across the EU and beyond and activities to overcome these barriers and increase Europe's competitiveness in strategic value chains.

EUROPEAN ATTRACTIVENESS

As a multinational dimension is key for the design and success of clinical trials, ERA4Health aims to provide a funding mechanism for multinational IICS in Europe within the new regulatory framework for clinical trials. There is a need to promote the integration of clinical trial capacity in Europe, sharing common standards and best practice to enable patient recruitment at continental scale and to unlock latent scientific potential by allowing any European investigator to plan and design large, statistically powered clinical trials that can be conducted throughout Europe. Creation of a single European area for clinical research will enhance Europe's scientific competitiveness in clinical research, its attractiveness for the health industry and its innovation potential, while optimising healthcare for European citizens through the generation of robust evidence supporting the optimal use of diagnostic, preventive and therapeutic strategies. In the future, the support of multinational IICS will also improve the utilisation of existing health technologies in clinical practice.

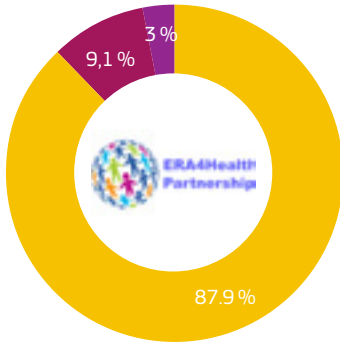
KEY ENABLING TECHNOLOGIES

Health technologies are being supported in different research domains under the ERA4Health funding scheme, and interdisciplinary research is being promoted. For example, to discover better treatments for cardiovascular diseases, research combining medical imaging and inversion, bio-engineering, material science, optogenetics, statistics, digital twinning, mathematical modelling and data science could lead to the development of new methods for repairing the heart and blood vessels. In addition, the combination of nanotechnologies with other key enabling technologies (such as advanced materials, micro- and nano-electronics, photonics, biotechnology, advanced manufacturing systems, artificial intelligence and other digital technologies, as well as economic analyses of market trends and their contribution to solving societal challenges) could exploit the full potential of nanotechnologies for healthcare. The NANOTECMEC call that was launched on 14 November 2024 will open the door for funding opportunities for such studies.



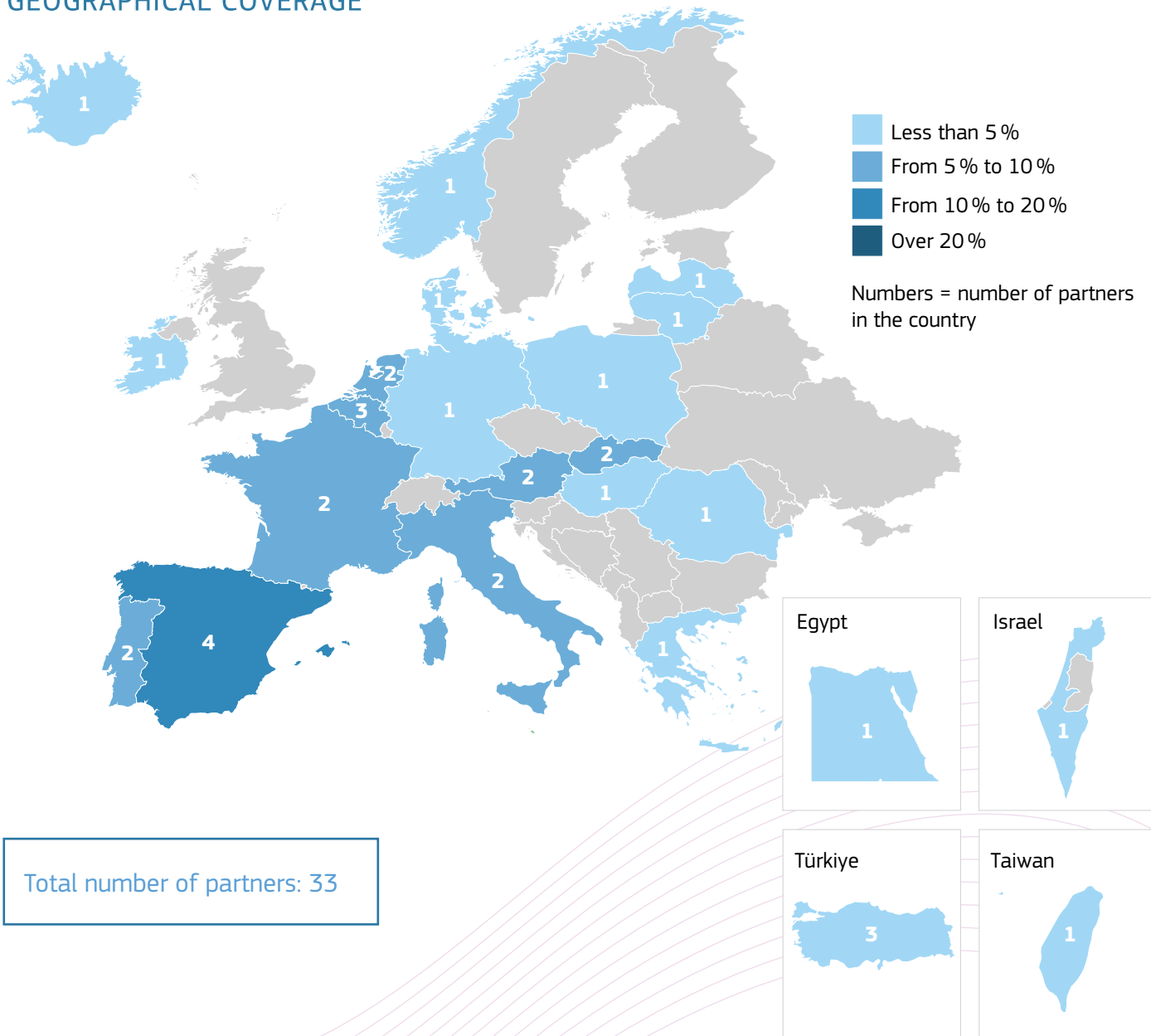
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



ERDERAEUROPEAN RARE DISEASES
RESEARCH ALLIANCE

MISSION AND VISION STATEMENT

The ambition of ERDERA is to deliver a rare diseases (RD) ecosystem that builds on the successes of previous programmes by supporting robust patient-need-led research, developing new diagnostic methods and pathways, spearheading digital transformational change and connecting care, patient data and research, while ensuring strong alignment of RD research strategies across countries and regions. Structuring goal-oriented public-private collaborations targeted at interventions all along the R&D value chain will ensure that the journey from knowledge to patient impact is expedited, thereby optimising EU RD innovation potential.

ERDERA should drive forward the cost-effective translation of research into innovation that addresses the unmet medical needs of the RD community, while coordinating national research efforts and establishing a holistic R&I ecosystem of knowledge, data, disciplines, people and sectors.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 1: Health

Type of partnership: Co-funded

Name of coordinating entity: INSERM

Total estimated budget: EUR 473.7 m

EU commitments: EUR 150 m

Other commitments: EUR 323.7 m*

Predecessor under Horizon 2020: European Joint Programme on Rare Diseases (EJP RD).

Start date–end date: 9.2024–9.2034

*Over EUR 167 million in cash and EUR 156,7 million worth of in-kind commitments.

FIND OUT MORE

<https://www.ejprarediseases.org/erdera/>

<https://instagram.com/ejprarediseases?igshid=MzM5NGUyNmU2YQ==>

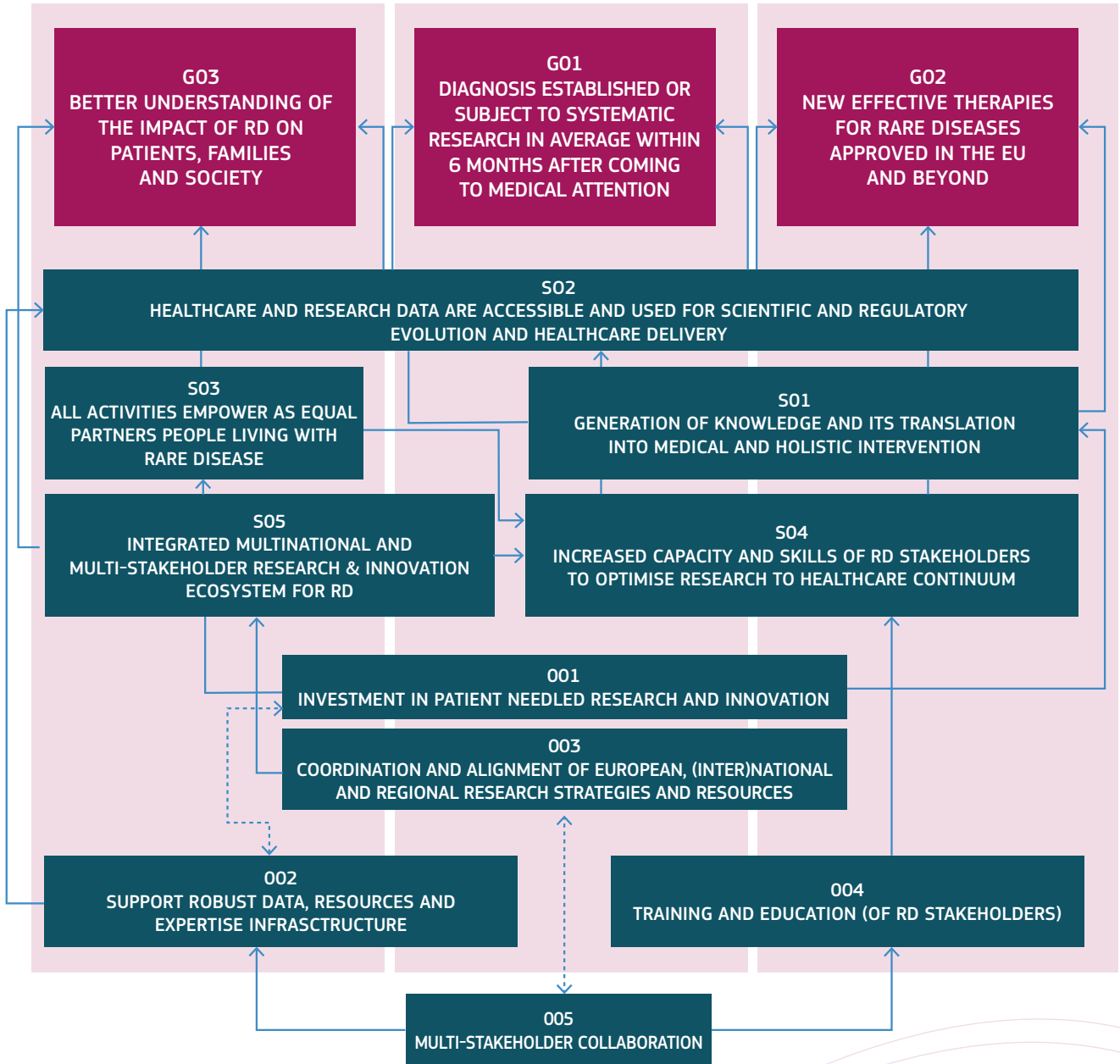
<https://x.com/EJPRareDiseases?t=LFEyKxepcsPjIB3qgwlg8A&s=09>

coordination@ejprarediseases.org



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

EUROPEAN RARE DISEASES RESEARCH ALLIANCE (ERDERA)





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
JTC funding for research	Amount of funding provided to researchers through JTCs	EUR 26.5 million committed for the 1 st year	/	/	/	EUR 76.8 million	N/A
Integrated data service infrastructure	# services provided by the integrated data infrastructure	0	/	50	90	150	N/A
Integrated expertise service infrastructure	# services provided by the integrated expertise infrastructure	0	/	25	35	50	N/A
NMGs created/functioning	# operational NMGs	4	/	31	/	/	N/A
Capacity building	# people having benefited from upskilling activities	2 500-3 000 per year	/	6 285	8 760	10 570	N/A
OUTCOMES							
Project outputs translated into innovative RD models/ solutions	# RD research projects supported by the Partnership resulting in new clinical Studies, guidelines and patent applications	0	/	/	15	25	N/A
Public-private collaborations	# new collaborations between academia and for-profit and/or non-profit organisations to develop and implement medical and holistic interventions for RD	4	/	/	/	10	N/A
Use of data sources	Annual % increase in access to research data sources through the virtual platform	# times virtual platform accessed by the end of EJP RD	/	+5 %	+10 %	+5 %	N/A
Capacity building of RD patients	Annual # patients participating in training activities	350 per year	/	2 500-3 000	2 500-3 000	2 500 - 3 000	N/A
Patients involved in funded RD projects	% funded research projects that involve patient organisations as co-designers	60 %	/	75 %	85 %	95 %	N/A
Transdisciplinary training programmes in the RD research educational pipeline	# transdisciplinary research training programmes developed and implemented at European level	15	/	/	60	120	N/A
National RD R&I integration	% countries with national RD research strategies aligned with EU and international collaborations supported by the Partnership	0 %	/	/	30 %	50 %	N/A



KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
ERDERA RD R&I synergies with other programmes	# complementarities and synergies established with other relevant programmes and initiatives	0	/	2	5	7	N/A
IMPACTS							
RD cases diagnosed	% increase in diagnosed cases	10-12.5 %	/	/	15 %	20 %	N/A
Time to diagnose RD patients	Qualitative improvement in the time needed to diagnose patients seeking medical attention for unknown conditions	4 years	Decrease	Decrease	Decrease	Decrease	N/A
New RD therapies approved	% new therapies approved by EMA where ERDERA resources (human expertise, developed tools, etc.) are/have been involved	# existing RD therapies	/	/	/	5 %	N/A
Clinical trial readiness	# approved clinical trial applications where ERDERA resources (human expertise, developed tools, etc.) are/have been involved	0	/	/	5	10	N/A
Funding for research on RD impact on patients, families and society	ERDERA funding dedicated to research activities on the impact of RD on patients, families and society	EUR 11.5 million	/	/	TDB	+50 %	N/A



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

TECHNOLOGICAL SOVEREIGNTY: SUCCESS STORY

Launched in 2023, the EJP RD virtual platform of data, tools and resources (<https://vp.ejprarediseases.org/>) aims to provide a coordinated one-stop shop for discovering, querying and eventually accessing RD patient registries, biobanks, genomics and multi-omics repositories, knowledge bases, resources (such as animal models and cell line libraries), omics deposition and analysis platforms, and material and services supporting translational and clinical research. It has become a unique EU asset that will be further enriched with resources under ERDERA.

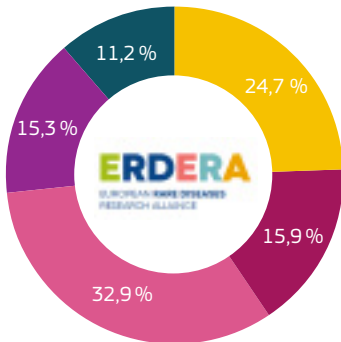
INTERNATIONAL POSITIONING SUCCESS STORY AND INTENDED OBJECTIVES

RD is a research area in which collaboration is not only important but necessary. The creation of an RD research ecosystem expanding beyond the borders of the EU was thus one of the priorities for ERDERA's predecessor – the EJP RD. To that end, EJP RD centralised several activities and support dedicated to RD research. This centralisation encompasses joint transnational calls for multinational research projects; the virtual platform of data, tools and resources; a comprehensive education programme; and dedicated support to accelerate translation of research results and clinical studies. Moreover, EJP RD hosted the Scientific Secretariat of the International Rare Diseases Research Consortium (IRDiRC), thus directly linking EU stakeholders with the international community. All these elements made EJP RD a partner of choice for international stakeholders. Within the lifetime of EJP RD, besides 26 EU Member States and seven Associated Countries, Australia, Canada and the UK joined the consortium. Important work with the Critical Path Institute (C-Path) in the USA on data models for drug development also started under EJP RD. ERDERA aims to amplify this dynamic and the EU's profound influence on RD R&I beyond its borders by creating the European Clinical Research Network and Acceleration Hub. This will open the door to formalisation of international collaboration in the areas of multinational clinical studies, diagnostics and advanced therapeutic medicinal products. The consortium has already welcomed institutions from several Associated Countries (Georgia, Iceland, Israel, Morocco, New Zealand, Norway, Serbia, Türkiye and the UK) and non-associated and/or non-EU countries (Australia, Canada and Switzerland), signalling the EU's strong position in health research. In addition, the collaboration with C-Path has been formalised. Finally, aware of the crucial importance of international positioning, ERDERA is devoting EUR 13 886 916 to strengthening national and international positioning (including specific widening measures) and establishing and strengthening partnerships that will benefit all stakeholders. These scientific, infrastructural and strategic international collaborations will enable EJP RD and ERDERA to increase Europe's international visibility and importance and benefit from new partnerships with key stakeholders. More specifically, the ERDERA international capacity alignment work stream includes EUR 3 956 569 for the international collaborations work package, while the rest of the funding is dedicated to building national mirror groups, alignment between EU and national actions and actions targeting underrepresented countries.



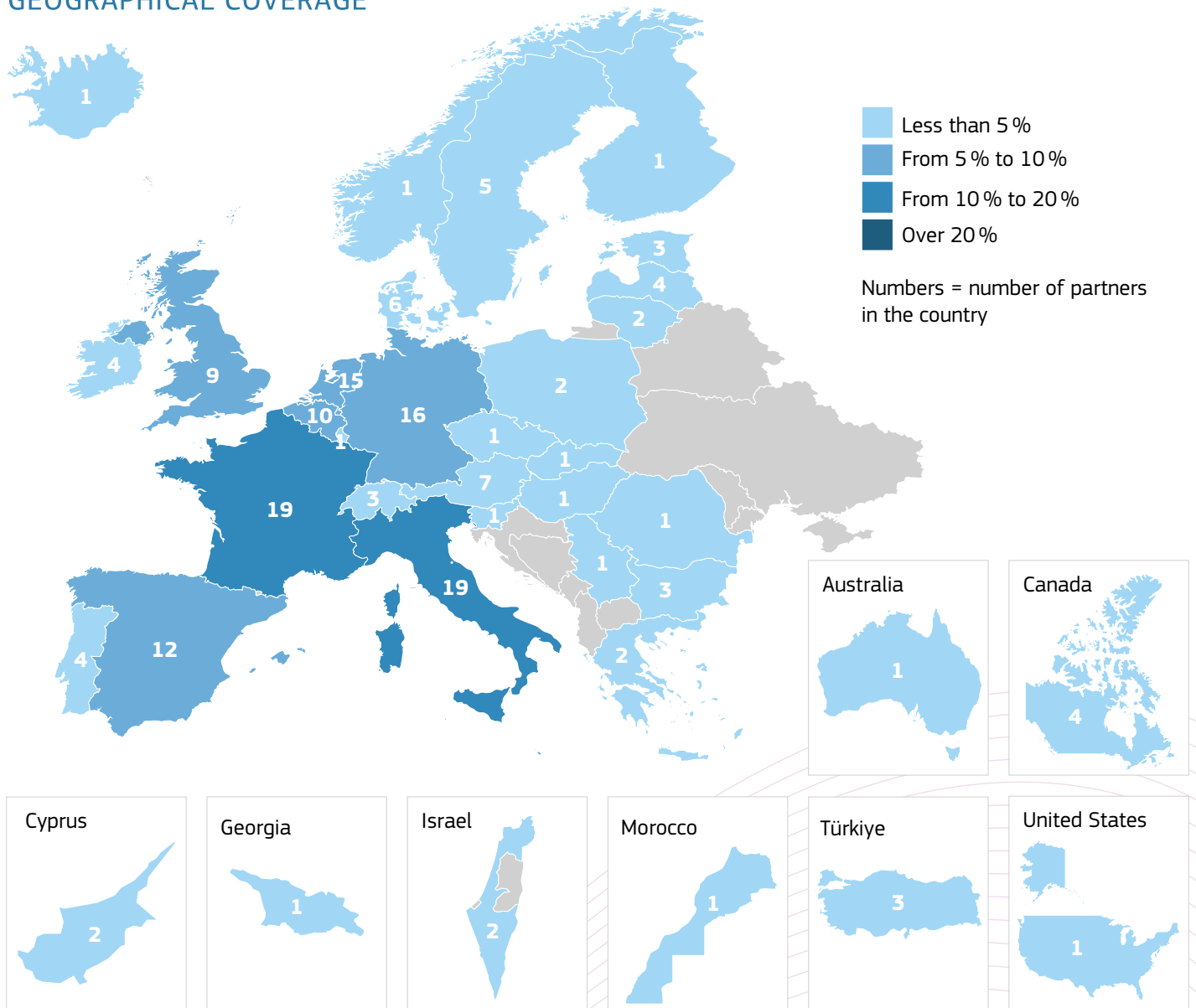
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 170



MISSION AND VISION STATEMENT

The IHI is a JU (public-private partnership) under Horizon Europe. It funds cross-sectoral collaboration in pre-competitive health R&I, involving patients, academia, healthcare professionals, healthcare delivery organisations, regulators and pharmaceutical, medical technology and digital health companies.

The IHI intends to contribute to*:

- help create an EU-wide health R&I ecosystem that facilitates translation of scientific knowledge into innovations;
- foster the development of safe, effective, people-centred and cost-effective innovations that respond to strategic unmet public health needs;
- drive cross-sectoral health innovation for a globally competitive European health industry.

It covers the entire continuum of care, from prevention, diagnostics, to treatment and disease management.

* IHI general objectives outlined in Article 115 of Council Regulation (EU) 2021/2085 of 19 November 2021 establishing the JUs under Horizon Europe.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 1: Health

Type of Partnership: Institutionalised (Art 187 TFEU) – joint undertaking

Name of coordinating entity: The IHI industry partners are COCIR, EFPIA including Vaccines Europe, EuropaBio and MedTech Europe

Total estimated budget: EUR 2.4 bn

EU commitments: up to EUR 1.2 bn

Partners' commitments: EUR 1.2 bn*

Predecessor under Horizon 2020: Innovative Medicine Initiative (IMI1 and IMI2)

* Out of which the members of the JU are expected to contribute at least EUR 1 bn and contributing partners EUR 200 m.

FIND OUT MORE

<http://www.ihieuropa.eu/>

[in https://www.linkedin.com/company/innovative-health-initiative/](https://www.linkedin.com/company/innovative-health-initiative/)

[X https://x.com/IHIEurope](https://x.com/IHIEurope)

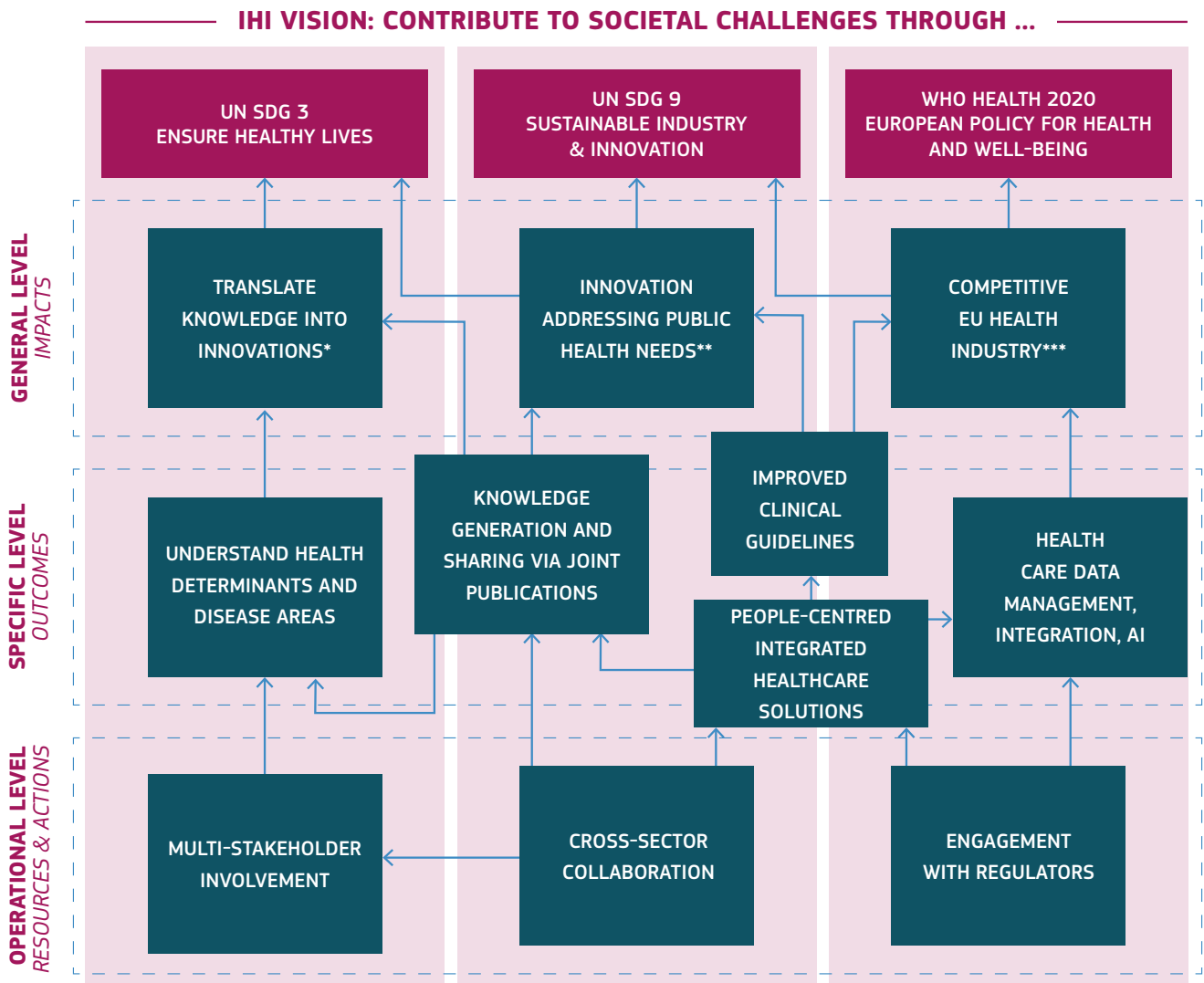
[▶ https://www.youtube.com/c/TheInnovativeHealthInitiative](https://www.youtube.com/c/TheInnovativeHealthInitiative)

[M https://social.network.europa.eu/@IHI](https://social.network.europa.eu/@IHI)

[✉ infodesk@ihieuropa.eu](mailto:infodesk@ihieuropa.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)



*IHI General Objective 1: Contribute to the creation of an EU-wide health R&I ecosystem that facilitates translation of scientific knowledge into innovations

**IHI General Objective 2: Foster the development of safe, effective, people-centric and cost-effective innovations that respond to strategic unmet public health needs

***IHI General Objective 3: Drive cross-sectoral health innovation for a globally competitive European health industry



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE ¹	TARGET ² 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Health care stakeholder involvement	% projects involving > 2 types of stakeholders	50 %	55 %	60 %	65 %	70 %	N/A
Cross-sectoriality	% projects with private members from min. 2 technology sectors ³	25 %	60%	65%	70%	75%	N/A
Regulator engagement	# projects interacting with regulators ⁴	13	0	5	10	20	N/A
OUTCOMES							
Multi-stakeholders' collaboration	% publications	65 %	65 %	66 %	67 %	70 %	N/A
Public-private collaboration	% publications	65 %	65 %	66 %	67 %	70 %	N/A
Project outputs for use in clinical practice and health R&D&I	# new tools, biomarkers, taxonomies	100	10	50	120	150	N/A
Integrated health care solutions	# of project outputs that combine people-centred integrated solutions ⁵	N/A	0	3	7	10	N/A
Value assessment of integrated solutions	# methodologies submitted to health care authorities and organisations	No baseline available	0	2	3	5	N/A
New or improved clinical guidelines	# contributing projects	13	0	5	10	20	N/A
Health data management	# common standards, protocols and frameworks	N/A	0	3	7	10	N/A
Data integration demonstration	# pilots	N/A	0	5	10	20	N/A
AI feasibility in healthcare	# pilots	N/A	0	1	2	3	N/A
IMPACTS							
Knowledge to innovation translation	# new research/ clinical networks, PPP collaborations, biobanks, collaborative platforms	10	0	4	7	15	N/A
Strategies to address unmet public health needs	% projects developing new or improved methodologies across disciplines	N/A	90 %	90 %	90 %	90 %	N/A
Globally competitive EU health care industry	# examples of cross-sector health innovation activities (e.g. spin-offs)	N/A	0	5	10	20	N/A



¹ Baselines are derived (where possible) from the Innovative Medicines Initiative (IMI2) as predecessor to IHI.

² Reporting methodology: cumulative reporting from the beginning of IHI until 31 December 2030.

³ The IHI private members, COCIR, EFPIA, EuropaBio and MedTech Europe, have members from several technology sectors. Contributing partners might cover further technology sectors.

⁴ In this document, the term 'regulators' refers to the different bodies involved in the processes regulating medical products (e.g. scientific assessment, production of scientific guidelines, scientific advice to manufacturers, granting/refusal/suspension of marketing authorisations, post-market surveillance, withdrawing/recalling of devices placed on the market, authorisation and oversight of clinical trials). It includes the European Commission, national competent authorities (NCA), the Medical Device Coordination Group (MDCG) and the European Medicines Agency (EMA). Notified bodies (NB), while designated to perform a regulatory function (verification of medical device, in-vitro diagnostics conformity), cannot be considered as regulators in the strict sense of this definition. However, the potential input and expertise of NBs may still be relevant for the design and implementation of the activities of the proposed initiative.

⁵ Healthcare authorities and organisations referred to here are health technology assessment (HTA) bodies, regulatory authorities, payers and public authorities:

- HTA agencies/bodies: http://www.adhophta.eu/toolkit/assets/tools/AdHopHTA_toolkit_tool24_document.pdf, <https://www.eunethta.eu/about-eunethta/eunethtanetwork/>;
- national and regional public procurement organisations;
- national payer and reimbursement organisations (incl. health insurance companies);
- national healthcare authorities: examples are Dutch NZA, <http://www.euregha.net/> (membership list of regional and local health authorities) and <https://eurohealthnet.eu/list-of-members/>.

As some of the activities are relatively new or lack meaningful KPIs (e.g. cross-sectoral collaborations), it was not easy to set baselines. For the totally new activities, baselines were simply set to zero. As the first grant agreements were signed in 2023, it is expected that the targets for most indicators in 2023 will be zero.

The causal link between activities and expected impact (e.g. industrial competitiveness) is difficult to establish; such impacts rely on numerous factors, and an initiative like this can only make a partial contribution, which is reflected in the monitoring framework. In addition, the development timelines for healthcare innovation are relatively long, due, in particular, to regulatory requirements. This means that most impacts will likely become apparent only after the end of the partnership.

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

TECHNOLOGICAL SOVEREIGNTY: SUCCESS STORY 1: GETREAL/GETREAL INITIATIVE

Promotion of the adoption of real-world evidence (RWE) in drug development and healthcare decision-making

The GetReal and GetReal Initiative projects developed new tools and resources to help advance the use of RWE in drug development and healthcare decision-making, such as the RWE Navigator, the GetReal Academy, the GetReal Trial Tool and the Aggregate Data Drug Information System (ADDIS)*. In order to increase the quality of RWE generation and advance its appropriate use in drug development and regulatory, HTA and reimbursement practices and processes across Europe, the GetReal Initiative set up a self-sustaining non-profit entity – the GetReal Institute – in May 2021. The GetReal Institute is open to any organisation, public or private, that is involved in generating, evaluating or using RWE. Its scope is to drive forward the adoption of tools, methods and best practices in the generation and use of RWE for better healthcare decision-making. Since its launch, the Institute has gained over 20 members from a diverse array of stakeholder groups, from academia and patient groups to regulatory and HTA organisations, as well as pharmaceutical companies.

*The RWE Navigator is an online educational resource on RWE and study designs and methods for generating RWE to support medicine development and use; the GetReal Academy is an academy that offers a range of taught and self-paced online courses in RWE; the GetReal Trial Tool is an open access tool that offers guidance on the options for and implications of introducing real-world elements into clinical trial design; ADDIS is a data management and analytical tool used to assist in evidence-based decision-making in healthcare.



TECHNOLOGICAL SOVEREIGNTY: SUCCESS STORY 2: HARMONY/HARMONY PLUS

Healthcare alliance for resourceful medicines offensive against neoplasms in hematology

The [HARMONY Alliance](#), a European public-private partnership for big data in hematology resulting from the HARMONY and HARMONY PLUS blood cancer projects, has built a robust, open, collaborative research community that leverages big data to improve treatments and develop more effective strategies for patients with hematological malignancies. The HARMONY big data platform contained 150 000 patients' datasets as of December 2022 (anonymised and collected following all legal and ethical requirements). Moreover, the platform is being expanded to encompass new services, including access to large longitudinal datasets, RWE data and virtual/in-silico data and has facilitated further connections and collaboration with other data innovation initiatives. This unique data-driven research infrastructure is aimed at defining new outcome indicators, facilitating post-authorisation studies and helping healthcare professionals to quickly determine the best personalised treatment and care for blood cancer patients. In June 2023, it was announced that the HARMONY Alliance is to become a public-benefit-oriented research foundation that will transform high-quality data into meaningful evidence.

INTERNATIONAL POSITIONING: SUCCESS STORY 3: CONECT4CHILDREN

Collaborative network for European clinical trials for children

The [conect4children](#) (c4c) project has set up a pan-European paediatric clinical trial network. It comprises 20 national hubs in 21 European countries providing access to more than 230 clinical sites able to conduct high-quality multinational paediatric clinical trials for all disease areas and all phases of clinical drug development. The project has established a strategic feasibility advice service, through which drug developers can get advice directly from experts on any aspect of drug development. In all, 25 clinical and methodological expert groups, including a parents'/young persons' advisory group, have been set up involving more than 400 experts. They have already provided advice on over 30 occasions. To ensure standardisation and interoperability of data, the consortium has developed, with CDISC*, the [Paediatric Therapeutic Area User Guide](#) and has collaborated with the IMI FairPlus project on a [recipe](#) in the FAIR Cookbook** outlining the steps to make metadata for paediatric clinical trials FAIR. Accredited educational courses have also been developed for standardised training for all study sites and site personnel. To ensure sustainability, the c4c consortium has recently established the conect4children Stichting, a non-profit organisation that offers access to the paediatric clinical trial network and its services to all academic and industry sponsors, including CROs, throughout Europe and beyond.

* Clinical Data Interchange Standards Consortium. It develops and advances data standards of the highest quality to transform incompatible formats, inconsistent methodologies and diverse perspectives into a powerful framework for generating accessible clinical research data.

**An online, open and live resource for the life sciences with recipes that help to make and keep data findable, accessible, interoperable and reusable – FAIR.



INTERNATIONAL POSITIONING SUCCESS STORY 4: COMBACTE-CARE

Combatting bacterial resistance in Europe – carbapenem resistance

COMBACTE-CARE has worked closely with the pan-European clinical and laboratory networks (CLIN-Net and LAB-Net) set up by the COMBACTE projects. It focuses specifically on the challenges posed by carbapenem-resistant gram-negative bacteria. The consortium worked on the testing in phase 2 (REJUVENATE) and clinical trials in phase 3 (REVISIT) of a novel antibiotic product combination: aztreonam-avibactam (ATM-AVI). The REVISIT trial, supported by IMI and BARDA* , evaluated the efficacy and safety of ATM-AVI for treating serious infections caused by gram-negative bacteria, for which there are limited or no treatment options ([NCT03329092](#)). In June 2023, Pfizer released an [official communication](#) stating that the data indicate that ATM-AVI is effective and well tolerated in treating infections caused by gram-negative bacteria and has a similar safety profile to aztreonam alone. Globally, 165 sites were activated for enrolment in the study, 75 of which were from the CLIN-Net network. Also, nearly 50 % of the patients were randomised from the CLIN-Net network (201 out of 422 patients randomised globally). These data will be part of the marketing authorisation application submitted to the EMA.

* Biomedical Advanced Research and Development Authority.

OVERVIEW OF MEMBERS

The Innovative Health Initiative Joint undertaking includes the European Union and 4 private industry trade associations:

- a) the European Coordination Committee of the Radiological, Electromedical and healthcare IT Industry (COCIR),
- b) the European Federation of Pharmaceutical Industries and Associations (EFPIA), including its subgroup Vaccines Europe,
- c) EuropaBio
- d) MedTech Europe

[Innovative Health Initiative](#) - European Commission ([europa.eu](#))

[Partners, IHI Innovative Health Initiative](#) ([europa.eu](#))

One Health Antimicrobial Resistance



MISSION AND VISION STATEMENT

The common vision of the One Health Antimicrobial Resistance (OHAMR) Partnership is to improve our response to the threat of antimicrobial resistance (AMR) by reducing the occurrence and spread of AMR in humans, animals and the environment through an integrated One Health (OH) approach. It will implement concrete actions for breaking silos, boosting R&I and developing solutions to understand, prevent and tackle AMR. The Partnership will also strengthen synergies and improve links between OH R&I efforts to reduce AMR by better coordinating activities and investment and by:

- deploying an interdisciplinary, OH approach to align and coordinate enhancement of AMR R&I;
- advancing knowledge of AMR mechanisms and their evolution and transmission routes, as well as the socio-economic drivers of AMR and barriers to its prevention;
- developing innovative solutions to prevent, detect, monitor, mitigate and treat drug-resistant infections and facilitate the uptake of such solutions by industry, policymakers and society.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 1: Health

Type of partnership: Co-funded

Name of coordinating entity: Swedish Research Council (Vetenskapsrådet)

Total estimated budget: EUR 330 m

EU commitments: EUR 100 m

Other commitments: EUR 230 m

Predecessor under Horizon 2020: JPIAMR (and the related ERA-Nets, JPI-EC-AMR and JPIAMR-ACTION)

Start date-end date: Expected to start in mid-2025

FIND OUT MORE

<http://www.ohamr.eu/>

 [One Health AMR Partnership](https://www.linkedin.com/company/ohamr/)

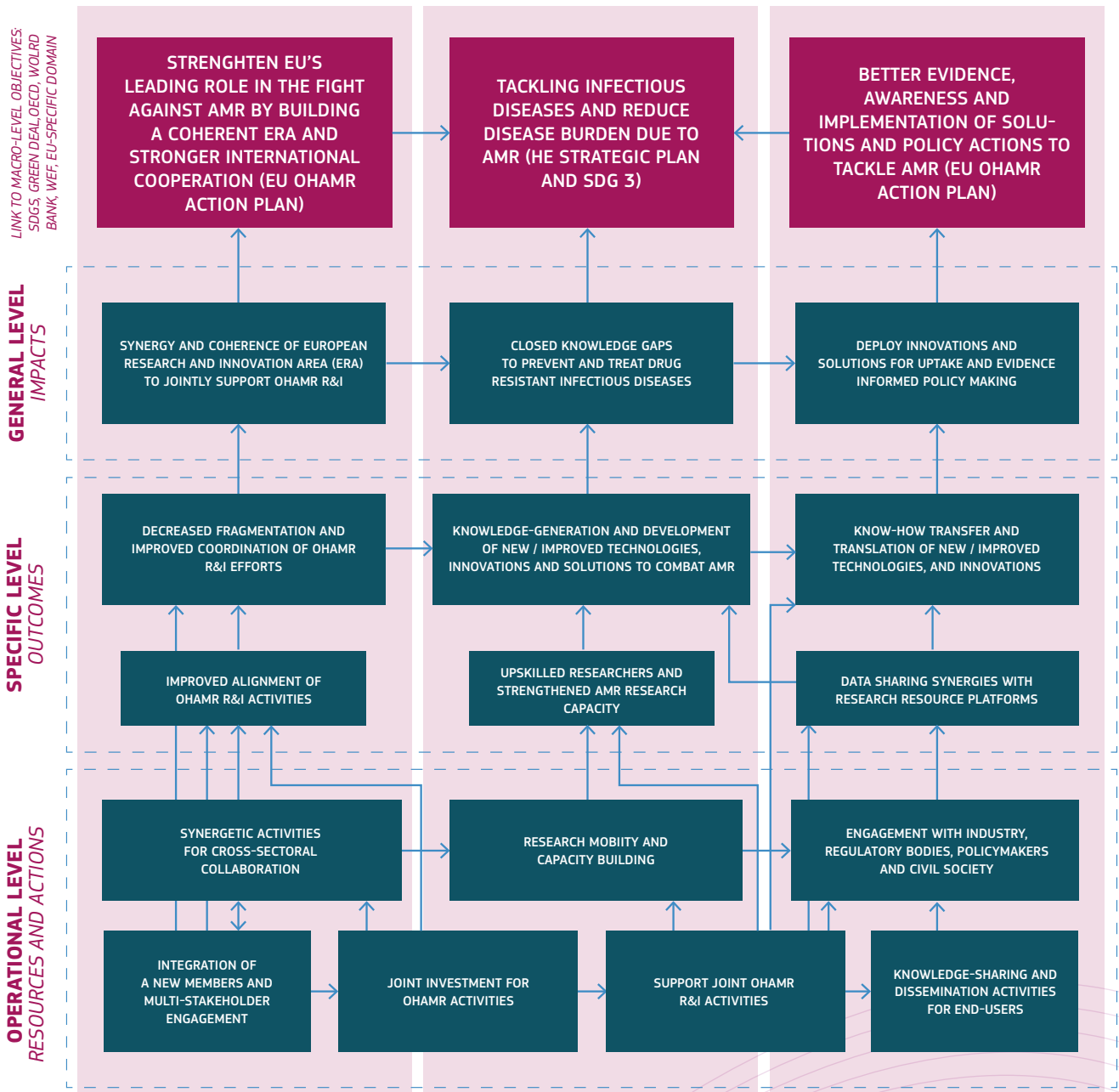
 https://x.com/OHAMR_News

 ohamr@vr.se



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

OHAMR PARTNERSHIP SPECIFIC IMPACT PATHWAY (PSIP) STRATEGY MAP





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Global stakeholder engagement	# and diversity of engaged stakeholders and activities undertaken		TBD	TBD	TBD	TBD	N/A
Upskilled researchers and capacity building	# early-career researchers and researchers from low- and middle-income countries (LMICs) and widening countries funded		TBD	TBD	TBD	TBD	N/A
Joint R&I activities and actions	Types and share of activities related to OHAMR priority R&I objectives		TBD	TBD	TBD	TBD	N/A
Community engagement and knowledge dissemination to end-users	# and type of activities involving researchers and other end-users		TBD	TBD	TBD	TBD	N/A
OUTCOMES							
Alignment of R&I priorities and synergistic activities	Multi-sectoral activities with EU agencies and other international initiatives		TBD	TBD	TBD	TBD	N/A
R&I-based knowledge generated	Share of projects integrating cross-cutting issues with OH perspectives		TBD	TBD	TBD	TBD	N/A
Data sharing and (re)utilisation of resources	# R&I outputs and resources generated made available as FAIR		TBD	TBD	TBD	TBD	N/A
Knowledge translation for innovations and implementation	Share of projects with R&I outcomes adopted for implementation and evidence-based policymaking		TBD	TBD	TBD	TBD	N/A
IMPACTS							
Collaboration in Europe and beyond	Synergy and coordination within ERA to jointly support OHAMR R&I		TBD	TBD	TBD	TBD	N/A
Innovative solutions developed	R&I outcomes fulfilling unmet medical needs of patients and animals or with environmental impact		TBD	TBD	TBD	TBD	N/A



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

AMR is a global health challenge and affects human and animal health, food security and the environment. The EC has identified AMR as one of the top three priority health threats that will hinder the achievement of the SDGs. OHAMR will coordinate, align and boost OH AMR R&I in the EU and beyond, aiming to improve understanding of AMR, provide solutions to prevent the emergence and spread of AMR and mitigate and tackle the effects of AMR.

OHAMR will pay particular attention to increasing support for translational research to prevent and treat drug-resistant infections and improve surveillance, diagnosis and control of the spread of resistant microorganisms through integration with social sciences, interdisciplinary research and co-creation by end-users that add value to society and planetary health. It will employ multiple grant funding approaches to support transnational projects of different technology readiness levels adapted to the needs and priorities of each focus area. This will support development of new antimicrobials, novel treatment protocols and alternative treatment therapies, along with their respective diagnostics. Joint R&I actions will help develop or identify cost-effective technical innovations, including diagnostics, and social/societal innovations aimed at ensuring more prudent use of antimicrobials, as well as social and technical interventions aimed at preventing the emergence and spread of AMR. In addition, OHAMR will support the implementation of research projects testing evidence-based solutions and interventions assessing effectiveness in real-world contexts, resulting in evidence-informed policy guidelines to support improved surveillance of AMR, antimicrobial stewardship measures and new reimbursement models.

One of the main objectives of OHAMR is to enhance knowledge translation by increasing the impact and uptake of research results for innovation, policy and implementation of solutions. A dedicated impact programme for knowledge mobilisation is envisaged to facilitate the transfer, uptake and valorisation of the knowledge generated from funded R&I projects and its translation into solutions and evidence-based policy with maximum societal impact. The programme aims to facilitate the translation of knowledge into solutions and sustainable uptake of AMR interventions by providing a framework for collaboration between knowledge generators (funded researchers and innovators) and knowledge users, including policymakers. OHAMR will also build on the JPIAMR portfolio of AMR R&I projects and networks that have been supported in the last 10 years in order to maximise its impact through knowledge valorisation; dissemination and uptake of data, know-how and research results; and their translation into sustainable products, services, solutions and knowledge-based policies that benefit society. These strategic activities will contribute to achieving the goals of the EU action plan against AMR and strengthening ERA, thereby creating a more resilient EU that is prepared for emerging threats, including AMR.



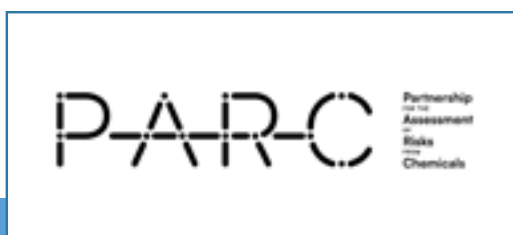
Bacteria know no borders, making AMR a global challenge. Hence synergies, complementarities and collaborations with countries within and beyond the EU and other international initiatives are of the utmost importance. OHAMR will build on the international relations developed within JPIAMR and will strengthen and expand its cooperation with countries associated with Horizon Europe and with other partner countries and regions.

The OHAMR Partnership will continue to strive to develop global AMR research strategies and programmes through alignment of national and international research programmes with a view to supporting global collaboration and coordination of joint AMR research investments. Collaboration is already in place with the WHO and the quadripartite organisations, and in 2023, OHAMR, along with JPIAMR, contributed to the development of the global research agenda for AMR in human health and the OH priority research agenda for AMR. Moreover, the R&I objectives identified in the OHAMR SRIA are in alignment with those of the WHO global AMR research agenda in the human health sector and the UN OH AMR priority research agenda. Longstanding collaboration is also in place with the USA through the Transatlantic Task Force on AMR (TATFAR) as regards the exchange and sharing of best practices to strengthen domestic and global efforts to address the urgent threat of AMR. Since 2023, global cooperation has taken centre stage through the UN AMR Multistakeholder Platform, where OHAMR is engaged in the development of the 2024 UN General Assembly AMR high-level resolution.

The OHAMR Partnership will leverage cooperation at global level, helping to find solutions to many global AMR issues that go beyond Europe. Australia, Canada and South Africa are some of the non-EU countries that have partnered in calls to support research projects involving international partners, leading to increased scientific knowledge and technology transfer among the partner countries. A long-standing member of JPIAMR, Canada has made substantial investments in discovery research focused on antibiotic resistance and has supported several targeted initiatives in the areas of drug development, alternative therapies, combination approaches and infection control. Canada's interest in the Partnership stems from a desire to combine the resources, infrastructures and expertise of many different countries to provide a value-added, collaborative approach that will fast track the development of effective solutions to AMR.

Moreover, in cooperation with development aid agencies, research funding has been extended to researchers from LMICs who have been partners of the research consortia, resulting in international cooperation, capacity strengthening and linkages without dependencies. The OHAMR Partnership will thus seek further cooperation with international organisations, as well as Third Country participation.

The fact that countries such as Australia build their R&I priorities based on OHAMR scientific R&I objectives will strengthen the EU's global role and strategic interests, develop science diplomacy and strengthen linkages to national international cooperation programmes. OHAMR will also develop cooperation with relevant international initiatives to identify synergies, plan joint activities and avoid duplication of efforts globally.



MISSION AND VISION STATEMENT

Partnership for the Assessment of Risks from Chemicals (PARC) will establish an R&I hub of excellence to support EU and national chemical risk assessment and management with new data, knowledge, methods, networks and skills to address current and emerging chemical safety challenges.

PARC will facilitate the transition to next generation RA to better protect human health and environment. PARC will address end-users' needs to anticipate and respond to the challenges and priorities of the new European policies.

By promoting a high-level network of expertise on chemical assessment at national and EU level, PARC will enable the EU's Chemicals Strategy for Sustainability Towards a Toxic-Free Environment (CSS).

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 1: Health

Type of partnership: Horizon Europe Co-funded Partnership

Name of coordinating entity: ANSES – Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail

Total estimated budget: EUR 400 m

EU commitments: EUR 200 m

Other commitments:* EUR 200 m

Predecessor under Horizon 2020: HBM4EU initiative 'co-ordinating and advancing humanbiomonitoring (HBM) in Europe'

Start date–end date: 1.5.2022–30.4.2029

*(in-kind national funding from the partners)

FIND OUT MORE

<https://www.eu-parc.eu/>

[in https://www.linkedin.com/company/european-partnership-for-the-assessment-of-risks-from-chemicals-parc](https://www.linkedin.com/company/european-partnership-for-the-assessment-of-risks-from-chemicals-parc)

[@ https://www.instagram.com/eu_parcl/](https://www.instagram.com/eu_parcl/)

[X https://x.com/parc_chemicals](https://x.com/parc_chemicals)

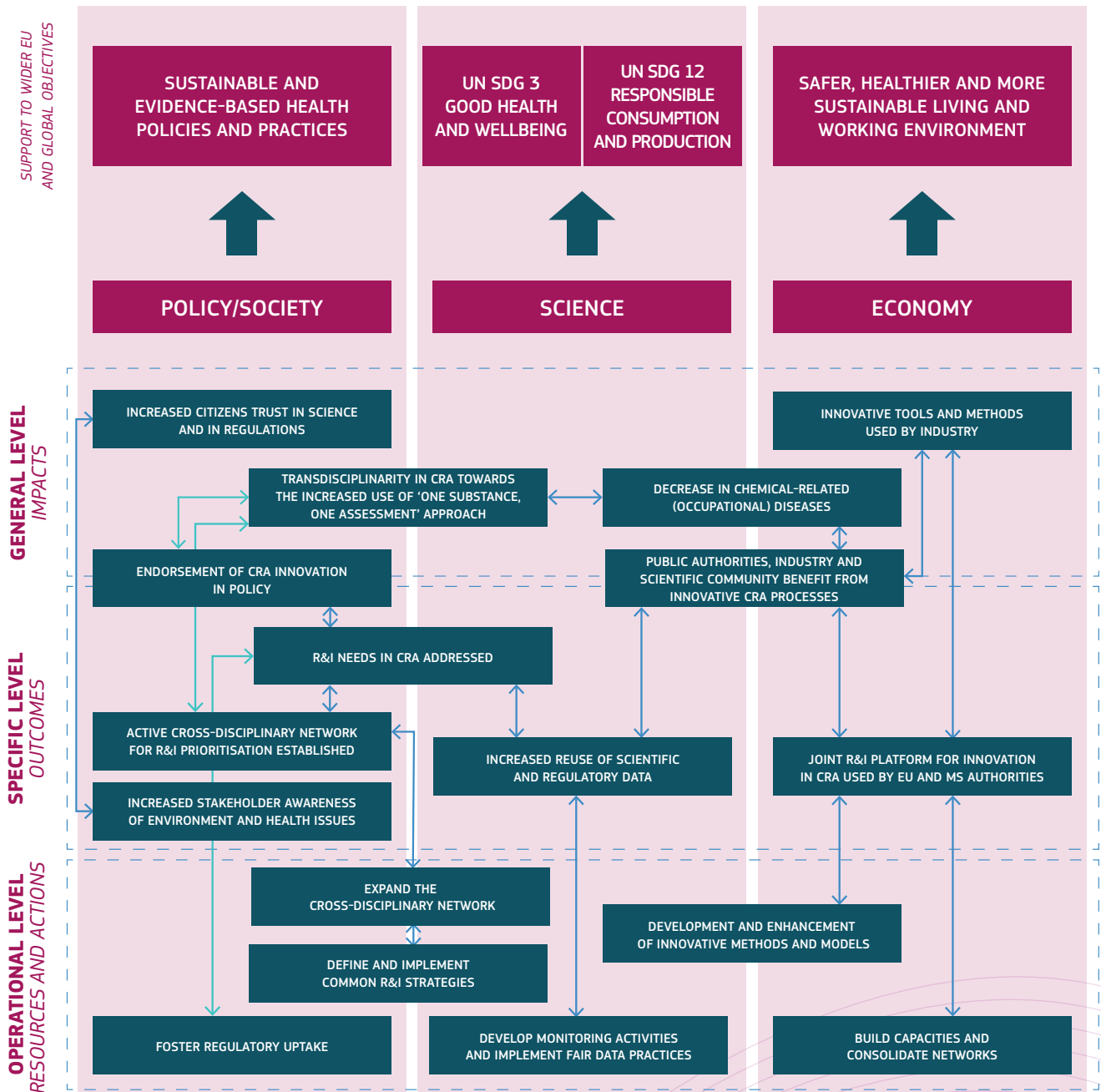
[f https://www.facebook.com/PARC.chemicals](https://www.facebook.com/PARC.chemicals)

[✉ parc@anses.fr](mailto:parc@anses.fr)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

**ADDRESS CURRENT, EMERGING AND NOVEL CHEMICAL SAFETY CHALLENGES AND
ENABLE TRANSITION TO THE NEXT-GENERATION RISK ASSESSMENT**



CRA: Chemical Risk Assessment



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Cross-disciplinary network	# partners involved in the PARC	HBM4EU 120	↑	↑	↑	All relevant CRA disciplines are involved
Common R&I strategies	# projects/activities approved for implementation	0	↑	↑	↑	TBD
FAIR data practices	Proportion of datasets developed that are FAIR/partially FAIR	0	N/A	↑	↑	70-80 %
Capacities and resources	# entities in the risk assessment network catalogue	HBM4EU 166	↑	↑	↑	Sufficient coverage at EU level
OUTCOMES						
Active cross-disciplinary network for R&I prioritisation	% of countries that are actively involved in the network	28 countries	→ or ↑	→ or ↑	→ or ↑	100 % of countries that stay actively involved
Stakeholder awareness	# activities that target stakeholders	0	↑	↑	↑	100 % of stakeholders aware
Reuse of scientific and regulatory data	# datasets shared by PARC	0	↑	↑	↑	TBD
Use of innovative CRA processes by public authorities	# PARC tools and results made available for use by public authorities	0	↑	↑	↑	100 % of PARC tools and results made available for use by public authorities
IMPACTS						
Endorsement of CRA innovation in policy	# citations of PARC outputs/results in policy processes	0	↑	↑	↑	PARC policy recommendations considered by policymakers in all relevant CRA policy processes
Citizen trust in science and regulations	# activities that target citizens	0	↑	↑	↑	TBD
Support toward 'one substance one assessment' approach	# activities that contribute to 'one substance, one assessment' approach	0	↑	↑	↑	TBD

The contribution of PARC to the defined outcomes and wider impacts, and the activities implemented to maximise them, will be followed closely throughout the lifetime of the Partnership to measure its performance and ultimately to provide a robust justification for the long-term sustainability of PARC's activities. PARC's impact pathway is defined in its monitoring framework to provide a qualitative and quantitative indication of the scale and significance of its contribution to the achievement of the expected outcomes and impacts. The set of indicators, including baselines and clear targets, are being developed on three levels: output, outcome and impacts. Information on the output indicators is being collected, and outcome and impact indicators are under development. These indicators will be revised regularly with PARC's various boards and stakeholders to ensure their relevance for evaluating progress towards the Partnership's key, useful and impactful results, focusing on the relevant target groups to maximise impact and exploitation. The table above highlights some of the indicators at impact, outcome and operational levels.

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

TECHNOLOGICAL SOVEREIGNTY: SUCCESS STORY 1

Key areas of regulatory challenge

PARC collaborates closely with regulatory agencies and policymakers at EU and national levels to ensure that its activities can identify and address the most salient regulatory concerns.

As an example of this close-knit collaboration, the European agencies in areas under PARC's remit, including the European Chemicals Agency (ECHA), the European Food Safety Authority (EFSA) and the European Environment Agency (EEA), have drafted 'evolving research and development agendas' aiming to 'support and inspire PARC's research community' by outlining key areas of regulatory challenge. The aim is to support a joint understanding of regulatory relevance; influence, inspire and improve existing R&I projects and promote new projects according to regulatory needs; communicate specific research needs to support short- and longer-term priorities for regulatory management; and identify and develop key missing elements in the various areas and support their regulatory uptake.

These needs have been shared among PARC boards to identify and align priorities and are a valuable resource for the development, within PARC in the coming years, of project proposals that adequately address regulatory needs.

TECHNOLOGICAL SOVEREIGNTY: SUCCESS STORY 2

Rapid response mechanism

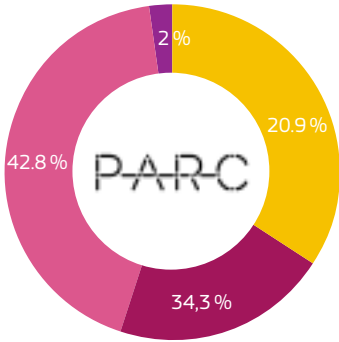
PARC's primary goal is to assess and address chemicals' impacts on human health and the environment, including in urgent cases. PARC's list of priorities for the upcoming years is drawn up under task 2.1 based on a transparent strategy and fluid discussions with different PARC stakeholders. Nevertheless, if urgent priorities arise, such as urgent needs for information within the EU policy community or at national level, it should always be possible, depending on their eligibility, to include such priorities in the PARC work programme. To this end, a fast-track process called rapid response mechanism has been set up to allow stakeholders, including governing board members, agencies and the European Commission, to request that PARC take action on newly identified concerns that require immediate attention and fall within its remit.

This mechanism is currently being live tested with a request related to per- and polyfluoroalkyl substances (PFAS).



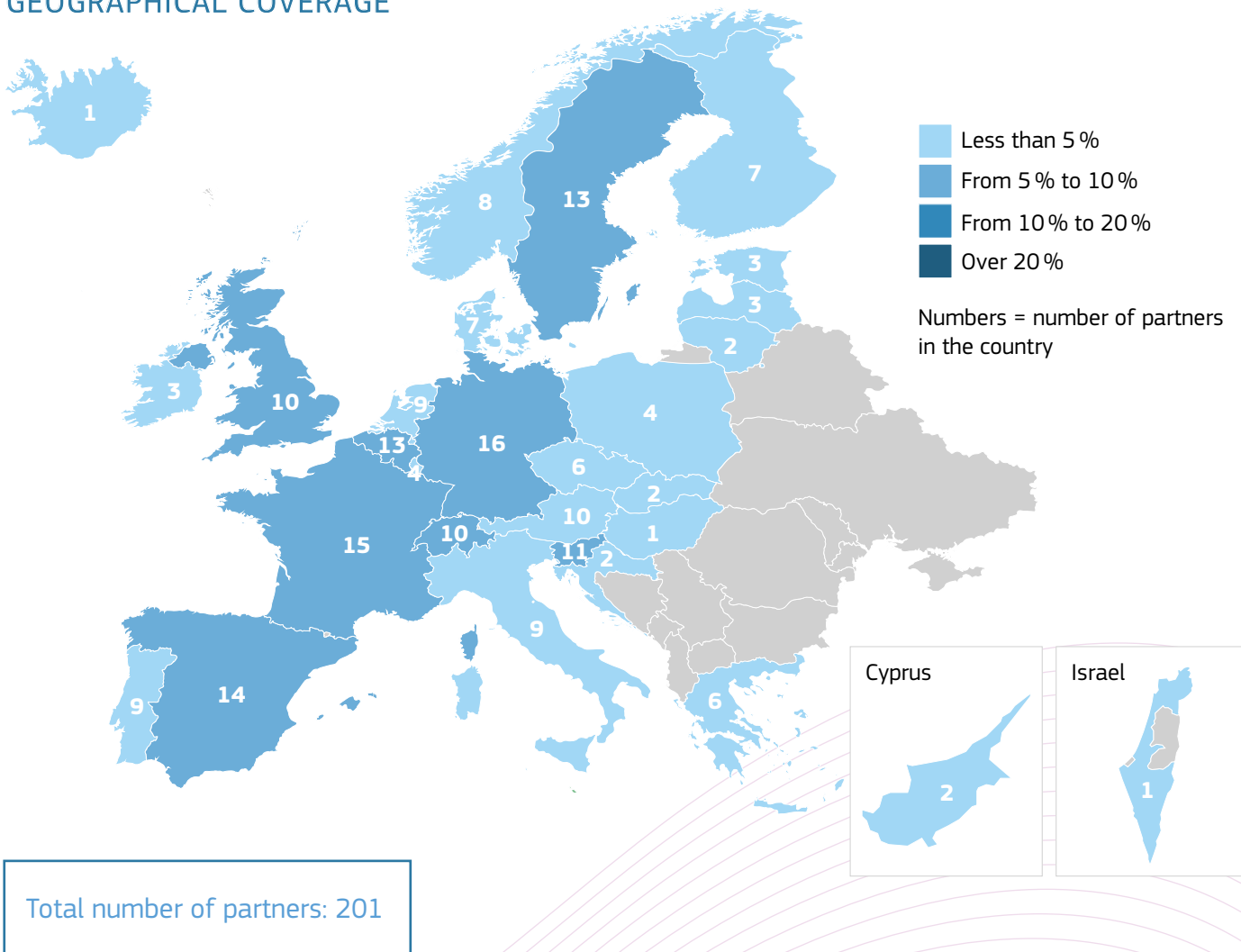
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





EP PerMed
European Partnership
for Personalised Medicine



MISSION AND VISION STATEMENT

The common vision of EP PerMed and its SRIA for personalised medicine (PM) is to improve health outcomes within sustainable healthcare systems through research, development, innovation and implementation of PM approaches for the benefit of patients, citizens and society. The overall goal is to optimise treatment and prevention strategies by utilising achievements in all biomedical and disease-specific areas in connection with available technologies, including non-biomedical technologies. The Partnership builds on over 15 years of experience in European consortia and initiatives and on a wide range of national and regional PM activities. It will, for example, continue and build on the activities of ERA PerMed in funding transnational R&I projects. In addition, EP PerMed will cooperate closely with the International Consortium for PM (ICPerMed) and other related partnerships involved in overarching strategic activities and international cooperation.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 1: Health

Type of partnership: Co-funded

Name of coordinating entity: German Aerospace Centre (DLR),
Project Management Agency, DLR PT, Germany

Total estimated budget: EUR 375 m

EU commitments: EUR 100 m

Other commitments: EUR 275 m*

Predecessor under Horizon 2020: ERA PerMed and ICPerMed Family CSAs

Start date–end date: 1.11.2023–31.10.2033

*National and regional partners

FIND OUT MORE

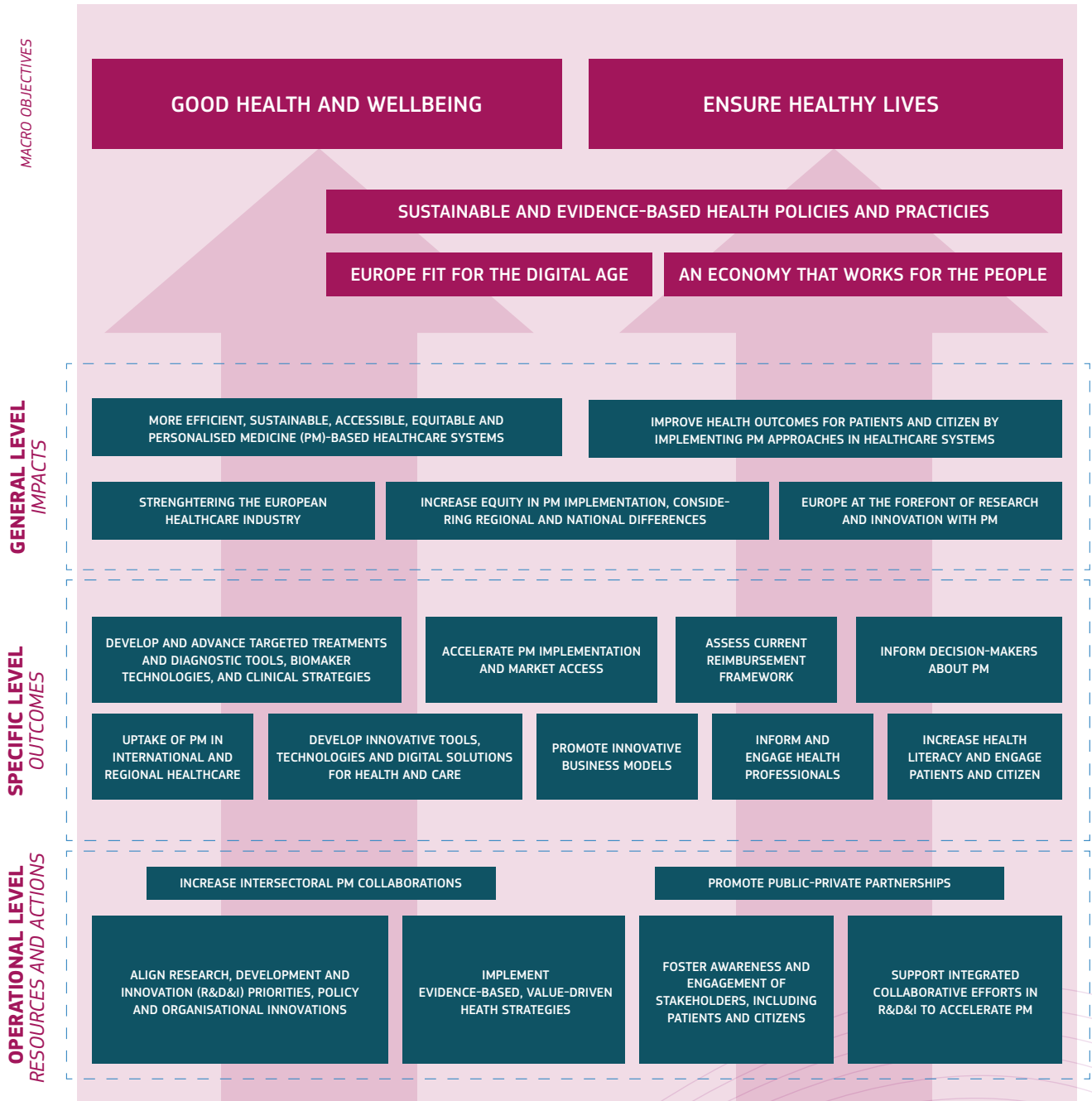
<https://www.eppermed.eu/>

✉ eppermed@dlr.de



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

EP PERMED





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
High # scientific publications	# scientific publications	N/A	→	↗	↗	↑	N/A
Total budget for EP PerMed funding activities (partners and EU share)	Total (million EUR) invested in EP PerMed funding activities	N/A	40	80	120	> 300 by 2030	N/A
EP PerMed events dedicated to public/private collaboration	# events dedicated to public/private collaboration	N/A	N/A	2	↗	↑	N/A
Education and training (E&T) activities fostering innovation	# E&T activities fostering innovation	N/A	N/A	1	↗	↑	N/A
PM-related reverse technology transfer sessions	# reverse technology transfer sessions	N/A	N/A	2	↗	↑	N/A
Site visits organised by EP PerMed for regional involvement	# site visits	N/A	1	2	2	↗	N/A
EP PerMed awareness campaigns on PM topics	# awareness campaigns on PM topics	N/A	N/A	2	↗	↗	N/A
EP PerMed twinning calls	# twinning calls	N/A	N/A	2	↗	↗	N/A
EP PerMed-related publications (e.g. white papers, peer-reviewed articles)	# EP PerMed-related publications	N/A	1	3	↗	↗	N/A
PM stakeholders participating in EP PerMed events	# stakeholders participating in events	N/A	20	25	↗	↗	N/A
Innovation projects funded	# innovation projects funded	N/A	N/A	2	↗	↗	N/A
OUTCOMES							
Strategic PM documents or PM policy documents prepared and published	# strategic or policy documents prepared and published	N/A	→	↗	↗	↑	N/A
EP PerMed-funded consortia	# funded consortia	N/A	N/A	26	↗	↑	N/A
Funded network projects	# funded network projects	N/A	N/A	↗	↗	↑	N/A
Funded matchmaking activities	# funded matchmaking activities	N/A	N/A	2	↗	↑	N/A
Users of the new partnering tool	# users of the new partnering tool	N/A	N/A	250	300	350	N/A
Best PM practice examples promoted	# best PM practice examples promoted	N/A	N/A	4	↗	↑	N/A
Communication and cooperation with PM-related medical societies/associations	# medical societies/associations engaged	N/A	N/A	2	↗	↑	N/A

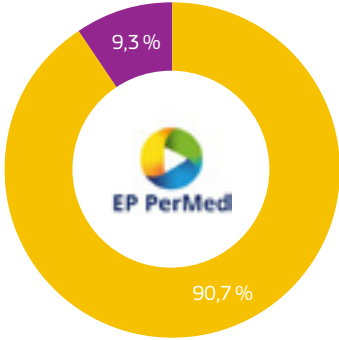


KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
Engagement with patient organisations and patients	# patient organisations/patients engaged	N/A	2	4	↗	↑	N/A
New partners	# EP PerMed participants	50	N/A	2	4	↗	N/A
New countries	# countries in EP PerMed	24	25	26	27	↗	N/A
New regions	# regions in EP PerMed	10	11	12	13	↗	N/A
Infrastructures engaging with EP PerMed	# infrastructures engaged	2	4	5	6	↗	N/A
New PM-related diagnostic tools, clinical strategies, therapies and digital solutions available	# new diagnostic tools, clinical strategies, therapies and digital solutions available	TBD	→	→	↗	↑	N/A
IMPACTS							
Adapted medical curricula/training courses for healthcare professionals covering PM	# adapted medical curricula/training courses for healthcare professionals covering PM	N/A	N/A	2	↗	↑	N/A
Site visits organised by EP PerMed for regional involvement	# site visits	N/A	1	2	2	↗	N/A
EP PerMed awareness campaigns on PM topics	# awareness campaigns on PM topics	N/A	N/A	2	↗	↗	N/A
Increase in successful PM-related spin-offs	# EP PerMed and PM-related spin-offs	TBD	→	↗	↗	↑	N/A
PM interventions that are effective and improve service delivery	# PM interventions in relation to overall new interventions	TBD	→	→	↗	↑	N/A
National and regional health knowledge hubs installed and connecting research, clinics, innovation and policy	# national and regional health knowledge hubs	TBD	N/A	↗	↗	↑	N/A



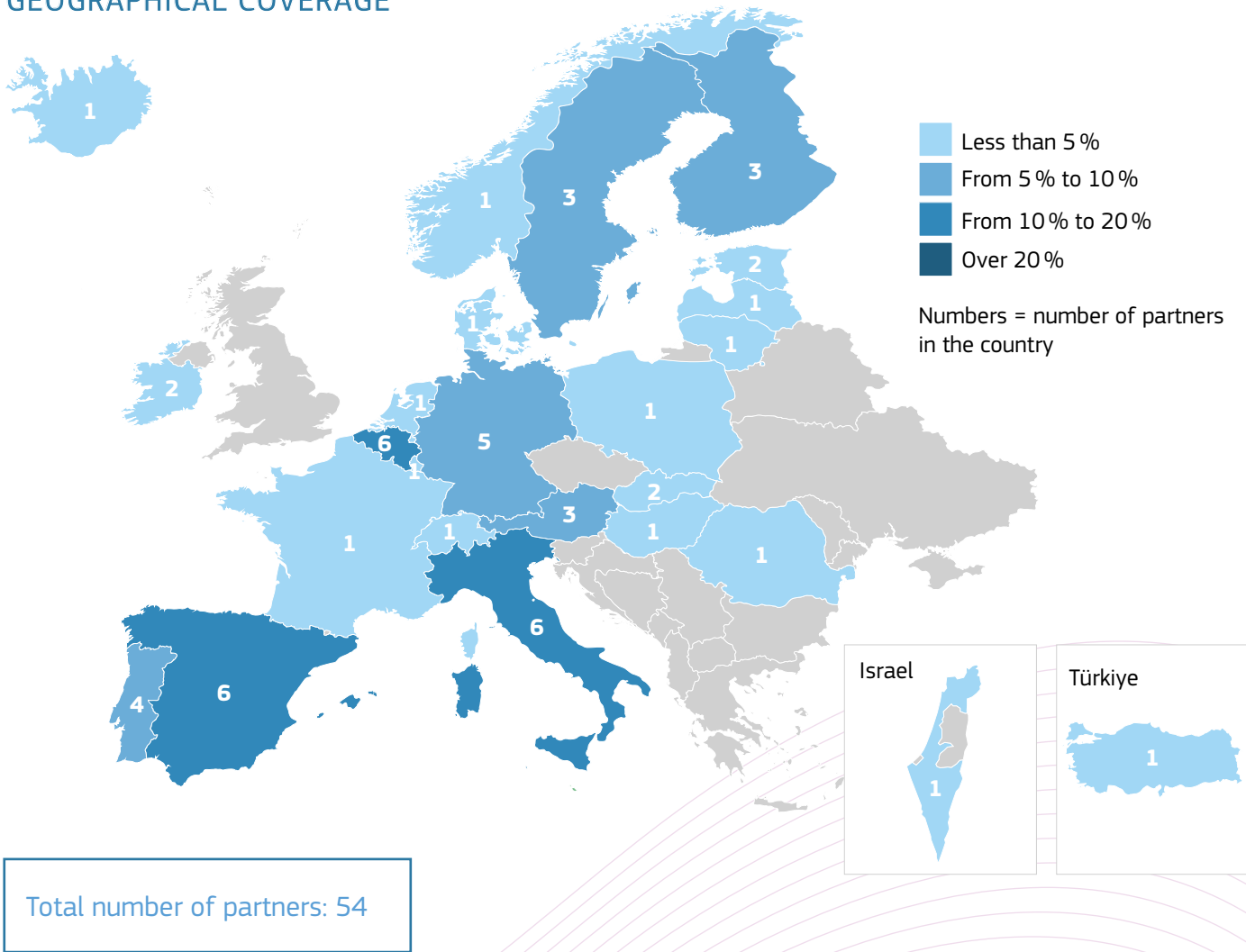
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- PUBLIC** Research funders, ministries, regions, cities
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

THCS is a Co-funded Partnership under Horizon Europe designed to support coordinated national and regional R&I programmes along with capacity building, networking, dissemination and other key activities to facilitate the transformation of health and care systems.

The core activity of THCS is the funding of R&I projects through joint transnational calls related to common priorities and topics and involving a large number of R&I funding organisations. The general objective is to contribute to the transition towards more sustainable, efficient, resilient, inclusive, innovative and high-quality people-centred health and care systems that are equally accessible to all.

For this purpose, THCS aims not only to create new knowledge and scientific evidence but also to co-design new solutions and support their transfer and scale-up across countries and regions, while also fostering capacity building.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 1: Health

Type of partnership: Co-funded

Name of coordinating entity: Italian Ministry of Health

Total estimated budget: EUR 333.9 m

EU commitments: EUR 100 m

Other commitments: EUR 233.9 m

Predecessor under Horizon 2020: New partnership

Start date-end date: 1.2023-12.2029

FIND OUT MORE

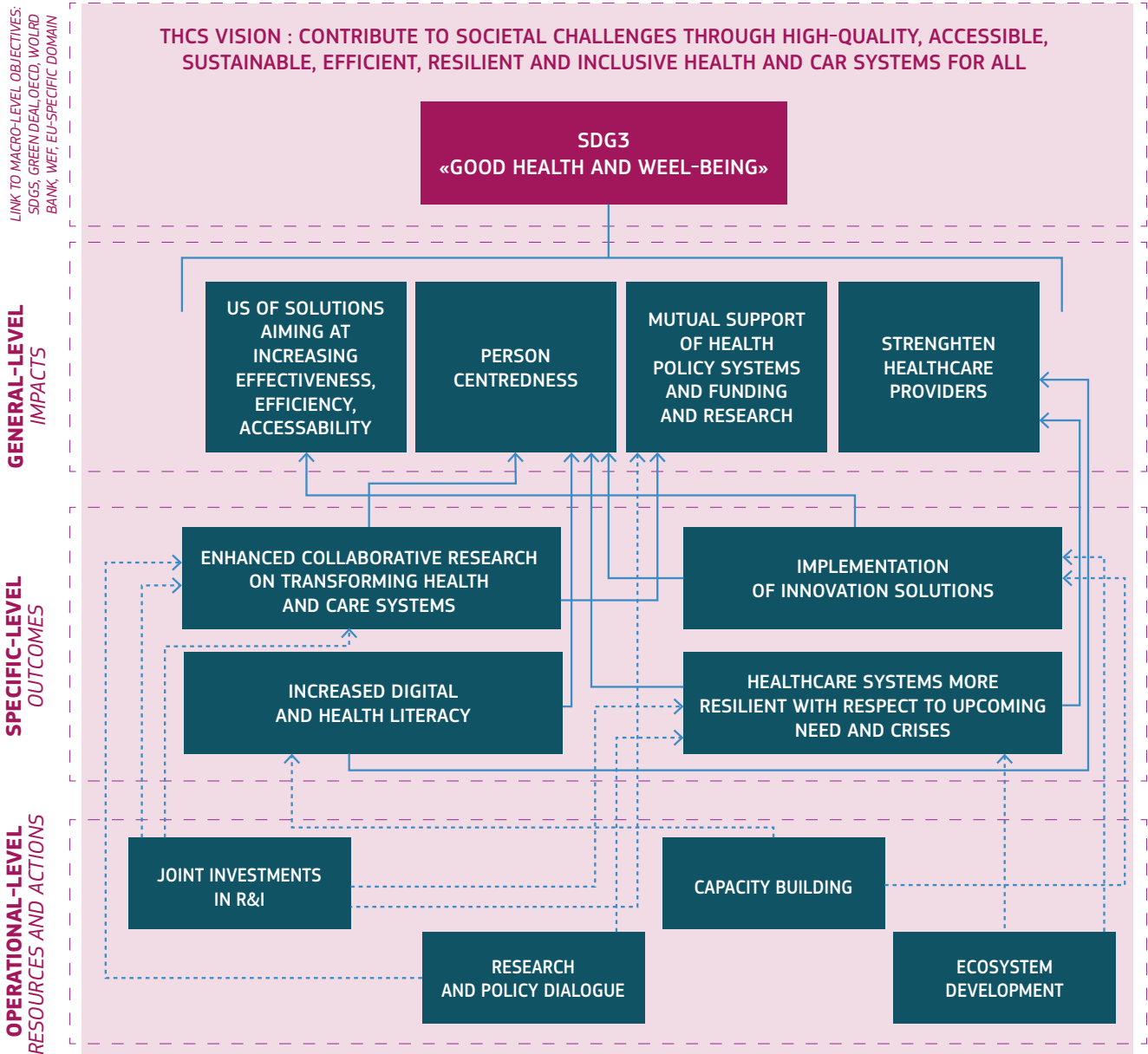
<https://www.thcspartnership.eu/>

✉ coordination@thcspartnership.eu
info@thcspartnership.eu



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

TRANSFORMING HEALTH AND CARE SYSTEMS (THCS)





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Joint investments in R&I	# JTCs launched	0	1	3	5	5	N/A
Research and policy dialogue	% policy stakeholders engaged in initiatives	0 %	25 %	35 %	45 %	50 %	N/A
Capacity building	TBD	0	TBD	TBD	TBD	TBD	N/A
Ecosystem development	TBD	0	TBD	TBD	TBD	TBD	N/A
OUTCOMES							
Collaborative research	% researchers and innovators engaged	0 %	TBD	TBD	TBD	TBD	N/A
Promotion of good practice exchange and transferability of innovation	% projects/initiatives supporting good practice exchange and transferability	0 %	0 %	50 %	70 %	70 %	N/A
Stakeholder involvement	% countries that involve at least 3 different categories of stakeholder	0 %	10 %	40 %	60 %	80 %	N/A
Implementation of innovative solutions	# pilot activities	0	0	TBD	TBD	TBD	N/A
Increase in digital health literacy	# health workers and individuals accessing the project tools	0	0	TBD	TBD	TBD	N/A
IMPACTS							
Use of solutions to increase effectiveness, accessibility and resilience	% countries participating in pilots of innovative solutions	0 %	0 %	TBD	TBD	TBD	N/A
Person-centredness	% projects demonstrating person-centredness	0 %	0 %	TBD	TBD	TBD	N/A
Support for funding and research	% projects funded	0 %	0 %	TBD	TBD	TBD	N/A
Strengthening of health and care providers	% stakeholders involved in activities	0 %	0 %	25 %	35 %	50 %	N/A



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

TECHNOLOGICAL SOVEREIGNTY:

The THCS Partnership aims to maintain and improve the health of people in Europe and other participating countries by supporting the transformation of health and care systems to achieve high-quality, equitably accessible, sustainable, efficient, resilient and inclusive health and care systems for all.

The goals are to:

- build stronger ecosystems and promote innovation in health and care systems;
- increase digital and health literacy for citizens and professionals;
- improve cooperation between and use of knowledge and evidence by countries.

TECHNOLOGICAL SOVEREIGNTY:

THCS addresses technological sovereignty at European level by supporting the digitisation of health and care systems, including the development of new business models, based on an ecosystem approach.

Activities implemented to this end are the launch of joint transnational calls for proposals on increasing end-user digitisation, initiatives to support better use of technology and interactions with stakeholders - including patients and the general public - with the goal of increasing digital and health literacy.

In line with the requirements of the Communication on enabling the digital transformation of health and care in the digital single market; empowering citizens and building a healthier society (COM(2018) 233 final), THCS increases stakeholder engagement and capacity building with the goal of accelerating the use of digital solutions in public health and healthcare in Europe. Innovative digital solutions can improve people's health and quality of life and allow the implementation of more efficient ways of organising and delivering health and care services. THCS will help to achieve this through:

- creation of a multi-stakeholder/ecosystem collaboration platform for the provision of schemes that support upscaling based on a quadruple helix model approach;
- creation of enabling environments for the use of technologies by applying standard methodologies for their evaluation;
- evaluation (in particular through real-life validation) and increased dissemination and exploitation of R&I results.



INTERNATIONAL POSITIONING:

The international dimension of THCS was defined at the beginning of the Partnership.

By collaborating with stakeholders and international organisations working on the transformation of health and care systems – including the World Health Organization, the Organisation for Economic Cooperation and Development, the European Observatory on Health Systems and Policies, and non-governmental organisations such as the European Public Health Association and the European Health Management Association – THCS expands its international dimension and emphasises mutual learning, cross-country comparisons, the exchange of practices that support the transformation of health and care systems and the implementation of innovation in different ecosystems and contexts.

Activities based on international cooperation and wider participation with selected countries are put in place to compare approaches, test solutions, exploit results, exchange experience and needs and support knowledge transfer.

The development of a methodological framework to support the transfer of practices to and their implementation in health and care systems will be the starting point for a pilot project on assessment of the transferability of existing practices and support for their implementation in different settings.

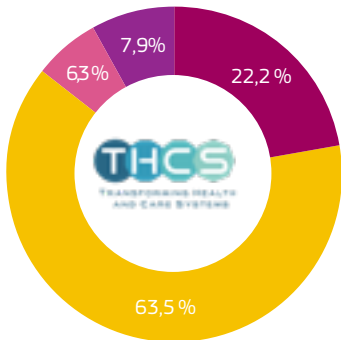
This pilot project will be used to guide decision-makers in implementing practices on multiple levels.

These activities are supported by the development of a knowledge hub that enables better alignment of priorities and coordination of funding to support health and care system R&I; builds capacity among health and care policymakers and other stakeholders through knowledge sharing; and creates synergies and promotes networking to support coordination activities at European, international and national levels.



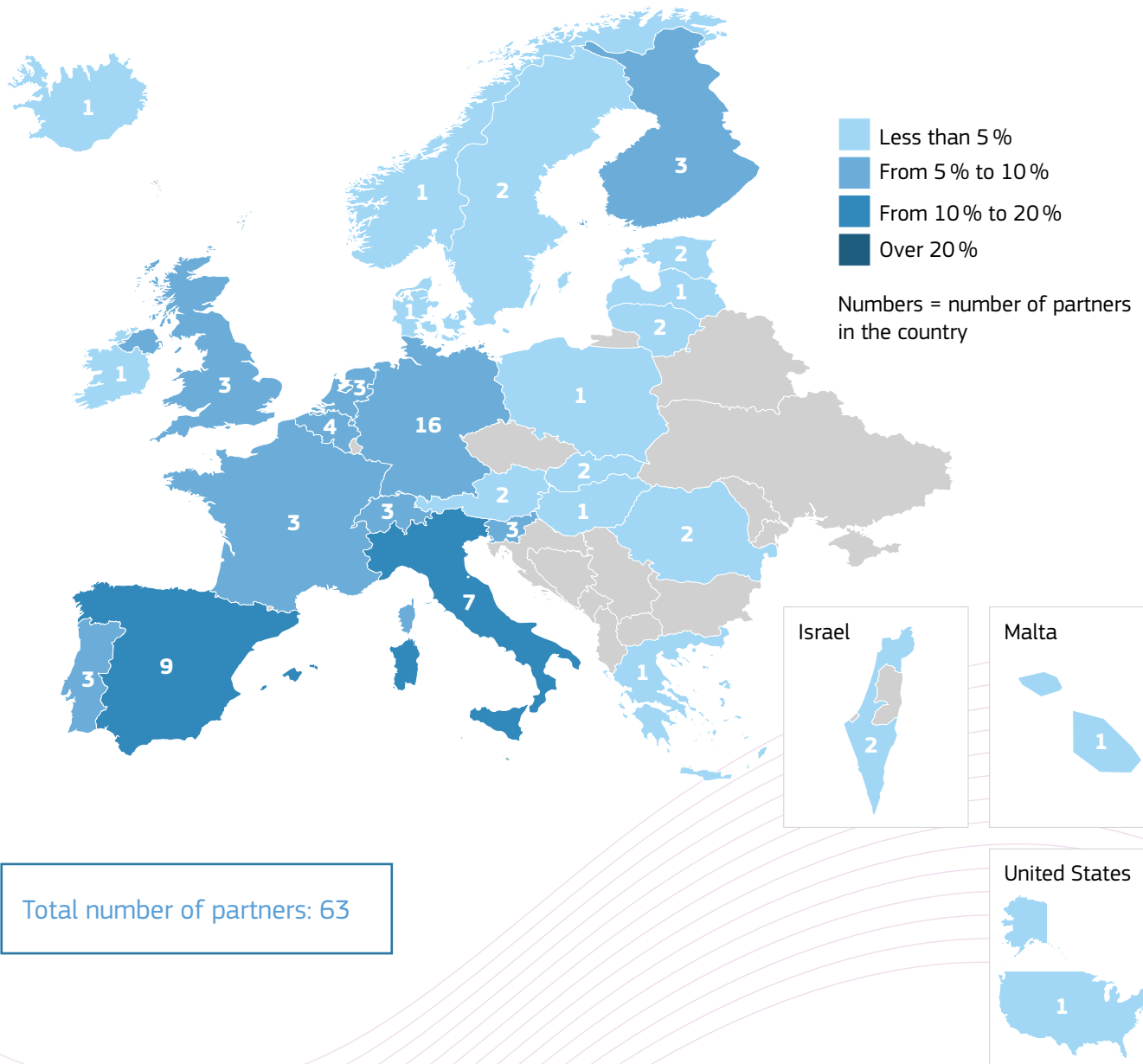
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





CLUSTER 4 DIGITAL, INDUSTRY, AND SPACE




MISSION AND VISION STATEMENT

SNS JU aims to develop technological leadership in future smart networks and services by reinforcing European industrial strengths and extending the scope from 5G connectivity to 6G. This will be achieved through successful contributions to a globally accepted 6G standard, and international collaboration activities. SNS JU is also tasked to ensure strategic coordination with CEF2 Digital, and build synergies with other EU programmes.

Initiatives on 6G are starting around the world, with initial deployments expected around 2030. SNS JU aims to advance the digitisation of industry verticals, leveraging applications such as eHealth, industry 4.0, robotics and autonomous systems, transport, distributed sensing and communications for multisensory extended reality, AI and the metaverse. Our goal is to drive innovation in networks and services, and to foster R&D by aligning strategic roadmaps of a wider range of industrial players from telecoms to IoT, cloud, components and devices.

The European vision of 6G is a Smart and Green Network. SNS JU aspires to create an intelligent connected future which is inclusive and sustainable, aligns with EU policy and societal needs, foster competitiveness, robust supply chains, energy efficiency, privacy, ethics and cybersecurity.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 4: Digital, industry and space

Type of partnership: Institutionalised (Art 187 TFEU) – Joint Undertaking

Coordinating entity: Smart Networks and Services JU with the 6G Smart Networks and Services Industry Association (6G-IA) on the private side and the European Commission representing the public side.

Total estimated budget: EUR 1.8 bn

EU commitments: EUR 900 m

Partners' commitments: Up to EUR 900 m

Start date–end date: 30 November 2021 – 31 December 2031

FIND OUT MORE

<https://smart-networks.europa.eu/>

[in](#) SNS JU LinkedIn #SNSJU

[X](https://x.com/6G_SNS) https://x.com/6G_SNS

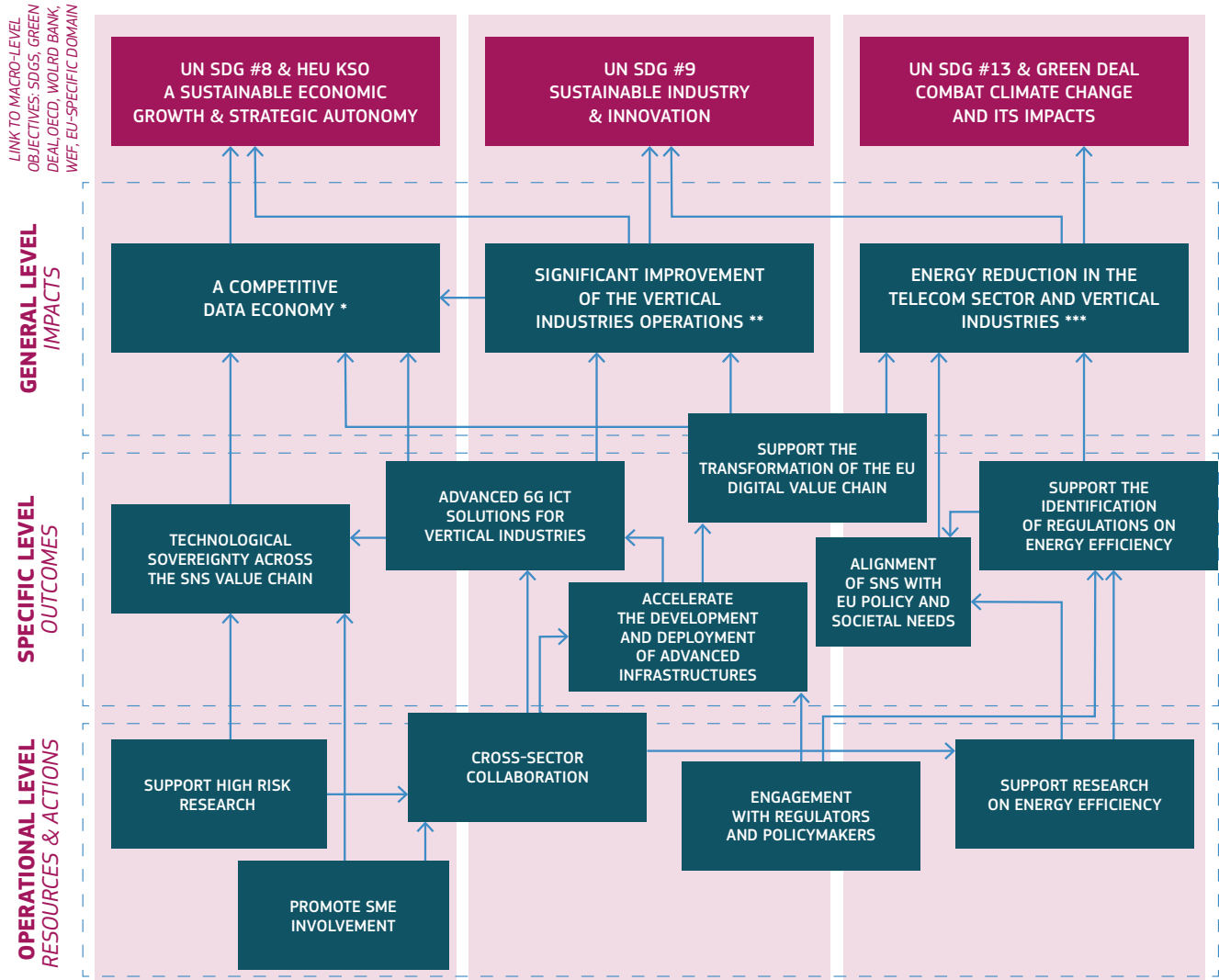
[y](https://www.youtube.com/@SmartNetworksandServicesJU/featured) <https://www.youtube.com/@SmartNetworksandServicesJU/featured>

[✉](mailto:CNECT-E1-SNS@ec.europa.eu) CNECT-E1-SNS@ec.europa.eu



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

SNS PARTNERSHIP VISION: CONTRIBUTE TO SOCIETAL CHALLENGES THROUGH ...



*SNS Objective 1 (SBA): advance European technological and scientific excellence to support European leadership to shape and master 6G systems by 2030
 **SNS Objective 2 (SBA): prepare the European smart networks and services supply industries for the longer-term opportunities emerging from the development of vertical markets for 5G and later 6G infrastructures and services in Europe
 ***SNS objective 3 (SBA): accelerate the development of energy-efficient network technologies with the aim of significantly reducing the energy and resource consumption of the whole digital infrastructure by 2030 and decreasing the energy consumption of key verticals industries supported by smart networks and services technologies

PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE 2022	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
SME innovation and participation	% of SMEs participation	~18	20	20	20	20
Rapid diffusion	# of end-user workshops & webinars [cumulative]	0	25	60	90	125
High risk research funding	% of total funding	~68	50	50	30	N/A
Standardisation contributions	Contributions to SDOs [cumulative]	0	50	350	750	1000
Share on family patents	% of patent families	0	15	15	15	15
	Patent grant rate		60	60	60	60
Scientific excellence	# of publications [cumulative]	0	100	400	700	1000
Collaboration and synergies with other European Partnerships	# collaborations	0	2	5	6	6
OUTCOMES						
Development of energy efficient networks	White papers [cumulative]	GeSI report on energy consumption by 2030	1	2	3	>3
Technological solutions consensus building	White papers [cumulative]	0	1	2	5	5
Advanced 6G solutions for verticals	# of different vertical types engaged [cumulative]	0	3	6	10	10
IMPACTS						
A competitive data economy	% market share for the communication network	40	N/A	N/A	N/A	N/A
Programme-level consensus on 6G KPIs	White papers [cumulative]	NetworldEurope SRIA	1	2	3	4
Uptake of digital solutions within verticals	# of large-scale trials [cumulative]	0	3	6	10	>10
Energy efficiency of cellular telecommunication networks	% increase of energy efficiency of cellular communications	Legacy cellular systems (4G)	N/A	N/A	N/A	N/A

- SME innovation and participation: SNS JU reached the target at programme level, in addition to leveraging further SMEs participation through the SNS projects open calls (cascade funding).
- Funding for high-risk research is expected to decrease as after 2025 the standardisation process for 6G networks is expected to be active.
- Market share by EU HQ companies is currently set at a baseline of 40 % for the communications market. As the projects have started in 2023, a first analysis will take place during 2024.
- Setting up the 6G KPIs is an ongoing process. A 5G to 6G KPIs consensus document has been produced. This is taken up with the SNS ICE CSA to provide a public deliverable at the end of 2023.
- For Energy Efficiency, the values will be defined during 2024. A cross-JU methodology is needed to agree on specific targets. For this purpose, a dedicated task force has been recently organised to address cross-projects sustainability issues (including energy efficiency).
- The SNS Annual Work Programme 2023 is available on the SNS JU website and reports about progress at <https://smart-networks.europa.eu/wp-content/uploads/2022/12/sns-work-programme-2023.pdf>.

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

TECHNOLOGICAL SOVEREIGNTY: SATELLITE

Smart communications and services – and broadly speaking, next-generation connectivity – are essential for European businesses and societies as they continue their digital transformation journey. SNS JU contributes significantly to European technological sovereignty and economic security through its rigorous R&D efforts in critical and secure communication technologies. With 63 projects launched to date, SNS JU addresses a wide range of network aspects, from cutting-edge system architectures to AI-powered security and sustainability measures. One notable achievement is SNS JU's ability to bring together experts from the mobile, satellite, and telecommunication research communities, pooling their collective expertise to meet the demands of future users. Projects like '5G-STARDUST' and '6G NTN', in collaboration with organisations like ESA, aim to create a seamlessly integrated TN-NTN autonomous system, featuring innovative self-adapting, end-to-end connectivity models that promise ubiquitous coverage and technological sovereignty. Besides, SNS JU's support for targeted standardisation workshops led by ETSI underscores its commitment to shaping industry standards and promoting technological advancements that are vital for a thriving and secure European future.

TECHNOLOGICAL SOVEREIGNTY: MICROELECTRONICS

In its 2023 and 2024 Work Programme, SNS JU has shown initiative in addressing the EU's competitive edge in microelectronics. Our WP implements actions on microelectronic-based solutions for 6G networks ('Microelectronics Lighthouse for 6G networks') and funds projects ('FirstTo6G', '6G-REFERENCE' and 'TeraGreen') focused on the advancement of European microelectronics in providing solutions for next-generation communication networks at various levels, such as energy-efficient wireless links and 6G hardware enablers for cell-free coherent communications and sensing. These projects are working across the full spectrum of data processing, from baseband to RF and Antenna systems, spanning frequencies from sub-6GHz to THz, and will enable the widespread realisation of 6G. SNS and Chips JU communities are also preparing a plan for potential collaboration/synchronisation of the Chips/SNS related Work Programmes for 2025 onwards, and to build a strategy for Europe in the field of microelectronics and hardware for 6G Smart Networks and Services. The collaborative effort with Chips JU in planning for future Work Programme synergies reflects a strategic commitment to position Europe as a leader in microelectronics and hardware for 6G Smart Networks and Services.

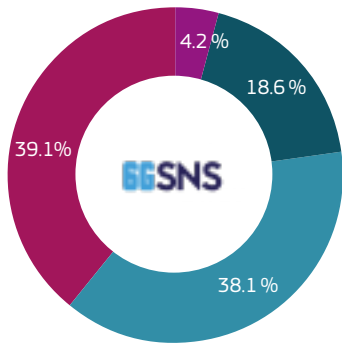
INTERNATIONAL COOPERATION

Within the multifaceted efforts of SNS JU, a crucial action is dedicated to fostering international collaboration. In the 2023 and 2024 Work Programme, SNS JU has actively engaged with the United States, Japan, and the Republic of Korea on topics related to AI and future networks. Additionally, a coordination and support action (SNS ICE) seeks to amplify SNS JU's global presence by promoting its perspectives, accomplishments, and results on the international stage. The overarching aim is to steer Europe's technological vision into the 6G standardisation process, positioning the continent as a key player in shaping the future of telecommunications. The private sector arm of SNS JU, the 6G Industry Association (6G-IA), has further bolstered global cooperation by forging Memorandums of Understanding (MoUs) with associations from various international regions. These collaborative endeavours underscore the commitment to advancing 6G technology worldwide.



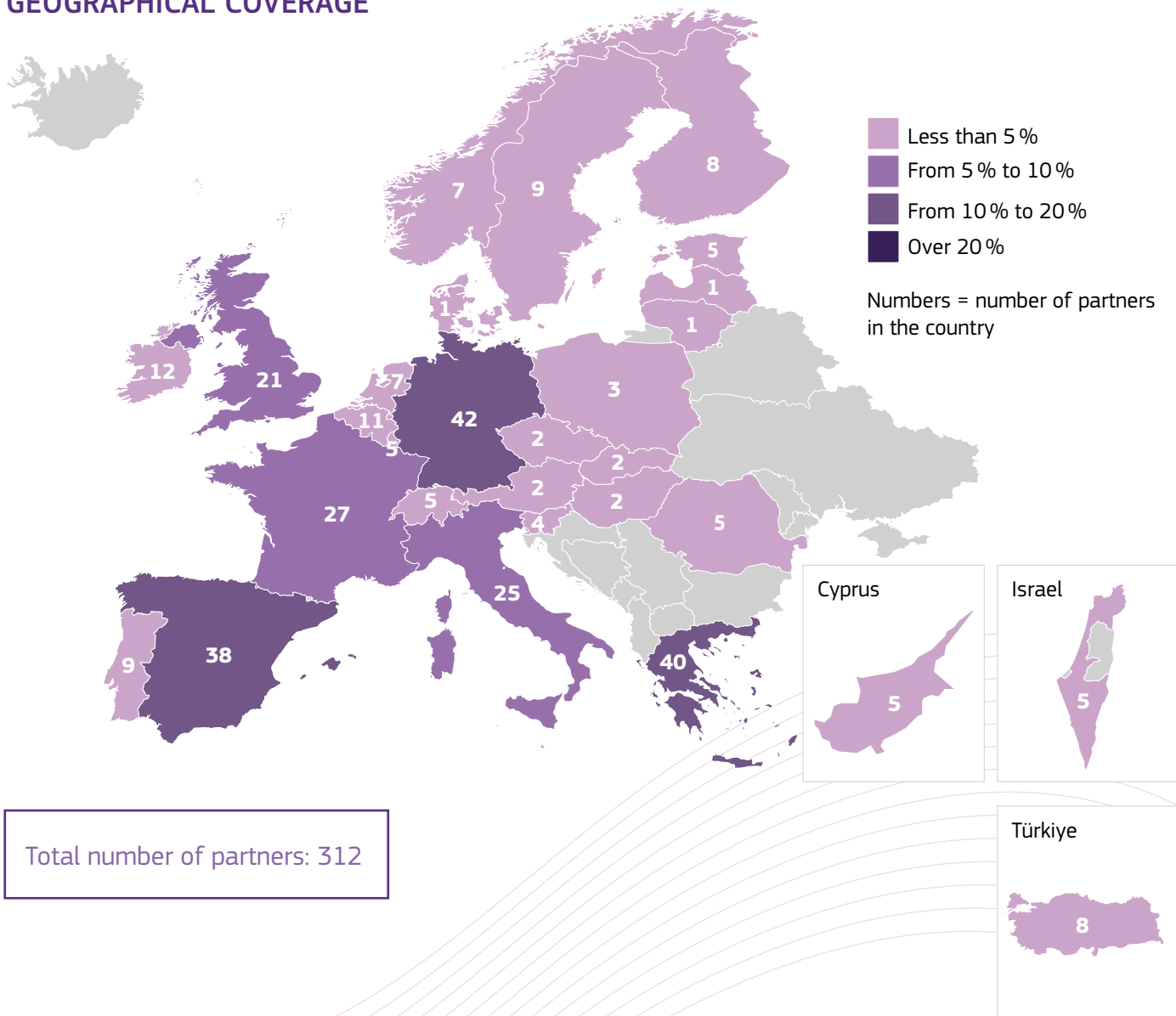
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 312



MISSION AND VISION STATEMENT

The AI, Data and Robotics (ADR) partnership brings together industry, academia and the European Commission to pursue innovative solutions on a large scale, pooling efforts, resources and investments to generate long-term positive impact, boost European competitiveness and technological sovereignty, as well as create jobs and growth.

The general objectives of the co-programmed European Partnership are:

- secure European's sovereignty over AI, data and robotics (ADR) technologies and know-how (position and control perspective dimension),
- establish European leadership in ADR technologies with high environmental, social and economic impact (with focus on technology and innovation dimensions),
- reinforce Europe's strong and global competitive position in ADR (market dimension).

The partnership will boost Europe's competitiveness, societal well-being and environmental leadership, as leading the world in researching, developing and deploying value-driven trustworthy AI, data and robotics based on European fundamental rights, principles and values.

The ADR partnership seeks to enable a responsible AI-powered green digital transformation for an attractive, sustainable, prosperous, secure, and resilient multicultural society, based on European values and with the highest living standards in the world. By 2030, Europe will have created a shared secure data infrastructure that balances the need for privacy with the need for effective and correct information that is interoperable with the rest of the world.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 4: Digital, industry and space

Type of partnership: Co-programmed

Coordinating entity: AI, Data and Robotics Association asbl (Adra)

Total estimated budget: EUR 2.6 bn

EU commitments: EUR 1.3 bn

Partners' commitments: Up to EUR 1.3 bn

Predecessor under Horizon 2020: The partnership builds on the successes of two contractual PPPs on Big Data Value and Robotics, expanding to the whole AI community

Start date-end date: 2022-2030

FIND OUT MORE

<https://adr-association.eu/>

[in https://www.linkedin.com/company/adr-association/](https://www.linkedin.com/company/adr-association/)

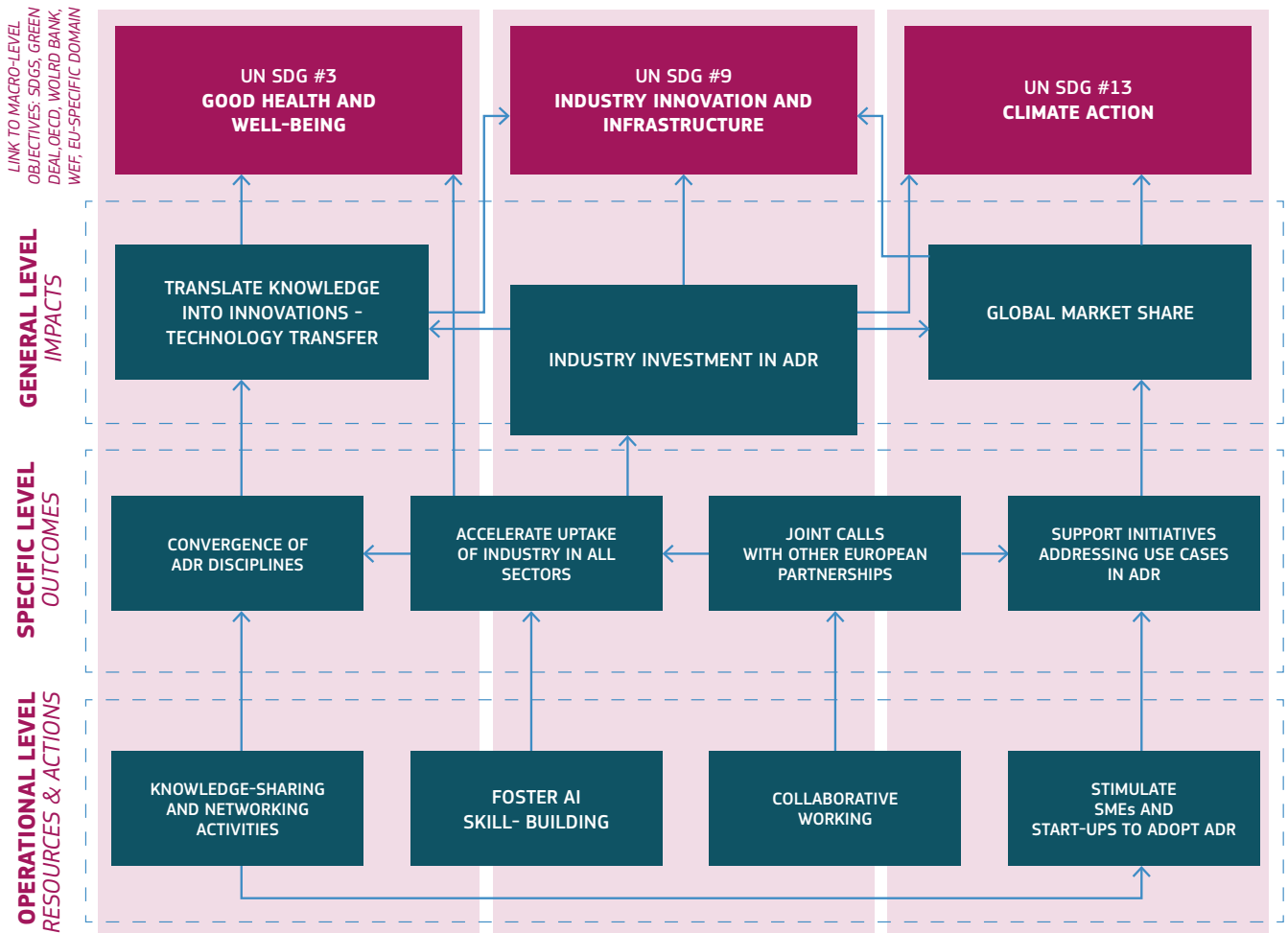
[X https://x.com/adra_eu](https://x.com/adra_eu)

[✉ info@adr-association.eu](mailto:info@adr-association.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

**ADR PARTNERSHIP VISION: ESTABLISH EUROPEAN LEADERSHIP
IN AI, DATA AND ROBOTICS TECHNOLOGIES WITH HIGH ENVIRONMENTAL,
SOCIAL AND ECONOMIC IMPACT**




PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE 2022	ACTUAL 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Knowledge-sharing and networking activities	Number of ADR community activities	3	5	8	12	N/A	On track
Collaborative working with other horizontal and vertical communities	Number of engagements with relevant initiatives at European and global	1	2	3	4	N/A	On track
Stimulate SMEs and Start-ups to adopt ADR	Number of projects and actions to engage SMEs, entrepreneurs, start-ups	70	131	Increase by additional 15 %	Increase by additional 15 %	N/A	On track
Support initiatives that foster AI skill- building	Number of specific actions to increase the capacity of ADR training	New	70	Increase by additional 10% the amount of training courses	Increase by additional 10% the amount of training courses	N/A	Too early to evaluate
OUTCOMES							
Accelerate uptake of industry in all sectors	Number of close to market activities	Investment measured per growth monitoring cycle	Approx. 25 % of projects with close to market experiments.	Approx. 25 % of projects with close to market experiments.	Approx. 40 % of projects with close to market experiments	N/A	On track
Support initiatives addressing use cases in ADR	Number of peer reviewed papers with co-authoring from industry and RTOs	0	2	25 % of the co-authored papers	30 % of the co-authored papers	N/A	On track
Joint calls with other partnerships	Number of joint calls	0	1	2	4	N/A	On track
Convergence of ADR disciplines	White papers and conferences	1	3	At least 40 % of the actions and projects including ADR disciplines	At least 50 % of the actions and projects including ADR disciplines	N/A	On track
IMPACTS							
Investment performance of European Industry in ADR	Leverage factor	0	1	1.5	3	N/A	Too early to evaluate
Rate of technology transfer from research through the creation of spin-outs and new Data and Robotics SMEs	Percentage growth in impactful technology transfer	New	N/A	N/A	N/A	N/A	Too early to evaluate
Global market share EU ADR technology providers	Percentage growth	New	N/A	N/A	N/A	N/A	Too early to evaluate
Employment growth	Annual growth rate	New	2 %	2 %	2 %	N/A	Too early to evaluate



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY: EXAMPLE 1

Adra's commitment to international AI governance is evident through its board's involvement in the UN High-Level Advisory Board on AI and participation in OECD expert groups. The organisation actively seeks collaborations with global policymakers to foster the development of ethical AI technologies.

In the pursuit of scientific diplomacy, Adra plans workshops to share insights on effective AI regulation. Current investigations include building connections with nations such as Canada, the US, and South Korea, where Adra has already established working relationships at the national government level.

Beyond international arenas, Adra has successfully engaged with various European and global communities. Notably, a strategic partnership with EIT Digital, initiated in November 2023, underscores the organisation's commitment to policy engagement and collaborative events. This partnership also emphasises leveraging EIT Digital's Silicon Valley hub to facilitate European company access to knowledge and financial resources.

SUCCESS STORY: EXAMPLE 2

The European AI, Data, Robotics Forum (ADRF), organized by Adra in collaboration with the European Commission, annually gathers experts in ADR. The event covers industry, research and policymaking, featuring keynotes, panels, and sessions. The inaugural event focused on Generative AI, addressing both its potential solutions and concerns about its impact on European values.

Looking forward, the next iterations of the event will be more globally focused, bringing together policy-makers from across the world to discuss the implications of this technology, thereby helping to establish Europe as a thought-leader and progressive player in managing its development. Moreover, international funding will also be of key importance, with the event being used as a landing pad for international VC and to raise the reputation of European purpose-driven SMEs that want to leverage ADR startups and scaleups. All in all, global collaboration will be a central tenant of the event's purpose.

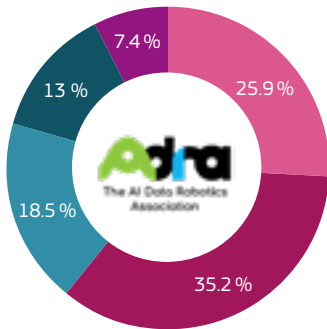
SUCCESS STORY: EXAMPLE 3

In December 2023, Adra published V1.0 of the Strategic Research Innovation and Deployment Agenda (SRIDA). The purpose of this document was to provide recommendations for the upcoming 2025-2027 ADR work programs. The position is motivated by global challenges, together with a European strategy and goals that can be addressed by ADR. The first part describes ADR's Vision 2030, which includes global challenges and major strategic objectives that the ADR European Partnership seeks to address. The second part describes major trends and gaps. The third and final part describes the recommendations for the EU strategic plan for 2025-27, which are in alignment with the strategy. Research, innovation, and the deployment of ADR are essential for boosting the economy and competitiveness, as well as improving our technological leadership and welfare across Europe.



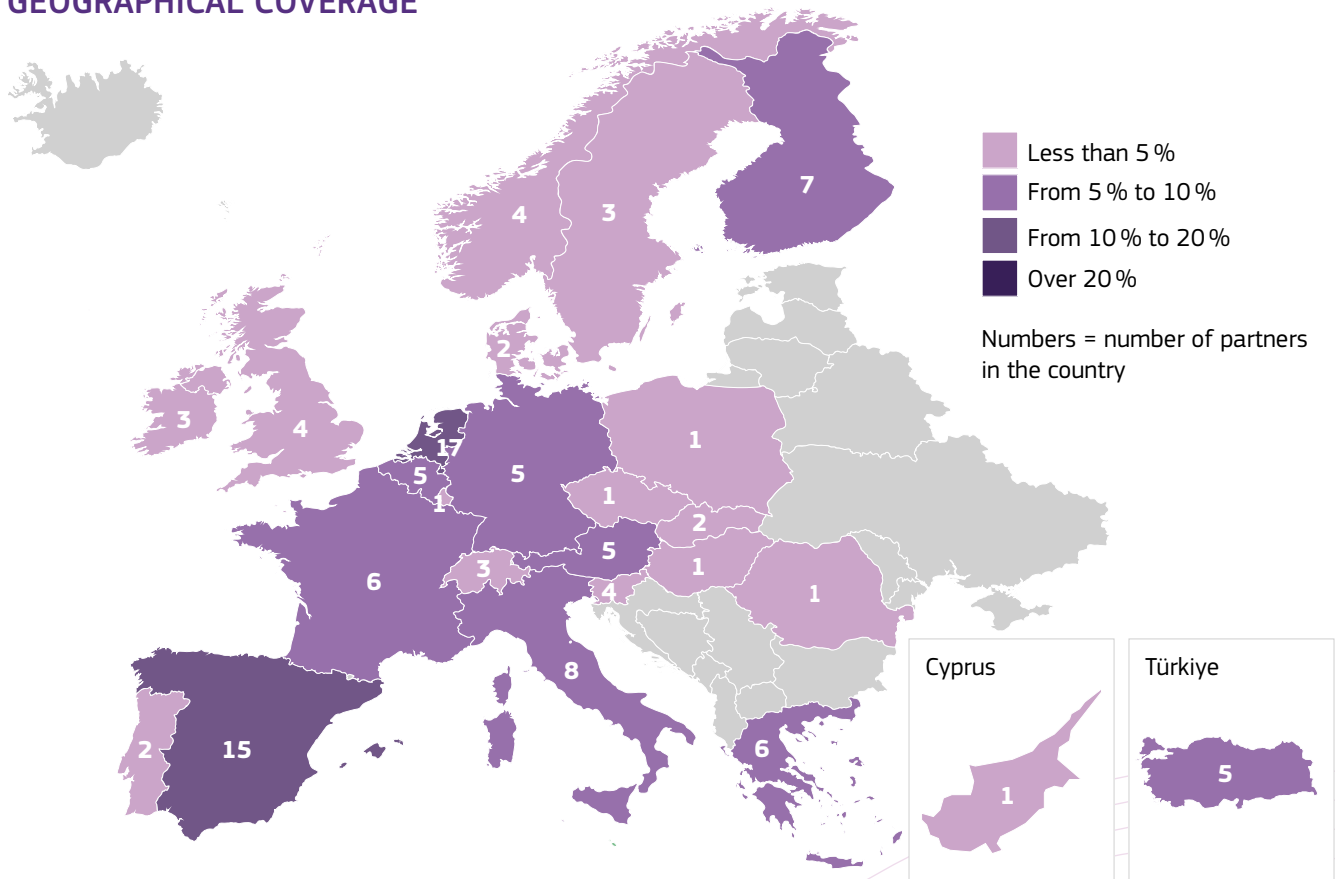
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation
(including international research organisation as well as private research organisation controlled by a public authority)
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 108



MISSION AND VISION STATEMENT

The Chips JU is the European tri-partite partnership that will boost the development and adoption of advanced nano-electronic chip-technologies and systems manufactured in Europe, supporting European sovereignty, digitalisation of society, energy transition and more, respecting the European values and contributing to the greater good of the European citizen society and environment.

The Chips JU will develop, together with the European nanoelectronics community and the participating countries (Member States and countries associated to the Horizon Europe and/or Digital Europe programmes), in the coming years a strong portfolio comprising, amongst other, several pilot lines for advanced nanoelectronics' technologies, a design platform for the design of advanced chips, and a broad set of projects that make use of those technologies to innovate all along the value chain in all industrial domains: mobility, energy, health, robotics, and of course chip manufacturing. This portfolio of actions will be supported with a network of competence centres all over Europe that will facilitate the access to those actions for European start-ups, SMEs, universities and larger companies.

For more information, please refer to [COUNCIL REGULATION \(EU\) 2023/1781](#), [COUNCIL REGULATION \(EU\) 2023/1782](#).

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster:	Pillar II – Cluster 4: Digital, industry and space
Type of partnership:	Institutionalised (Art 187 TFEU) – Joint Undertaking
Coordination entity:	Governing Board and Public Authorities Board of the Chips Joint Undertaking.
Total estimated budget:	EUR ~10.85 bn
EU commitments:	EUR 4.175 bn
Partners' commitments:	EUR 4.175 bn by the participating states EUR 2.5 bn in private funding
Predecessor under Horizon 2020:	Previously named Key Digital Technologies JU (KDT-JU)
Start date–end date:	21 September 2023 – 2027 (last call)

FIND OUT MORE

www.chips-ju.europa.eu

[in https://www.linkedin.com/company/chips-ju](https://www.linkedin.com/company/chips-ju)

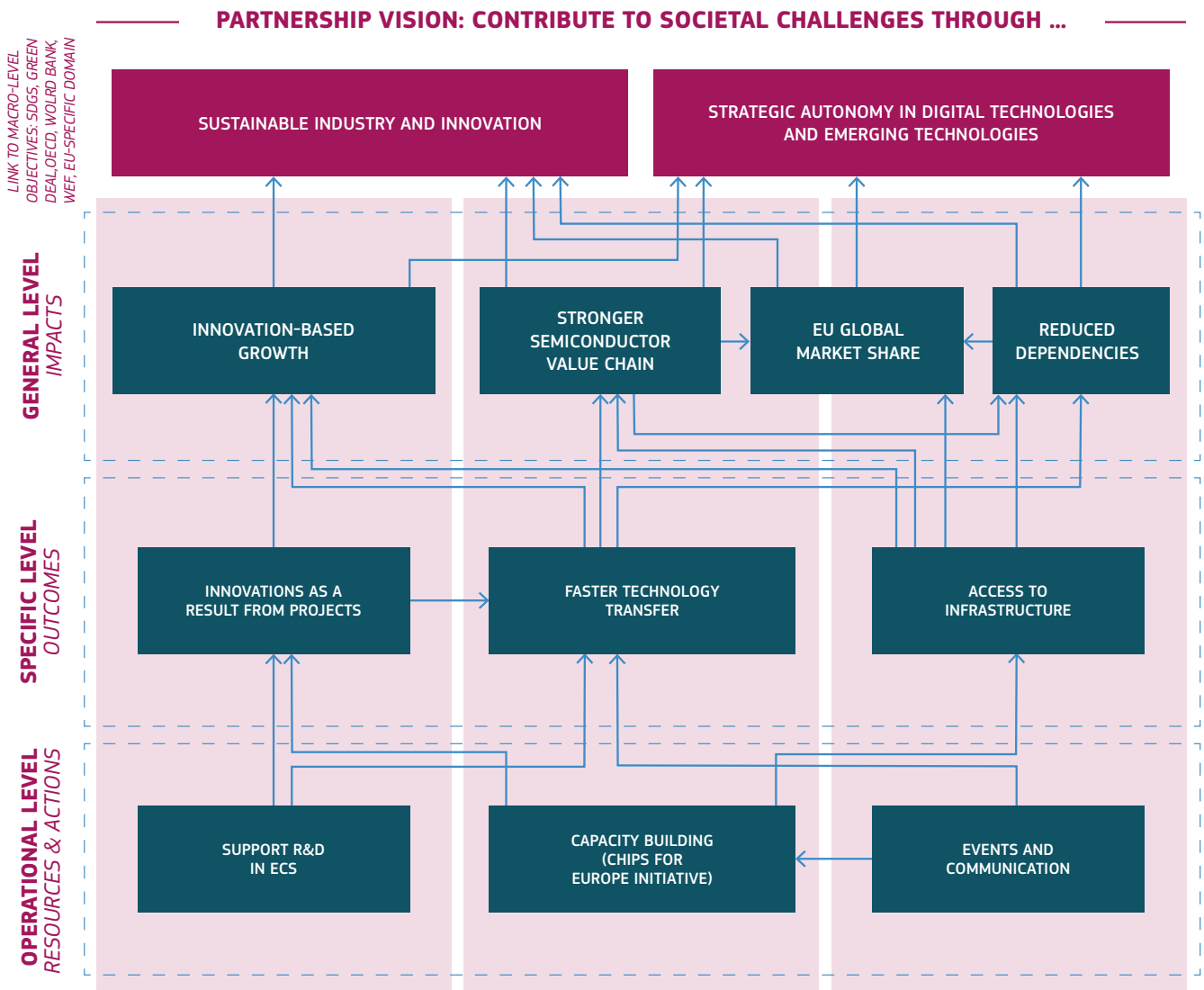
[X https://x.com/chips_ju?lang=fr](https://x.com/chips_ju?lang=fr)

[yt https://www.youtube.com/channel/UCJBip95kfhD93NRY93mwXdg/videos?view=0](https://www.youtube.com/channel/UCJBip95kfhD93NRY93mwXdg/videos?view=0)

[✉ enquiries@chips-ju.europa.eu](mailto:enquiries@chips-ju.europa.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI ¹	UNIT OF MEASUREMENT	2022	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
NIN: Total ² funding committed to selected projects	Cumulative million Euro	618	1000	1700	2100	N/A ³
IN: Progress in implementation of actions	% cumulative EU funding spent	0	20 ⁴	50	80	100
Event&Communication ⁵	#/year	10	16	40	60	60
OUTCOMES						
NIN: Innovations	average number of innovations per finished projects	10	10	10	10	10
IN: Access measure	# access to IN infrastructure	0	0	0	N/A ⁶	N/A
IN: Competence Centers	# requests handled by all CC	0	0	0	N/A ⁷	N/A
% SME participation	% participation in all actions	30	30	30	Larger than 30	Larger than 30
IMPACTS⁸						
NIN impact	Number of technologies developed in project that are used in a product					
IN impact	Number of products developed that made use of pilot lines or design platform					

¹ The presented KPIs are pending decision by the Governing Board of the Chips JU.

² Total means EU and national/regional funding but excludes the IKOP of companies.

³ The figure will depend on the next framework programme.

⁴ This is a figure for 2024.

⁵ This includes events and actions organised within projects funded by Chips JU, such as competence centres.

⁶ No baseline as this is a new kind of action for the JU. Access to the pilot lines will be possible after full implementation (approx. 2026) and a proper metric will have to be defined with the consortia.

⁷ No baseline as this is a new kind of action for the JU. Access to the pilot lines will be possible after full implementation (approx. 2026) and a proper metric will have to be defined with the consortia.

⁸ In view of the drastic changes in the programme, a methodology to measure the impact indicators will be established for the first time in 2024, to be used in the calculation of the indicators in 2025.

With the advent of the Chips JU, the work programme was split into two parts: one that supports European electronic components and systems projects (the so-called non-Chips for Europe Initiative, NIN), and one that implements the pilot lines, a design platform, etc. (the so-called Chips for Europe Initiative [IN]). The KPIs should reflect both. Regarding the IN part, the Chips JU will focus in the coming years on the capacity development of the pilot lines and the design platform. Only after this initial period will those actions provide access to those facilities. The KPIs for the IN reflect this first phase: the capacity building, as well as the second phase: access.

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

A significant portion of electronic chip manufacturing happens outside of Europe, making the EU reliant on chip supplies crucial for manufacturing innovative systems across various sectors vital to Europe's interests: mobility, healthcare, energy transition, manufacturing, agriculture, telecommunication and more. As of 2023, the Chips JU will provide support for development of innovative pilot lines for advanced chips, quantum chips, a design platform, and so on. Once established, this infrastructure will be accessible to all European stakeholders to facilitate the development of innovative electronic systems using advanced technologies. The Chips JU will actively promote European utilisation of this infrastructure through competence centres and projects, as well as the training of the workforce necessary for future manufacturing. These efforts will further reinforce the Chips JU's pivotal role in enhancing the technical sovereignty of the EU.

The Chips JU launched its first calls for four pilot lines on 1 December 2023, a mere two months after the entry into force of the European Chips Act. In 2024, additional calls will be launched for another pilot line, a design platform, a preparatory action on quantum chip pilot lines, and at least one competence centre per Member State/EEA country (i.e., around 29). The combined EU budget for these 2023 and 2024 calls dedicated to the Chips for Europe Initiative is of up to EUR 2.3 billion, and is expected to be matched by funds from participating states (i.e., Member States and countries associated to the Horizon Europe and/or Digital Europe programmes), resulting in a total investment of EUR 4.6 billion. This underscores the EU's commitment in asserting its technological control. In addition, the Chips JU launched in 2023 and 2024 a number of calls for proposals with up to EUR 317.7 and EUR 216 million in EU contributions, respectively. Participating states will, in turn, make a commensurate contribution, and the industry is expected to match the EU and participating states' contributions.

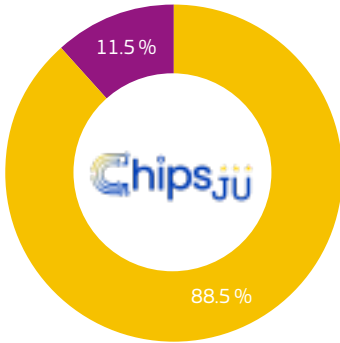
Since 2021, the Chips JU has facilitated collaboration among 1181 beneficiaries across 30 R&I projects, with 33 % representing SMEs. Those projects cover a wide range of applications while focusing on advanced chip technologies and their use in innovative systems. An additional EUR 400 million in total funding will support approximately 20 projects in 2024. Expectations are that these projects will yield similar level of impact as those under ECSEL JU (2014-2020) programme, which demonstrated significant global influence. Statistics reveal over three patents per EUR 10 million of EU funding (406 patents), and innovations introduced by more than 1000 companies (close to 40 % by SMEs).

Recently concluded projects, funded under ECSEL JU and the Chips JU (back then named KDT JU), underscore the importance of their results. For example, [AI4DI](#) has significantly shaped the embedded and edge AI, with outcomes that have profoundly impacted innovation and competitiveness across various industries. [Arrowhead Tools](#) has effectively reduced automation engineering costs through innovative paradigms and provided open-source, free-to-use technology. Additionally, [UltimateGaN](#) has enabled mass production of essential chips critical for Europe's technological future in telecommunication. The collaborative approach favoured by large projects supported by the Chips JU is essential for driving further innovation, much like the predecessor programmes have successfully managed.

It is important for the Chips JU, like its predecessors, to engage partners outside of Europe, as nanoelectronics R&I, as well as manufacturing, are international endeavours. In previous programmes, partners from countries such as Norway, Turkey, Israel and Switzerland actively participated in the projects. Currently, Norway, Turkey and Israel are participating states who actively engage in the activities of the Chips JU. Furthermore, the UK became a participating state in March 2024. Additionally, other countries have shown an interest in participating to the programme. In 2024, Chips JU will launch a joint call with the Republic of Korea focused on neuromorphic technology and heterogenous integration. Subsequently, there will be joint calls with other third countries.

OVERVIEW OF MEMBERS

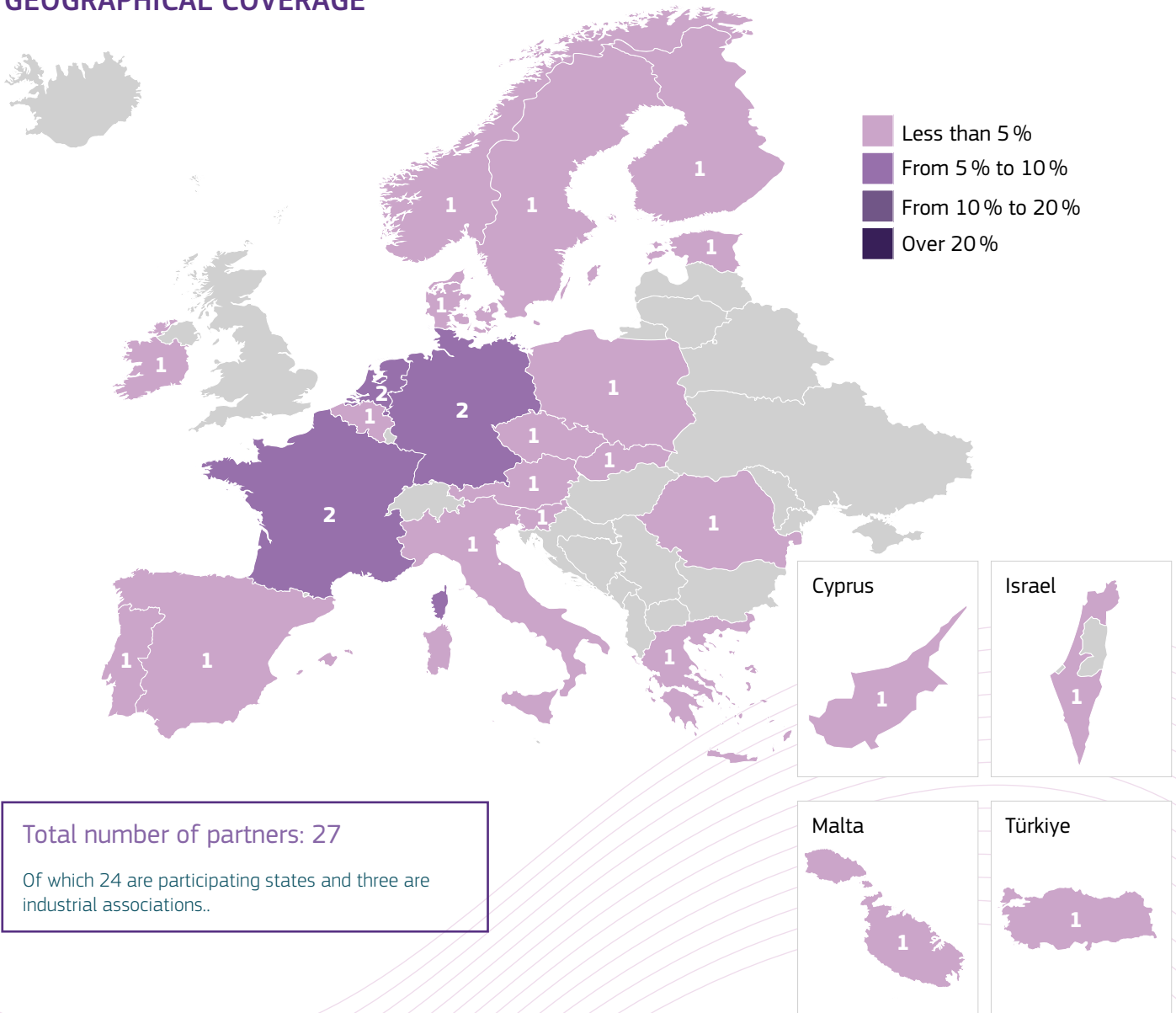
MEMBERS PER TYPE



PUBLIC Research funders, ministries, regions, cities

OTHERS Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 27
 Of which 24 are participating states and three are industrial associations..



MISSION AND VISION STATEMENT

The CSP is aligned with the EU's goal and policies to achieve climate neutrality by 2050 – the European Green Deal, the Clean Planet for All strategy and the Paris Agreement. It will thus contribute to fighting climate change and moving towards climate neutrality by 2050.

CSP will develop lean CO₂ technologies, and test these at large scales until 2030. These technologies are required to reduce CO₂ from EU steel production by 80-95 % compared to 1990 levels, ultimately leading to climate neutrality.

CSP will ensure a coordinated, sustainable approach across stakeholders, technologies, production routes and countries.

CSP nurtures the long-term vision of supporting the European leadership in the transformation of the steel industry into a climate neutral sector while preserving the competitiveness and viability of the EU steel industry, making sure that EU production will be able to meet the growing demand for steel products.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 4: Digital, industry and space

Type of partnership: Co-programmed

Coordinating entity: European Steel Technology Platform (ESTEP)

Total estimated budget: EUR 1.7 bn

EU commitments: EUR 700 m

Partners' commitments: Up to EUR 1 bn

Predecessor under Horizon 2020: The Clean Steel Partnership is a new partnership

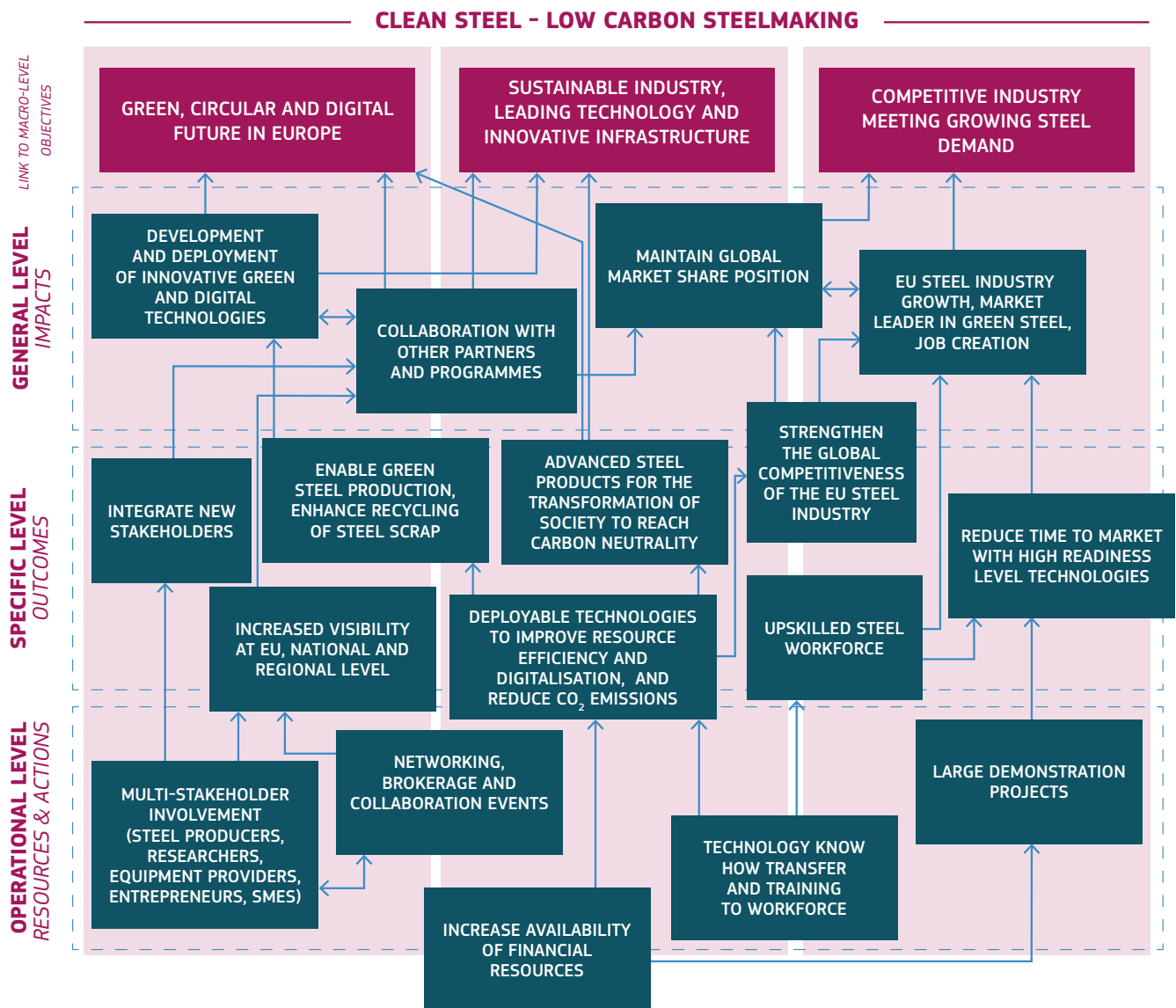
FIND OUT MORE

<https://www.estep.eu/>

✉ secretariat@steelresearch-estep.eu
sg@estep.eu



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)



**PARTNERSHIP'S KEY PERFORMANCE INDICATORS¹**

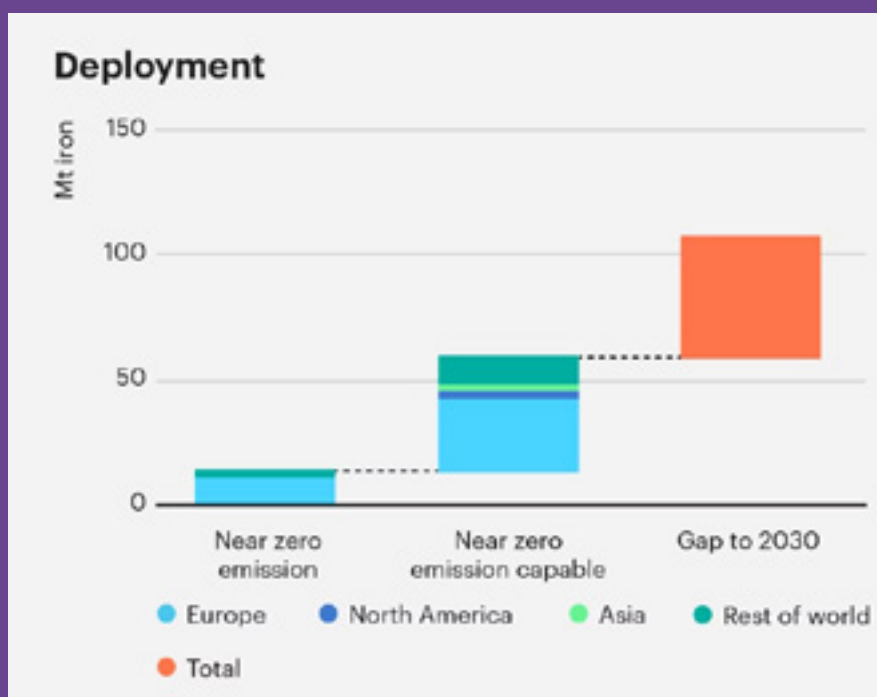
KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Steel industry involvement – financial	% of project budget to steel producers (average)	new	>50 (63 achieved)	>50	>50	N/A
Steel industry involvement – inclusiveness	% of CO ₂ represented by CSP project partners ²	new	>50 (58 achieved)	>60	>85	>95
R&D collaboration science-EU steel companies	# external research stays funded by the Partnership	new	N/A	>5 in 4 technology fields	N/A	>10 in 3 technology fields
Joint calls with other partnerships	# joint calls	new	N/A	Min 2	N/A	Min 5
OUTCOMES						
Energy use per tonne	%	1990	N/A	-5 at TRL7	N/A	-10 at TRL8
CO ₂ capture for CCU/ CCS	% capture rate	1990	N/A	90 at TRL 6	N/A	95 at TRL 8
Scrap recycling	% low quality scrap input share	1990	N/A	+25 at TRL 6	N/A	+50 at TRL8
Breakthrough in technology building blocks	% projects TRL7	1990	N/A	Min. 50	N/A	Min. 85 (Min. 75 TRL8)
Upskilled labour force	# dedicated programmes	0	N/A	Min. 1	N/A	Min. 3
IMPACTS						
EU market share clean steel products	% of clean steel out of total EU steel demand	N/A	N/A	Acceptance of definition of clean steel and its products	TBD	Start of roll-out of clean steel and its products
Global market share EU technology providers	% growth	2020	N/A	+5	N/A	+10
Gross Added Value clean steel production	% growth	2020	N/A	+1	N/A	+2 in 2030
CO ₂ emission reduction	t CO ₂ e / t CO ₂ e_1990	1990	N/A	N/A	N/A	-55% in 2030

¹ The detailed KPI table from the Clean Steel Partnership Strategic Research Innovation Agenda (hyperlink [here](#)).

² This % indicates the share of CO₂ from CSP project partners in the overall CO₂ emissions of the steel industry in the EU.

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING**SUCCESS STORY 1: GLOBAL LEADERSHIP**

Europe is the leader in the project pipeline for primary near-zero emission projects, which has increased to 13 Mt in 2022, from 5 Mt in 2021. For primary near-zero emission capable plants, this has increased slightly to 58 Mt. Latest analysis suggests that over 100 Mt of near-zero emission ironmaking production is required by 2030, representing a gap of nearly 50 Mt, assuming all capable projects move to near-zero emissions in the near future. Europe is also the most active in the steel industry transition to near-zero emission capable plants, based on Direct Reduction of Iron (DRI), Electric Arc Furnace (EAF) and Smelter. In total, 37 DRI plants, 63 EAF and 6 Smelter are announced in Europe.



Source: <https://www.iea.org/reports/breakthrough-agenda-report-2023/steel>

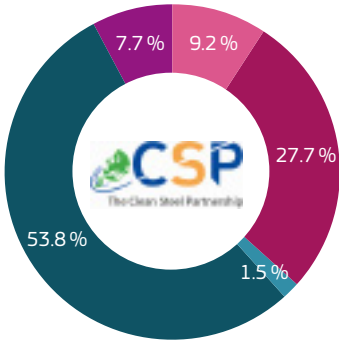
SUCCESS STORY 2: TAKING ADVANTAGE OF EU COLLABORATIVE AGREEMENTS WITH COUNTRIES THAT ARE R&I LEADERS

In September 2022, the Net Zero Industries Mission (NZIM) was launched, co-led by Australia and Austria, with membership from Canada, China, the European Commission, Finland, Germany, the Republic of Korea, the United Kingdom and the United States. In March 2023, members of NZIM set out an action plan that aims to establish a stakeholder dialogue, design and implement frameworks for co-ordinating and accelerating global co-operation, and leverage existing work. NZIM aims to strengthen ties with the private sector, particularly technology suppliers and energy-intensive industry. Examples of private sector knowledge-sharing include the Hydrogen Iron & Steel Making Forum 2022, hosted by Swedish company SSAB and Republic of Korea company Posco. The World Steel Association also hosted its first Open Forum in September 2022, with a focus on breakthrough technologies. There are also a growing number of bilateral agreements between companies to trial new approaches in different geographies, including H2 Green Steel with Anglo American in South Africa and Brazil (Source: <https://www.iea.org/reports/breakthrough-agenda-report-2023/steel>).



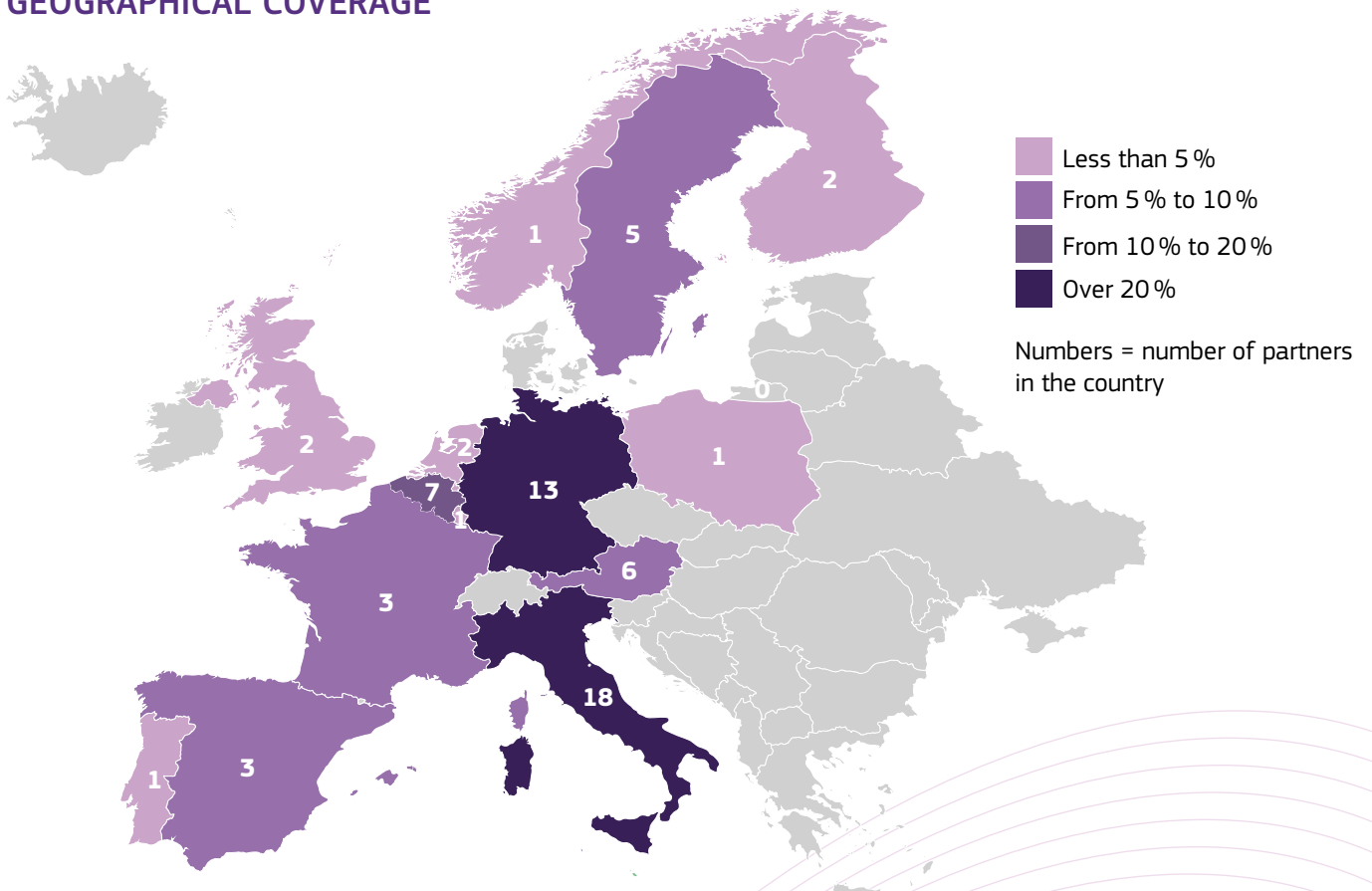
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 65



MISSION AND VISION STATEMENT

The EuroHPC JU aims to:

- Develop, deploy, extend and maintain in the EU a world-leading federated, secure and hyper-connected supercomputing, quantum computing, service and data infrastructure ecosystem;
- Support the development and uptake of demand-oriented and user-driven innovative and competitive supercomputing, systems based on a supply chain that will ensure components, technologies and knowledge limiting the risk of disruptions and the development of a wide range of applications optimised for these systems;
- Widen the use of that supercomputing infrastructure to a large number of public and private users, and support the twin transition and the development of key skills for European science and industry;
- Contribute to safeguarding the interests of the EU when procuring supercomputers and supporting the development and uptake of high-performance computing technologies, systems and applications.

It will enable a co-design approach for the acquisition of world-class supercomputers, while safeguarding the security of the supply chain of procured technologies and systems. It will contribute to the EU's strategic autonomy, support the development of technologies and applications reinforcing Europe's high-performance computing supply chain and promote their integration in supercomputing systems that address a large number of scientific, societal, environmental and industrial needs.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 4: Digital, industry and space

Type of partnership: Institutionalised (Art 187 TFEU) – Joint Undertaking

Total estimated budget: About EUR 7.06 bn

EU commitments: EUR 1.98 bn from Digital Europe
 EUR 900 m from Horizon Europe:
 EUR 200 m from Connected Europe Facility (CEF)

Partners' commitments: Participation States: EUR 3.08 bn
 Private Members: EUR 900 m

Predecessor under Horizon 2020: EuroHPC-JU is a successor to the Joint Undertaking set up in 2018

Start date–end date: 2018-2031

FIND OUT MORE

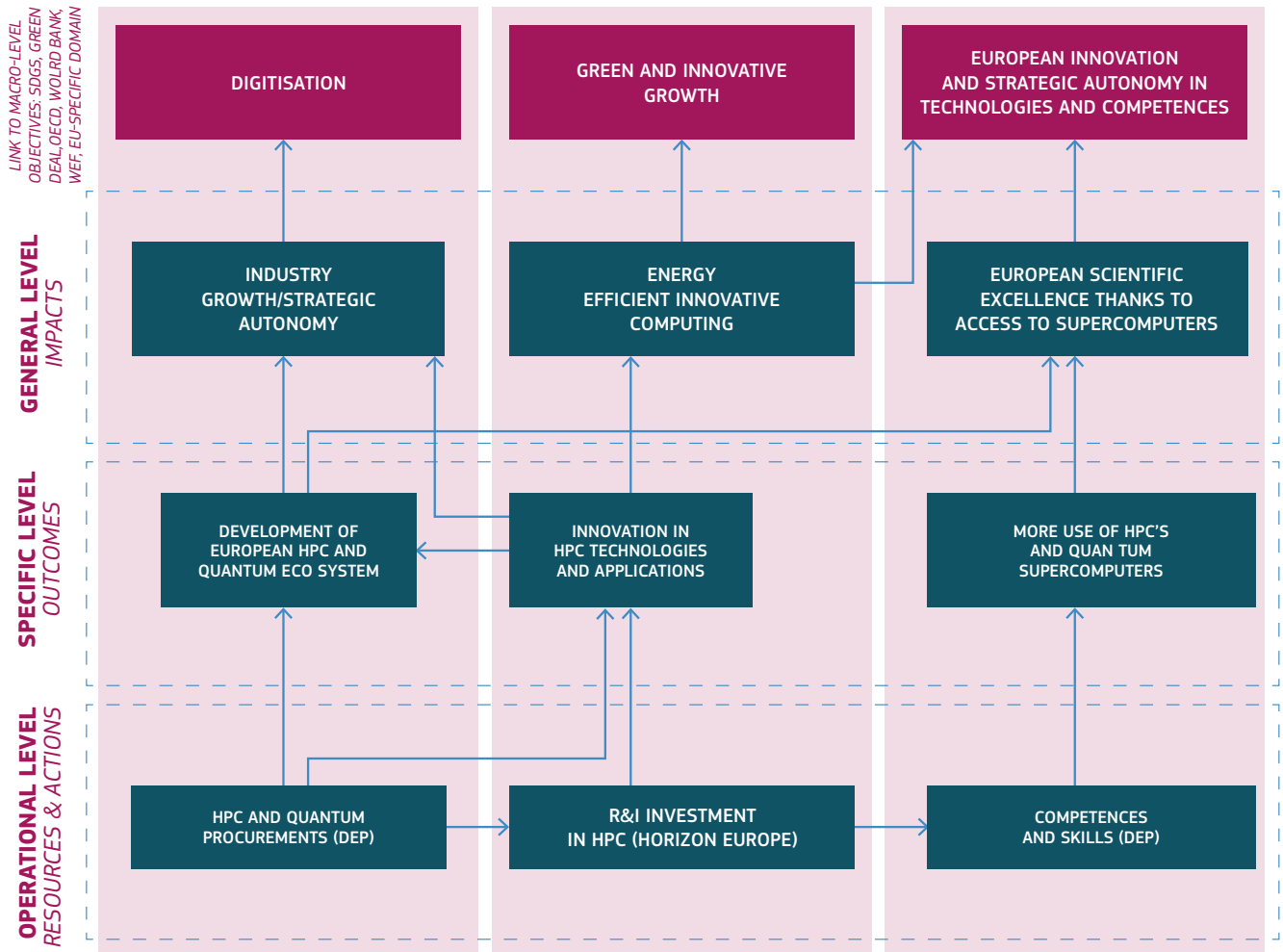
https://eurohpc-ju.europa.eu/index_en

✉ info@eurohpc-ju



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

PARTNERSHIP VISION: CONTRIBUTE TO SOCIETAL CHALLENGES THROUGH ...





PARTNERSHIP’S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Number of operational supercomputers	#	0	8	14	15	18	On track
Number of operational Quantum computers	#	0	0	8	10	10	On track
Number of projects accessing the EuroHPC JU supercomputers	#	0	150-200	300-400	400-500	>500	On track
Number of newcomers per year/reporting period	#	0	10	12	14	>15	On track
Number of R&I calls launched per year/ reporting period	#	0	6	6	6	6	On track
Number of countries per R&I call	#	0	10	10	10	10	On track
OUTCOMES							
Accessibility of EuroHPC JU supercomputers	%	0	95	95	95	95	TBD
IMPACTS							
Energy efficiency of the supercomputers	%	0	10	10	10	20	On track
Projects from countries without own pre-exascale/exascale supercomputer infrastructure	#	50	100	150	200	250	On track

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

Europe’s leading role in the data economy, its scientific excellence, and its industrial strength increasingly depend on its ability to develop key High Performance Computing (HPC) technologies, to provide access to world-class supercomputing and data infrastructures, and to maintain its present leadership in HPC applications. HPC is a mainstream technology for the digital transformation of the European economy, enabling many traditional industrial sectors to innovate with higher value products and services. In combination with other advanced digital technologies such as AI, Big Data and cloud technologies, HPC is paving the way towards innovative societal and industrial applications in critical areas for Europe, such as personalised medicine, weather forecast and climate change, smart and green development and transport, new materials for clean energy, drug design and virtual testing, sustainable agriculture, or engineering and manufacturing. The EuroHPC JU is developing a world-class supercomputing infrastructure that competes with other supercomputing powers such as the US and Japan.



HPC is a strategic resource for policy making, powering applications that provide the means to understand and design efficient solutions to address many complex global challenges and for crisis management. HPC contributes to key policies such as the European Green Deal, with models and tools for transforming the increasing number of complex environmental challenges into opportunities for social innovation and economic growth. An example is the Destination Earth (DestinE) initiative, the strategic activity of which was funded by the EU in December 2019.

Global events such as the COVID-19 pandemic have shown the importance of investing in HPC and health-related modelling platforms and tools, playing a key role in the fight against the pandemic, often in combination with other digital technologies such as Big Data and AI. HPC is being used to accelerate the identification and production of treatments, including vaccines, to predict the virus' spread, to help plan the distribution of medical supplies and resources, and to simulate post-epidemic exit measures in order to evaluate different scenarios. HPC modelling platforms and tools are critical tools for the current and future pandemics, and they will play a key role in health and personalised medicine.

The EuroHPC JU provides a demand-oriented and user-driven framework, enabling a co-design approach for the acquisition of an integrated, world-class federated, secure and hyper-connected supercomputing and quantum computing service and data infrastructure in the EU, in order to equip users with the strategic computation resource they need to develop new, innovative solutions and to solve societal, environmental, economic and security challenges. The EuroHPC JU enables a co-design approach for the acquisition of world-class supercomputers, while safeguarding the security of the supply chain of procured technologies and systems. It contributes to the EU's strategic autonomy objective by supporting the development of technologies and applications reinforcing the European HPC supply chain, and promotes their integration in supercomputing systems that address a large number of scientific, societal, environmental and industrial needs.

There are 34 EuroHPC JU participating countries, including Israel, Türkiye, Serbia, Montenegro and North Macedonia.

EuroHPC JU is funding potential international cooperation activities in R&I that add value and are of mutual interest. So far, success has been demonstrated with Japan and India.

SUCCESS STORY: EXAMPLE 1

Three European supercomputers, owned by EuroHPC JU, are in the top 10 of the world's most powerful supercomputers

EuroHPC JU's 3 pre-exascale supercomputers have been ranked in the top 10 fastest supercomputers in the world. LUMI HPC (Finland) is ranked in 5th place, Leonardo (Italy) is ranked in 6th place, and MareNostrum 5 (Spain) is ranked in 8th place. All the other EuroHPC supercomputers remain ranked amongst the world's most powerful and greenest supercomputers.

[Three EuroHPC supercomputers make the global top 10 of the world's most powerful supercomputers \(europa.eu\)](#)

SUCCESS STORY: EXAMPLE 2

Procurement contract for JUPITER, the first European exascale supercomputer, is signed

The procurement contract for JUPITER, the first EuroHPC exascale supercomputer, has been signed by the EuroHPC JU and a consortium including the hosting entity Forschungszentrum Jülich in Germany. JUPITER's computing power will support the development of high-precision models of complex systems and AI applications in science and industry alike. Applications will include training large language models in AI, simulations for developing functional materials, creating digital twins of the human heart or brain for medical purposes, and high-resolution simulations of climate that encompass the entire earth system

[Procurement contract for JUPITER, the first European exascale supercomputer, is signed \(europa.eu\)](#)

SUCCESS STORY: EXAMPLE 3**One step closer to European quantum computing: the EuroHPC JU signs hosting agreements for six quantum computers**

The EuroHPC JU has signed hosting agreements with six sites across Europe to host & operate EuroHPC quantum computers. These quantum computers will allow European users to explore a variety of quantum technologies coupled to leading supercomputers. The six new EuroHPC quantum computers will be integrated into existing supercomputers in Czechia, France, Germany, Italy, Poland and Spain. The selection of these hosting entities, who will operate the systems on behalf of the EuroHPC JU, was made to ensure a diversity in quantum technologies and architectures, giving Europe an opportunity to be at the forefront of this still-novel field, and providing European users access to diverse and complementary quantum technologies.

[One step closer to European quantum computing: The EuroHPC JU signs hosting agreements for six quantum computers \(europa.eu\)](#)

SUCCESS STORY: EXAMPLE 4**The Jules Verne Consortium Will Host the New EuroHPC Exascale Supercomputer in France**

The EuroHPC JU has selected the Jules Verne consortium to host & operate in France the second EuroHPC exascale supercomputer to exceed the threshold of one billion billion calculations per second.

[The Jules Verne Consortium Will Host the New EuroHPC Exascale Supercomputer in France \(europa.eu\)](#)

SUCCESS STORY: EXAMPLE 5**Access to EuroHPC supercomputers: advancing radiotherapy with the help of supercomputing**

The goal of the research project is to advance and optimise the use of spatially fractionated radiation therapy (SFRT). By using supercomputing to analyse the images to optimise this therapy, doctors will be able to prescribe evermore precise radiotherapy treatments to cancer patients.

[A EuroHPC Success Story: Advancing Radiotherapy \(europa.eu\)](#)

SUCCESS STORY: EXAMPLE 6

The Destination Earth (DestinE) project is a flagship initiative of the European Commission to develop a highly accurate digital model of the earth on a global scale. Using EuroHPC JU computing power, this model will monitor, simulate and predict the interaction between natural phenomena and human activities. It will contribute to achieving the objectives of the twin transition, green and digital as part of the European Commission's [Green Deal](#) and [Digital Strategy](#).

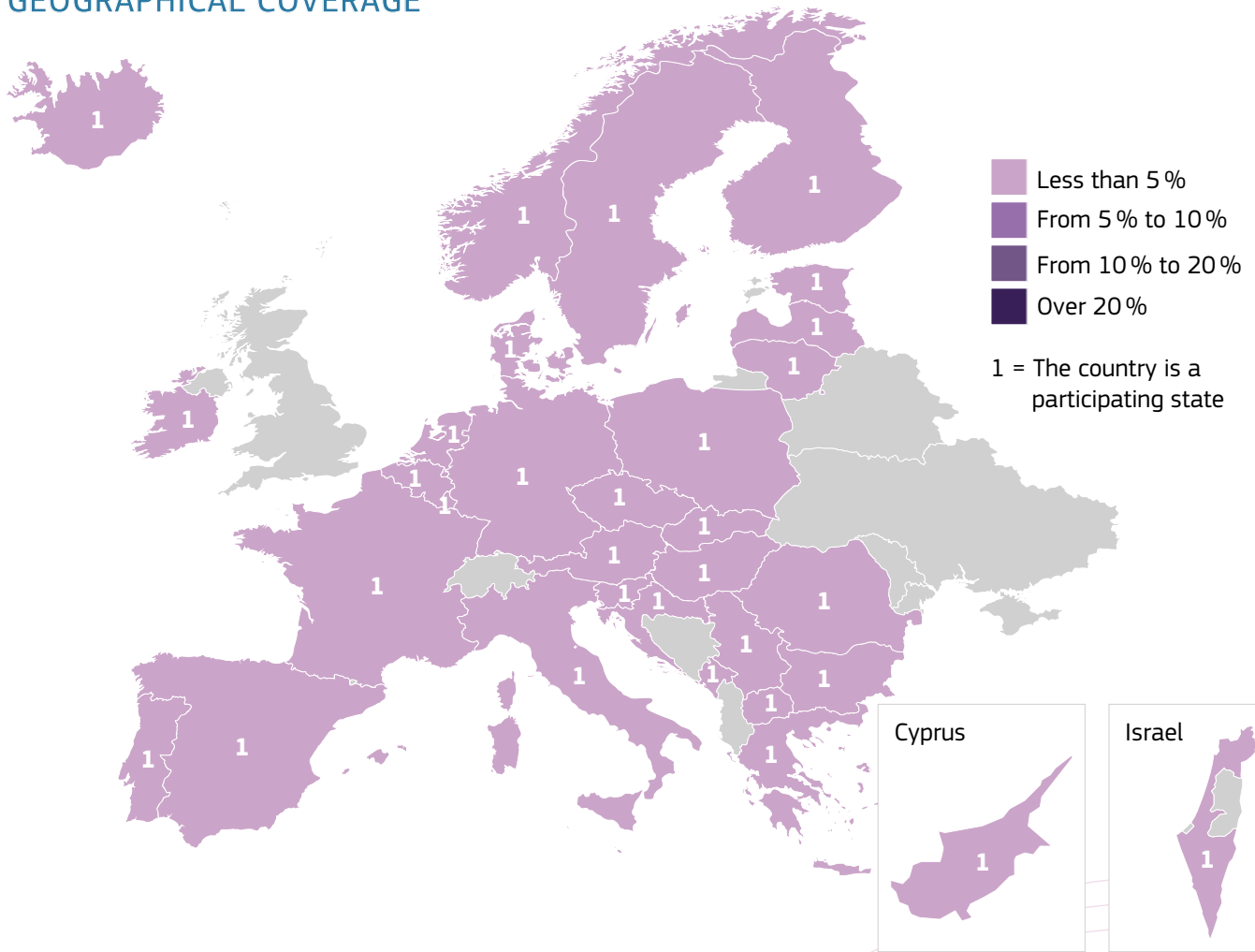
[Destination Earth | Shaping Europe's digital future \(europa.eu\)](#)

OVERVIEW OF MEMBERS

MEMBERS PER TYPE

Not available

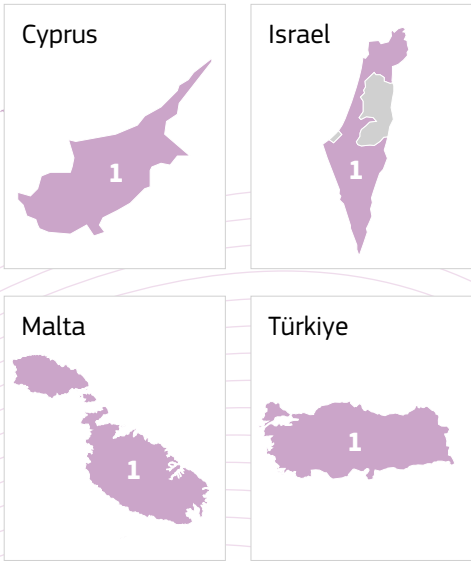
GEOGRAPHICAL COVERAGE



Total number of participating states: 34

In addition to the participating states represented, the Joint Undertaking includes three participating private partners: the European Technology Platform for High Performance Computing (ETP4HPC, 90+ members), the Big Data Value Association (BDVA, 240+ members) and the European Quantum Industry Consortium (QuIC, 175+ members).

<https://www.etp4hpc.eu/>
[Big Data Value Association - Accelerating data-driven innovation in Europe](https://www.euroquic.org/)
<https://www.euroquic.org/>





MISSION AND VISION STATEMENT

Europe has a **competitive, green, digital and human-centric manufacturing sector**. With a reinforced global position in terms of **competitiveness, productivity and technology leadership**, Europe ensures excellent solutions, consumer satisfaction, high quality, environmental and social sustainability, and is the **leading ‘solution provider’ in production technology, digitalisation, resource efficiency and the circular economy**. The European workforce is actively developing new skills to address these needs.

A platform for national and regional manufacturing technology initiatives, creating economies of scale, common understanding, alignment of objectives, the MIE partnership brings together leading actors from European industrial ecosystems – academia, industry, NGOs, public sector – to:

1. ensure european leadership and manufacturing excellence
2. achieve circular and climate-neutral manufacturing
3. master the digital transformation of manufacturing industry
4. create attractive, added-value manufacturing jobs.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 4: Digital, industry and space

Type of partnership:	Co-programmed
Coordinating entity:	European Factories of the Future Research Association (EFFRA)
Total estimated budget:	EUR 1.8 bn
EU commitments:	Up to EUR 900 m
Partners’ commitments:	Up to EUR 900 m
Predecessor under Horizon 2020:	Factories of the Future PPP (Factories of the Future EFFRA)
Start date-end date:	2021-2030

FIND OUT MORE

<https://www.effra.eu/>

[in https://www.linkedin.com/company/effra/](https://www.linkedin.com/company/effra/)

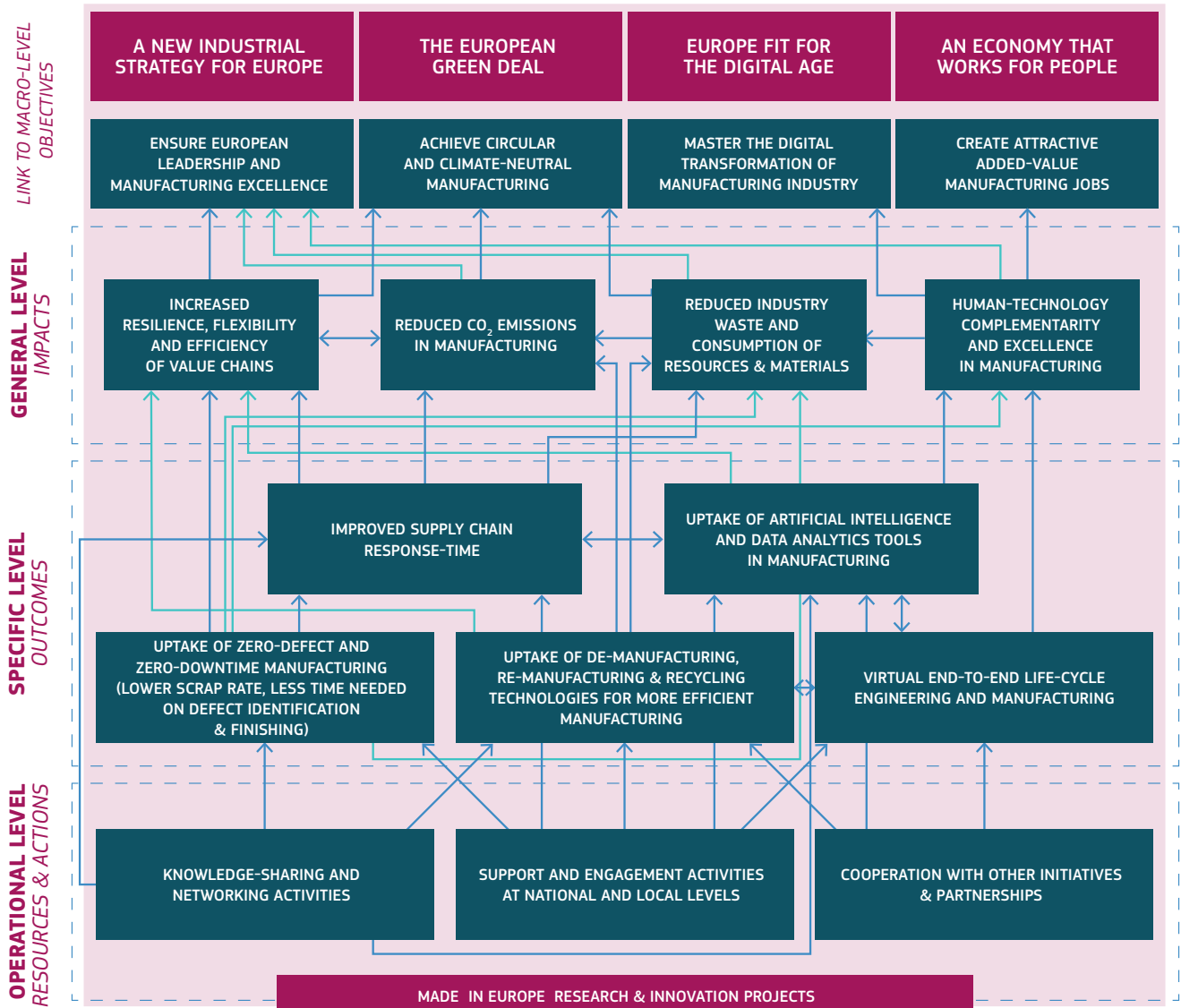
[X @EFFRA_Live](#)

[✉ Info@effra.eu](mailto:Info@effra.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

MADE IN EUROPE PARTNERSHIP'S VISION: EUROPE HAS A COMPETITIVE, GREEN, DIGITAL, HUMAN-CENTRIC MANUFACTURING SECTOR





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	ACTUAL 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Knowledge-sharing and networking activities	# of activities	0	8	59	15	25	
Support and engagement activities at national and local levels	# of activities	0	3	6	10	18	
Cooperation with other initiatives & partnerships	# of activities	0	4	16	8	16	
OUTCOMES							
Scrap rate through zero defect and zero downtime manufacturing	# of demonstrators with 20 % reduction	0	N/A	N/A	15	35	50
Time needed for defect identification & finishing	% reduction	N/A	N/A	N/A	5 %	10 %	
Uptake of de-manufacturing, re-manufacturing and recycling technologies for more efficient manufacturing	# of demonstrators		3	19	15	35	50
Supply chain response-time	# of demonstrators showing reduction of response-time	0		9	15	35	50
Artificial intelligence (AI) and data analytics tools' uptake	# of demonstrators	0	5	50	15	60	80
Virtual end-to-end life-cycle engineering and manufacturing	# of demonstrators	0		22	10	30	40
IMPACTS							
Human and technology complementarity	# of demonstrators	N/A	N/A	N/A	10	20	30
Manufacturing CO ₂ emissions	# of companies showing targeted (60-70 %) reduction	Y1990 levels	N/A	N/A	at least 70	at least 150	at least 200
Industrial waste	# of companies showing targeted (10-20 %) reduction	Y2020	N/A	N/A	at least 50	at least 150	at least 250

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 1: COLLABORATIVE ROBOTICS PROJECTS

Collaborative robotics is one of the shared technological challenges being tackled within the [MiE Partnership](#) and its predecessor, [Factories of the Future](#).

The [Sharework Project](#) has developed 14 integrated software and hardware mechatronics modules that provide robots with the intelligence they need to work alongside human operators and overcome human-related barriers. The modules cover the areas of perception, motion planning, safety and security, and multimodal human-robot communication, including knowledge of object detection, person tracking and human task identification through environment run-time detection and cognition. The solutions developed by the Sharework Project have been [successfully validated in four industrial environments](#) by demonstrating seamless human-robot collaboration. The 'SHERLOCK' robots were able to adopt human-like behaviour, such as being valuable co-workers, understanding the environment, the needs and preferences of the operators, predicting human intention and adapting their behaviour accordingly, thanks to the advances in perception and AI-driven decision making.

The complementary [SHERLOCK](#) project aimed to introduce the latest safe robotic technologies, including high and low payload collaborative arms and wearable robotics in the form of exoskeletons and mobile manipulators, enhancing them with smart mechatronics and AI-based cognition. In so doing, the project is creating efficient and safe human-robot collaboration stations that are accepted by operators and are designed to ensure their wellbeing. SHERLOCK has developed a portfolio of 19 software and hardware modules covering key areas, such as collaborative production station and mechatronics, human-centred interaction and awareness, artificial intelligence enabled human-robot collaboration, and safety and certification, which have been applied in [four different industrial use cases](#).

The Sharework and SHERLOCK Projects have delved into the interaction of social sciences and robotics to work towards reducing the stress of operators during assembly and disassembly processes, as well as to reduce the number of non-added-value repetitive tasks. Both systems have demonstrated gains in performance, ergonomics, a reduction of assembly errors, human stress, and high levels of operator acceptance, unveiling the real-world potential of highly intelligent assistive robotic systems.

Representative Quote:

"People are the most valuable asset in European manufacturing. We feel the need to keep them in the loop with an active and leading role, bringing technology around them to provide active support," says Dr Sotiris Makris, lead of the Robotics, Automation and VR in Manufacturing group of LMS.

*"Hybrid production systems, involving both mechanics in the form of smart robotics and advanced digital technologies, pave the road towards a human-centric, sustainable, resilient and green industry, augmenting the capacity of personnel and enhancing the competitiveness of EU manufacturing."**

*See the ScienceBusiness article on this success story:
<https://sciencebusiness.net/collaborative-robotics-land-european-factories>



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 2: CONNECTEDFACTORIES (CF)*

Building on the foundations of ConnectedFactories 1 (CF1) initiated by EFFRA, the project established structured knowledge sharing of innovative approaches and best practices in the digital and circular transition of manufacturing.

The CF2 Project established a structured overview of available and upcoming technological approaches and best practices with regard to digitalisation of manufacturing, and identified present and future needs – as well as challenges – of the manufacturing industries.

CF2 enhanced an initial set of pathways to digitalisation of manufacturing that facilitate the transition towards innovative approaches and circularity, validating them with stakeholders all over Europe.

During its lifecycle, CF2 has:

- Explored pathways to the digital integration and interoperability of manufacturing systems and processes and the benefits this will bring,
- Created insights into important cross-cutting factors and key enablers,
- Associated projects and project results, use cases and demonstrators to the pathways and the cross-cutting factors.

*The complete set of developed pathways is available in video format. All CF2 Project deliverables can be found here.

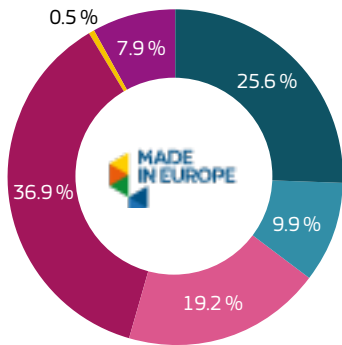
See the CF web page: <https://www.connectedfactories.eu/objectives-and-main-actions>, including the ConnectedFactories Digital Transformation catalogue, embedded within the EFFRA Innovation Portal as well.

See the ScienceBusiness article: <https://sciencebusiness.net/news/connectedfactories-2-coordination-and-support-action-provided-structured-insights>



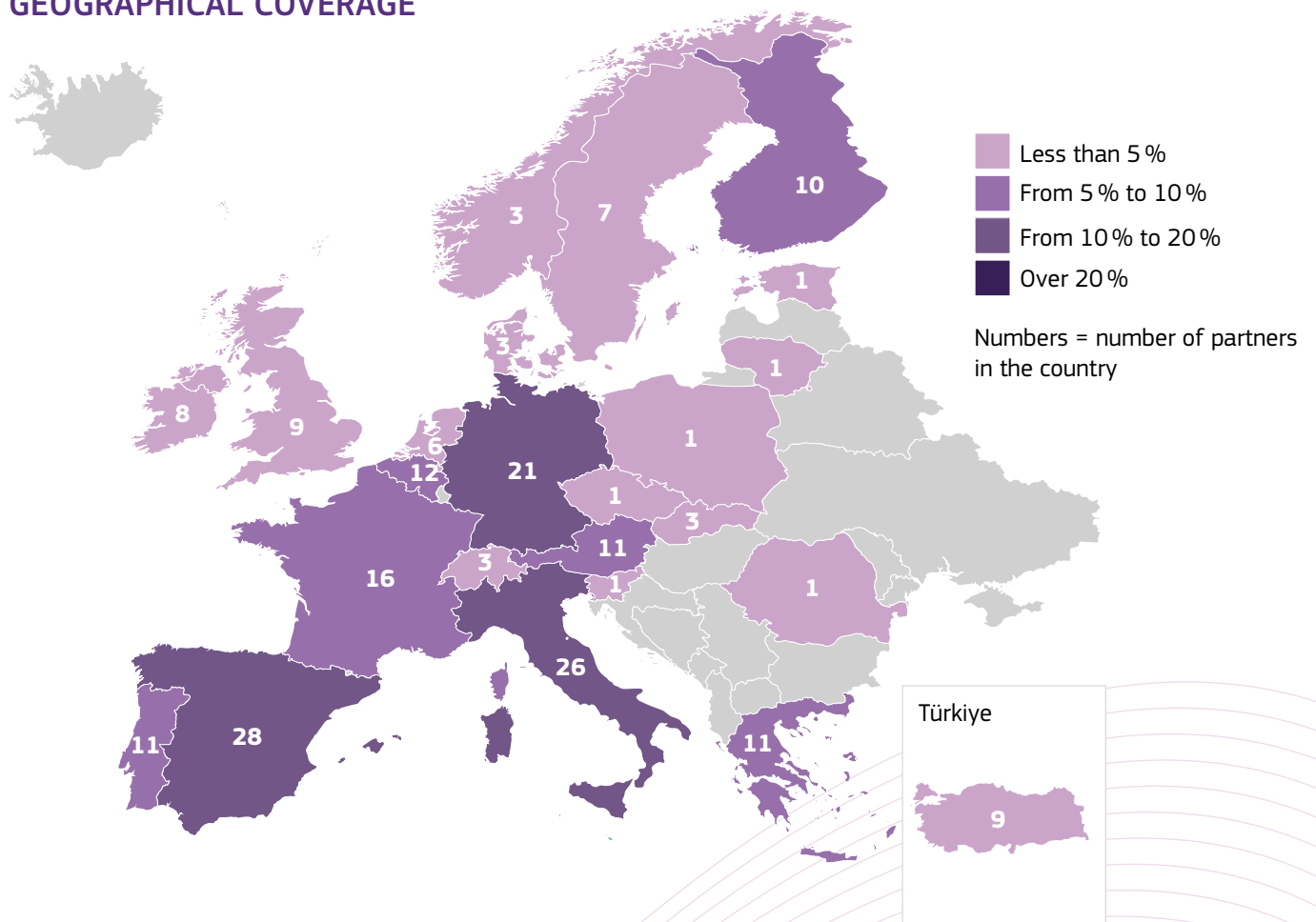
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 203



MISSION AND VISION STATEMENT

The Metrology Partnership will bring together the measurement science community and stakeholders to deliver on global challenges including health and climate, support the European Green Deal, and underpin innovation in industry through collaborative research.

The Metrology Partnership aims to support accelerating the transition towards a green, climate neutral and digital Europe, as well as strengthening the resilience, competitiveness, and economic growth of the European industry.

Goals of the Metrology Partnership include the development of an excellent and coordinated metrology system on a European level, helping to bridge the investment gap between Europe and its global competitors. This involves the establishment of European Metrology Networks in highly competitive areas, and the engagement with stakeholders to ensure state-of-the-art metrology capabilities are widely taken up by innovators. Increasing and coordinating the role of metrology in the design and implementation of regulation and standardisation aims at fostering evidence-based decision making and underpinning public policies.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 4: Digital, industry and space

Type of partnership: Institutionalised (Art 185 TFEU)

Coordinating entity: EURAMET e.V.

Total estimated budget: EUR 689 m

EU commitments: EUR 300 m

Partners' commitments: EUR 389 m

Predecessor under Horizon 2020: The partnership builds on the progress achieved under the European Metrology Research Programmes.

Start date–end date: December 2021 – December 2031

FIND OUT MORE

www.euramet.org/partnership

www.metpart.eu

[in https://www.linkedin.com/company/euramet](https://www.linkedin.com/company/euramet)

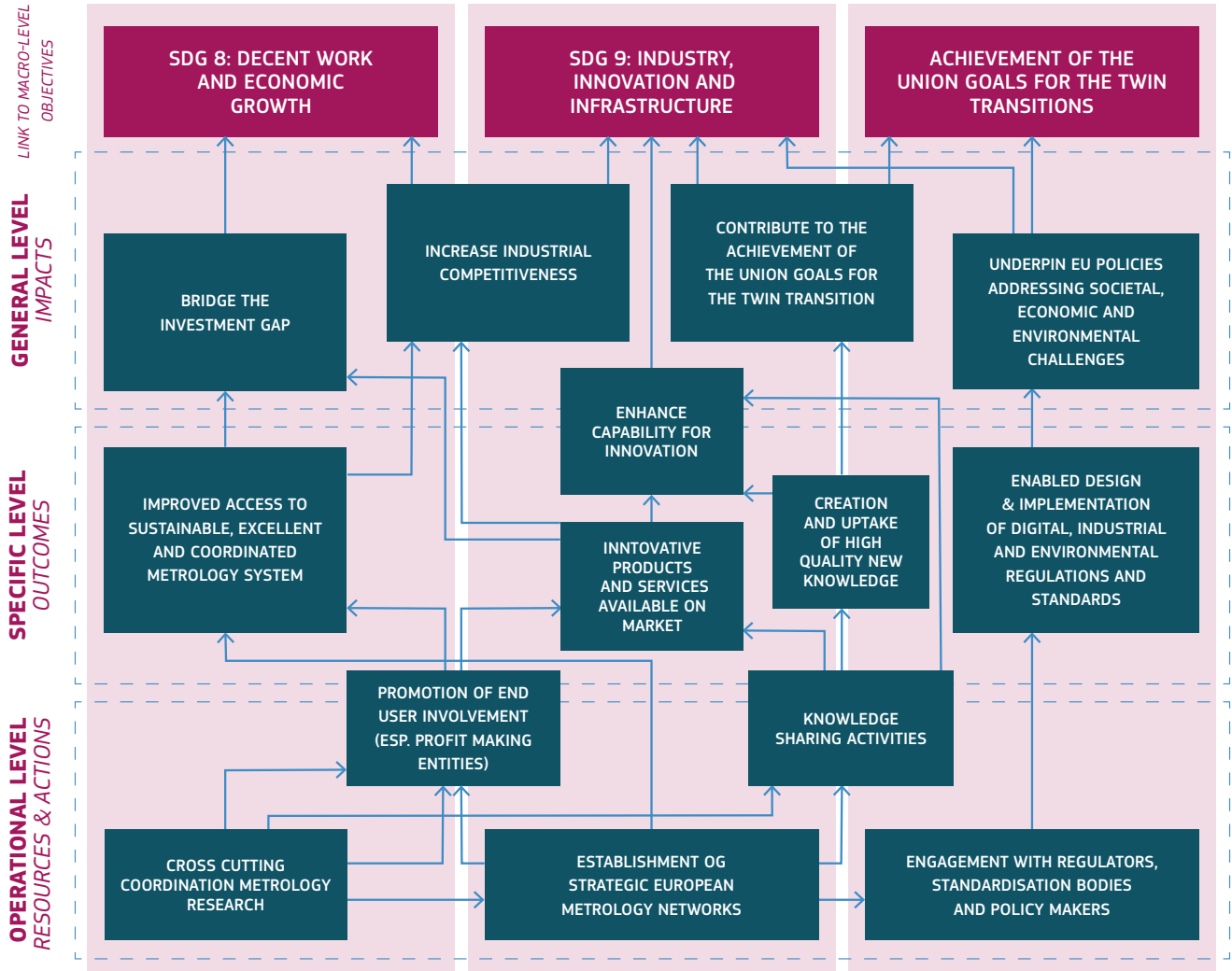
[X https://x.com/euramet](https://x.com/euramet)

[✉ secretariat@euramet.org](mailto:secretariat@euramet.org)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

PARTNERSHIP VISION: CONTRIBUTE TO SOCIETAL CHALLENGES THROUGH EUROPEAN MEASUREMENT EXPERTISE AND DELIVERY OF GLOBALLY COMPETITIVE, HIGH IMPACT METROLOGY



PARTNERSHIP VISION: ACHIEVED THROUGH COLLABORATIVE METROLOGY PROJECTS FUNDED BY ITS MEMBERS AND THE EU



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Landscape of European Metrology Networks	Total # European Metrology Networks	9 EMNs	N/A	12	12	12	11 EMNs established
Normative research and support to regulation	% of activity	10	10	10	10	10	On track
Research where end-users have contributed to the objectives	% of research topics	N/A	10	10	10	10	On track
Seminars and events organised by the EMNs	# seminars and events	N/A	N/A	18			16 events arranged
OUTCOMES							
Participants from industry	# participations per project	2	2	2	2	2	On track
Collaborators in joint research projects	% of profit-making entities of collaborators	40	40	40	40	40	On track
Peer reviewed scientific publications	# publications per project	6	N/A	N/A	6	6	No data
IMPACTS							
European turnover from new or improved products and services	EUR	33 m	N/A	N/A	50 m	50 m	No data
Metrology capabilities at top international level	# European Metrology Networks at top	N/A	N/A	N/A	N/A	9	No data
Contributions to standards that underpin policy or regulation	# Contributions	130	N/A	N/A	400	400	No data
Research dedicated to the twin transition	% of activity	25	N/A	N/A	N/A	40	On track



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

TECHNOLOGICAL: IMPROVING SELF-CALIBRATING PHOTODIODE STANDARDS FOR ENVIRONMENTAL MONITORING AND EUROPEAN INDUSTRY.

Photodiodes have a broad range of applications across industry, environmental monitoring and medicine. As photonics and optics systems evolve to become more miniaturised and integrated, new cost-effective standards for photodiodes are required. These standards are particularly relevant to detectors for the ultraviolet (UV) range, which are used in healthcare and Earth observation, but suffer from a lack of stability. The Metrology Partnership project '[Self-calibrating photodiodes for UV and exploitation of induced junction technology](#)' builds on a previous EMPIR project, which created an 'NMI-on-a-chip', ideal for miniature, integrated or remote systems as they are self-calibrating. The project will improve on this work by developing new 3D simulation models of photodiode-based Predictable Quantum Efficient Detectors (PQED) to improve quantum yield predictions and uncertainty, test PQEDs as built-in references across a range of applications, and develop improved photodiodes in the UV range. The outcomes of the project will help to ensure accuracy for photonics and optics systems, even for those that are difficult to access in situ. This will increase confidence in the industries, environmental monitoring and medical applications that utilise them, and enable further miniaturisation, thereby opening new applications for the future.

ECONOMIC: EXTENDING ACCESSIBILITY TO LOW-COST MEDICAL IMAGING IN EUROPE

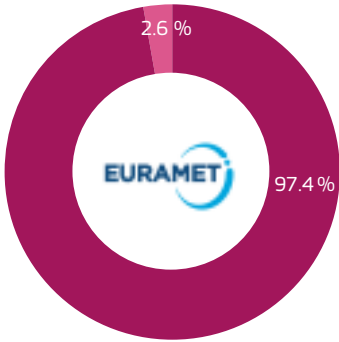
Magnetic resonance imaging (MRI) is used to help identify conditions ranging from damaged ligaments to cancer. Around 40 million MRI scans are performed each year in the EU, but the size and cost of scanners means that not all European citizens have equal access to this form of medical diagnosis. 'Low-field MRI' is a portable form of the standard MRI scanner, opening opportunities to provide treatment at a patient's locality. However, these machines currently lack metrological traceability and the accredited documentation blueprints of hardware and software required by the EU's Medical Device Regulation. The project '[Affordable low-field MRI reference system](#)' will design, develop, and characterise a mobile, low-cost, low-field MRI system. For the first time, multiple low-field, low-cost, open-source MRI scanners will be built at different sites and evaluated. All information to build, operate and maintain these scanners will be made publicly available, including model-based image reconstruction approaches optimised for low-field MRI, fulfilling the requirements of the Medical Device Regulation. This will result in an easier approval route for similar low-field MRI systems developed by companies, resulting in cost savings for public healthcare systems.

INTERNATIONAL POSITIONING: METROLOGY PARTNERSHIP PROJECT ON PASSIVE RADIATIVE COOLING TECHNOLOGIES COLLABORATES WITH SPACECOOL IN JAPAN.

The Metrology Partnership project '[Metrological framework for passive radiative cooling technologies](#)' is working to develop a metrological framework to classify and compare Passive Radiative Cooling (PRC) materials. These materials provide an emerging technology that can cool to sub-ambient temperatures even in direct sunlight, and could be an efficient alternative to conventional systems, saving up to 80 % of cooling-related electricity. SPACECOOL INC in Japan has developed PRC material known as SPACECOOL film. The company will provide the material and will collaborate with the consortium towards the development of characterisation methods, demonstration tests and life cycle assessments for PRC materials. The project will create protocols and best-practice guides for in-field testing and assess material performance under a variety of real-world conditions. This will help drive innovation in PRC technology, producing more energy-efficient cooling to meet rising needs.

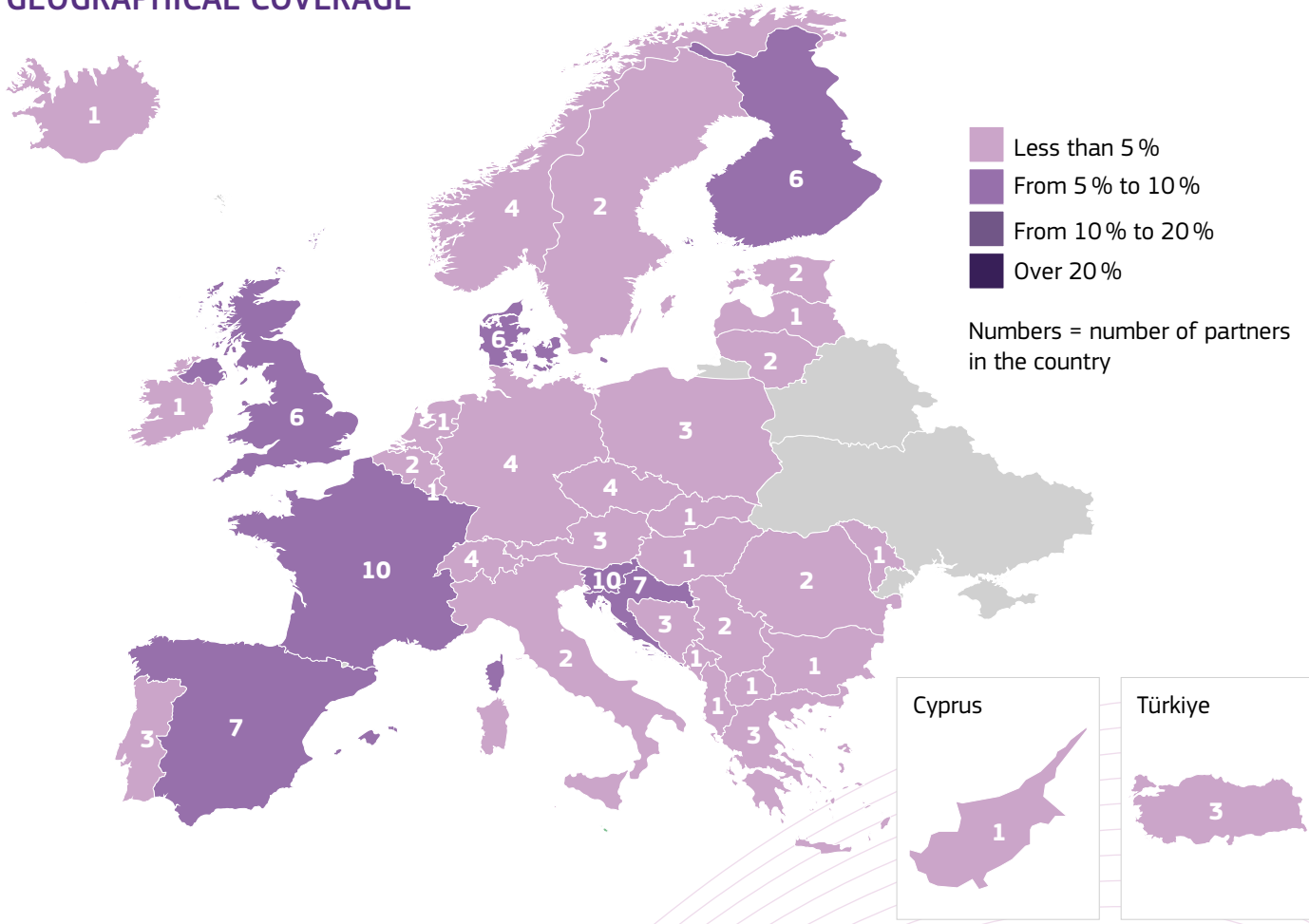
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)

GEOGRAPHICAL COVERAGE



Total number of partners: 114



MISSION AND VISION STATEMENT

Photonics is a technology that is an essential building block for the digital transformation and for a green and healthy future in Europe. The new Photonics Partnership aims to speed up photonic innovations for a digital, green and healthy future in Europe, securing Europe's technological sovereignty, raising the competitiveness of Europe's economy and ensuring long-term job and prosperity creation. A holistic approach and strong links to applications are key elements.

The main objectives of the partnership are threefold:

1. Foster a focused, continuous, and synergetic development of key photonics technologies, components and systems in Europe;
2. Push for the rapid diffusion into the various sectors that critically depend on innovative photonics solutions;
3. Provide a framework for the shaping of ecosystems to address changes of value creation.

For more information:

- MoU - Final MoU Photonics C 2021.pdf (photronics21.org)
- SRIA (Photonics Strategic Research and Innovation Agenda by Barbara - Flipsnack),
- Proposal (European Partnership for Photonics | European Commission (europa.eu)).

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 4: Digital, industry and space

Type of partnership: Co-programmed

Coordinating entity: Photonics21 Association

Total estimated budget: EUR 680 m

EU commitments: Up to EUR 340 m

Partners' commitments: Up to EUR 340 m

Predecessor under Horizon 2020: Photonics cPPP

Start date-end date: 2021-2030

FIND OUT MORE

<https://www.photonics21.org/>

[in https://www.linkedin.com/company/photronics21/?originalSubdomain=de](https://www.linkedin.com/company/photronics21/?originalSubdomain=de)

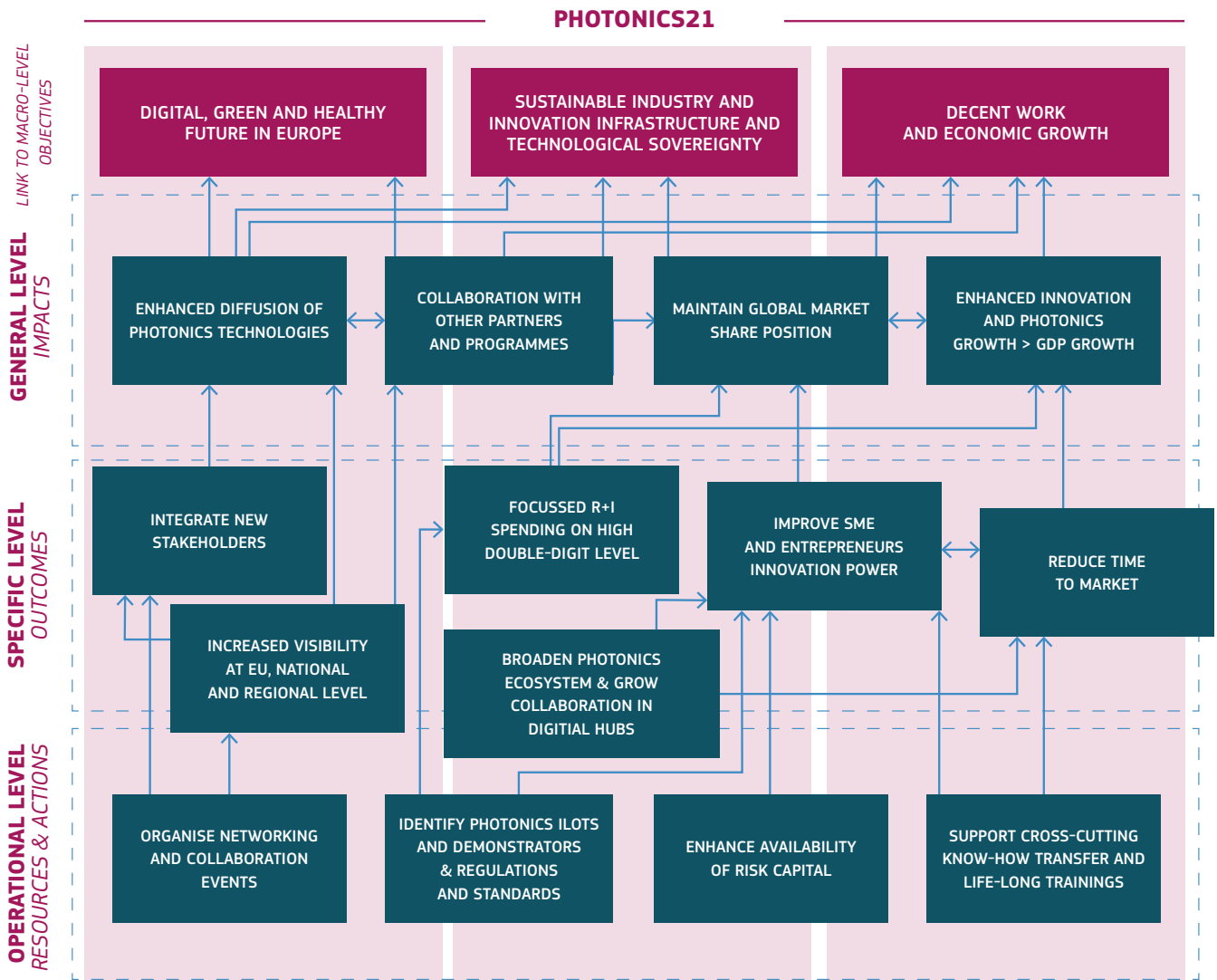
[X https://x.com/Photonics21](https://x.com/Photonics21)

[yt https://www.youtube.com/channel/UCHljJovGsPaR_DL9C8gsn7Q](https://www.youtube.com/channel/UCHljJovGsPaR_DL9C8gsn7Q)

[✉ secretariat@photronics21.org](mailto:secretariat@photronics21.org)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
SME Innovation support	Development of Photon hubs - Number of workshop attendees	500/year	560	600	600	600
Rapid diffusion	Number of end-user workshops	5/year	5	5	5	5
Industry participation	% of industry in Horizon Europe calls	50	≥ 50	≥ 50	≥ 50	≥ 50
OUTCOMES						
Stakeholder integration upstream/downstream	Number of workshop attendees	350/year	650	650	650	700
Collaboration and synergies with other programs	Number of collaborations in terms of joint calls	2/year	2	2	2	2
Cross-cutting Digital Innovation Hubs	Number of common events and actions	4/year	4	4	4	4
Access to risk capital	Number of photonics start-ups support	30/year	30	30	30	30
IMPACTS						
Photonics gross added-value growth (GDP)	GDP multiple	2x in 2019	> Global GDP (CAGR 2020-2026)			
Employment growth	CAGR % growth	2 (vs 1 Industry)	Keep			
EU global market share	% market share EU	2	2	2	2	2

More detailed information on the partnership's activities, performance and impacts is found in the market and activity reports available here [Photonics Downloads | Photonics21](#).

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING**SUCCESS STORY 1: PHOTONICS IS A CRITICAL DEEP TECHNOLOGY IN KEY EUROPEAN STRATEGIC VALUE CHAINS.**

In the past three years, global supply chains have been disrupted by a series of events: both the COVID-19 pandemic and resurging post-COVID demand shortages have overwhelmed various supply chains. Geopolitical trade tensions and the war in Ukraine have only compounded the challenges to EU supply chains.

The Photonics Partnership has a key role to play in contributing to strengthening the resilience and sustainability of European supply chains and supporting the European Union's drive towards open strategic autonomy and technological sovereignty. During 2023, Photonics21 successfully published and presented the outcomes of the [Photonics Industry Supply Chain Survey](#), which uncovers that the majority of European photonics companies face serious supply chain issues and calls for the intervention of policymakers. In particular, the availability of materials appeared to be one of the key choke points. The Photonics Partnership has further analysed the photonics supply chain in a survey related to advanced materials. In addition to this, the Photonics Partnership currently works on four thematic reports focusing on HPC, AR/VR, Energy/Fusion and Defence, which will be published at a later stage. The new Photonics Market Study will be published at the Photonics Partnership Annual Meeting 2024.



The Photonics Partnership has identified nine initial strategic value chains within which photonics technologies, components and solutions play a simply crucial role. These nine strategic value chains are linked to the related primary EU policy initiative and growth strategy (cf. chart), and will be a particular focus within the sectorial European Partnership working groups as reflected in their future roadmaps for R&D activities over 2025–2030. A new Strategic Research and Innovation Agenda, '[New Horizons - Securing Europe's strategic autonomy through Photonics](#)', was adopted in April 2023.



SUCCESS STORY 2: CONTRIBUTING TO WORLD-LEADING KEY PHOTONICS TECHNOLOGIES

The EU leads both the USA and China in advanced photonics technologies* , and is also leading the USA, China, and the Republic of Korea in terms of worldwide patent applications in advanced photonics technologies** . The European photonics ecosystem has over 5 000 SMEs and several large companies. These technology-intensive Photonics companies directly employ over 400 000 people within the EU. The Photonics Partnership aims at further supporting this strong and globally leading EU photonics ecosystem through the identification of future R&I priorities in a transparent and bottom-up photonics R&I priorities process, leading to the [publication of Photonics Call topics in the Horizon Europe Work Programme 2023 and 2024](#).

* European Commission SWD (2021) 352 final. Source Advanced Technologies for Industry project. Direct methodology available at <https://ati.ec.europa.eu>.

**European Commission SWD (2021) 352 final. Source Advanced Technologies for Industry project. Based on EPO Worldwide Patent Statistical Database (PATSTAT, 2017).

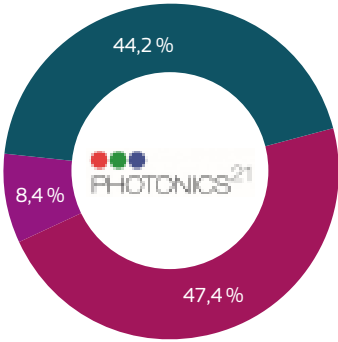
SUCCESS STORY 3: PROMOTING THE EXCELLENCE OF EUROPEAN PHOTONICS RESEARCH AND INNOVATION BEYOND EUROPE

The Photonics Partnership has always been very internationally oriented and is known beyond Europe. In the past, Photonics21 regularly invited high level photonics experts from the USA or Japan to join the Annual Meeting in Brussels. Moreover, Photonics21 actively takes part in the exchange with the IOA members, a global umbrella organisation which represents photonics associations from Japan, Taiwan, Korea, Europe and Switzerland, to present the latest photonics market research and exchange about the future of photonics technologies on an international level. To guarantee the security of supply for European industry, the role of the Photonics Partnership is to prepare the ground with like-minded countries like Japan, Canada and the Republic of Korea for a long-term win-win partnership in photonics R&I. The current EC negotiations with many countries around the globe are preparing the ground for bilateral strategic R&I activities in photonics.



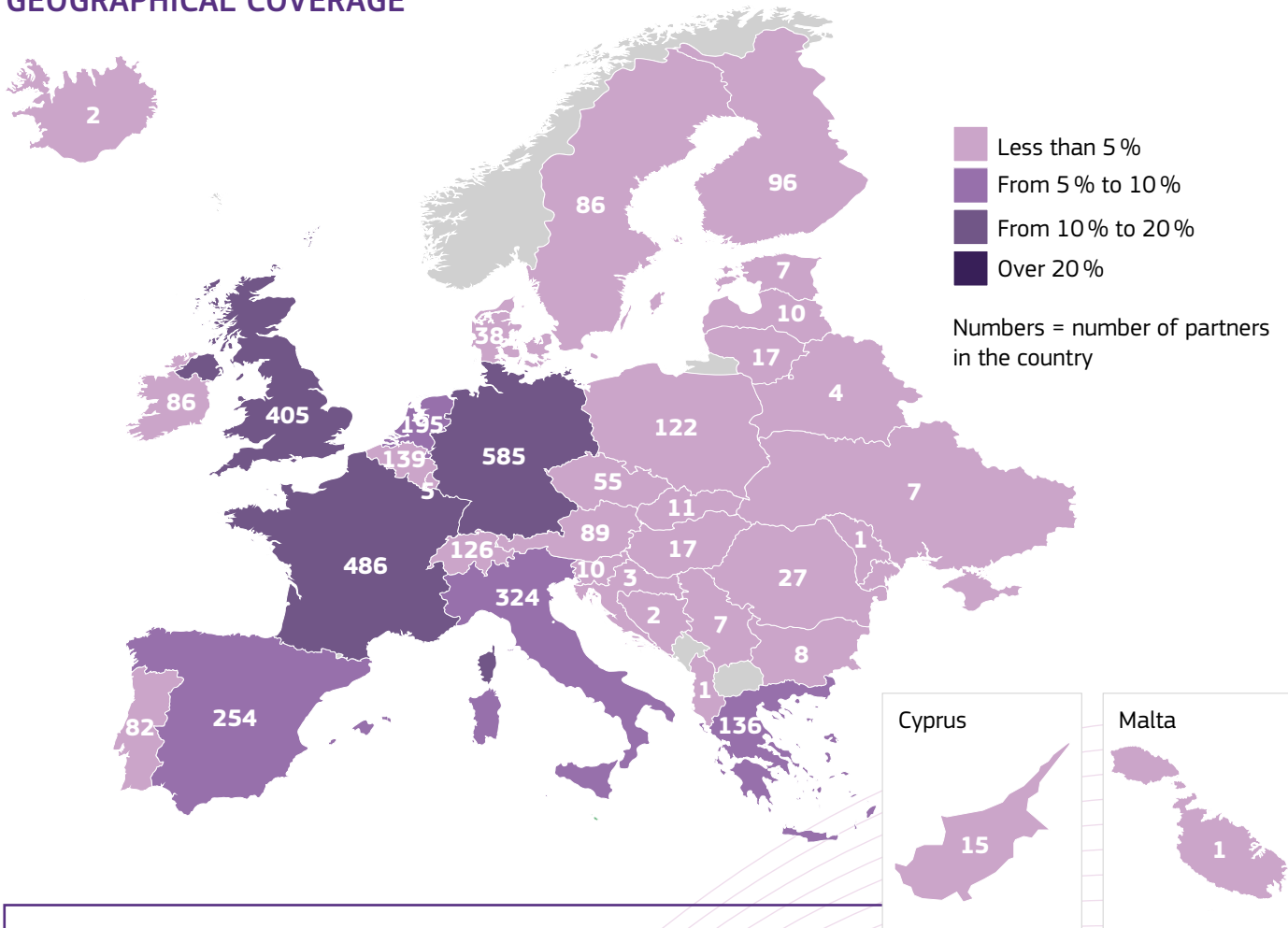
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 4024
 85,8 % of the partners are represented in the map.
 Other members that do not fit to the map are from Afghanistan, Algeria, Argentina, Armenia, Australia, Azerbaijan, Bangladesh, Botswana, Brazil, Canada, Chile, Colombia, Cote d' Ivoire, Egypt, Fiji, French Guiana, Ghana, Guinea-Bissau, Hong Kong, India, Iran, Iraq, Israel, Japan, Kenya, Malaysia, Mexico, Morocco, New Zealand, Nigeria, Oman, Pakistan, Panama, Peru, Philippines, Saudi Arabia, Serbia, Singapore, South Africa, South Korea, Sri Lanka, Syria, Taiwan, Thailand, Tunisia, Türkiye, United Arab Emirates, USA, Uzbekistan.



MISSION AND VISION STATEMENT

P4Planet is a cross-sectorial R&I partnership that aims to **transform the European process industries** to:

1. **achieve the overall climate neutrality at EU level by 2050** by developing and deploying climate neutral solutions and bringing technological and non-technological innovations to readiness for subsequent deployment;
2. **close the energy and feedstock loops** through sustainable circular business models, innovations, cross-sectoral collaboration and engagement with local ecosystems;
3. **achieve a global leadership** in climate neutral and circular solutions, accelerating innovation and unlocking public and private investment.

P4Planet represents companies, associations, SMEs, research and technology organisations, NGOs, regions etc. from ten process industry sectors.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 4: Digital, industry and space

Type of partnership: Co-programmed

Coordinating entity: Private members are represented by A.SPIRE. The Commission's contacts are DG RTD E3 and DG GROW.

Total estimated budget: EUR 2.6 bn

EU commitments: Up to EUR 1.3 bn

Partners' commitments: Up to EUR 1.3 bn

Predecessor under Horizon 2020: SPIRE cPPP

Start date-end date: 2021-2030

FIND OUT MORE

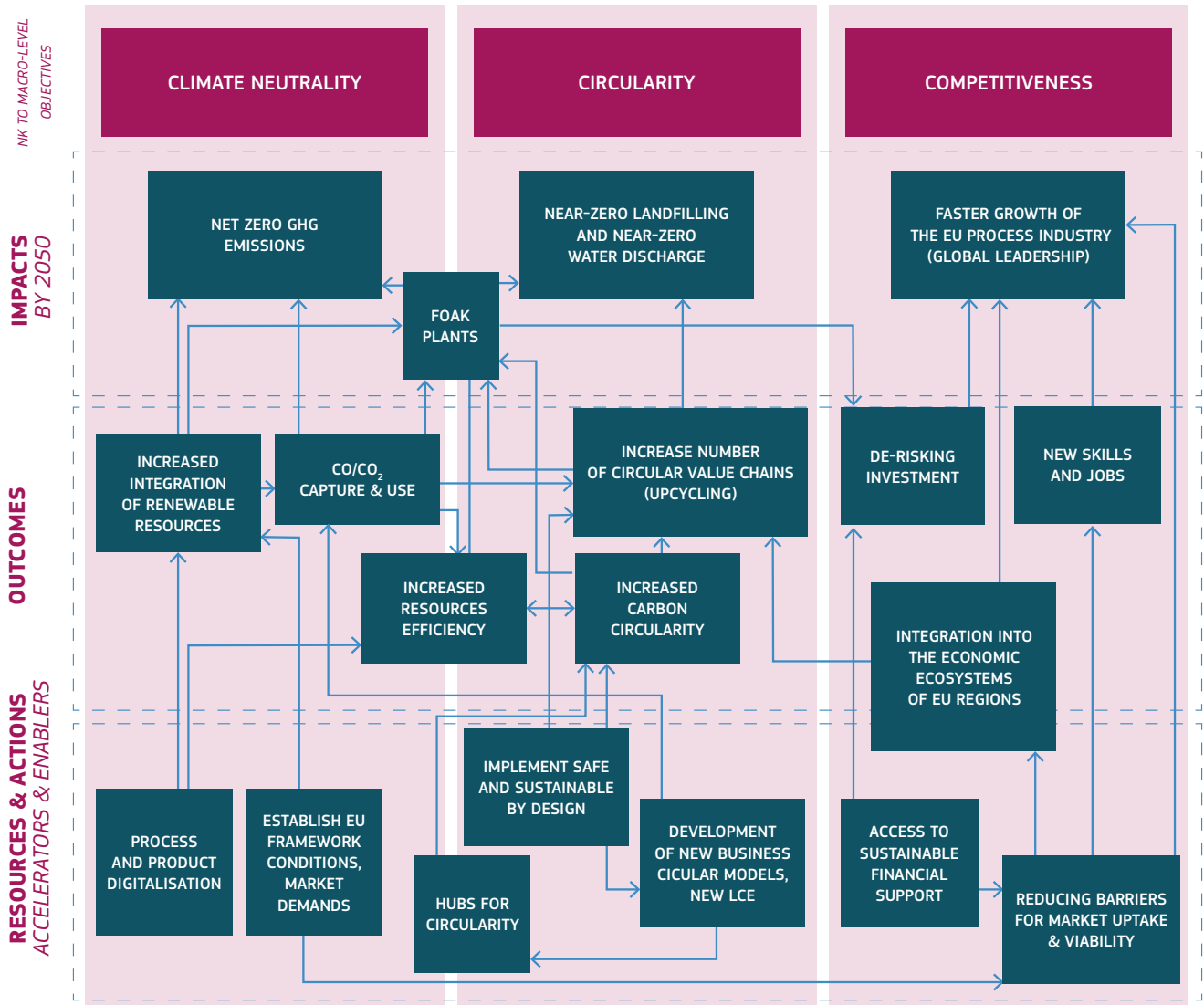
<https://www.aspire2050.eu/>

✉ info@aspire2050.eu



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

**PROCESSES4PLANET VISION:
CONTRIBUTE TO SOCIETAL CHALLENGES THROUGH ...**



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025 ^a	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
H4C establishment ⁶	#	0	N/A	7	15	>25	13 ^b
OUTCOMES							
Significant innovations ⁸	#	5	N/A	12	14	60	127 ^c
CAPEX & OPEX reduction ⁹	EUR million	0 (P4Planet)	As per project	As per project	As per project	As per project	N/A ^d
Secondary materials use intensity ⁴	%	0	N/A	+40	+50	+80	21
Marbles/First-of-a-kind plants (TRL 9) ⁷	# of FOAKs	0	N/A	2	15	> 90	9 ^e
New skills and job profiles ¹¹	#	0 (P4Planet)	N/A	>2	>3	20	23 skills 2 job profiles
IMPACTS							
CO ₂ eq emission reduction through integration of renewables/ efficiency ¹	%	1350 m tons CO ₂ ^f	N/A	60	70	100	80-95 ^g
CO ₂ eq emission reduction through CO ₂ capture & use ²	%	1350 m tons CO ₂ ^f	N/A	60	70	100	79
Waste reduction ³	%	495 7 m tons of waste ^h	N/A	40	50	80	18
Wastewater reused/ recycled ⁵	%	< 5%	N/A	+40	+50	+90	90
Impact on SMEs through projects and the H4Cs ¹⁰	% of growth ⁱ					21	
	Increase in the # of jobs					74	

* Footnote numbers refer to KPI-numbers in MoU signed by A.SPIRE and the EC

^a Check points for P4Planet targets were set for 2024 and 2030. Thus, targets presented for 2025 are, in fact, for 2024

^b Cities or regions from P4P projects with potential to move towards a Hub4Circularity.

^c 127 significant innovations if we consider both P4P and the latest SPIRE projects. If we consider only P4P projects, the number of significant innovations to be considered in this KPI is 32.

^d No data available at this point.

^e Number of marbles that can potentially lead to a FOAK.

^f As per the MoU of P4Planet, the baselines used refer to 1990 levels.

^g Different technologies present different potential, and solutions will depend on a mix (further detail provided at the Partnership Full Report)

^h Baseline from 2004

ⁱ % increase of turnover of SMEs from 2021 to 2022. If we consider the period 2020-2022, the increase was 38 %.

P4Planet KPIs are defined in the SRIA 2050 and in the MOU of the European Partnership. In both documents, the baseline of the KPIs take as a reference the levels of 1990, and no amounts are included. At this point, in translating these baselines into specific amounts, 2004 was the year taken for the baseline of KPIs.

Portfolio analysis is an ongoing process based on data collection and analysis processes carried out by A.SPIRE. It considers projects' key facts and outcomes, impact potential, the progress of innovations development, the barriers to deployment encountered, which innovation programmes need reinforcement, which are already close to targets, and which new ones to be phased in. Thus, it supports decision making.

Reporting is based on data gathered through two biennial surveys:

- One survey that targets industry and collects data on industry contributions,
- One survey that targets the P4Planet (and SPIRE cPPP) projects detailing their further related in-kind contributions and investments, and exploitation paths outlined.

Foresight analysis taking into consideration societal trends, policies (and legislations), innovations, geopolitical factors and new value chains that can influence our SRIA.

A **SRIA update** is being prepared and is expected to be released by the end of 2023.

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 1: TECHNOLOGICAL ELEMENT

Under P4Planet, 14 cross-sector innovation areas have been identified, and these are expected to collectively deliver the technological and non-technological solutions that will make it possible to transform the European Process Industry by implementing climate neutral and circular industry solutions that are economically attractive. Through the analysis of the cross-sectoral R&I projects, developed under a close collaboration between industry and the scientific ecosystem, several technologies that can potentially support the European Process Industry reach the targets set for CO₂ emissions reduction and resource efficiency are either already emerging or in mature or deployment phases. P4Planet's SRIA, including its Competitiveness Pathway, provide a unique cross-sectorial strategy to strengthen the European Process Industry autonomy and stability and to build technological and economic sovereignty, which will also be influenced by European regulatory sovereignty.

SUCCESS STORY 2: ECONOMIC ELEMENT

An analysis of demonstration projects (from TRL6-9) in the A.SPIRE sectors, from H2020, Horizon Europe, the Innovation Fund, and IPCEI, is conducted by the European Partnership to facilitate the adoption and deployment of the technologies that are demanded by the industry, to make it possible to reach the targets set for climate and circularity goals. There are currently eight ongoing P4Planet projects, include demonstrators; if we consider demonstrators from SPIRE projects (the predecessor partnership), the number increases to more than 40 projects. Most projects include more than one demonstrator.



SUCCESS STORY 3: REGULATORY ELEMENT

An example of P4Planet's contribution to technological sovereignty (via its regulatory element) is the policy brief put together by five different projects concerned about barriers they identified for plastics circularity and recycling. Collaboratively, they've come up with six recommendations to overcome the identified challenges:

- End-of-waste policy;
- Quality solvent-based purification / dissolution recycling as "physical recycling" in the Taxonomy Climate Delegate Act;
- Information campaign about recyclates;
- Material specific recycling targets;
- Closing the loop and avoiding losing valuable resources through efficient collection systems;
- Support common database and larger shipping sample.

More detail on each of these recommendations can be found at:

https://plast2bcleaned.eu/wp-content/uploads/2021/11/plast2bcleaned-completo_compressed.pdf

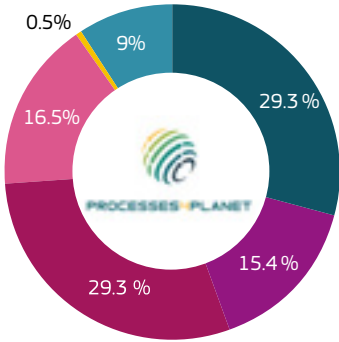
SUCCESS STORY 4:

International visibility of the P4Planet partnership is verified through the participation of 56 partners from 11 non-EU countries in 21 P4Planet projects. Norway and the UK are the most represented, but Switzerland, Türkiye, Israel, Iceland, Thailand, Colombia, the USA, Serbia and South Africa are also participants.



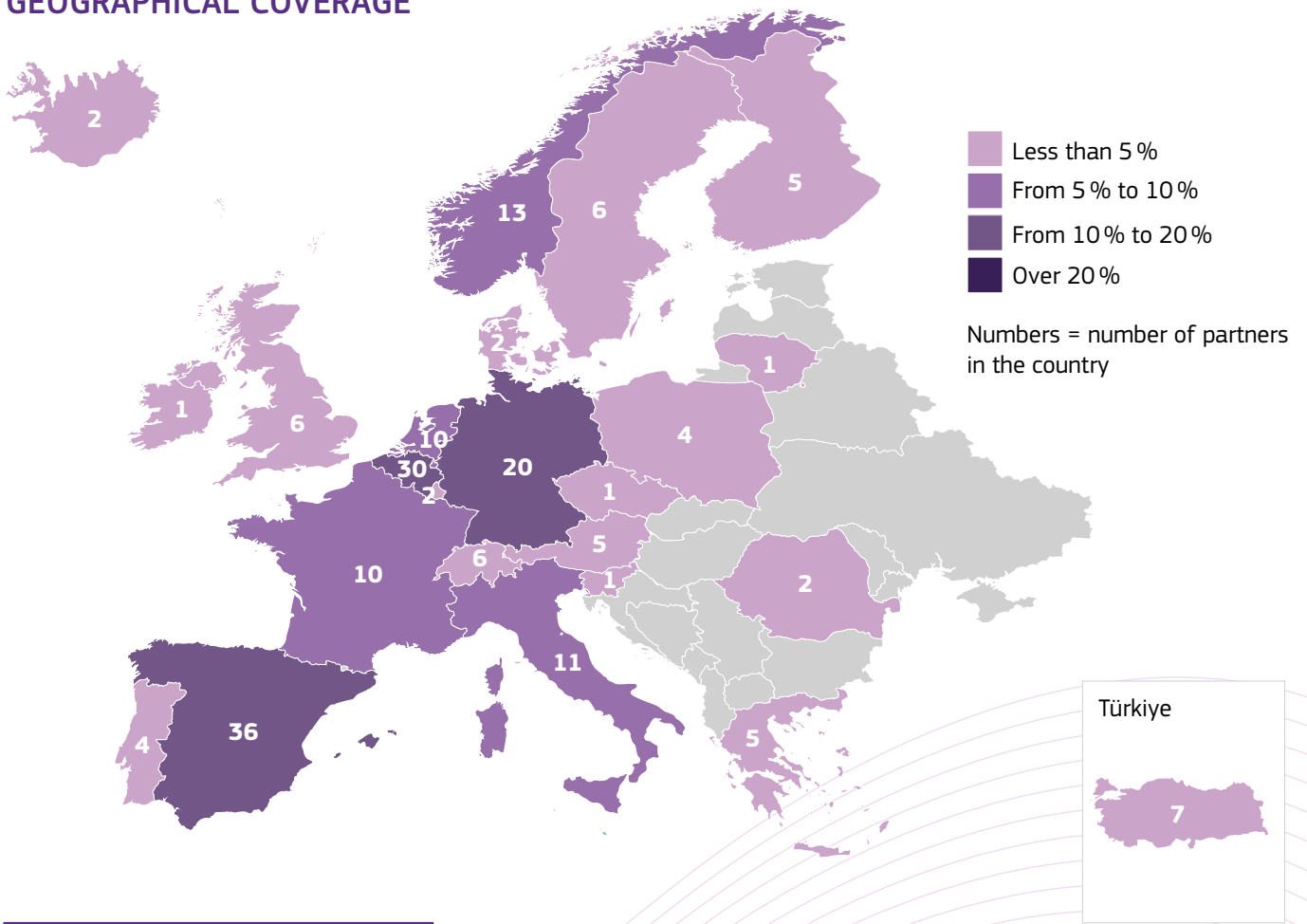
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 188



CLUSTER 5 CLIMATE, ENERGY, AND MOBILITY



MISSION AND VISION STATEMENT

The 2Zero partnership sets an ambitious research programme to accelerate the development of zero tailpipe emission road transport in Europe with a system approach. It develops a common vision and deliver a multi-stakeholders roadmap for a climate-neutral and clean road transport system. It will improve air quality and the mobility safety of people and of goods, and hence ensure future European leadership in innovation, production and services. By paving the way to a climate-neutral road transport system, the partnership will make a key contribution to the success of the European Green Deal.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 5: Climate, energy and mobility

Type of partnership: Co-programmed

Coordinating entity: EGVIafor2Zero AISBL and DG RTD - Future Urban and Mobility Systems Unit

Total estimated budget: EUR 1.23 bn

EU commitments: EUR 615 m

Partners' commitments: Up to EUR 615 m

Predecessor under Horizon 2020: The European Green Vehicles (2014-2020) and European Green Cars (2009-2013) cPPPs.

Start date-end date: 30 November 2021 - 31 December 2031

FIND OUT MORE

www.2Zeroemission.eu

[in https://www.linkedin.com/company/2zeroemission/?viewAsMember=true](https://www.linkedin.com/company/2zeroemission/?viewAsMember=true)

[X @2Zeroemission](https://twitter.com/2Zeroemission)

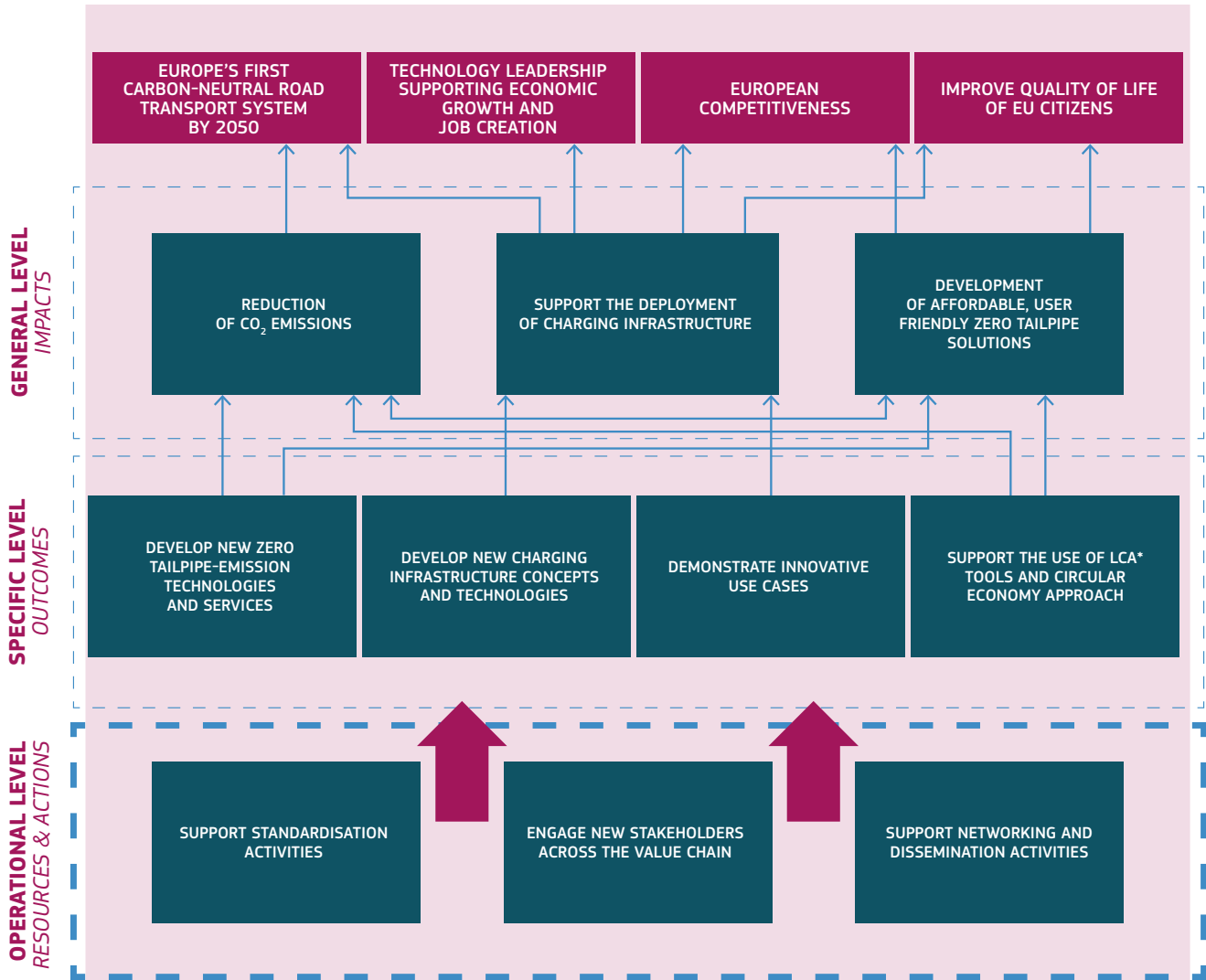
[yt https://www.youtube.com/channel/UCMVUHiygzYPsmIEz2Z4kKXQ](https://www.youtube.com/channel/UCMVUHiygzYPsmIEz2Z4kKXQ)

[✉ info@2zeroemission.eu](mailto:info@2zeroemission.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

ACCELERATE THE DEVELOPMENT OF ZERO TAILPIPE-EMISSION ROAD TRANSPORT IN EUROPE WITH A SYSTEM APPROACH



* Life Cycle Assessment



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	STATUS	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Share of funding going to SMEs	%		20 ¹	N/A	N/A	N/A	
IPR generated in funded projects	#		N/A for 2023	N/A	N/A	N/A	
Events organised by the Association	#		26 ²	N/A	N/A	N/A	
OUTCOMES							
GHG of mobility of people and goods	tonCO ₂ eq /pkm or tkm and toe/pkm and toe/tkm	2020	No data available for 2023	N/A	N/A	N/A	Reduction of GHG and energy intensity of mobility by 30 % for personal mobility and 25 % for freight by 2030
Reduction of development time and effort	%	2020	-15% to -26 % based on the first project predictions	N/A	N/A	N/A	Estimated 20 % decrease of development time and effort including via digitalisation
Improvement of charging efficiency demonstrated	%	2020	N/A for 2023	N/A	N/A	N/A	At least 25 % reduction of energy losses during charging (charger + vehicle) by 2030 for all types of chargers
Number of (public and private) transport operators implementing zero-tailpipe business models and use cases for freight transport and people mobility	#	2020	22	N/A	N/A	N/A	30 passenger transport and freight transport and logistics use cases demonstrated in projects over the lifetime of the partnership
IMPACTS							
Reduction of CO ₂ emissions from road transport for all types of vehicles	% CO ₂ emission at fleet level	1990	Still above 1990 level ⁴	N/A	N/A	N/A	Contribution to the overall target of 55% reduction of CO ₂ emission in 2030 (public target)
Number of (publicly available) electric recharging and hydrogen refuelling stations available in the EU in 2030	#	2020	• 613,320 charging points • 176 Hydrogen filling stations	N/A	N/A	N/A	Contribution to achieve 3 m public charging points in 2030 (public target)

¹ Calculated from data available on Horizon Dashboard.

² Internal meetings and meetings of the different governance bodies (General Assembly, SRG and Partnership Board) are not included.

³ The CO₂ emission from road transport needs to be compared with the evolution of traffic. The traffic increase was not absorbed by the decrease in CO₂ emission over the reporting period. According to the European Environment Agency, "Road transport constitutes the highest proportion of overall transport emissions - emitting 76 % of all EU's transport GHG emissions (including domestic transport and international bunkers) in 2021. As a majority of existing and planned measures in the Member States focus on road transport, this share is expected to decrease as road transport decarbonises faster than other transport modes."

⁴ Source: European Environment Agency, https://www.eea.europa.eu/data-and-maps/daviz/greenhouse-gas-emissions-from-transport-7#tab-chart_1

⁵ 2023. Based on the AFIR classification. Source: European Alternative Fuels Observatory, <https://alternative-fuels-observatory.ec.europa.eu/transport-mode/road/european-union-eu27>

⁶ 2022. Source: European Alternative Fuels Observatory, <https://alternative-fuels-observatory.ec.europa.eu/transport-mode/road/european-union-eu27>



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

A SYSTEM APPROACH TO ENSURE ENERGY EFFICIENCY, EU STRATEGIC AUTONOMY AND COMPETITIVENESS

The issues of European strategic autonomy and technological sovereignty are highly relevant to the 2Zero partnership, which aims to ensure technology leadership.

Research efforts are ongoing to increase the energy efficiency and circularity at component, vehicle and system levels, whilst reducing cost and material intensity and improving integration with the (smart) energy grid infrastructure, in order to ensure wider uptake.

In addition to projects on vehicle systems and subsystems, five projects under a 2021 topic are currently supporting a systemic integrated approach considering different charging scenarios to effectively exploit electric vehicle charging flexibility. This may help minimise investments in the electric grids, resulting in reduced system charges for the network users.

With a complete system approach, 2Zero contributes to EU competitiveness by bringing affordable electric vehicles on European roads, while ensuring a reliable integration in the charging infrastructure and considering the requirements for sustainable manufacturing.

ENHANCING RESOURCE SOVEREIGNTY

The production of batteries and electric vehicles requires significant amounts of critical raw materials and rare resources, such as lithium, cobalt and rare earth elements. The EU should have a degree of control over these resources to avoid external dependencies and potential disruptions in the supply chain. This is why one dimension of 2Zero's approach aims to develop strategies for **resource efficiency, responsible sourcing, recycling and domestic production of these resources**. In this regard, 2Zero published a topic in 2022 to encourage the **reduction of the use of rare earth elements in electric motors**: 'Nextgen EV components: High efficiency and low-cost electric motors for circularity and low use of rare resources'. Four projects are currently running, for a total requested EU contribution of EUR 18.79 million. The projects are developing solutions to reduce the use of rare resources by 60 % and recycle over 60 % of critical raw materials by repurposing magnets without extracting the single rare elements, thereby reducing vulnerabilities and enhancing overall resilience in the supply chain. New job opportunities will also be promoted linked to magnet recycling and circular economy for rare earth-based magnets.

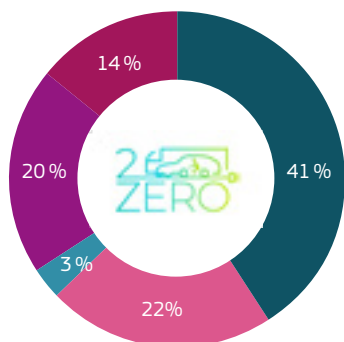
INVESTIGATING CIRCULAR ECONOMY APPROACHES

Circular economy approaches are needed in the road transport sector, not only for sustainability reasons, but also to reduce the dependency on raw and scarce materials and increase circularity. Therefore, in 2023, 2Zero published a topic focused on 'Circular economy approaches for zero-emission vehicles'. With a budget of EUR 12 million, it will fund research activities aiming at making the production, use and end-of-life processes of electric vehicles more sustainable and circular. The objective is to demonstrate **the feasibility of a circular economy and net-zero approaches for the electric vehicle value chain over its full lifetime**. Project results are expected to contribute to Europe's world leadership in automotive innovation, production and services through increasing skills with circular economy techniques and accelerating the uptake of innovative circular economy-based solutions for EV, reducing the dependency on critical raw materials via the consistent recovery and use of secondary materials.



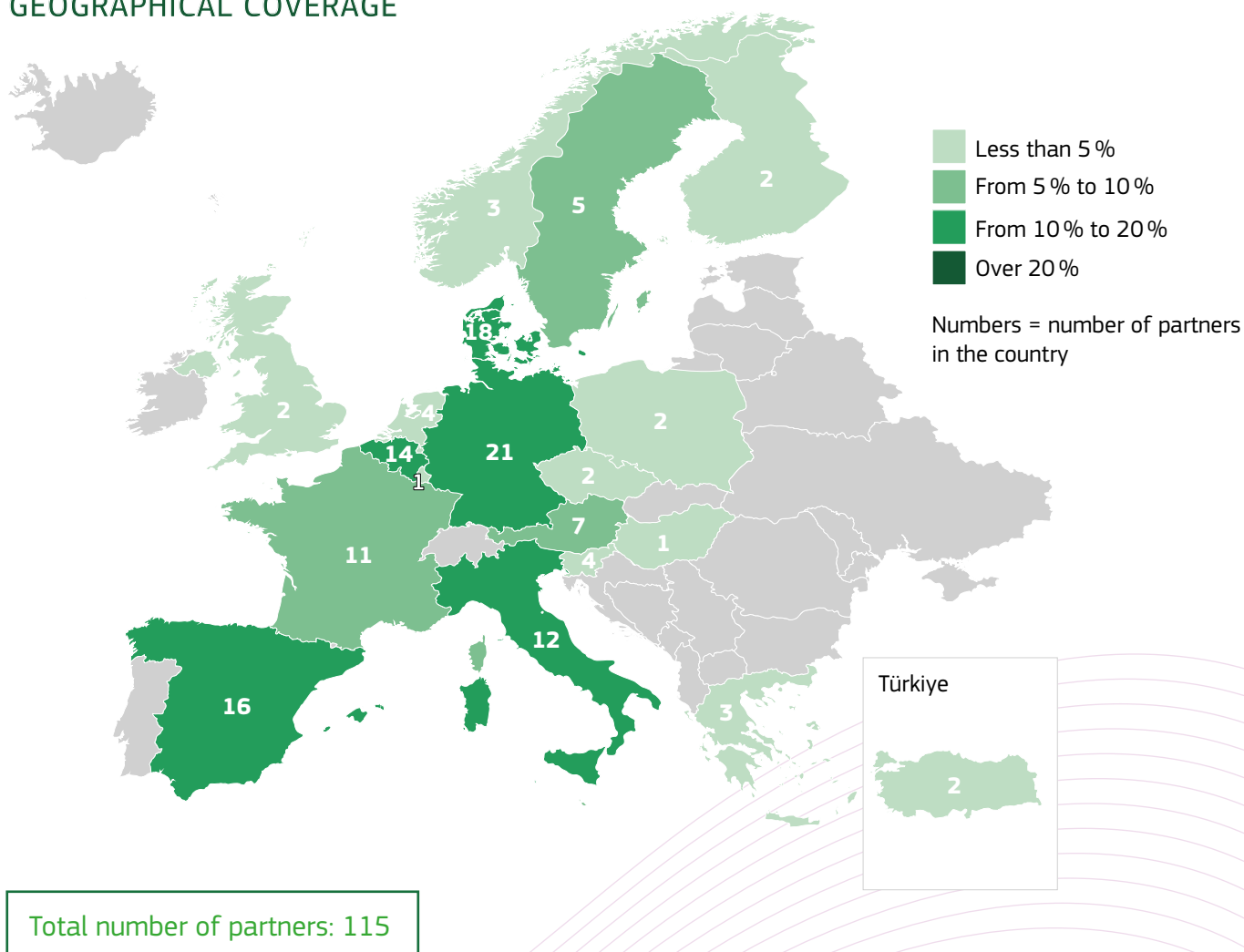
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

The Built4People Partnership brings together the whole value chain to accelerate people-centric innovation in the built environment towards sustainability.

The three general objectives are:

- scientific – generate holistic innovation towards sustainability;
- economic – revitalise the sector through decarbonisation and sustainability transitions;
- societal – induce lasting behavioural change towards sustainable living.

The partnership will contribute to achieving the 2030 energy targets, leveraging on the European Renovation Wave strategy, the EU Circular Economy Action Plan and the Affordable Housing Initiative in line with the ambitions of the European Green Deal Action Plan and the new European Bauhaus initiative.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 5 Climate, energy and mobility

Type of partnership: Co-programmed

Coordinating entity: ECTP and WGBC

Total estimated budget: EUR 780 m

EU commitments: EUR 380 m

Partners' commitments: EUR 400 m

Predecessor under Horizon 2020: Energy-efficient Buildings (EeB) cPPP

Start date–end date: 2021–2027

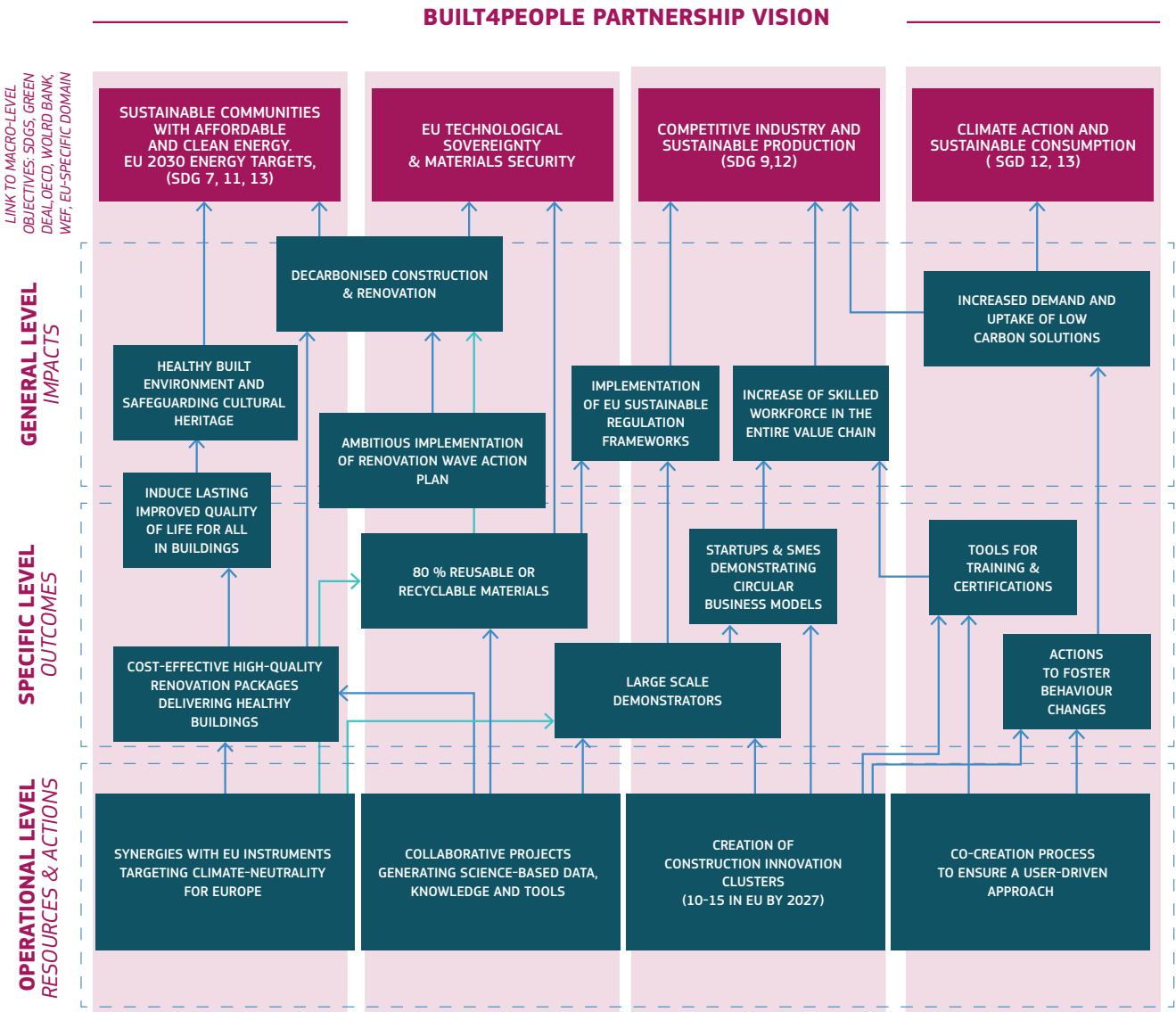
FIND OUT MORE

[Built4People Home - Built4People](#)

✉ info@built4people.eu



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Established innovation clusters	# active networks or organisations of parties involved in developing product, service or process innovations aiming for sustainable and people-centric built environment under the B4P umbrella (B4P Innovation clusters)	0	2	5	10-15	30 ¹
Increase of inclusion of building users and occupants	# households living in (for residential properties) or # user (non-residential properties) actively involved in the demonstrators of the partnership's projects	N/A	500	1 500	3000 ²	5000
OUTCOMES						
Innovative solutions and packages for sustainable construction and renovation	# innovative & renovation packages (products, services or processes) that reduce negative environmental or social impacts developed through the partnership's projects	4 / project	0	100	240 ³	300
Certification & verification tools	# certification or accredited programmes / tools on required skills and quality levels for specific activities in the built environment developed through the partnership projects	N/A	0	5	10	20 ⁴
Training capacity (in hours per year)	# person hours of training in skills directly linked to innovations from the partnership projects	N/A	0	5 000	20 000	24 000 ⁵
IMPACTS						
New skills creation	# of new skill that is a result from a partnership project	0.5 / project	0	5	10	30 ⁶
Sustainable neighbourhoods	% of B4P projects with demonstrated significant positive impact on the sustainability (e.g. CO ₂ emissions, climate risks such as flooding or overheating) in their neighbourhood / direct vicinity	N/A	0	30	60	90 ⁷
Healthy Built Environment	% of B4P projects with demonstrated significant positive impact on the health and wellbeing	N/A	0	10	20	30 ⁸
Cultural heritage safeguard	% of B4P projects that demonstrate improved outcomes for heritage buildings (positive sustainability or occupant impact in buildings with a nationally acknowledged preservation status because of historical, architectural, cultural, aesthetic or ecological value)	N/A	0	5	10	15 ⁹



¹ Target assumptions: circa 1 cluster per Member State (and 2 for some big MS).

² Target assumptions: 60 projects, each involving average 50 users per project.

³ Target assumptions: 60 projects, 4 new solutions or packages per project.

⁴ Target assumptions: 60 projects, one third develop training or a new certification tool.

⁵ Target assumptions: 60 projects, only 30 projects delivering training at average annual training capacity to roll out relevant new content: 4 times a year, 100 attendees, 2 hours training = 800 person hours per annum.

⁶ Target assumptions: Average new jobs / skills per project: 0.5-1, anticipating ≈ 60 projects considering a whole B4P budget of EUR 380 million.

⁷ Target assumptions: Given people-centric nature of the partnership, all projects should be aiming to hit this, hence a high target is appropriate - but recognising that some projects may not achieve their stated goals

⁸ Target assumptions 30 % of projects will demonstrate health impacts

⁹ Target assumptions: 10-15 % of projects address heritage buildings

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

DEVELOPING TECHNOLOGIES FOR ENERGY AND RESOURCE SECURITY

The Built4People Partnership activities develop technologies, products and services for reducing energy and materials dependencies. The results reduce energy demand, enhance the flexibility in the energy system, decrease the use of materials, and increase CRMs supply which are locked in old building components. Since the beginning of Horizon Europe, 12 ongoing projects of Built4People are working on these objectives, and the forthcoming 2024 WP will extend the contributions by focusing on prefabricated solutions for energy-efficient buildings, smart grid-ready buildings, as well as on design for the adaptability, re-use and deconstruction of buildings. These results build on top of the H2020 EeB PPP legacy of 440 systems and technologies developed for the building stock energy efficiency*. A concrete example is the [RE-SKIN project](#), developing an integrated and multifunctional system for the energy retrofit of existing buildings.

* [The Buildings Breakthrough: Global push for near-zero emission and resilient buildings by 2030 unveiled at COP28 \(unep.org\)](#)

ACCELERATE MATURITY LEVELS AND SCALE SUSTAINABLE INNOVATIONS ACROSS EUROPE.

A Built4People Innovation Cluster (B4PIC) is a group of innovation-driven stakeholders, such as local/regional clusters or networks, that ambition to increase their coverage (geographical, cross-sectoral and multidisciplinary), and scale their innovations in the Built Environment sector. By leveraging their collaborative ecosystems, expertise and resources, clusters within B4PICs can accelerate the development, adoption and scale-up of green technologies and solutions. The [Nebula coordination and support action](#) is connecting and supporting the development of these innovation clusters across Europe. Innovations require the right conditions and networks to reach the market quickly. The new network of B4PICs will play a crucial role in incubating solutions and accelerating their maturity levels, benefiting companies of all sizes. This also means increasing the chances of successful outcomes from the dozens of projects the EU is funding under the Built4People Partnership.



TRAINING SPECIFIC SKILLS FOR THE ENERGY EFFICIENCY TARGETS

Built4People holds specific objective SO6 targets to develop strategies, methods and tools to adapt skills, culture and way of working to the opportunities arising from the new solutions. The Built4People Partnership will integrate activities for building up skills in the construction value chain. These will be built on top of ongoing actions, such as those of the [INSTRUCT project](#). This project created a complete operational framework to increase the number of skilled building professionals and blue collar workers over both for renovations and new constructions projects, and offer a set of service to support raising awareness of home and building owners and tenants about the benefits of sustainable energy skills, as well as the public authorities for the development of new legislative frameworks, e.g. the requirements for skilled workers in public procurement.

INTERNATIONAL REPLICATION

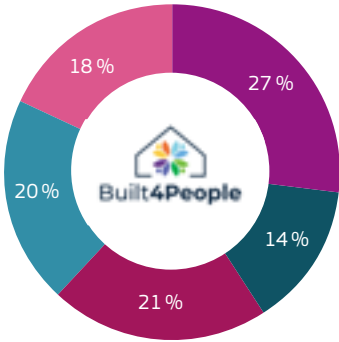
The [#BuildingLife project](#), led by the Europe Regional Network (ERN) of the WorldGBC, has seen 10 Green Building Councils launch Whole Life Carbon decarbonisation roadmaps. These will feed and build references within the large global programme 'Advancing Net-Zero'. The plan is to expand this work into other regions, working together with global stakeholders such as the Global Alliance for Buildings and Construction (GlobalABC). The BuildingLife project will be recognised as one of the supporting initiatives of the Buildings Breakthrough that was launched at COP28*. The Advancing net-zero WGBC programme is therefore a potential channel for visibility of B4P innovations contributing to the buildings decarbonisation pathways. Synergies are built through the common pool of European stakeholders involved and the work of WorldGBC/ERN and ECTP in the Built4People Partnership.

*The Buildings Breakthrough: Global push for near-zero emission and resilient buildings by 2030 unveiled at COP28 ([unep.org](https://www.unep.org)).



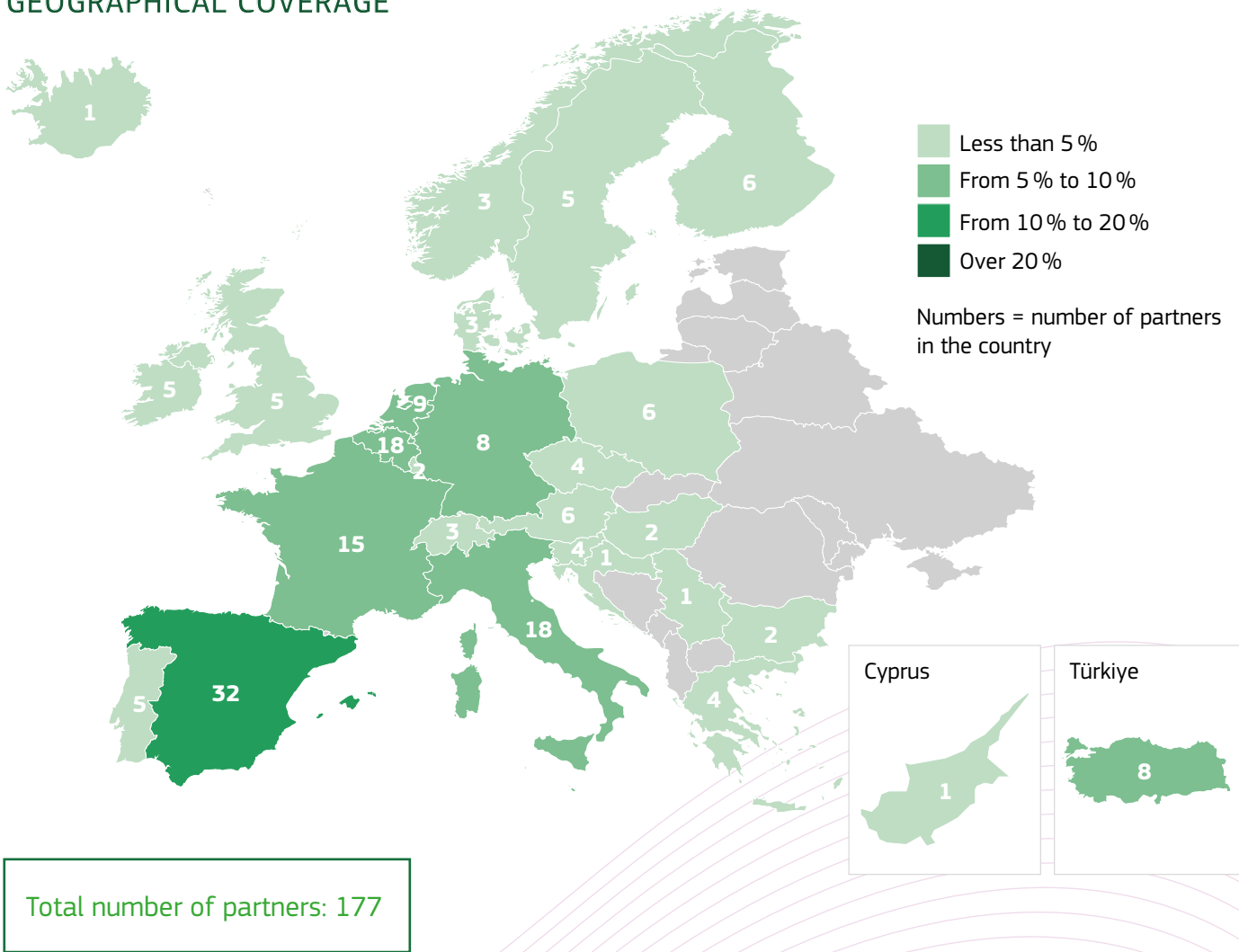
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

BATT4EU's vision is to establish the world's best innovation ecosystem in Europe by 2030, to boost a competitive, sustainable and circular European battery value chain, and to drive the transformation towards a carbon-neutral society.

By pooling Europe's resources and knowledge, only a European Partnership – a long-lasting and coordinated effort involving industry, research and the public sector – can bring predictability to the EU battery value-chain stakeholders.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 5: Climate, energy and mobility

Type of partnership: Co-programmed

Coordinating entity: Batteries European Partnership Association (BEPA)

Total estimated budget: EUR 1.85 bn

EU commitments: EUR 925 m

Partners' commitments: EUR 925 m

Predecessor under Horizon 2020: This is a new partnership

FIND OUT MORE

www.bepassociation.eu

[in https://www.linkedin.com/company/bepa-batteries-european-partnership-association](https://www.linkedin.com/company/bepa-batteries-european-partnership-association)

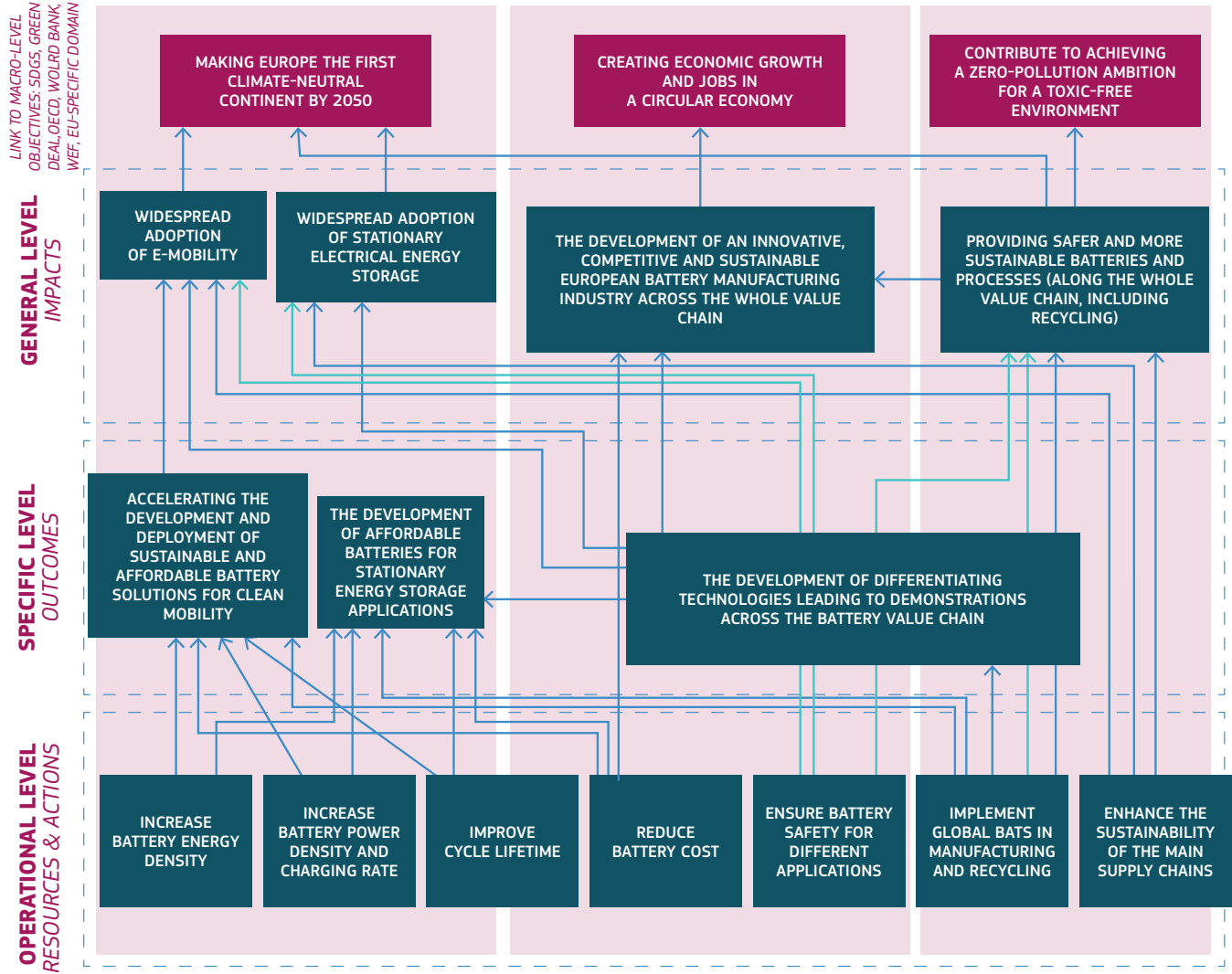
[X https://x.com/bepa_eu](https://x.com/bepa_eu)

[✉ info@bepassociation.eu](mailto:info@bepassociation.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)¹

BATT4EU'S VISION IS TO ESTABLISH BY 2030 IN EUROPE THE BEST IN THE WORLD INNOVATION ECOSYSTEM TO BOOST A COMPETITIVE, SUSTAINABLE AND CIRCULAR EUROPEAN BATTERY VALUE CHAIN AND TO DRIVE THE TRANSFORMATION TOWARDS A CARBON-NEUTRAL SOCIETY



¹ More guidance on PSIPs and setting good indicators can be found in the Appendix 4 of the first interim report of the expert group - <https://op.europa.eu/en/publication-detail/-/publication/6b63295f-d305-11eb-ac72-01aa75ed71a1/language-en/format-PDF/source-215872593>



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Set up joint demonstration projects addressing different transport modes with other Partnerships	Number of projects for specific cells for different applications - design to cost (dct) - design to energy (dte) - design to power (dtp)	0				
				- 2 projects to dct - 2 projects to dte - 1 projects to dtp		- 5 projects to dct - 5 projects to dte - 3 projects to dtp
Support the development and adoption of safety assessment methodologies	Availability of updated and new standard methodologies (ISO, IEC, UL or others)	TBD	N/A	N/A	N/A	TBD
Set up demonstration projects for stationary electricity storage	Number of demonstration projects for ESS	0		3 projects		8 projects
Set up projects on new cell chemistries and architectures	Number of EU-funded projects on novel chemistries at TRL 4 or higher.	0		13		>15
Set up demonstrations of new production lines / Improve EU recycling capacity	Number of projects developing and demonstrating innovative process technologies	0	N/A	- 3 projects in raw materials processing - 3 projects in recycling materials processing	N/A	- 6 projects in raw materials processing - 6 projects in recycling materials processing
OUTCOMES						
Cheaper and better performing batteries, suitable for different types of mobility and for stationary storage	Gravimetric & volumetric energy densities at cell level	Depends on application sector. For BEV in 2019: 250 Wh/kg, 500 Wh/L	N/A	N/A	N/A	+60 % compared to 2019 baseline
	Gravimetric & volumetric power densities at cell level	For BEV in 2019: 750 W/kg, 1500 W/L	N/A	N/A	N/A	At least +30 % compared to 2019 baseline
	Cycle life at cell level	For BEV in 2019: 1000 cycles at 80 % DoD	N/A	N/A	N/A	At least x2 compared to 2019 baseline
	Cost at cell level (EUR/kWh)	For BEV in 2019: 125 EUR/kWh	N/A	N/A	N/A	60 % compared to 2019 baseline
Enhanced sustainability of the main supply chains.	Recycling efficiency of batteries in weight %	See Annex XII of the Batteries Regulation ¹	N/A	See Annex XII of the Batteries Regulation	N/A	See Annex XII of the Batteries Regulation



IMPACTS						
Widespread adoption of e-mobility	Numbers of registrations in EU of personal vehicles (PV) and commercial vehicles (CV), both electrically chargeable vehicles (ECV).	Baseline (2019 figures): - PV 3.0 % ECV share - CV 1.2 % ECV share	N/A	- PV 20 % ecv share - CV 2 % ecv share (in total)	N/A	- PV: 50 % ECV share - CV: 20 % ECV share
Widespread adoption of stationary electrical energy storage	Battery electricity stationary storage capacity Installed in Europe.	4GW/7GWh	N/A	15 GW / 30 GWh	N/A	40 GW / 100 GWh
Globally competitive EU Battery manufacturing capacity	New battery cell manufacturing plants.	26 GWh	N/A	200 GWh/yr	N/A	400GWh (by 2028)
% of improvement of environmental impact in terms of CO ₂ and toxic material	Reduction of CO ₂ per kWh.	- 13 kg CO ₂ per kWh for cell manufacturing - 50 kg CO ₂ per kWh for cradle-to-gate		N/A		- 75 % reduction to 3 kg CO ₂ per kWh for cell manufacturing - 50 to 75 % reduction to 12-24 kg CO ₂ per kWh in cradle-to-gate scenario

¹ REGULATION (EU) 2023/1542 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 July 2023 concerning batteries and waste batteries - [LINK](#)

Batt4EU will monitor a total of 19 KPIs over the course of Horizon Europe. In this table, a selection is shown to show progress towards the general, specific and operational objectives. Although the battery value chain supports many end-uses, the KPIs are generally focused on one type of application (road transport, for example). This is for ease of measurement and follows the argument that progress in one application is indicative for progress across the board.

KPIs for the uptake of battery use are of course contingent on investments on related infrastructure (grid updates, charging infrastructure), which are beyond the scope of the Batt4EU partnership.



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

TECHNOLOGICAL SOVEREIGNTY: SUCCESS STORY 1

The vision and objectives of the BATT4EU partnership aim directly at attaining better technological sovereignty on the entire battery value chain. By funding research projects on key technologies ranging from the processing and refining of raw materials to end-use applications and recycling and material recovery, BATT4EU will develop a globally competitive European battery value chain.

Upcoming call for project CL5-2024-D2-02-01 (Innovation Action, EUR 8 million budget) exemplifies this perfectly, as it aims at developing production processes for stable lithium metal anodes for Gen. 4 batteries. This technology is not yet achieved and matured on the global stage, and would allow Europe to take the lead on Gen. 4 batteries.

TECHNOLOGICAL SOVEREIGNTY: SUCCESS STORY 2

In order to reduce Europe's dependency on technologies for raw material processing, sourcing, recycling, and refining, BATT4EU has funded five ambitious projects through the 2021 and 2022 Work Programmes:

- Call CL5-2021-D2-01-01: [ENICON](#) (~EUR 6M), [LiCORNE](#)(+EUR 6.8M), [RELIEF](#) (~EUR 6M)
- Call CL5-2022-D2-01-01: [GR4FITE3](#) (~EUR 4.8M), [SOURCE](#) (~EUR 5M)

TECHNOLOGICAL SOVEREIGNTY: SUCCESS STORY 3

Achieving technological sovereignty also means having the mature and available technologies for mass sustainable production and manufacturing of green innovative solutions. Two recently funded projects will aim to do just that: [GIGABAT](#) (~EUR 8M) and [BATMACHINE](#) (~EUR 7.2M), from Call topic 2022-D2-01-04 for an integrated manufacturing value chain in Europe from machinery development to plant and site integrated design.

INTERNATIONAL POSITIONING: SUCCESS STORY 1

BATT4EU has fostered relations with India. Collaboration has been encouraged with the Asian country in our call topics, one good example being call CL5-20204-D2-01-02 on non-Lithium sustainable batteries. Many other calls encourage collaboration with international players from various non-European countries.

Moreover, the BATT4EU calls were presented to India stakeholders on February 2 2023, during the information sessions organised between the Indian government and the European Commission Delegation to India on collaborations under the Horizon Europe programme. On May 16 2023, during the EU-India Trade & Technology Council, the BATT4EU partnership was presented by BATT4EU partner Orano via Justo Garcia (BEPA Executive Board member). Umicore, another BATT4EU partner active in the BEPA board, will make a follow-up of these activities in the coming months.

INTERNATIONAL POSITIONING: SUCCESS STORY 2

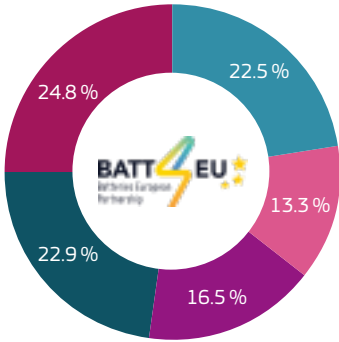
On April 19 2023, BATT4EU/BEPA attended the Executive Committee meeting of the Hybrid and Electric Vehicle Technology Collaboration Programme (HEV TCP) of the International Energy Agency (IEA). During this meeting, BATT4EU was invited to exchange information on research priorities for electromobility and to start a more structured, long-term exchange on this research topic. The BEPA Executive Director and two Executive Board members attended, together with Board members from the ZZero Partnership.

The HEV TCP brings together many countries to discuss the needs of electromobility, including various European countries and, notably, the United States, China, and the Republic of Korea.



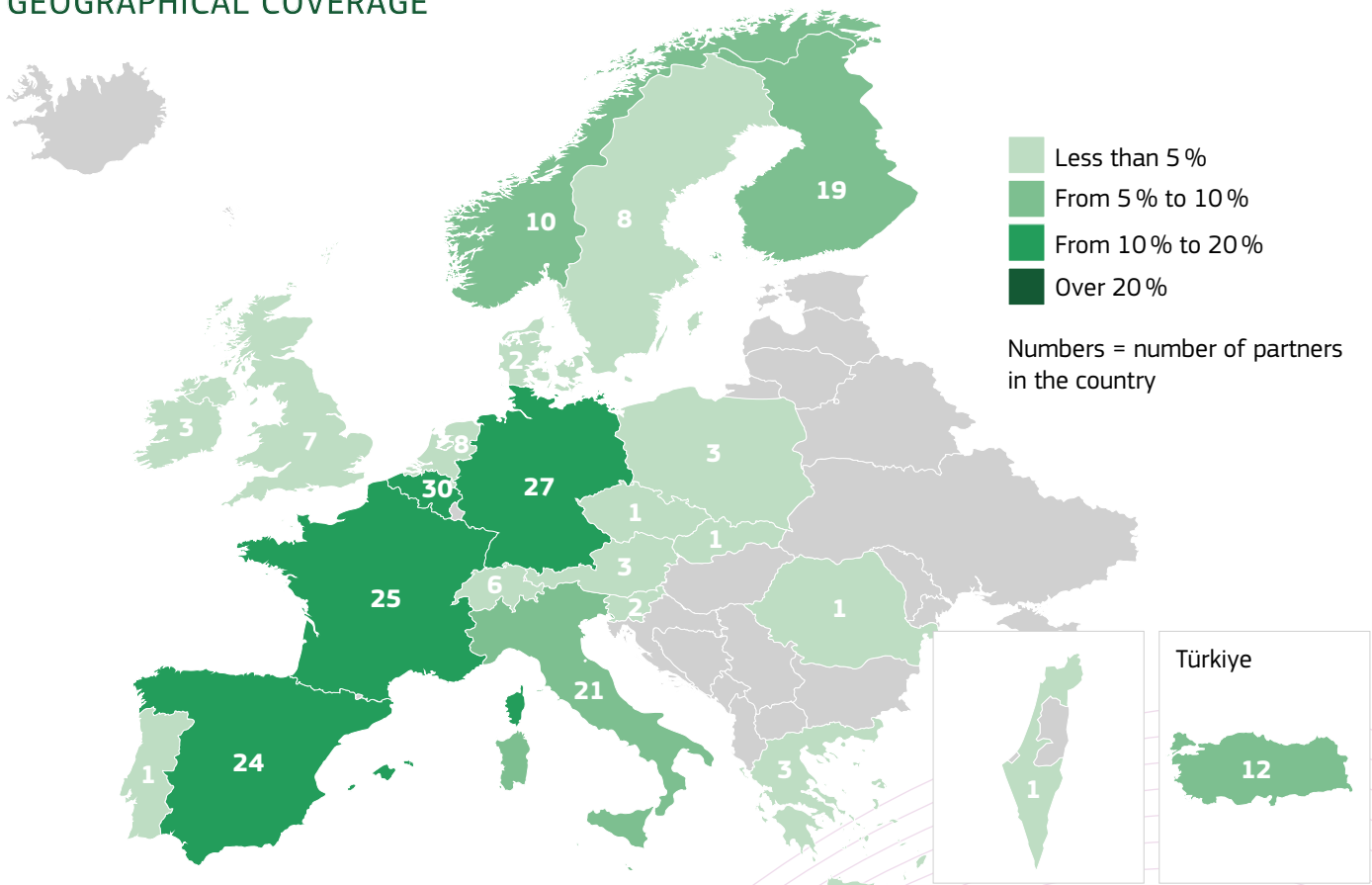
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 218



MISSION AND VISION STATEMENT

The CCAM Partnership vision is to ensure European leadership in safe and sustainable road transport through automation.

The four main goals are:

- 1) Increase safety in road transport;
- 2) Reduce negative impacts from road transport on environment;
- 3) Ensure leadership through targeted knowledge and capacity building;
- 4) Strengthen competitiveness of European industries.

Advancing CCAM is a multi-stakeholder effort, involving public and private actors across industries and value chains, such as industry players, public authorities and road operators, mobility and logistic services, representative bodies, regulatory bodies and the research community.

For more information, please refer to: [MoU](#) and [SRIA](#).

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 5: Climate, energy and mobility

Type of partnership: Co-programmed

Coordination entity: CCAM Association

Total estimated budget: Up to EUR 1 bn

EU commitments: Up to EUR 500 m

Partners' commitments: Up to EUR 500 m

FIND OUT MORE

www.ccam.eu

[in www.linkedin.com/company/ccam-association](https://www.linkedin.com/company/ccam-association)

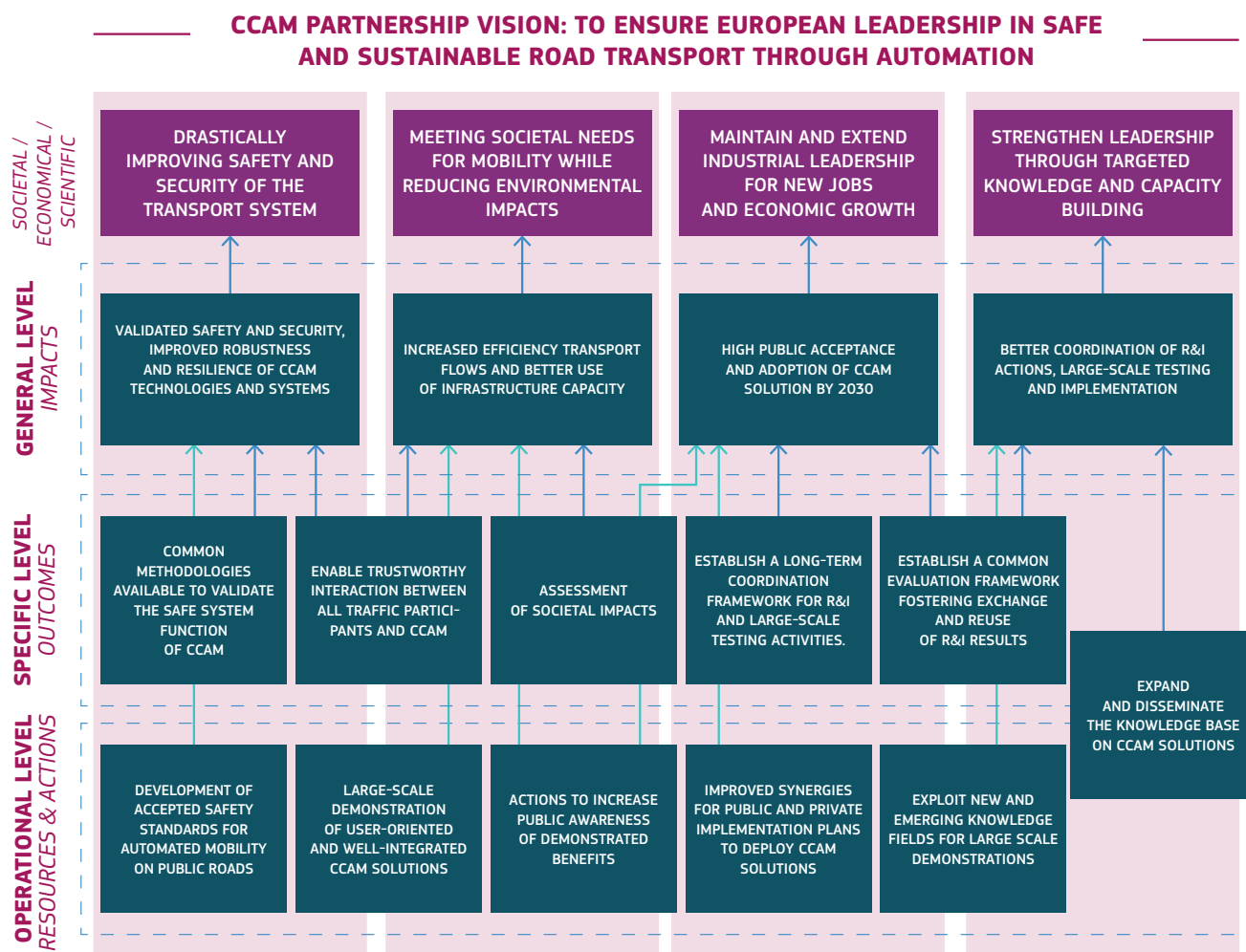
[X https://x.com/CCAM_EU](https://x.com/CCAM_EU)

[yt https://www.youtube.com/channel/UCYxhgBhC8ZAPoZIPHbce2hw](https://www.youtube.com/channel/UCYxhgBhC8ZAPoZIPHbce2hw)

[✉ secretariat@ccam.eu](mailto:secretariat@ccam.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)¹



¹ More guidance on PSIPs and setting good indicators can be found in the Appendix 4 of the first interim report of the expert group - <https://op.europa.eu/en/publication-detail/-/publication/6b63295f-d305-11eb-ac72-01aa75ed71a1/language-en/format-PDF/source-215872593>



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	STATUS 2023	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Safety standards acceptance	# demonstrators applying	0	-	N/A	N/A	N/A	3 or more in 2028
CCAM large-scale demonstration	# demonstration sites	0	Under preparation in first projects				Minimum 30 in 2030
Public awareness of CCAM benefits	% willingness to use	47	-				75
Knowledge expansion and dissemination	# projects in the knowledge database	300	393	Minimum 400 by 2030 and increase of underrepresented countries			
OUTCOMES							
Methodology for safety validation	#	fragmented	-			1	
Secure & trustworthy interaction of CCAM	# incidents / 1 million km driven in demonstrations		-				10% reduction / year in demonstrators
Public acceptance	Survey 2025 and 2030	H2020 survey	-	N/A	Increase	N/A	Increase
Active member involvement	# members % MS	 18/27	At least 62 CCAM members 22/27 MS represented in the SRG	Members of the CCAM Association actively involved in Large Scale Demonstrations in Europe 75% of EU MS actively involved in CCAM SRG			
IMPACTS							
Fatal and severe accidents under test	#	TBD	-			0	0
Traffic flow efficiency under test	Car equivalent per hour	TBD before the test	-				Improvement
CCAM partners investment in R&I	% of increase	EUR 262 million in 2021-2022 ¹	-		10		25
Best practice sharing	# CCAM projects referencing CCAM methods, tools and taxonomy in conferences	0	7 ²				all

¹ In-kind contribution to additional activities (IKAA) reported by Partners other than the Union, from 1/06/2021 to 31/12/2022

² Based on replies to CCAM Association's KPI online questionnaire sent to running CCAM projects

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

FOCUS ON SAFETY, STANDARDISATION AND INTEROPERABILITY

The European approach to CCAM contributes significantly to the goal of achieving technological sovereignty. **Compared to international competitors, Europe's emphasis on inclusivity, safety, standardisation and interoperability**, positions it as a leader in shaping the future of CCAM, fostering a unified, technologically advanced and sustainable long-term transportation landscape that benefits both citizens and businesses alike. The CCAM Partnership emphasises **collaborative efforts** between industry, academia, physical and digital infrastructures, road operators and public authorities, in order to create a cohesive and sustainable mobility ecosystem. Through Horizon Europe projects and a focus on standards, the CCAM Partnership contributes to reduce dependency on external actors and **ensure that Europe's own rules and values are embedded in emerging technologies**. This not only enhances Europe's competitiveness in the global market, but also safeguards its autonomy and control over key technological advancements in the field of CCAM.

TOWARDS AN OPEN EUROPEAN SOFTWARE-DEFINED VEHICLE PLATFORM

As vehicles become more complex and software-dependent, the cooperation between the CCAM Partnership and the Chips JU (formerly Key Digital Technologies JU), is now particularly noteworthy in the context of the European Chips Act and the global competition in the electronics components and systems. In future, 'software-defined vehicles' (SDVs) electronics and software will be more valuable than mechanical parts. The next few years are critical for the competitiveness of the European automotive industry, as some new non-EU manufacturers adopted a software-driven approach from the outset. Following consultations with the EU automotive industry, the Chips JU launched two Focus Topics in 2023 on SDVs: a European automotive hardware platform, and a European open-source automotive software platform. The CCAM Partnership will launch a complementing call topic in 2024. The open SDV platform will facilitate the decoupling of software-implemented functions from the underlying hardware and support the deployment of new functions. The approach of commonly developed software building blocks aims at reducing dependencies and vendor lock-in.

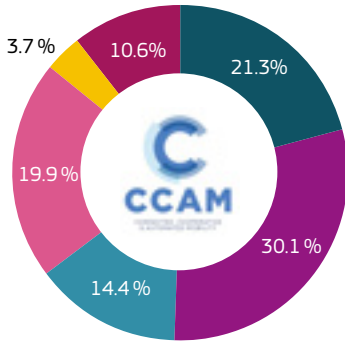
THE CCAM PARTNERSHIP, A NATURAL PARTNER GLOBALLY ON AUTOMATED MOBILITY

The CCAM Partnership is an essential actor of the **EU cooperation with strategic partners on automated mobility**. It supports the structured dialogue that underpins the EU cooperation with **Japan** on Automated Road Transportation, with bilateral meetings organised every year, also in conjunction with the EUCAD Conference in Brussels and the Mobility Innovation Week in Tokyo. This dialogue recently led to the signature of a MoU between a CCAM project, ULTIMO, and the Japanese automated mobility initiative, Cool4 (Cooperative Level 4 Automated Mobility Service in mixed environment), who will exchange know-how and best practices on the design, development, and demonstration of automated mobility. A similar international meeting was organised with the **United States** in July 2023 to discuss possible future cooperation approaches through the US Transportation Research Board (TRB). To identify further cooperation opportunities **with other regions of the world**, international workshops are organised every year in the frame of the EUCAD Conference and EUCAD Symposium, supported by the FAME project (a RIA that helps the EC and the CCAM Partnership to provide a long-term coordination framework for R&I and large-scale testing and evaluation activities in Europe). The last event took place in May 2023 in Brussels, with nine non-EU countries presenting their CCAM related initiatives and roadmaps. The State Representatives Group (SRG) of the European Partnership also plays a key role to ensure national alignment with CCAM development. It serves as a strategic advisory body to the CCAM Partnership, supporting local players for ownership and investment in CCAM solutions, notably through Large Scale Demonstrations. Facilitating real-world (and cross-border) testing of CCAM solutions will require the support of national authorities (i.e. infrastructure and regulatory frameworks for testing).



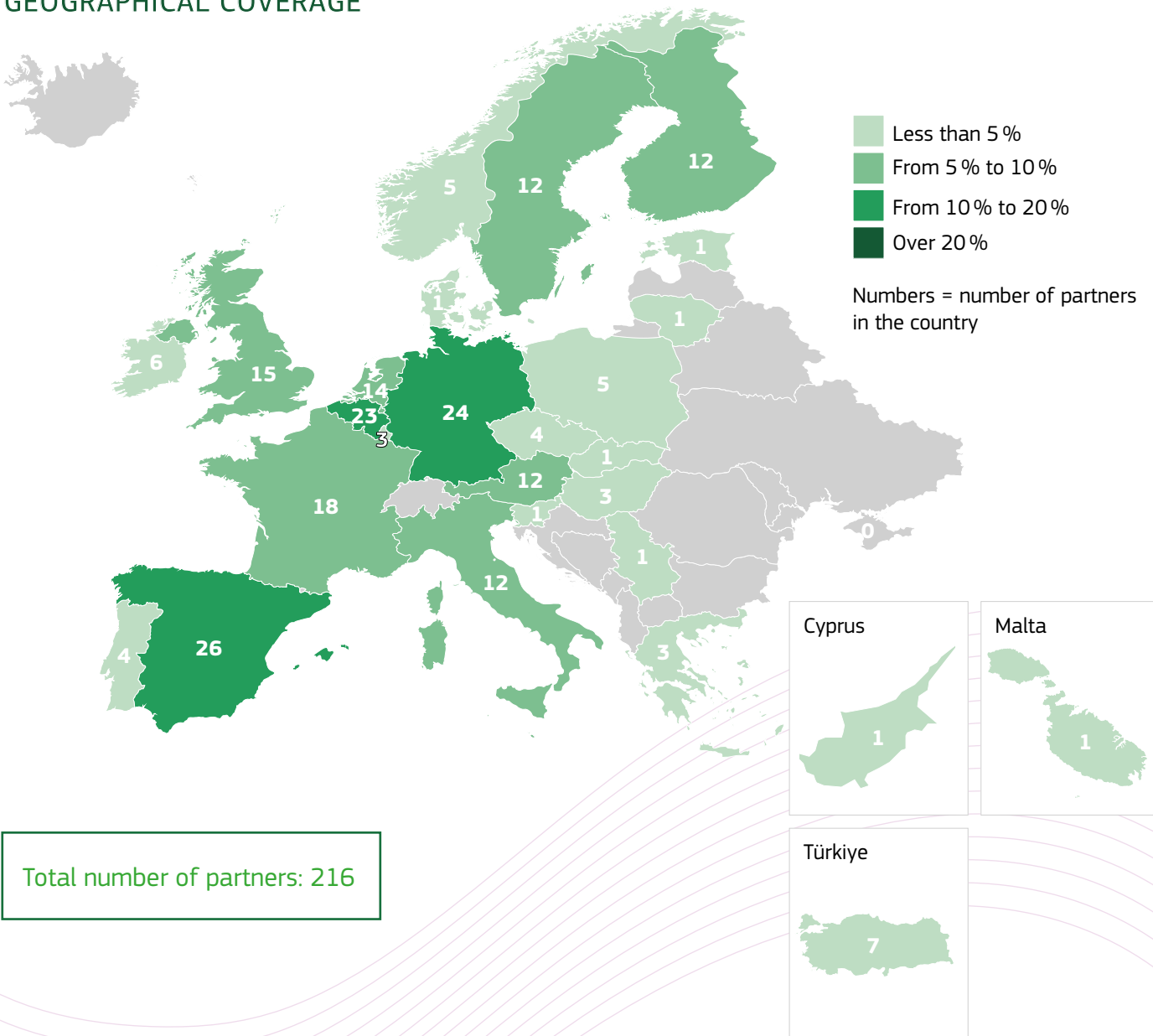
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

The CET Partnership is a transformative R&D&I funding programme fostering acceleration of the clean energy transition in all its dimensions. It supports Europe becoming the first climate-neutral continent and making Europe the front-runner in clean energy innovation and implementation. The CET partners from 32 Member States and Associated Countries endorsed this common vision that will translate into three main goals:

1. joint programming and funding;
2. renewable energy technology development, demonstration and integration (for fuels, storage & carbon capture, power, heating and cooling) and system change (e.g. energy infrastructures)
3. innovation ecosystem fostering capacity building, faster market diffusion, upscaling, replication and enabling of the clean energy transition.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Climate, energy and mobility

Type of partnership: Co-funded

Coordinating entity: Republic of Austria Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology

Total estimated budget: EUR 791.2 m

EU commitments: EUR 210 m

Partners' commitments: EUR 581.2 m

Predecessors: Solar-ERA.NET, DemoWind, GEOTHERMICA, OCEANERA-NET, Smart Cities and Communities, the Joint Programming Platform Smart Energy Systems (including the calls Smart Grids Plus, Integrated Regional Energy Systems, Enerdigit, and the JPP SES & GEOTHERMICA Joint Call 2021), BESTF3, ACT, CSP.

FIND OUT MORE

www.cetpartnership.eu

[in www.linkedin.com/company/cetpartnership/](https://www.linkedin.com/company/cetpartnership/)

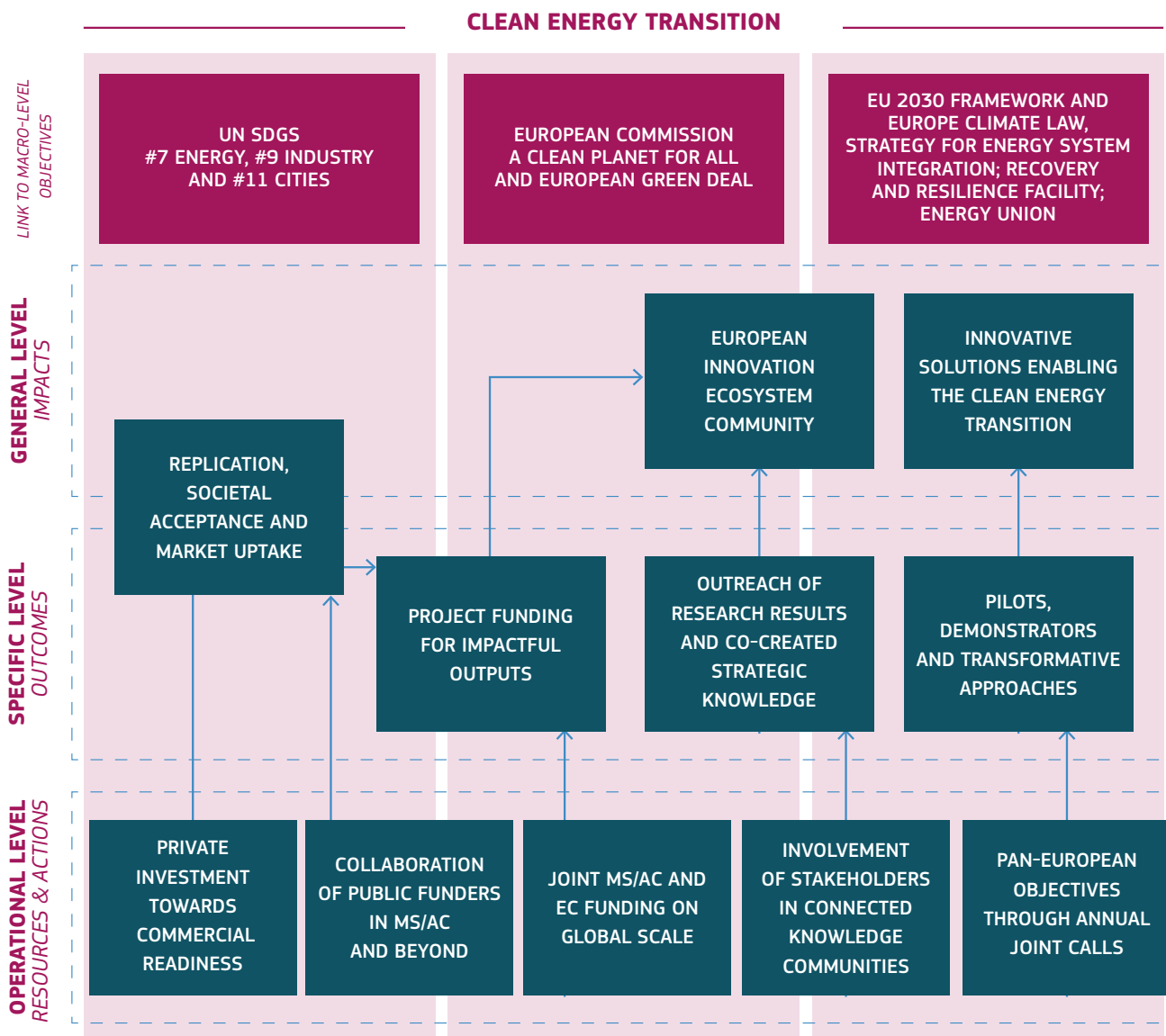
[X https://x.com/CET_Partnership](https://x.com/CET_Partnership)

www.youtube.com/@cetpartnership

coordination@cetpartnership.eu
consortiummanagement@cetpartnership.eu



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)¹



¹ More guidance on PSIPs and setting good indicators can be found in the Appendix 4 of the first interim report of the expert group - <https://op.europa.eu/en/publication-detail/-/publication/6b63295f-d305-11eb-ac72-01aa75ed71a1/language-en/format-PDF/source-215872593>



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Joint MS/AC and EC funding per year on global scale	Annual financial contribution to joint call in EUR (allocated and contracted)	EUR 64 m per year on average in predecessor networks*	At least EUR 100 m**	At least EUR 120 m**	At least EUR 140 m**	
Involvement of stakeholders in connected knowledge communities	Number of stakeholders	Lower level and / or without structured knowledge community in predecessor networks*	(opening of knowledge community for R&I teams from projects starting end 2023)	At least 200 R&I teams in knowledge community	At least 500 R&I teams in knowledge community	
Private investment towards commercial readiness	Private investments mobilised in projects in EUR per year	Different levels for predecessor networks* depending on focal TRL range	EUR 30-100 m per year	EUR 30-100 m per year	EUR 30-100 m per year	
Collaboration of public funders in MS/AC and beyond	Number of CETP partners (programme owning and managing and affiliated organisations) and number of countries	Up to 25 partners (15 partners on average) in predecessor networks*	At least 60 partners from at least 30 countries	At least 60 partners from at least 30 countries	At least 60 partners from at least 30 countries	
Pan-European objectives in annual joint calls	Percentage of joint thematic priorities addressed through annual call topics	Challenges addressed individually and differently in predecessor networks*	Annual joint calls cover at least 70 % of the challenges in the CETP Strategic Research and Innovation Agenda (SRIA)	Annual joint calls cover at least 70 % of the challenges in the CETP Strategic Research and Innovation Agenda (SRIA)	Annual joint calls cover at least 70 % of the challenges in the CETP Strategic Research and Innovation Agenda (SRIA)	
OUTCOMES						
Pilots, demonstrators and transformative approaches	Number of projects	Different levels for predecessor networks* depending on focal TRL range	50 % of projects cover at least 2 layers of the 3-layer-research model	50 % of projects cover at least 2 layers of the 3-layer-research model	50 % of projects cover at least 2 layers of the 3-layer-research model	
Outreach of research results and co-created strategic knowledge	Number of communication & dissemination interactions	Communication & dissemination interactions individually and differently in various predecessor networks*	Referential system to be defined with the first portfolio of projects to be started	Substantial increase of communication & dissemination interactions	Substantial increase of communication & dissemination interactions	
Replication, societal acceptance and market uptake	Number of impact partners (intermediaries and multipliers) and geographical distribution	Lower level and / or without structured impact partners' network in predecessor networks*	At least 20 impact partners from at least 50 % of the CETP countries	At least 40 impact partners from all CETP countries	At least 60 impact partners with at least 2 impact partners from each CETP country	



IMPACTS

European innovation eco-system community	Number and type of joint activities with other European Partnerships and R&I Initiatives	Joint activities addressed individually and differently in and between the various predecessor networks*	At least 2 concrete joint actions with at least 2 other partnerships and R&I initiatives per year	At least 2 concrete joint actions with at least 2 other partnerships and R&I initiatives per year	At least 2 concrete joint actions with at least 2 other partnerships and R&I initiatives per year	
Innovative solutions enabling the clean energy transition	Number of demonstrated solutions	About similar level of number of projects but smaller in size on average (estimate) in predecessor networks*	At least 40 projects per call with solutions	At least 40 projects per call with solutions	At least 40 projects per call with solutions	

* predecessor networks listed on first page of partnership fiche

** currently defined in the Grant Agreement amendment

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 1: POLICY CONFERENCE: ‘SUSTAINABLE SUPPLY CHAINS FOR THE ENERGY SECTOR’

Securing Europe’s energy and technology sovereignty, achieving the goal of becoming the first-ever economy with net-zero greenhouse gas emissions by 2050, and thus having a leading role in clean energy solutions require urgent action at European and national level.

For the CET Partnership, energy and technology sovereignty is one of the key issues addressed in the joint calls. It is also addressed through dedicated activities gathering the CET Partnership community and external experts, thereby further and continuously elaborating strategic input for designing and scoping of the upcoming joint calls.

The Policy Conference ‘Sustainable Supply Chains for the Energy Sector’, organised by the CET Partnership in the framework of its first annual conference in October 2023, is an example of these dedicated activities. The goal of the conference was to:

1. Describe;
2. Understand;
3. Rise to the challenges related to resilience and sustainability in the supply chains for energy and the role of cooperative research and innovation to successfully address these challenges.

The large panel of key stakeholders and experts brought together insight and ways forward to make technologies and services available as efficient and integrated solutions for the clean energy sector.

<https://www.cetpartnership.eu/cetpartnership-annual-conference-journey-future>



SUCCESS STORY 2: JOINT CALL: ‘ENERGY SYSTEM FLEXIBILITY: RENEWABLES PRODUCTION, STORAGE AND SYSTEM INTEGRATION’

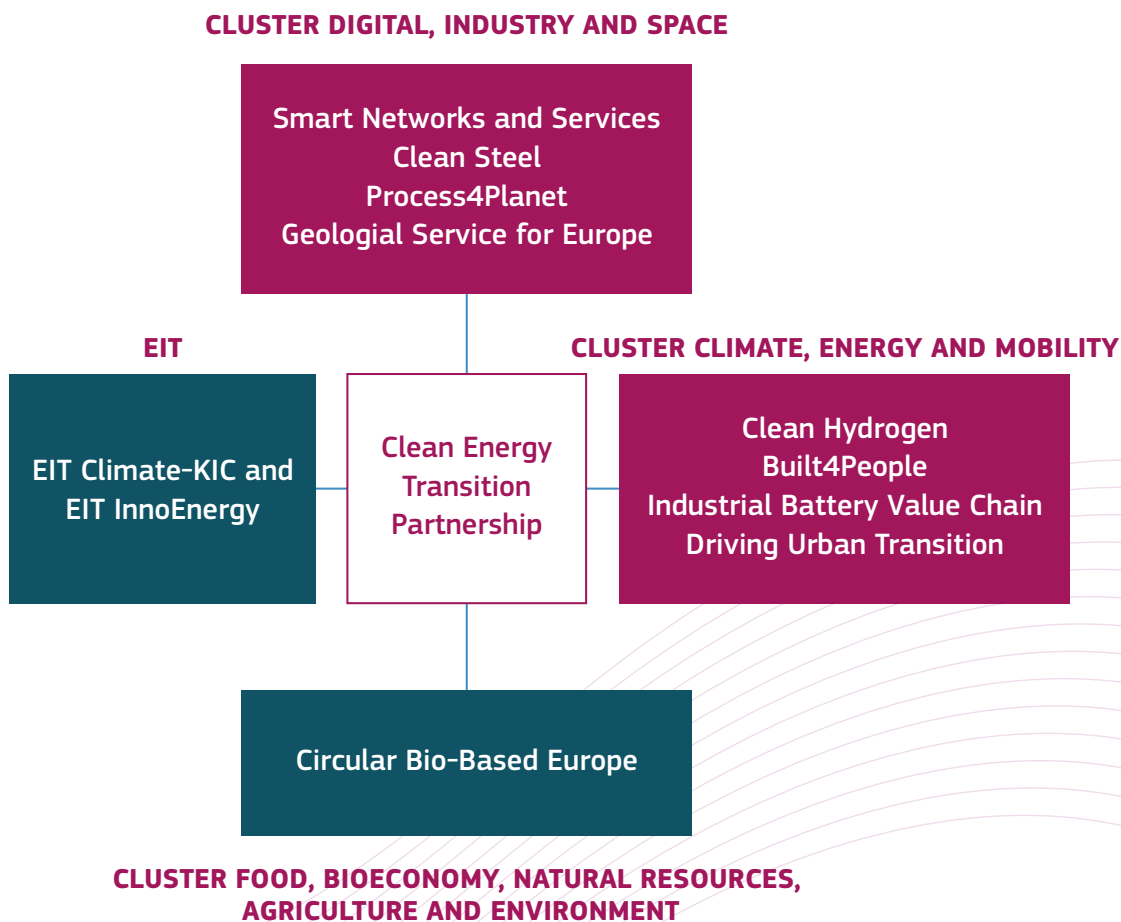
In its Strategic Research and Innovation Agenda (SRIA), the CET Partnership outlines its strategy for international cooperation with other networks and partnerships, countries and regions, international organisations like the International Energy Agency (IEA), as well as initiatives like the Mission Innovation (MI).

The MI works with a number of different missions (public-private innovation alliances) to bring together different actors to support innovation. One of these missions is the Green Powered Future Mission (GPFM). The goal of MI GPFM is to demonstrate that by 2030, power systems in different geographies and climates can effectively integrate up to 100 % variable renewable energies – like wind and solar – in their generation mix, and maintain a cost-efficient, secure and resilient system. The MI GPFM clearly addresses challenges that are in the focal areas of CET Partnership.

A task force was set up within the MI GPFM, and joint discussions organised between the MI GPFM and the CET Partnership, to identify R&I themes and innovation priorities for a joint call. As a result, a specific call module was defined as ‘Energy system flexibility: renewables production, storage and system integration’, and launched in September 2023. Beyond the thematic scope, the focus of this call module is on transnationality. Project consortia are expected to engage with the MI GPFM country member organisations, thereby fostering the CET Partnership approach worldwide, and contributing to reach the targets of both initiatives.

Further information: <https://www.cetpartnership.eu/calls/joint-call-2023>

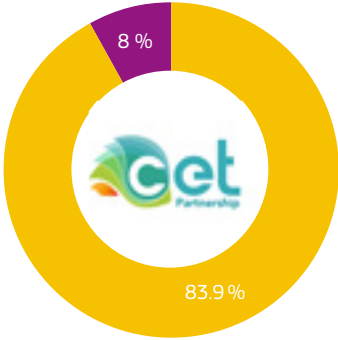
Figure 1: Main interfaces with other Partnerships and Initiatives





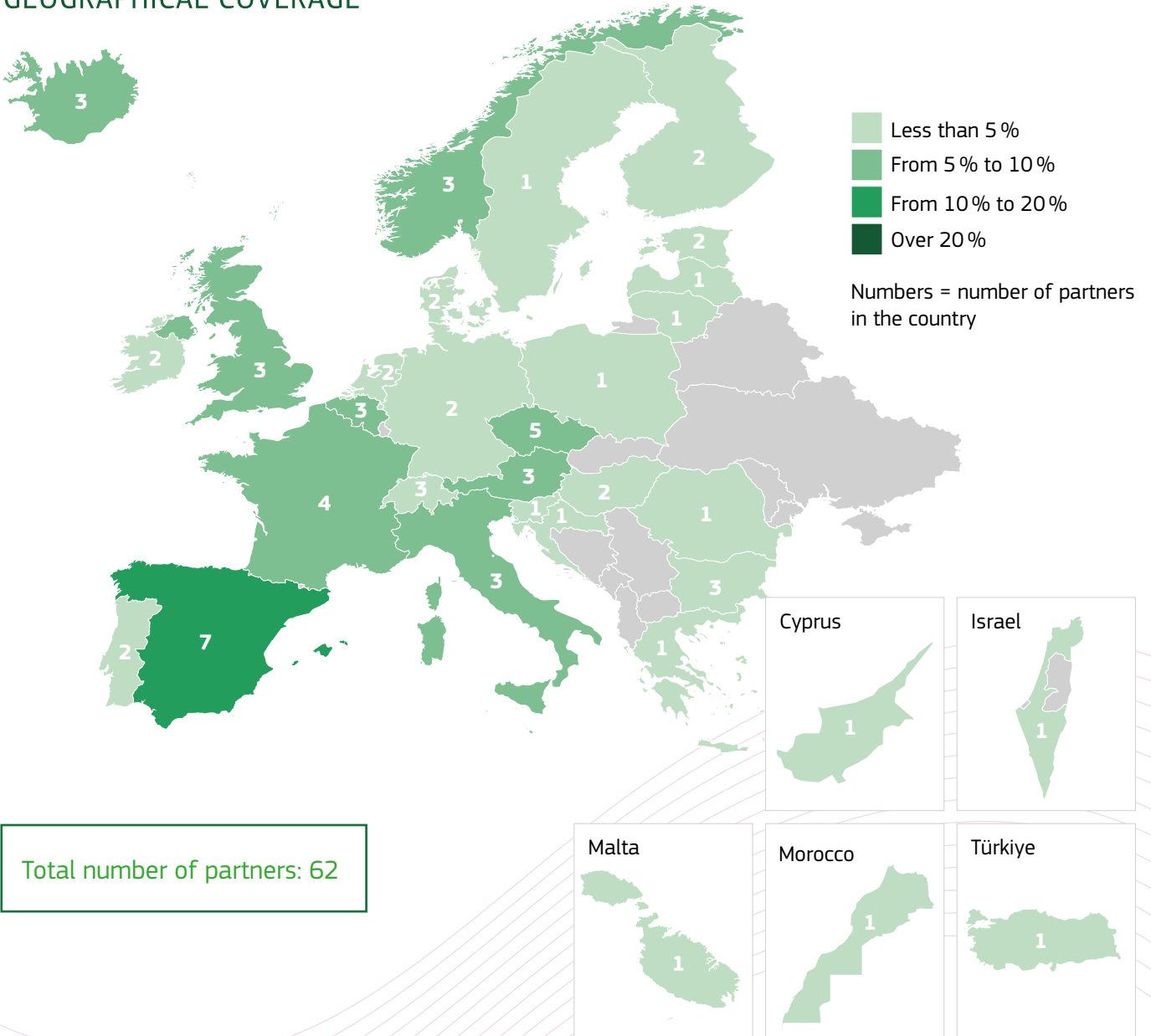
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



PUBLIC Research funders, ministries, regions, cities
OTHERS Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

The Clean Aviation JU (CAJU) will develop disruptive new aircraft technologies to support the European Green Deal and achieve climate neutrality by 2050. These technologies will deliver net greenhouse gas (GHG) reductions of no less than 30 %, compared to 2020 state-of-the-art.

The technological and industrial readiness will allow the deployment of new aircraft with this performance no later than 2035, with the aim of replacing 75 % of the world's civil aviation fleet by 2050.

The aircraft developed will enable net CO₂ reductions of up to 90 % when combined with the impact of sustainable 'drop-in' fuels, or zero CO₂ emissions in flight when using hydrogen as an energy source.

In line with requirements of the Council Regulation (EU) 2021/2085, the CAJU has set up an Impact Monitoring approach to monitor and assess the technological progress towards the achievement of the programme objectives. Further information is available in the [Clean Aviation Work Programme](#) and [Annual Activity Reports](#).

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster:	Pillar II – Cluster 5: Climate, energy and mobility
Type of Partnership:	Institutionalised (Art 187 TFEU) – Joint Undertaking
Coordinating entity:	Clean Aviation JU (CAJU)
Total estimated budget:	EUR 4.1 bn
EU commitments:	Up to EUR 1.7 bn
Partners' commitments:*	At least EUR 2.4 bn
Predecessor under Horizon 2020:	Clean Sky 2 Joint Undertaking
Start date–end date:	30 November 2021 - 31 December 2031

**The CAJU membership has been recently expanded from 39 to 59 private members, following a first of a kind Call for Expression of Interest.*

FIND OUT MORE

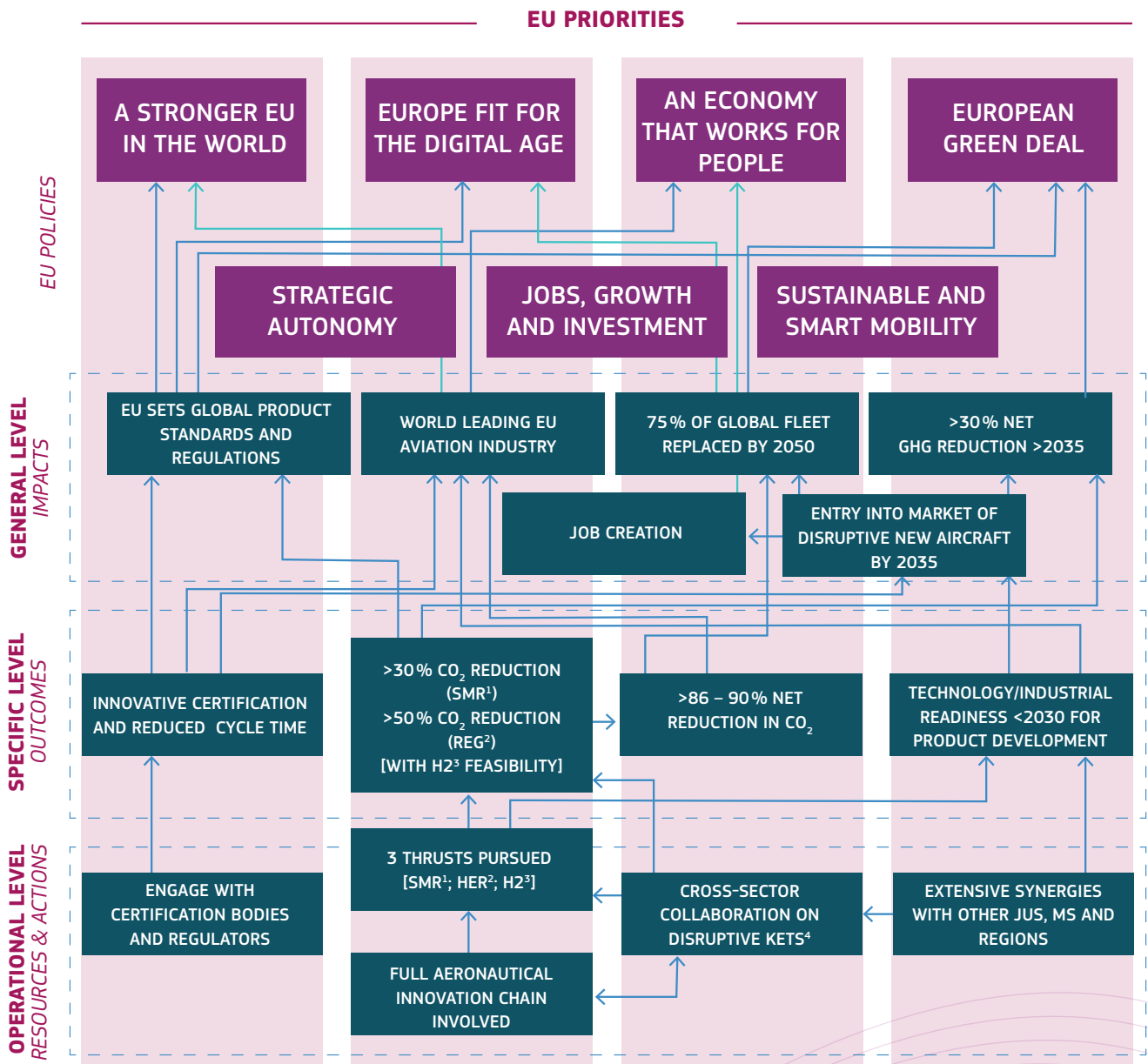
<https://clean-aviation.eu/>

✉ info@clean-aviation.eu



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

The strategy map is based on the Clean Aviation Strategic Research and Innovation Agenda (SRIA) adopted in December 2021 by the CAJU's Governing Board, and will be subject to amendments in line with the SRIA revision currently scheduled for Governing Board adoption in June 2024.



¹SMR: ultra-efficient Short-Medium Range aircraft; ²HER: Hybrid-Electric Regional aircraft; ³H2: disruptive technologies to enable Hydrogen-powered aircraft; ⁴KETS: Key Enabling Technologies



PARTNERSHIP'S Key Performance Indicators

KPI NAME	UO M	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	TARGET >2027 ¹	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
In-kind contribution (from members other than EU)	EUR	1 st year level	1.5 x (EU fundings)	1.5 x (EU fundings)	1.5 x (EU fundings)	at least 2.4b	On track
Collaboration and Synergies <ul style="list-style-type: none"> • within Horizon Europe • within other EU Budget • with national programmes • regional programmes [RIS3] 	EUR	1 st year level	- 120 m - N/A - N/A - up to 150m ² (3 MoC ³ signed)	- up to 160 m - TBD - TBD ⁴ - up to 200 m ⁵	- TBD - TBD - TBD ⁶ - TBD	- TBD - TBD - TBD ⁷ → 200 m	On track
OUTCOMES							
Average Technology Readiness Levels achieved per project	#	vs 2020	TRL3	TRL3-5	TRL4-5	TRL5-6	On track
Net GHG emissions reduction potential - SMR ⁸ HER ⁹	%	vs 2020	>30				On track
CO ₂ emission reduction potential - SMR HER	%	vs 2020	>30				On track
Availability of draft certification requirements and critical means of compliance per project	%	vs 2020	N/A ¹⁰	N/A ¹¹	N/A ¹²	90%	On track ¹³
Patent applications	#	1 st year level	N/A ¹⁴	N/A ¹⁵	TBD	340 ¹⁶	On track
Peer reviewed scientific publications	#	1 st year level	N/A	80	TBD	350 ¹⁶	On track
IMPACTS							
Net GHG emissions reduction at CAJU fleet* level by 2050 (cumulative)	%	VS 2020	N/A ¹⁸				TBD
Market deployment of CA solutions (SMR HER)	%	VS 2020	N/A ¹⁹				TBD
Socio economic benefits: - Return on investments - Number of jobs supported by aviation in Europe in 2050	- -	CS2 Study ²⁰	N/A	N/A	N/A ²¹	-Leverage Factor>3 ²¹ - TBD ²¹	TBD



- ¹ Clean Aviation programme to conclude in 2031
- ² Exceeding the synergies funding amount of EUR 50 million aligned by regions under the Clean Sky 2 programme
- ³ MoC: Memorandum of Cooperation
- ⁴ Depending on outcome from regular alignment with National Authorities responsible for national funding programmes for aviation R&I.
- ⁵ Exceeding the synergies funding amount of EUR 50 million aligned by regions under the Clean Sky 2 programme
- ⁶ Depending on outcome from regular alignment with National Authorities responsible for national funding programmes for aviation R&I.
- ⁷ Depending on outcome from regular alignment with National Authorities responsible for national funding programmes for aviation R&I.
- ⁸ SMR: Short-Medium Range aircraft
- ⁹ HER: Hybrid Electric Regional aircraft
- ¹⁰ Assessment made at end phase 1 (2026) and end of phase 2 (2030). Not every year.
- ¹¹ Assessment made at end phase 1 (2026) and end of phase 2 (2030). Not every year.
- ¹² Assessment made at end phase 1 (2026) and end of phase 2 (2030). Not every year.
- ¹³ Assessment made at end phase 1 (2026) and end of phase 2 (2030). Not every year.
- ¹⁴ Patent applications are expected after four to five years from the project launch.
- ¹⁵ Patent applications are expected after four to five years from the project launch.
- ¹⁶ This target may be subject to revision based on projects achievements by month 12 and/or month 24.
- ¹⁷ This target may be subject to revision based on projects achievements by month 12 and/or month 24.
- ¹⁸ To be estimated at programme end, including assumption on fleet renewal rate and market share, and dependent on future regulations
- ¹⁹ To be estimated at programme end, including assumption on fleet renewal rate and market share, and dependent on future regulations
- ²⁰ Socio-economic study on the impact of Clean Sky 2 programme ().
- ²¹ Assessments foreseen in 2026 and 2030.

Integrated, impact-driven programme to accelerate the development of technological innovations for cleaner aircraft in service by 2035:

- [Largest Call for Proposals ever launched by a JU](#), supported by over EUR 700 million in EU funding and significant public funding from non-EU countries such as the UK.
- [Clean Aviation projects supported by large private investments](#) (over EUR 1 700 million, corresponding to a 2.1 leverage factor – vs. 1.5 initially planned).

Synergies:

- Memorandum of Cooperation with European Aviation Safety Agency (EASA, [link](#)) to enhance cooperation on R&I in Aviation
- Memorandum of Understanding with CAJU ([link](#)) strengthen cooperation on research and innovation in hydrogen-powered aviation
- Memoranda of Cooperation for Net-Zero Aviation with Campania region ([link](#)), Occitanie region ([link](#)), Piemonte region ([link](#)).
- Deep dive into synergies with Member States and Regions under the Clean Sky 2 programme ([link](#)).

NB: the table above provides a condensed version of the **KPIs** of the CAJU. A detailed overview of the KPIs and achievements is available in the current [Clean Aviation Work Programme](#).



EU TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING: THE CONTRIBUTION OF CAJU (AND ITS LEGACY)

Aviation is a strategically important sector for Europe, which is striving to bring cleaner aircraft into service by 2035 to maintain its global **industrial leadership** and to be on track for climate-neutrality in aviation by 2050.

As the **European leading impact-driven R&I programme in sustainable aviation**, Clean Aviation will deliver key disruptive technological innovations by 2030 to support the entry-into-service of cleaner aircraft by 2035, thus **contributing to fostering European competitiveness and technological sovereignty** of the aeronautic sector.

To succeed in this mission, the **CAJU is uniting Europe's resources** by fostering international collaborations and establishing **synergies** with EU regions, Member States and associated countries to Horizon Europe (such as the UK), and across a wide array of initiatives (such as the Alliance for Zero-Emission Aviation), funding and financing sources in the EU's Multiannual Financial Framework.

SUCCESS STORY 1: INNOVATION FOR EU TECHNOLOGICAL SOVEREIGNTY

Innovation in aviation is key for Europe to maintaining technological sovereignty and competitiveness in light of the strong governmental support to the aviation industry in the US and China, in particular for the development of cleaner aircraft.

CAJU, the leading EU R&I programme in sustainable aviation, is **enhancing the EU technological sovereignty of the aviation sector by reducing the strategic dependencies and securing the supply chain**. With the contribution of over 250 participants, the programme's first 28 projects are developing key disruptive technological innovations critical to enable cleaner (hybrid-electric) regional, short and short-medium range aircraft, while also exploring hydrogen-propulsion solutions (link1, link2, link3, link4, link5, link6, link7). The projects are **geared toward European industry-led initiatives** driven by major players, such as (but not limited to) Airbus's (ZEROe), ATR, Leonardo, Safran, Rolls Royce, MTU. Thanks to collaborations with non-EU countries, these projects are also **contributing to the international positioning of the EU in aviation**.

CAJU builds on the **Clean Sky 2 programme, a recognised facilitator of international cooperation** and with contributions from a broad eco-system, with an expected completion of over 100 demonstrators and 1000 innovative technologies by 2024. Key examples of Clean Sky 2's **flagship demonstrators by the European industry** are: the Clean Sky Flying Test Bed 2; the RACER demonstrator, a full-scale fast helicopter demonstrator; the Multi-Functional Fuselage Demonstrator, a unique 8-metre-long fuselage barrel; the Tech turboprop engine demonstrator; and the UltraFan engine, which is capable of running on 100 % Sustainable Aviation Fuel (SAF).

SUCCESS STORY 2: EU INTERNATIONAL POSITIONING: LEADING THE WAY TO SET NEW GLOBAL STANDARDS FOR SAFE AND CLEAN AIR TRANSPORT:

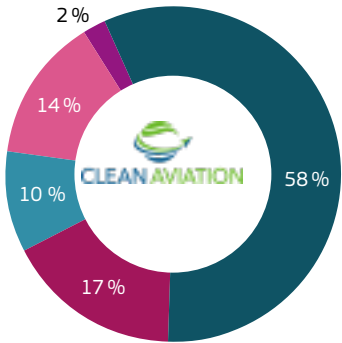
Since 2022, CAJU has collaborated closely with the European Aviation Safety Agency (EASA) under a Memorandum of Cooperation (MoC) to **advance European R&I** while ensuring a viable path for CAJU innovations towards market adoption, while at the same time reducing the current aircraft 'lead time' through more efficient certification processes. This approach is required for **Europe to truly lead the way to set new global standards for safe, reliable, affordable, and clean air transport** and ensure a regulatory framework that can support an accelerated transformation. With its active participation in the JU's governance, EASA is contributing to the CAJU projects for:

1. de-risking and demonstration of the feasibility of CAJU innovations;
2. supporting the evolution of industry standards;
3. developing new certification methods and means of compliance for aircraft and systems designs;
4. guiding the evolution of the regulatory material in coordination with other regulators, i.e., the International Civil Aviation Organization (ICAO).



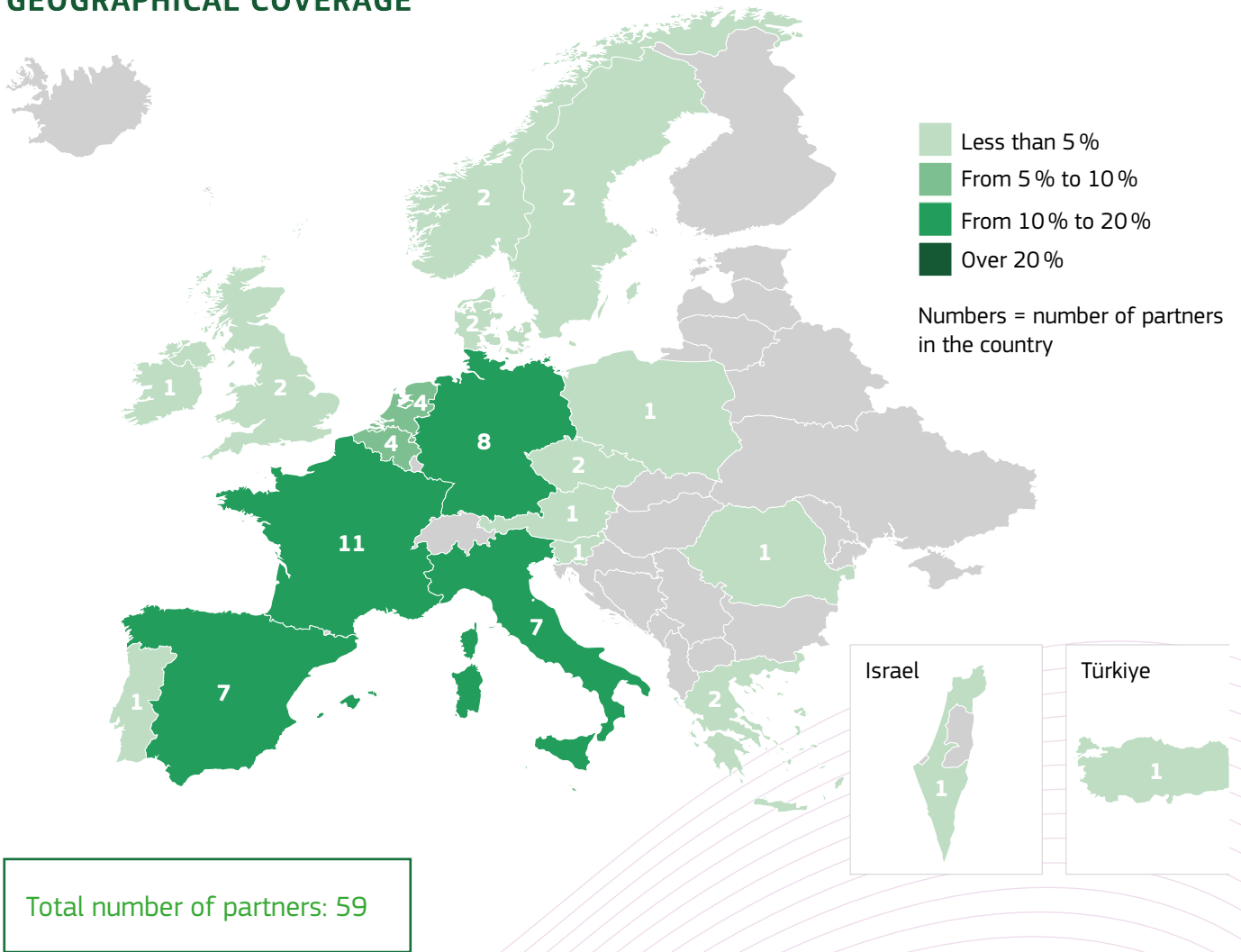
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

Clean Hydrogen JU Vision:

Support a sustainable hydrogen economy, contributing to EU's climate goals.

Clean Hydrogen JU Mission:

Facilitate the transition to a greener EU society through the development of hydrogen technologies

The Clean Hydrogen JU will contribute to the European climate neutrality goal by producing noticeable, quantifiable results towards the development and scaling up of hydrogen applications. The focus of the research and innovation activities of the Clean Hydrogen JU will primarily be the production of clean hydrogen, as well as the distribution, storage and end use applications of low carbon hydrogen in hard to abate sectors.

For more information, please refer to: <https://clean-hydrogen.europa.eu>

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster:	Pillar II – Cluster 5: Climate, energy and mobility
Type of partnership:	Institutionalised (Art 187 TFEU) – joint undertaking
Coordinating entity:	The Governing Board of the Clean Hydrogen Partnership
Total estimated budget:	At least EUR 2.2 bn
EU commitments:	Up to EUR 1.2 bn*
Partners' commitments:	At least EUR 1 bn
Predecessor under Horizon 2020:	Fuel Cell and Hydrogen (FCH) 2 Joint Undertaking
Start date-end date:	30.11.2021-31.12.2031

* The Commission will allocate an additional EUR 200 million to the Clean Hydrogen JU under the same conditions regarding the private partners, for the implementation of the REPowerEU Plan and, in particular, for doubling the number of Hydrogen Valleys in the EU by 2025. Therefore, this top-up will be allocated only for Hydrogen Valley projects.

FIND OUT MORE

<https://clean-hydrogen.europa.eu>

<https://ec.europa.eu/newsroom/chju/newsletter-archives/36192>

[in https://www.linkedin.com/feed/update/urn:li:activity:6877283838180098049](https://www.linkedin.com/feed/update/urn:li:activity:6877283838180098049)

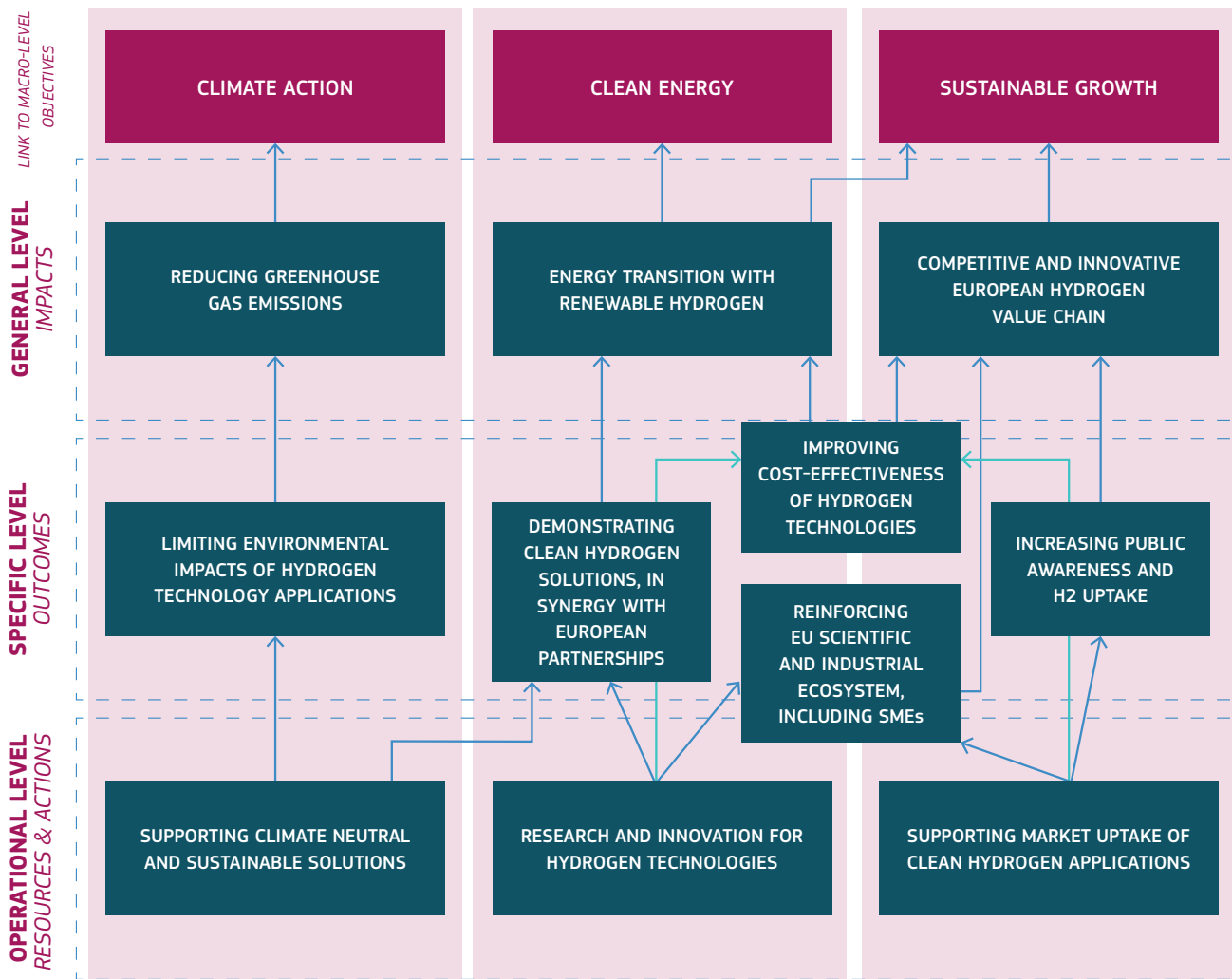
[X https://x.com/CleanHydrogenEU](https://x.com/CleanHydrogenEU)

[✉ info@clean-hydrogen.europa.eu](mailto:info@clean-hydrogen.europa.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

PARTNERSHIP VISION SUPPORT A SUSTAINABLE HYDROGEN ECONOMY, CONTRIBUTING TO EU'S CLIMATE GOALS





PARTNERSHIP'S Key Performance Indicators

KPI NAME	UNIT OF MEASUREMENT	BASELINE	ACTUAL 2023 ¹	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION 2030	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES								
1a. Hydrogen end-use in hard to abate sectors	% of JU budget	2.5 ²	14	15	30	40		On track ³
1b. Circular and sustainable solutions	% of JU budget	< 1 ²	4	5	10	15		On track ³
2. Early research projects	% of budget	10 ²	10	10	10	10		On track
3. Demonstration projects	# of projects	43 ²	12	20	40	60		On track ³
4. Education and training	# of projects	4 ²	1	2	4	6		On track ³
5. Monitoring technology progress	Qualitative indicator	N/A	AAR22 ⁴	N/A	N/A	N/A		On track
6. Supporting EC in H2 market uptake	Qualitative indicator	N/A	AAR22 ⁴	N/A	N/A	N/A		On track
OUTCOMES								
7a. Reduction in CRM	% KPIs reached	0	N/A ⁵	N/A	75 ⁶	75	100	N/A ⁵
7b. Quality of submitted LCA	rating in %	60 ²	N/A ⁵	N/A	65	70	75	N/A ⁵
8a. Capital cost of electrolyzers	% reduction	100	N/A ⁵	N/A	65	55	45	N/A ⁵
8b. Capital cost of heavy-duty road	FC CAPEX in €/kilowatt	1,500	N/A ⁵	N/A	420	290	100	N/A ⁵
9. Research and Innovation Synergies	# of projects	5 ²	7	5	10	20		On track
10. Public perception of hydrogen	Qualitative indicator	N/A	AAR22 ⁴	N/A	N/A	N/A		On track
11. Total persons trained	# persons ('000)	52	N/A ⁵	N/A	110	160	240	N/A ⁵
12. Patents and publications	# of patents / publications	12 ² / 289	15/113	17/100	20/400	25/240		On track ⁸
13. Promoting cross-sectoral solutions	% of budget	15 ²	8	10	15	25		On track ³
IMPACTS*								
14. Expected avoided emissions	Mt of CO ₂ -eq/year	0.085	0.17 ⁹	N/A	N/A	N/A	223	Off track ¹⁰
15. Deployment of electrolyzers	Gigawatt	0.077	0.129 ⁹	4	6	10	40	Off track ¹⁰
16. Market uptake of clean hydrogen	Mt of clean hydrogen	0.008	0.016 ⁹	0.7	1	2	10	Off track ¹⁰
17. Renewable H2 total production cost	EUR/kg	8	6.89 ⁹	6.5	5.5	4.5	3	Off track ¹⁰
18a. Activity in terms of companies	# of companies	300	1 107 ⁹	1 000	1 500	2 000	-	Off track ¹⁰
18b. Projects in the pipeline	# of Projects	50	113 ⁹	200	500	800	-	Off track ¹¹
18c. Electrolyser manufacturing capacity	GW/year	1	3.11 ⁹	5	17.5	30	-	Off track ¹¹



¹ The latest values available on November 2023 are reported. For KPIs (#1-4, 9, 13) these reflect the signed grants of Call 2022. For the KPIs on project results (#7, 8 and 11) there is nothing to report yet, as the first grants were only signed in 2023. For KPI 12 the latest data on eGrants by the end of 2022 are reported, as reported in the latest Annual Activity Report of the JU (AAR 22). All KPIs on impacts (14-18) come from the latest available data on the European Hydrogen Observatory. For the qualitative KPIs (#5-6, 10), these are described in AAR22.

² Baseline refers to the achievement over the lifetime of the predecessor partnership (FCH 2 JU).

³ Expected to be on track after signing the grants for Call 2023 and three remaining grants from Call 2022.

⁴ More information about this KPI can be found in Section 5.8 of Clean Hydrogen JU's Annual Activity Report 2022 (published June 2023).

⁵ First relevant project was signed only in first half of 2023, more are expected to be signed by end of 2023. Results will become available gradually as the projects advance, mostly towards the end of the projects.

⁶ Target for 2025 measured against SRIA 2024 targets, while targets for 2027 and 2030 measured against SRIA 2030 targets.

⁷ https://www.clean-hydrogen.europa.eu/projects-repository/hypop_en

⁸ Reported figures concern 2022 coming from Annual Activity Report 2022. Current source of data is eGrants, but it is considered incomplete, especially in relation to patents. The JU is currently working with JRC to improve the data collection methodology concerning this series.

⁹ Calculated from the European Hydrogen Observatory; data from 2022 for KPI-14 to KPI-17, while for KPI-18 from May 2023. KPI-17 was calculated using the methodology proposed by the Observatory contractors.

¹⁰ KPIs 15-16 are off track, and thus KPI 14 which is directly linked to them, as despite the ambitiousness of the Hydrogen Strategy hydrogen technologies require more time and research to be ready for commercialisation and scaling up. Nevertheless, the significant funding planned via the European Hydrogen Bank and other European, regional and national instruments may be able to turn this around in the coming years. This can be further supported by the activities of the Clean Hydrogen JU, which although may have a limited direct impact to these deployment figures due to its small budget compared to the ambition, it can play an important role in increasing the technology readiness of the hydrogen solutions, allowing their faster market uptake.

¹¹ Expected to be on track towards the end of 2023 or beginning of 2024, based on project announcements.



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

CONTRIBUTION TO EUROPE'S TECHNOLOGICAL SOVEREIGNTY

The EU has supported R&I on hydrogen for many years, starting through traditional collaborative projects, and subsequently through the predecessors of the Clean Hydrogen JU and the FCH JU & FCH 2 JU. These efforts have put the EU in the global lead for key hydrogen technologies, covering the complete value chain. They have enabled several technologies to come close to maturity, alongside the development of high-profile projects in promising applications, and the achievement of EU global leadership for future technologies, notably on electrolysers, hydrogen refuelling stations and megawatt-scale fuel cells. For example, GrinHy2.0 is the world's biggest high temperature solid oxide electrolyser, demonstrated in August 2021, while project HEAVEN in September 2023 managed to deliver a hydrogen fuelled passenger plane that completed the first ever flight using liquid hydrogen as a fuel. Nevertheless, to ensure a full hydrogen supply chain ready to serve the European economy, further R&I efforts are required to reinforce Europe's autonomy and technological sovereignty in the key technologies for climate action and energy security. Furthermore, 19 % of the budget allocated so far has been to renewable hydrogen production via electrolysis, which is contributing to driving costs down and increasing EU capability to meet the hydrogen RePowerEU goals.

KEEPING EUROPE AT THE FOREFRONT OF HYDROGEN TECHNOLOGY DEVELOPMENTS

The Clean Hydrogen JU has been attracting countries from all around the world in its Calls, and disseminating its activities through all available communication channels. Although the focus of its activities is in Europe, mostly within the EU-27 and Associated Countries, it has also been disseminating its activities on the international level, engaging actors all around the world. Moreover, it has organised a number of international and national events, while sustaining a number of information platforms aiming to disseminate knowledge concerning the deployment of hydrogen technologies in Europe (and beyond), such as the [European Hydrogen Observatory](#), the [Hydrogen Valleys platform](#) and the [European Hydrogen Refuelling Stations Availability System](#), making them a central reference point for information at a global level. This also includes organisations like the International Energy Agency (IEA) and the International Renewable Energy Agency (IRENA). These Clean Hydrogen JU activities further enhance the leading position of Europe in hydrogen technologies. Furthermore, the Hydrogen Valleys Declaration from March 1, 2023, has the Clean Hydrogen JU as a co-signatory, and the European Partnership is a co-organiser of the European Hydrogen Week.

OVERVIEW OF MEMBERS

Total number of partners:

The Clean Hydrogen Joint Undertaking includes the European Union, Hydrogen Europe (550+ members) and hydrogen Europe research (150+ members).*

https://www.clean-hydrogen.europa.eu/index_en

<https://hydrogeneurope.eu/>

<https://hydrogeneuroperesearch.eu/>

*Cut-off date, April 2024.



MISSION AND VISION STATEMENT

The DUT Partnership steps up the game to tackle urban challenges through research and innovation funding. We enable local authorities and municipalities, business and citizens to translate global strategies into local action. We develop the skills and tools to make urban change happen and boost the urgently needed urban transformations.

For more information, please take a moment to explore our recently published DUT in a Nutshell publication with latest figures. This summary provides an overview of the European Partnership's vision, objectives, and Transition Pathways. Discover more about our activities and how they contribute to a transformative R&I programme.

<https://dutpartnership.eu/wp-content/uploads/2022/09/DUT-Roadmap-2022-komprimiert.pdf>

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Climate, energy and mobility

Type of partnership: Co-funded

Coordinating entities: Austrian Ministry for Climate Action / Austrian Research Promotion Agency

Total estimated budget: EUR 430 m

EU commitments: EUR 130 m

Partners' commitments: EUR 300 m

Predecessor under Horizon 2020: Joint Programming Initiative Urban Europe

Start date - end date: 1.1.2022 – 31.12.2028, to be extended until 31.12.2032

FIND OUT MORE

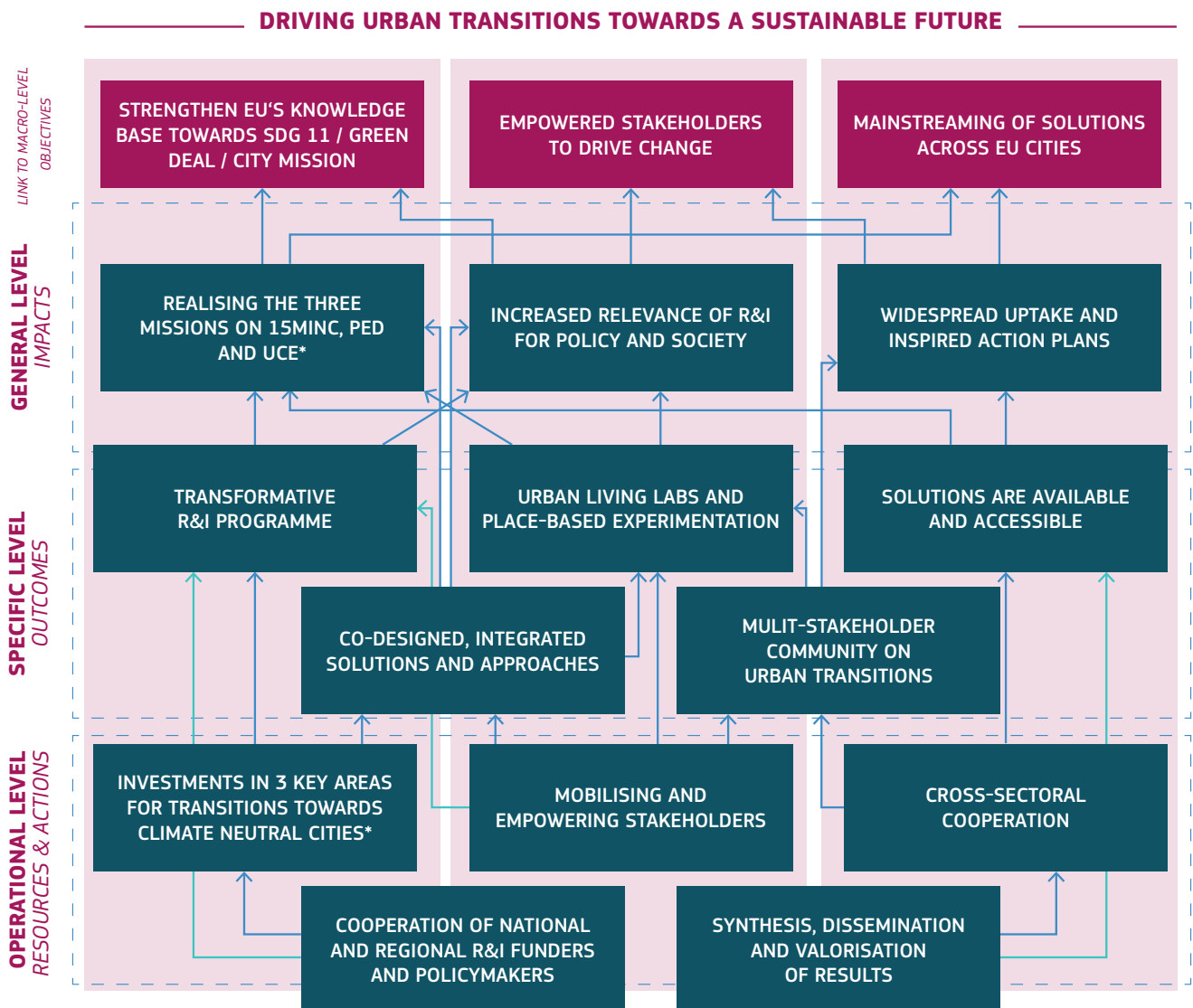
www.jpi-urbaneurope.eu

[in https://www.linkedin.com/company/dut-partnership](https://www.linkedin.com/company/dut-partnership)

[✉ info@dutpartnership.eu](mailto:info@dutpartnership.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)



* 15 Minute Cities, Positive Energy Districts and Urban Circular Economies



PARTNERSHIP'S Key Performance Indicators

KPI NAME	UNIT OF MEASUREMENT	BASELINE	VALUE 2023	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Country engagement	# countries # national/regional partners	60 partners 27 countries	67 partners 28 countries				Keep / mobilise new (international) countries
Transdisciplinary projects	# project # and type of beneficiaries	110 571	48 projects proposed for funding (First Call) 558 different beneficiaries ¹	50	150	300	400 2 800 (min. 50% non-research organisations).
Establishment of new urban living labs	# of urban living labs	150+	Not available, projects still not running	70	200	350	500 ULLs (min. 10 per participating country)
Stakeholder mobilisation formats	# and type (incl. AGORA events)	18 community building measures	74 community building measures ²				23 community building measures
Evidence-based policymaking and mainstreaming	# activities and type	18 ULTs (2018-2021), 50 policy recommendations (2015-2020) 4 newsletters/year	5 ULTs policy recommendation N/A 11 newsletters	10 ULTs 8 newsletters ³	20 ULTs	30 ULTs	35 ULTs 200 policy recommendations (2022-2032)
OUTCOMES							
Average budget for joint calls	EUR per ERA-NET (annual call)	25 m allocated 18 m contracted	72 m allocated for Call 1; 68 m allocated for Call 2 No figures available on contracted yet	Ambition >2027: EUR 50 m allocated EUR 45 m contracted			
Stakeholder mobilisation	# and geographical spread	approx. 500	3 831 persons reached ⁴	700	1 500	2 500	3 000 (incl. stakeholder balance)
Joint activities with other EPs	# and type	JPI Urban Europe joint activities	5 joint activities ⁵	Min. 3 joint activities per year			
Interactions with wider community	# newsletter subscribers # followers	5 000 2 000	5 500 newsletter subscribers 2 734 LinkedIn followers		Increase by 30 %		Double by 2032



IMPACTS				
DUT transition pathways	# and type of activities and achievements	PED programme portfolio	Call 1 projects proposed PED: 13; 15mC: 23; CUE: 12 Activities to develop & promote TPs ⁶ : CUE: 9; PED: 17; 15mC: 19	Continuous and balanced portfolio of activities and achievements in each of the TPs
Multi-stakeholder community	Share of categorised stakeholders ⁷	65 % research 21 % local public authorities 10 % businesses 4 % civil society actors	26 % research 16 % local public authorities ⁸ 17 % businesses 8 % civil society	40 % research 30 % local public authorities, 20 % businesses 10 % civil society actors
SDGs / Green Deal contribution	% of projects and activities	Example ERA-NET Smart Urban Futures	100 % of proposed projects are related to Green Deal Priorities 100 % of DUT activities are related to Green Deal Priorities	All funded projects contribute towards the SDGs and the Green Deal; 80 % of events are related to Green Deal priorities

¹ Urban Public Authorities: 158; Special Interest Groups: 8; Other Public/Governmental Institutions: 23; Business Large Enterprises: 22; Business SMEs: 83; Other Non-Profit Organisations: 70; Public or Private Research Organisations: 28; University or Other Educational Institutions: 166.

² Conferences: 33 (including 13 AGORA events); Training: 41 measures (including workshop & webinars).

³ # of newsletters was not initially included in the Table as target measure, but it is interesting to add it as an activity to assess the performance more comprehensively.

⁴ Currently there is no data available on geographical spread.

⁵ Types of activities: communication /dissemination of project results; networking of project partners in the same/similar research areas; capacity building activities; strategic exchanges; activities to develop national ecosystems.

⁶ Some of the activities are shared activities among the three TPs, therefore the sum of the three figures is higher than the total figure of activities to develop & promote TPs (37).

⁷ Percentages were calculated over the total amount of categorised stakeholders in DUT activities (1651), which is slightly less than half of the total sum of persons reached (3 831), actions intended to refine the data collection and categorisation of stakeholders are being put in place.

⁸ In addition: 2 % Regional Authorities, 23 % National Authorities, 7 % International Authorities



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 1: POSITIVE ENERGY DISTRICTS AS A MEANS FOR THE EUROPEAN ENERGY TRANSITIONS

DUT is thematically structured in three Transition Pathways, of which the Positive Energy Districts (PED) Transition Pathway refers to urban energy transitions. With the thematic focus on PEDs as a joint initiative of the European SET Plan and JPI Urban Europe operating since 2018, the concept of PEDs has been put on the landscape of both urban and energy policies in Europe. Indeed, PEDs have become an intensely discussed tool for decentralising the European energy system, and for transforming urban structures towards climate-neutrality and net-zero.

As of today, more than 70 case studies on PED development in Europe stem from JPI UE/DUT Calls, as well as from H2020/Horizon Europe calls. These case studies provide evidence in terms of both technological and social viability of PED implementation. Furthermore, JPI UE/DUT activities facilitate the evolution of the conceptual framing of PED development, thus mobilising an ecosystem of urban stakeholders, researchers and industries. Not only do these activities position Europe as a driver for viable solutions for the energy transition in the urban context, but also contribute to the visibility of European cities as global frontrunners in sustainable urban transitions. DUT strongly focuses on process innovation by considering the sensitivity of any intervention in the urban structure. Outcomes from JPI UE/DUT PED calls and supporting activities therefore strengthen Europe's specific approach of combining technological solutions with 'soft' parameters such as justness, community-building and quality of life.

SUCCESS STORY 2: THE DUT PARTNERSHIP AS THE EUROPEAN CATALYST IN THE GLOBAL LANDSCAPE OF SUSTAINABLE URBAN R&I

The DUT Partnership employs a systematic strategy in leveraging EU-established collaborative agreements with international partners to harness synergies with global R&I leaders in the field of sustainable and climate-neutral urban transitions.

In our dedication to widening participation and fostering international collaborations, the DUT Partnership has initiated discussions with Associated Countries from the Western Balkans to explore the possibility of mobilising them for upcoming activities. In this regard, cooperation with the Horizon Europe funded project POLICY ANSWERS is established.

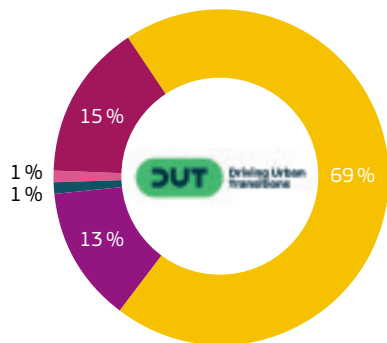
In terms of positioning DUT on a global level, the partnership joined the Urban Transition Mission (UTM) of Mission Innovation as a co-lead, with the aim to open DUT from global R&I cooperation and joint investments. DUT thus contributes to capacity building for net-zero and climate neutral urban development on global level. As part of the MI calls, the DUT calls welcome funders from non-European countries and take efforts to mobilise international R&I communities. The participation of the Korea Agency for Infrastructure Technology Advancement (KAIA) and the Fonds de recherche du Québec (FRQNT-FRQSC) as funding partners in the DUT Call 2023 can be seen as a first success in this regard.

In addition, the Belmont Forum (BF) is a strategic partner for DUT for international funding cooperation. Building upon a previous joint ERA-net of BF and JPI Urban Europe, models for a cooperation in the frame of a European partnership are assessed. DUT has proposed the DUT calls as a multi-annual framework for funding cooperation on urban transitions. BF partners are therefore encouraged to engage in the processes and consultations for developing the calls, and thus strengthen alignment and support decision making to join such calls.



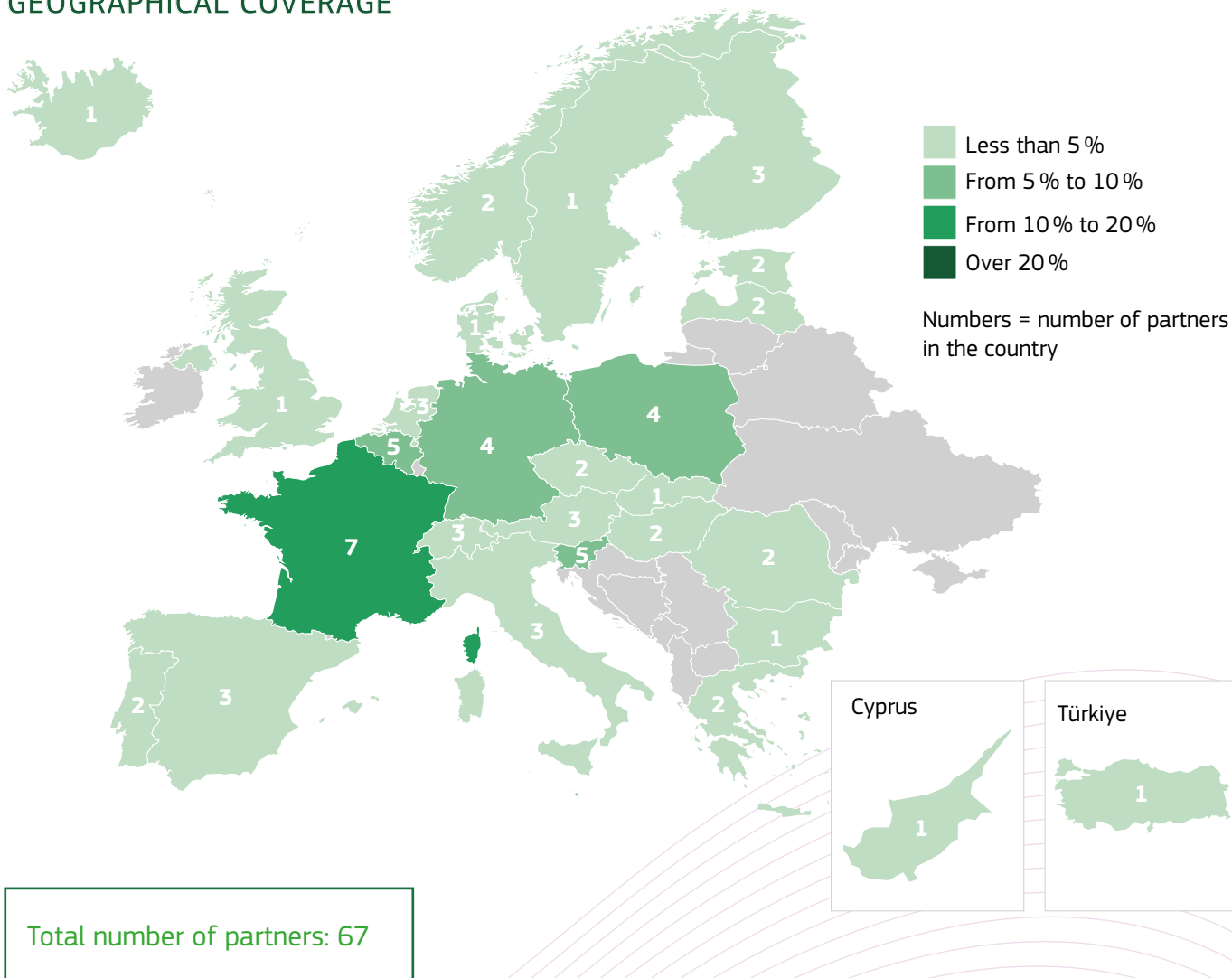
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

EU-Rail will contribute to the achievement of the Single European Railway Area, to a fast transition to a more attractive, user-friendly, competitive, affordable, efficient and sustainable European rail system. It will also add to the development of a strong and globally competitive European rail industry, with an integrated system approach, research, development and demonstrations of innovative technologies, and operational solutions (enabled by digitalisation and automation) for future deployment to deliver on European Union policies towards the European Green Deal objectives of 'a Europe fit for the digital age'; 'an economy that works for people'; and 'a stronger Europe in the world'.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster:	Pillar II – Cluster 5: Climate, energy and mobility
Type of partnership:	Institutionalised (Art 187 TFEU) – Joint Undertaking
Coordinating entity:	Europe's Rail JU (EU-Rail)
Total estimated budget:	EUR 1.2 bn
EU commitments:	EUR 600 m
Partners' commitments:	EUR 600 m
Predecessor under Horizon 2020:	Shift2Rail Joint Undertaking
Start date-end date:	2021 - 2031

FIND OUT MORE

<https://rail-research.europa.eu>

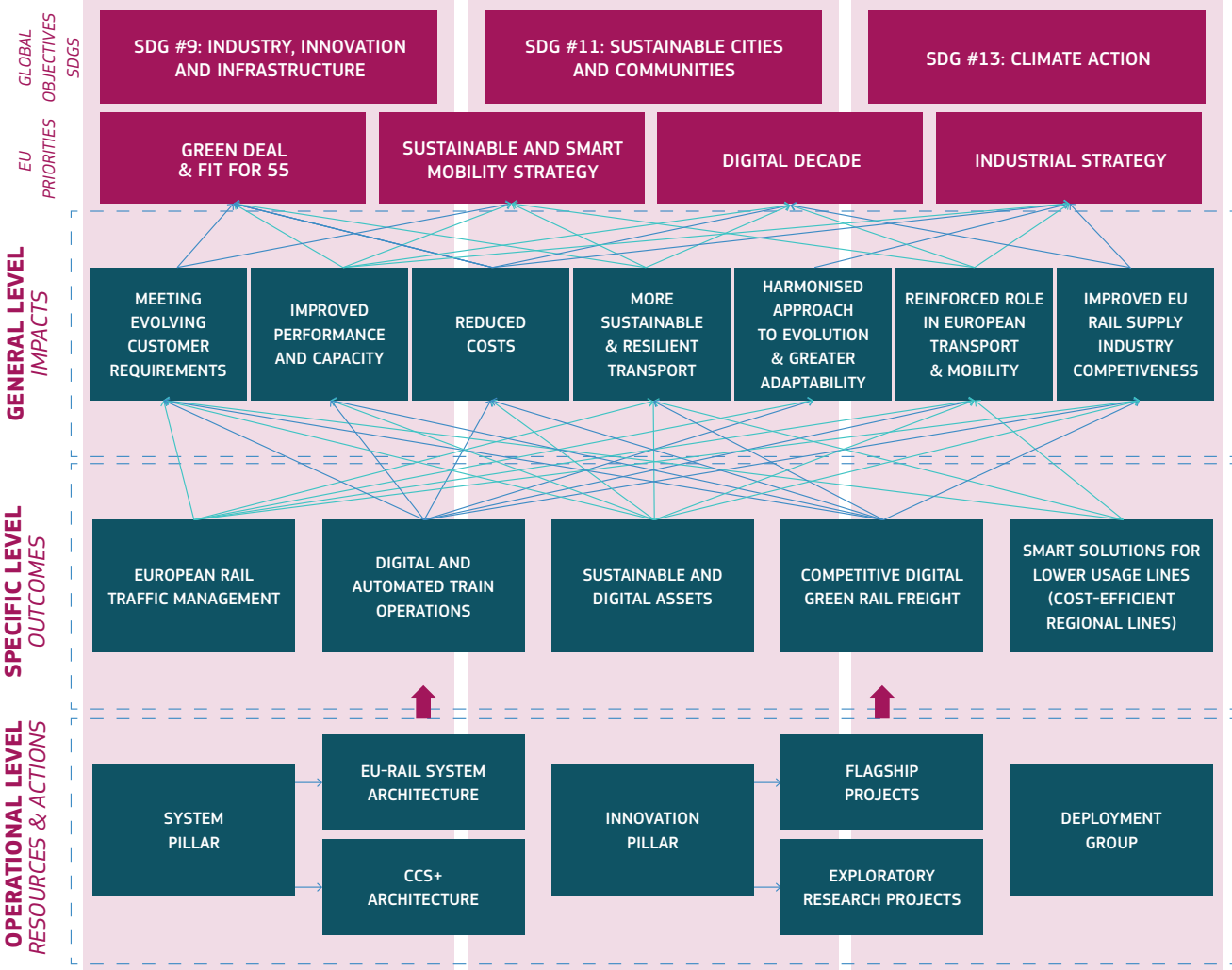
<https://shift2rail.org/about-europes-rail/europes-rail-ju-members/>

✉ <https://rail-research.europa.eu/about-europes-rail/contact/>



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

DELIVER, VIA AN INTEGRATED SYSTEM APPROACH, A HIGH CAPACITY, FLEXIBLE, MULTI-MODAL, SUSTAINABLE AND RELIABLE INTEGRATED EUROPEAN RAILWAY NETWORK BY ELIMINATING BARRIERS TO INTEROPERABILITY AND PROVIDING SOLUTIONS FOR FULL INTEGRATION, FOR EUROPEAN CITIZENS AND CARGO





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2026	TARGET 2028	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Expected Flagship Projects (FA1-FA6) (cumulative)	#	0	6	15	21	
Expected Exploratory Research + FA7 Projects (cumulative)	#	0	17	26	34	
Expected Operational Tenders (cumulative)	#	0	3	7	11	

OUTCOMES

To achieve the operational outcomes targeted in the EU-Rail integrated Programme in the Flagship Area (FA), several technical capabilities were identified.

Here below a simplified view; to find more detailed information about the about them and the demonstrators linked to them, please consult the Multi-Annual Work Programme (https://rail-research.europa.eu/wp-content/uploads/2022/03/EURAIL_MAWP_final.pdf).

Additionally, EU-Rail Programme includes Exploratory Research and other activities which outcome is expecting accelerating also radical innovations in guided transport modes, benefiting from new scientific knowledge and/or technological advances in other sectors as well. It encompasses a wide range of areas, from studying upcoming technologies/solutions and disrupting the innovation cycle, to researching emerging safety, user-centric multimodal approaches, and setting up networks for bringing together different rail communities.

Capabilities to be achieved by FA1 (Mobility management multimodal environment and digital enablers)	<ul style="list-style-type: none"> - Improved strategic and tactical planning - Connected and resilient real-time rail network - Integrated rail traffic within door-to-door mobility 	
Capabilities to be achieved by FA2 (Rail to Digital automated up to autonomous train operation)	<ul style="list-style-type: none"> - Improved operation performance - Offering more capacity to customers - Supporting cost-effective deployment 	
Capabilities to be achieved by FA3 (Holistic and Integrated Asset Management for Europe's RAIL System)	<ul style="list-style-type: none"> - Cost-effective asset management - Advanced and high-tech automated execution of construction and interventions - Delivery of environmentally friendly and resilient assets 	
Capabilities to be achieved by FA4 (Sustainable and green rail systems)	<ul style="list-style-type: none"> - Alternative energy solutions for the rolling stock - Holistic approach to energy in rail infrastructure (design, production, use and intelligent management) - Sustainability and resilience of the rail system in a holistic approach to asset management, delivering more value 	<ul style="list-style-type: none"> - Improvement of electro-mechanical components and sub-systems for the rolling stock - Healthier and safer rail system - Train attractiveness
Capabilities to be achieved by FA5 (Transforming Europe's Rail Freight) check capabilities extracted	<ul style="list-style-type: none"> - Full digital freight train operations - Seamless planning of rail freight services - Dynamic dispatching tools including last mile operations - Intermodal monitoring and prediction system 	<ul style="list-style-type: none"> - Standardised European Railway Checkpoints at borders or other operational stop points - Seamless multimodal integration - Seamless data availability/exchange using the platform of platform approach where applicable
Capabilities to be achieved by FA6 (Delivering innovative rail services to revitalise capillary lines and regional rail services)	<ul style="list-style-type: none"> - Low cost framework for regional/low density lines including Suitable Regional System solution, Cost efficient performing CCS System, optimized railways assets and sustainable rolling stock, suitable customer services 	



Capabilities to be achieved by FA7 (Innovation on new approaches for guided transport modes)	- Solutions for more flexibility through multi-modality, energy-efficient high-speed rail systems and guided systems with technologies based on moving infrastructures, Pods, magnetic/air levitation and vacuum tube technique.
Transversal Topic: Digital Enablers	- Federated Data Spaces - Conceptual data model (CDM) - Digital Twin Design-time and run-time environment

IMPACTS

Meeting evolving customer requirements	For details see chapter 5 of the EU-Rail	State of art 2020	N/A	- Improved matching between demand and supply: Achieve 75% reaching passengers' planned travel time - Demand forecast for improved service planning: Achieve 65% precision in the average forecast 1 week in advance; Achieve 80% precision in the forecast at 1 hour - Reduce handling/response time for connected comprehensive intermodal offers: Reduced response time by at least 30%	In call 2025	For details see chapter 5 of the EU-Rail Master Plan
Improved performance and capacity	For details see chapter 5 of the EU-Rail	State of art 2020	N/A	-Trains on line per hour and direction: Increase of 10% - Average freight transportation time on reference corridor: reduction of 10-20% - Average train length up to maximum length in existing infrastructure limitations or higher loads : increase up to 1.500m	In call 2025	For details see chapter 5 of the EU-Rail Master Plan
Reduced costs	For details see chapter 5 of the EU-Rail	State of art 2020	N/A	- Overall OPEX and CAPEX on regional lines, incl. maintenance, infrastructure and vehicles: reduce from 10 to 50% (depending of the sub-system) - Maintenance Costs for Rolling Stock or Infra Assets Management: reduction up to 10% - Design and Manufacturing Costs of infrastructure components: reduction of 20% - Cost for development and certification by several measures of digitalisation e.g. virtual certification in a laboratory: reduction by 80%	In call 2025	For details see chapter 5 of the EU-Rail Master Plan
More sustainable and resilient transport	For details see chapter 5 of the EU-Rail	State of art 2020	N/A	- Optimized energy consumption and higher punctuality in Low Regional lines (reduce energy by 10%- increase punctuality by 15%) - Physical CO2 equivalent emission: reduction up to 30% for specific use cases - Prediction performance as the basis for in-time decision making in TM: <120s (in a typical set of 100 trains running in a 2h interval ahead of actual time)	In call 2025	For details see chapter 5 of the EU-Rail Master Plan



Harmonised approach to evolution and greater adaptability	For details see chapter 5 of the EU-Rail	State of art 2020	N/A	<ul style="list-style-type: none"> - CAPEX of the CCS system, while maintaining or increasing the present safety level for regional lines: reduction by 25 % - Operational dwell time at borders and other handover points for freight traffic: reduction by 50 % - Answering time between the short term request of a cross-border train path and the answer with an adequate offer: down to 5min 	In call 2025	For details see chapter 5 of the EU-Rail Master Plan
Reinforced role for rail in European transport and mobility	For details see chapter 5 of the EU-Rail	State of art 2020	N/A	<ul style="list-style-type: none"> - Improved matching between demand and supply: Achieve 75% reaching passengers' planned travel time - Demand forecast for improved service planning: Achieve 65% precision in the average forecast 1 week in advance; Achieve 80% precision in the forecast at 1 hour - Reduce handling/response time for connected comprehensive intermodal offers: Reduced response time by at least 30% - Overall OPEX and CAPEX on regional lines, incl. maintenance, infrastructure and vehicles : reduce from 10 to 50% (depending of the sub-system) - Maintenance Costs for Rolling Stock or Infra Assets Management: reduction up to 10% - Design and Manufacturing Costs of infrastructure components: reduction of 20% - Cost for development and certification by several measures of digitalisation e.g. virtual certification tasks that can be conducted in a laboratory: reduction by 80% 	In call 2025	For details see chapter 5 of the EU-Rail Master Plan
Improved EU rail supply industry competitiveness	For details see chapter 5 of the EU-Rail	State of art 2020	N/A	Maturity of innovative technologies: up to TRL 8	In call 2025	For details see chapter 5 of the EU-Rail Master Plan

A number of KPIs have been identified for each Flagship Area (reflecting the five outcomes of the PSIPs table). KPIs are available from the Master Plan (MP) and Multi-Annual Work Programme (MAWP): <https://rail-research.europa.eu/about-europes-rail/europes-rail-reference-documents/europes-rail-key-documents/>. A selection of these will be used as a reference baseline of the state of the art in 2020 (including results from S2R), and translate the operational work delivered with projects' technical and operational results into more tangible Societal Impact qualifications. The Societal Impact measurement methodology will be developed in the first two years of the functioning of the JU on the basis of the technical and operational KPIs provided here. The calculations of the impact will be provided after each round of demonstrators that is in 2025, 2027 and 2031.



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SYNERGIES AND INNOVATION TO RETAIN TECHNOLOGICAL SOVEREIGNTY

In accordance with the new policy approach for European Partnerships, and in particular for Institutionalised Partnerships as indicated in the Council regulation establishing the JUs, EU-RAIL has been actively seeking synergies between European Partnerships and beyond. 2024 is the year that will earmark the first joint project¹ between two JU's in the field of traffic management: SESAR 3 JU and EU-Rail.

EU-Rail has also teamed up with another JU, SNS JU, setting up a joint topic call for the testing and operational validation of the next EU rail communication system. The next EU rail communication system is a key enabler for further innovation that has been added to the EU-Rail programme, building up on activities previously performed within different organisations outside the EU governance. The sector and the Commission have entrusted EU-Rail to drive and to ensure as from 2024 the rail system ability in embracing this new solution, with R&I through the activities of its Innovation Pillar, preparation for legislative (TSI) updates with its System Pillar, and with migration planning and deployment recommendations with its Deployment Group. It is a cooperative work to be done with the European Union Institutions and Bodies for policy setting, including ERA².

Following the successful Space for Innovation in Rail event in 2023³ under the Spanish Presidency of the Council of the European Union, EU-Rail will operationalise in 2024 in a concrete project its cooperation with EUSPA⁴ and ESA⁵, under the strategic leadership of the Commission and in full coordination with ERA, for delivering through R&I the technical and operational elements to reach competitive and resilient satellite-based rail services.

These synergies and programme-level cooperations are key for rail to retain its leading innovator role worldwide, as well as touching upon key strategic areas were to retain sovereignty with the incorporation of other industries EU innovations, such as for communication, positioning and more. Coordination of programme-level activities is already underway with the Clean Hydrogen and the Battery Co-programmed Partnership (BATT4EU), and EU-Rail is looking forward to identify areas further concrete areas of strategically collaboration with other EU JU's (such as Chips or EuroHPC) and beyond.

¹ Subject to the successful outcome of the call proposals evaluation and GB decision.

² <https://www.era.europa.eu/>

³ <https://rail-research.europa.eu/calendar/space-for-innovation-in-rail-towards-satellite-based-ertms/>

⁴ <https://www.euspa.europa.eu/>

⁵ <https://www.esa.int>

INTERNATIONAL POSITIONING

In accordance with EU-RAIL's regulations, in carrying out its activities, EU-RAIL shall seek a geographically balanced involvement of members and partners in its activities. It shall also establish the necessary international connections in relation to rail R&I, in line with the Commission's priorities. In this respect, EU-RAIL strategy will be to conduct outreach activities with international partners pursuant to its strategy for cooperation with third countries and/or international organisations.

In particular, the strategy aims to contribute to the competitiveness of the European rail industry at the global level. EU-RAIL will continue the cooperation with a number of key international partners, such as the Federal Railroad Administration (FRA), American Public Transportation Association (APTA), Federal Transit Administration (FTA) in the US, and the Canadian Urban Transit Research and Innovation Consortium (CUTRIC).

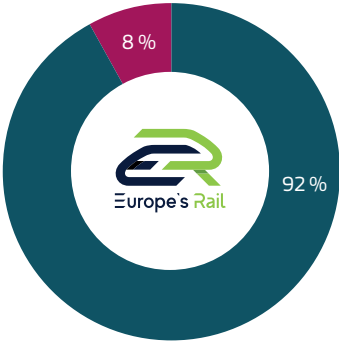
In line with the policy priority of the Commission in terms of international relations on rail, as well as keeping in mind the aforementioned objectives, the collaboration with the EU's neighbouring countries – in particular, the Western Balkans – will continue, enhancing further opportunities to explore joint activities and large-scale demonstrations.

In addition, it is estimated that around 15 % of the EU stimulus package called Recovery and Resilience Facility – RRF – will be invested in different areas of national rail systems. There is a need to ensure maximum levels of complementarity and impact, including focusing on future-proof investments. This will require to leverage local, regional and national investments to complement the R&I activities performed at EU-Rail level and vice versa. In this respect, the States Representatives Group is expected to play a key role.



OVERVIEW OF MEMBERS

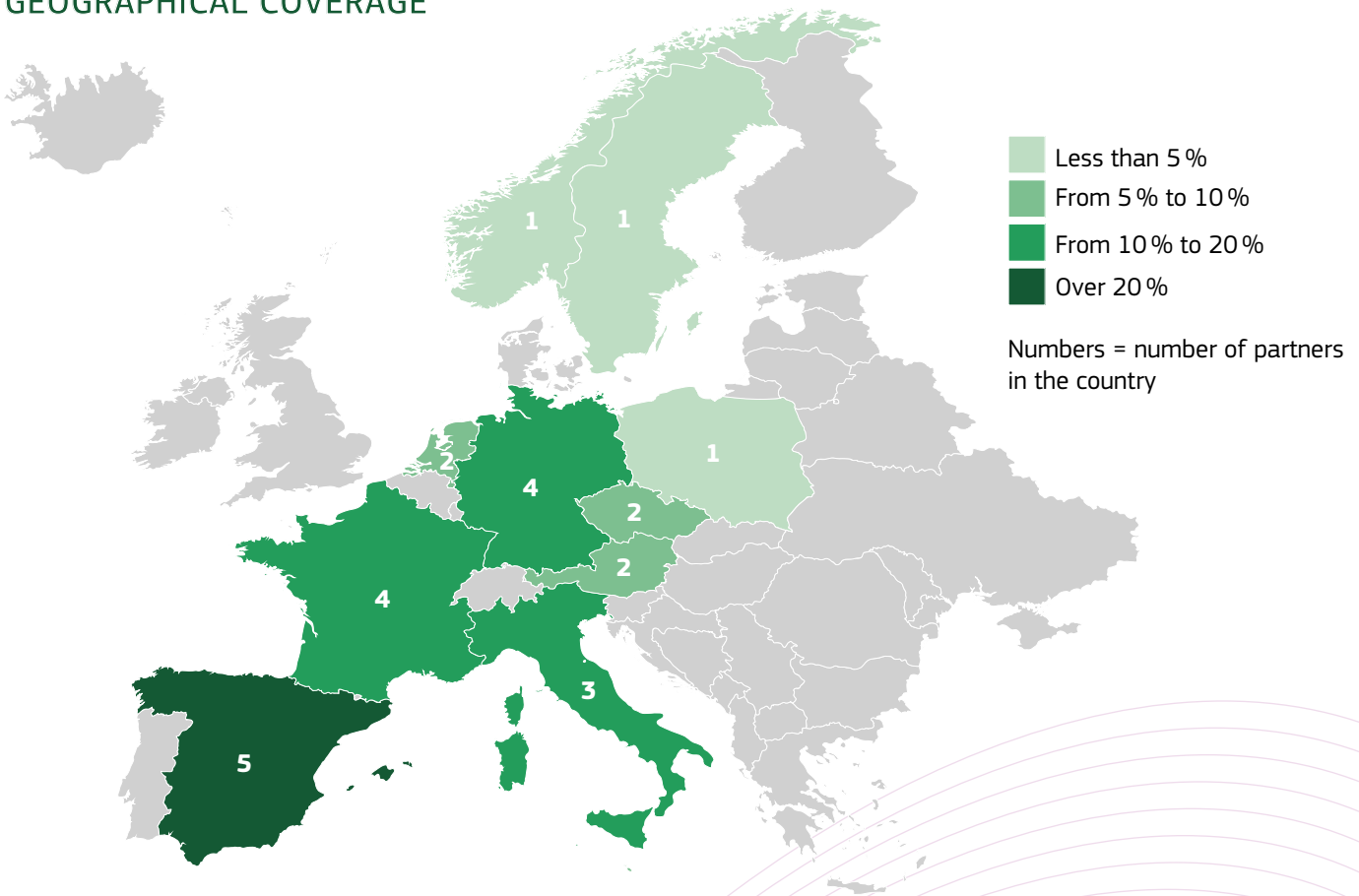
MEMBERS PER TYPE



INDUSTRY Other Industrial and/or profit Private organisation

RESEARCH Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)

GEOGRAPHICAL COVERAGE



Total number of partners: 25



MISSION AND VISION STATEMENT

The SESAR 3 JU aims to **accelerate through research and innovation the delivery of an inclusive, resilient and sustainable digital European sky, as follows:**

- Sustainable – establishes Europe as the most efficient and environmentally friendly sky in which to fly in the world.
- Resilient – enables flexible, scalable, safe and secure air traffic management (ATM) that can withstand disruptions in the aviation system.
- Inclusive – integrates and connects all types of air vehicles and users, including civil and military, manned and unmanned.
- Accelerate – reduces time to market through focused and agile R&I, supporting faster transition to deployment through an extended innovation life cycle.

The SESAR 3 JU brings together the EU, Eurocontrol, and more than 50 organisations covering the entire aviation value chain, from airports, airspace users of all categories, air navigation service providers, drone operators and service providers, the manufacturing industry and scientific community. The partnership also works closely with the regulatory and standardisation bodies, notably EASA and EUROCAE, as well as key stakeholders such as professional staff organisations, the space and military communities and global partners.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 5: Climate, energy and mobility

Type of partnership: Institutionalised (Art 187 TFEU) – Joint Undertaking

Coordinating entity: Co-funded

Total estimated budget:* EUR 1.6 bn

EU commitments: EUR 600 m

Partners' commitments: Eurocontrol – up to EUR 500 million (in-kind and financial contributions)
Industry – at least EUR 500 million (in-kind and financial contributions)

Predecessor under Horizon 2020: SESAR Joint Undertaking

* In addition, the Digital European Sky programme is also benefitting from funding for its digital sky demonstrators from the Connecting Europe Facility (in coordination with CINEA).

FIND OUT MORE

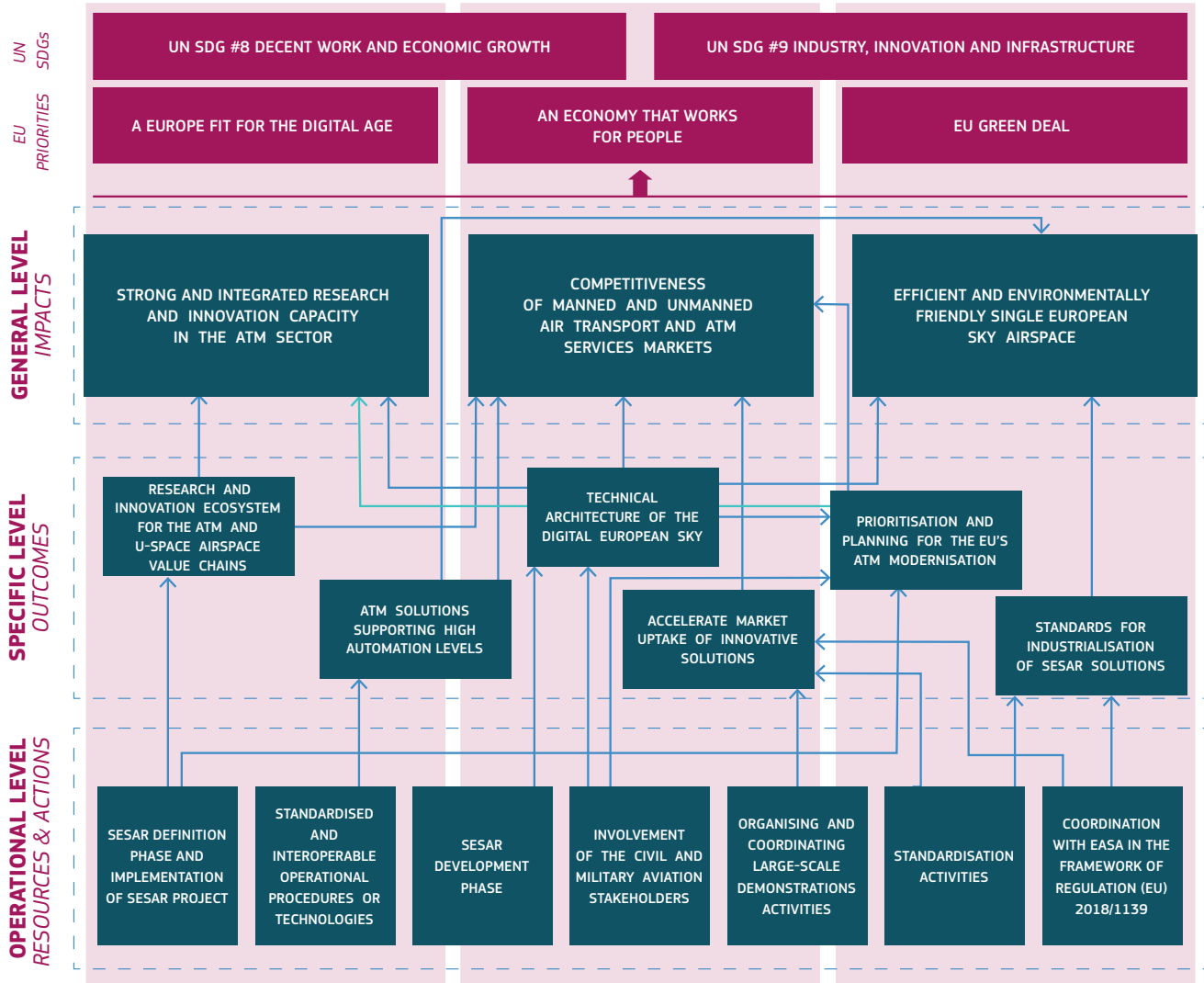
www.sesarju.eu

✉ info@sesarju.eu



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

ACCELERATE THROUGH RESEARCH AND INNOVATION THE DELIVERY OF AN INCLUSIVE, RESILIENT AND SUSTAINABLE DIGITAL EUROPEAN SKY





TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

KPI NAME	UNIT OF MEASUREMENT	BASELINE (2020)	CURRENT STATUS 2023 ¹	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES²						
Signed grants (HE)	#	0	50	105	140	140
Calls capturing synergies with other EU programmes and initiatives	#	0	4	6	10	10
Complementary funding (mainly CEF)	EUR m	0	116	200	400	600
Partners' contribution	EUR m	0	256	592	928	1600
OUTCOMES						
Key Solutions delivered at TRL6 (HE)	#	0	0	0	32	77
Progress of delivering development activities against the ATM Master Plan vision (SESAR 1, SESAR 2020, Digital European Sky Programme)	%	39 (2019)	64	64	86	100
Key Solutions with supporting standards & regulations* (HE)	#	0	0	0	21	50
Market deployment of Phase C Key Solutions	%	0	4	6	10	20
IMPACTS						
Capacity	% increase					
• airports	(peak hourly throughput)	21.4	23	Achieved	Achieved	10
• TMA**		27.7	36	-	36.5	47
• en route		48.8	60	Achieved	Achieved	49
Punctuality (flights departing < 3min of scheduled time)	% increase	11	18	-	-	10-30
Fuel savings	Kilograms of fuel per flight	147.4	180.8	-	204.5	250-500
ATCO productivity***	% increase	74.7	85	-	103.3	97.7
Technology cost reduction per flight	% reduction	30.8	31	-	-	43.4

*TRL6

** Terminal Maneuvering Area

*** Air Traffic Control

¹ The result reported under Current status 2023 are preliminary, as the final and validated figures will be accurately reflected in the Consolidated Annual Activity Report 2023.

² Except for the KPIs measured in %, the figures reported under Resources (input), processes and activities, and under Outcomes are cumulative.



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

In close coordination with the European Commission, the SESAR 3 JU engages in international activities aimed at ensuring global interoperability and harmonisation, promoting SESAR solutions globally, and thereby securing and enhancing the competitiveness of the EU and its industry. These activities include participation at the level of the International Civil Aviation Organisation (ICAO), the UN specialised agency responsible for developing policies and standards for civil aviation. For example, the SESAR 3 JU is actively involved in the preparation of the next update of ICAO's Global Air Navigation Plan, which sets the vision for ATM modernisation globally. It also participates in the Advanced Air Mobility (AAM) Study Group, which is developing a holistic vision and framework related to AAM. The strong link between development and deployment allows European companies to maintain the global leadership position in the area of ATM, and export SESAR 3 JU solutions outside the EU.

SUCCESS STORY 1

Ensuring that the Global Air Navigation Plan developed at ICAO level reflects and is aligned with Europe's key priorities and timelines plays an important role in safeguarding the competitiveness of the European ATM industry. The SESAR 3 JU plays a central role in this process through active engagement in ICAO, based on the maintenance and regular updating of the European Air Traffic Management (ATM) Master Plan, Europe's agreed roadmap for the modernisation of Europe's ATM.

<https://www.sesarju.eu/masterplan>

<https://www4.icao.int/ganportal/>

The European ATM Master Plan has the entire European continent (as defined by the European Civil Aviation Conference (ECAC)) as its geographical scope, and the SESAR 3 JU works closely with European countries such as Norway, UK and Switzerland. The SESAR 3 JU has cooperative arrangements in place with a number of key third countries. It cooperates closely on a number of priority topics with the United States Federal Aviation Administration (FAA) under an EU-US Memorandum of Cooperation. SESAR and the FAA's NextGen programme constitute the two leading ATM modernisation initiatives globally, and this bilateral cooperation provides the means for dialogue and discussion on respective plans and research in support of global interoperability. The SESAR 3 JU also has bilateral cooperative arrangements with Singapore, UAE and Qatar, and – via the European Commission – with Japan. These arrangements allow for regular exchanges on overall ATM modernisation strategies or on specific topics (for example, dedicated workshops on remote towers or drone integration). The SESAR 3 JU also provides support on ATM-related topics to the EU's regional technical cooperation projects in the domain of aviation, which are managed by the European Union Aviation Safety Agency (i.e. with North Asia, South-east Asia, South Asia, Latin America and Caribbean). Consistent with the EU's external aviation policy, the SESAR 3 JU also engages in dialogue with other third countries.

SUCCESS STORY 2

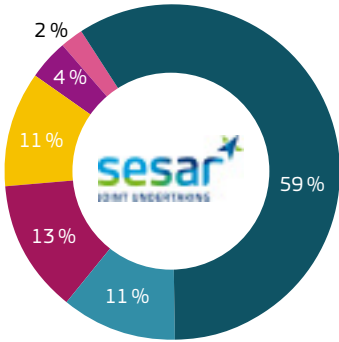
The SESAR 3 JU has developed a significant portfolio of research and demonstration projects in the field of drones and innovative air mobility. This has provided the basis for highly productive technical-level exchanges with key international partners, such as the US and Japan, on the lessons learned from our respective research activities, leading to enhanced mutual understanding and feeding the development of policies and standards at global level through ICAO.

https://www.sesarju.eu/U-space_everyday_benefits



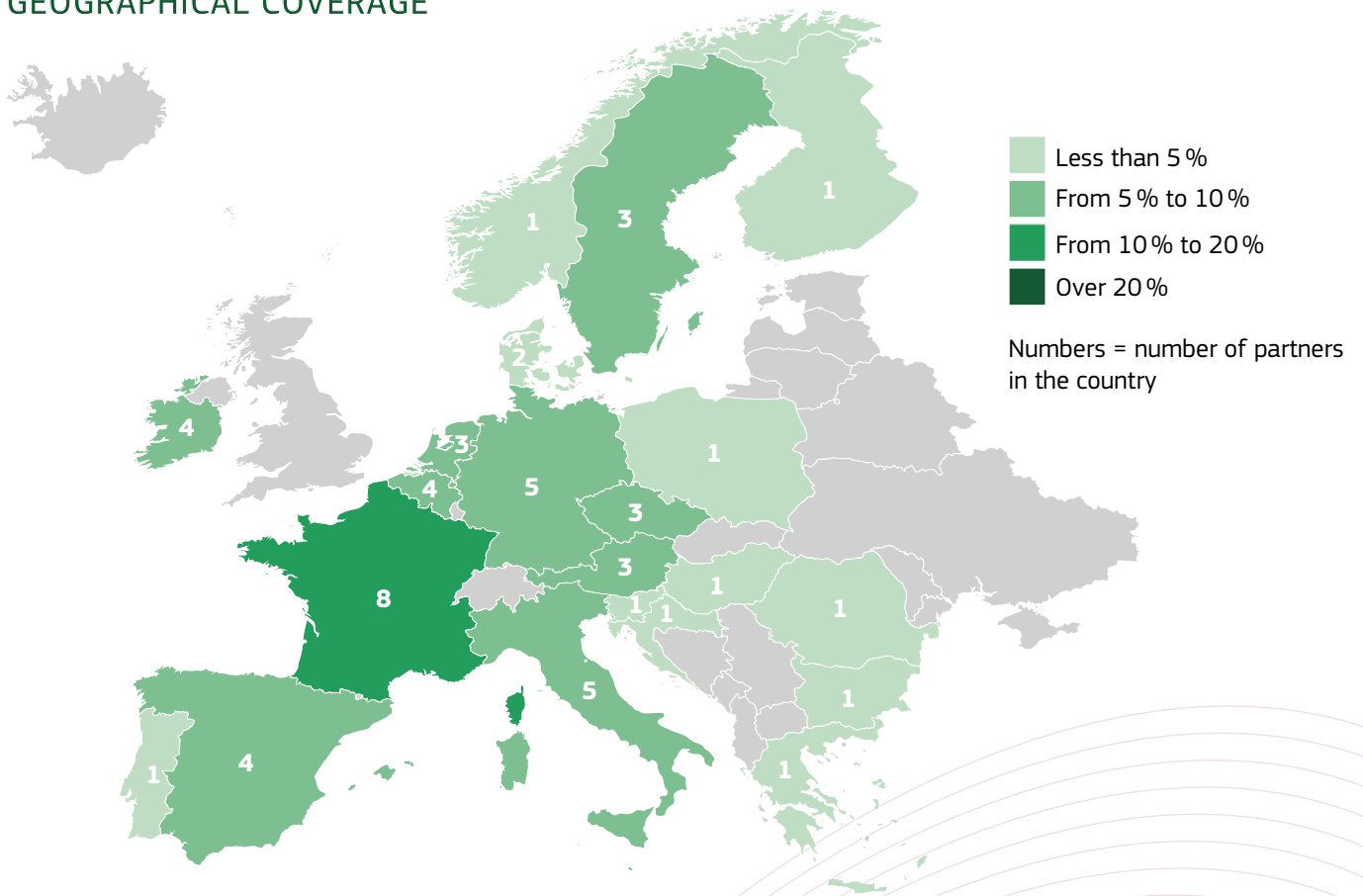
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 54



MISSION AND VISION STATEMENT

The Zero-emission Waterborne Transport (ZEWTP) partnership will provide and demonstrate zero-emission solutions for all main ship types and services before 2030, which will enable zero-emission waterborne transport before 2050.

In addition, the partnership will:

- implement economically viable European new technologies and concepts regarding zero-emission waterborne transport, to strengthen the competitiveness of European industries and provide the capability to re-enter markets;
- facilitate the development and implementation of relevant regulations and policies at the national and international levels, including the development of standards;
- facilitate the uptake of zero-emission waterborne transport technologies.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 5: Climate, energy and mobility

Type of partnership: Co-programmed

Coordinating entity: Waterborne Technology Platform

Total estimated budget: EUR 3.83 bn

EU commitments: EUR 530 m

Partners' commitments: EUR 3.3 bn

Predecessor under Horizon 2020: This is a new partnership

Start date–end date: 2021 – 2027 (final projects finishing in 2030)

FIND OUT MORE

<https://waterborne.eu/>

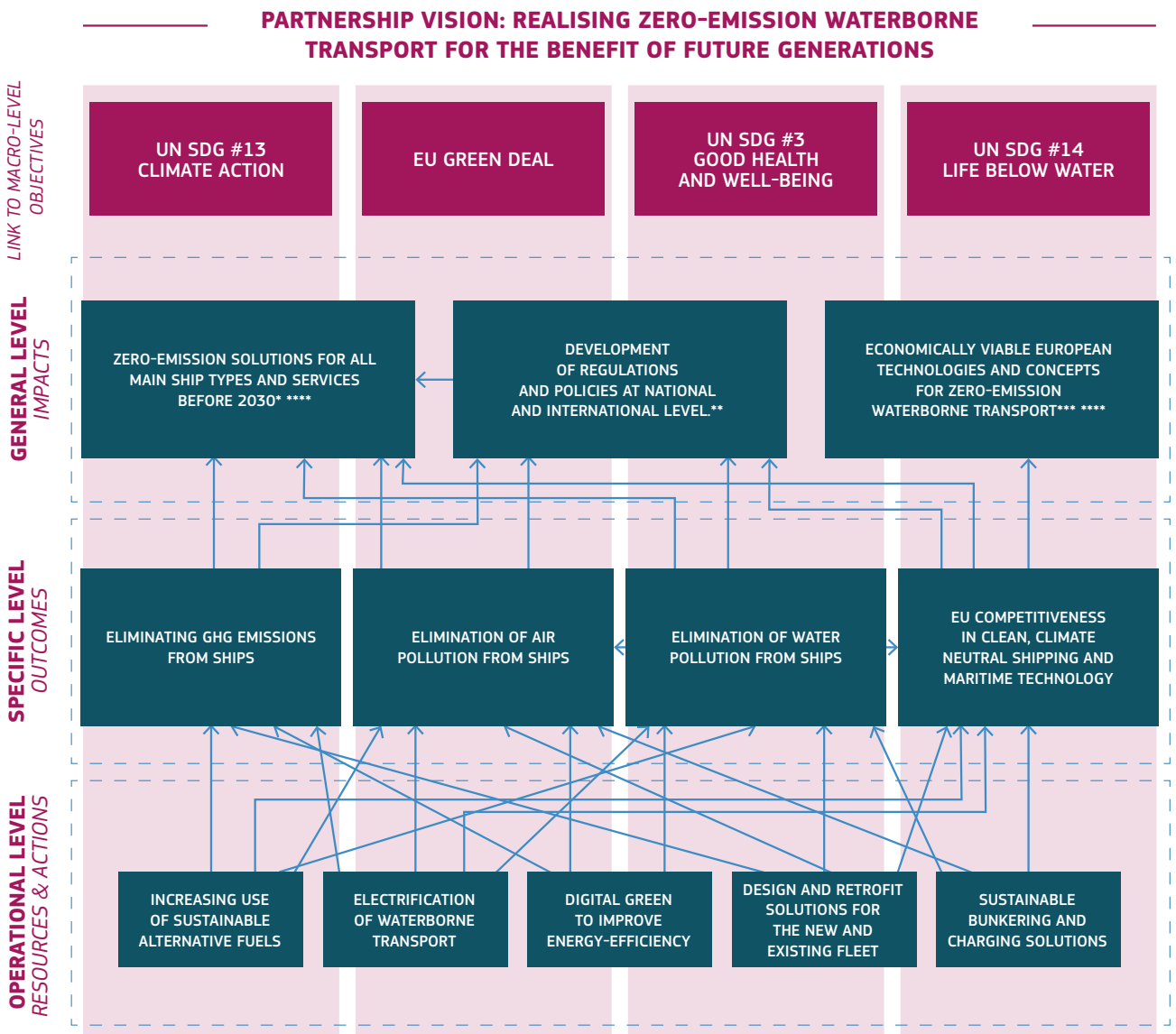
[in https://www.linkedin.com/company/waterbornetp/](https://www.linkedin.com/company/waterbornetp/)

[X https://x.com/WaterborneTP](https://x.com/WaterborneTP)

[✉ info@waterborne.eu](mailto:info@waterborne.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)



*Objective (S01): deployable technological solutions applicable for the decarbonization and the elimination of other harmful emissions of main ship types and services
 **Objective (S03): development and implementation of regulations and policies at national and international level, including the development of standards;
 ***Objective (S02): implementation of economically viable European new technologies and concepts regarding zero-emission waterborne transport, to strengthen the competitiveness of European industries in growing green ship technology markets
 **** Objective (S04): uptake of innovative zero-emission waterborne transport technologies and solutions within the European waterborne sector.



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023 ¹	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Solutions using sustainable alternative fuels	# of deployable solutions	NEW	N/A	N/A	N/A	20
Electrified autonomy for commercial shipping	% (150nm-200nm)	NEW	N/A	N/A	N/A	100 % demonstrated by 2030
Fuel consumption for large scale shipping	% reduction target (55 %) achieved	2008 emissions	N/A	N/A	N/A	100 % demonstrated by 2030
Bunkering of alternative fuels and electricity	# of projects	NEW	N/A	N/A	N/A	5 projects by 2030
Zero-emission and climate-resilient inland waterway vessels	# of solutions	NEW	N/A	N/A	N/A	15 solutions demonstrated by 2030
Coastal and inland air pollution	# of solutions demonstrating reduction	NEW	N/A	N/A	N/A	25 solutions demonstrated by 2030
Water pollution (incl. underwater noise)	# of projects demonstrating reduction	NEW	N/A	N/A	N/A	5 projects
OUTCOMES²						
Competitiveness of European industries	# of solutions	NEW	N/A	12	50	70
Regulations, standards and policies	# of contributions towards relevant bodies	NEW	N/A	N/A	N/A	20
Uptake of ZEWT ³ technologies and solutions	# of solutions	NEW	N/A	N/A	N/A	50

¹ For the ZEWT Partnership, the SRIA indicates that the intermediate targets are reported as of the year Y+3 (2024), Y being the start of the partnership.

² Taking into account the long investment cycle for ships, it is too early to define concrete impacts within the time horizon given the long investment cycle for ships

³ ZEWT = Zero-Emission Waterborne Transport

In the *Strategic Research and Innovation Agenda*, targets are described in more detail. The monitoring starts in the third year following the start of the partnership, thereby 2024. A number of targets are only set for the end of the partnership, due to the fact that the development of the solutions targeted takes a number of years. In addition, the co-programmed partnership on Zero-emission Waterborne Transport does not have a predecessor, resulting in the fact that often the baseline is indicated as new.



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

The ZEWT Partnership commenced in 2021. Taking into account the long lead time before technologies can be deployed, it is expected to have more practical examples in the next version of the report.

INTERNATIONAL SETTING

Example of the international character of the waterborne transport sector

A container ship, built in China, equipped with European engines, might be sailing from Shanghai to Rotterdam. The ship is flagged in Panama, insured in London, and sails with crew from the Philippines and officers from Russia. The ship is managed from Liberia, chartered from France, owned by a German shipowner and fuelled in Singapore.

The ZEWT Partnership will enable Europe's waterborne transport sector to enhance its global competitiveness in terms of innovative solutions, as well as its global technological leadership in green ship technologies and solutions over foreign competitors (in particular the Republic of Korea and China) which, in turn, will create higher added value and economic wealth, as well as innovative jobs.

ECONOMIC

By 2030, implementation of economically viable European new technologies and concepts regarding zero-emission waterborne transport, to strengthen the competitiveness of European industries in growing green ship technology markets and provide the capability to re-enter markets presently dominated by Europe's competitors.

REGULATORY

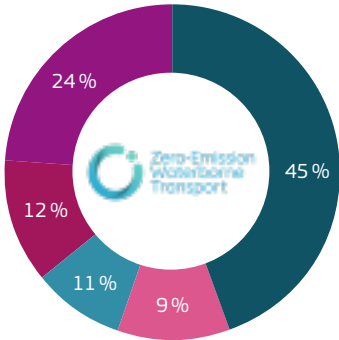
The ZEWT Partnership will facilitate the development of regulations and policies at national and international level, including the development of standards to enable the implementation of technological solutions for zero-emission waterborne transport by 2030 at the latest.

The International Maritime Organization (IMO) is the United Nations specialised agency with responsibility for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships. IMO's work supports the UN SDGs, and its work is therefore essential for the achievement of the policy objectives of the European Green Deal. The EU and its Member States discuss future regulations for the maritime transport sector at the IMO. The ZEWT Partnership will provide the scientific and technical basis for discussion at the level of the IMO.



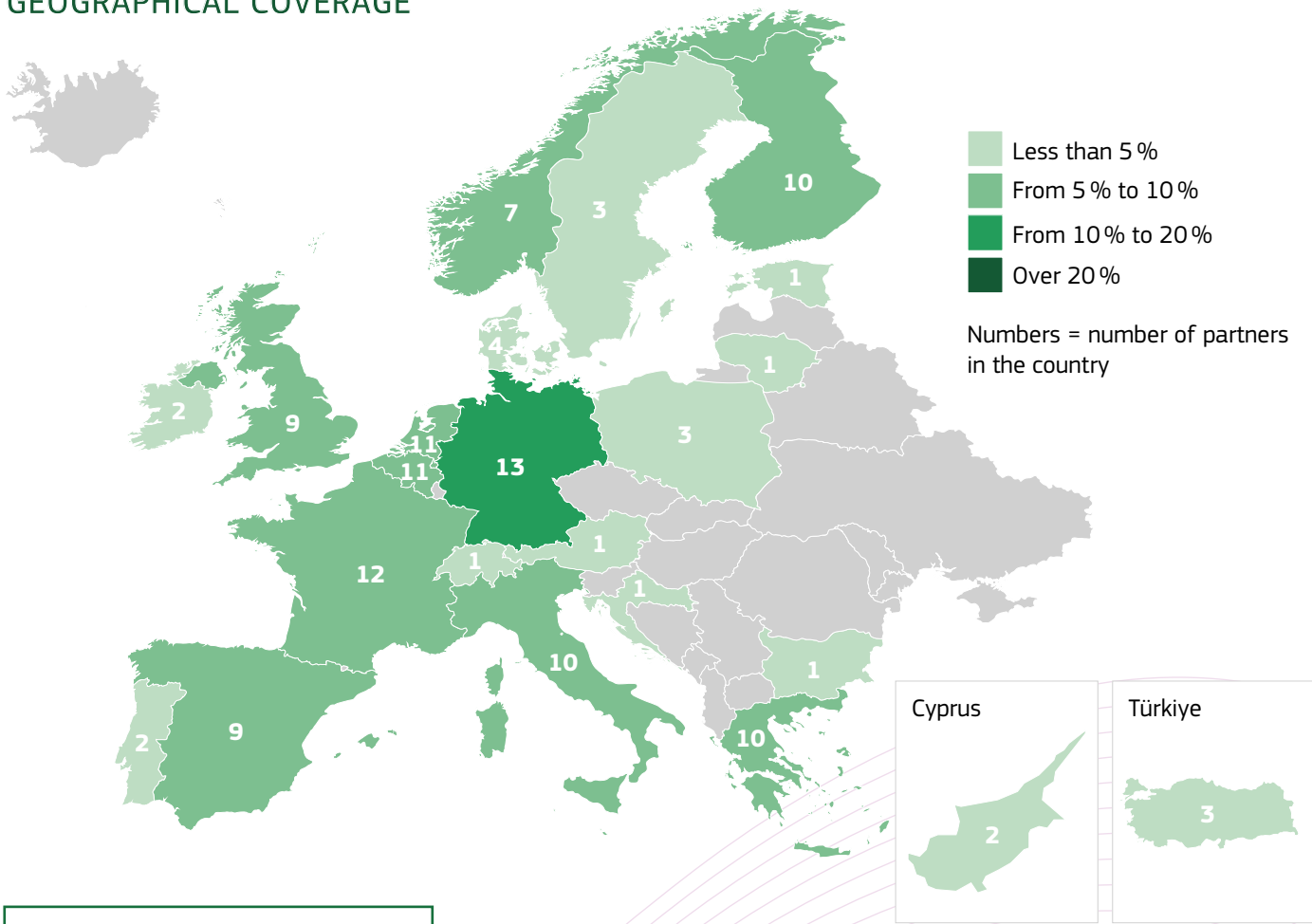
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 127



CLUSTER 6
FOOD, BIOECONOMY,
NATURAL RESOURCES,
AGRICULTURE, AND
ENVIRONMENT



MISSION AND VISION STATEMENT

In line with European policies and consumer expectations, EUPAHW supports sustainable terrestrial and aquatic animal production. It aims to prevent and control infectious animal diseases, ensure wise use of antimicrobials and provide high levels of health and welfare at every stage of an animal's life, thereby ensuring that animals' lives are worth living.

The partner research organisations and their funding agencies will set up integrative and reference activities among the partners and develop external research calls in which the animal health industry and other stakeholders can participate. Through these mechanisms, EUPAHW will establish and improve surveillance and monitoring systems and risk assessment methodologies; mechanisms and tools to estimate animal health and welfare (AH&W) status; management and husbandry guidelines for use on farm, during transport and at slaughter; and new vaccines and treatments. Socio-economic aspects of all four of these priority areas will also be covered.

In addition, the One Health One Welfare perspective will occupy a prominent place in the Partnership's activities.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 6: Food, bioeconomy, natural resources, agriculture and environment

Type of Partnership: Co-funded

Coordinating entities: Ghent University (UGENT)

Total estimated budget: EUR 360 m

EU commitments: EUR 180 m

Partners' commitments: EUR 180 m

Predecessor under Horizon 2020: It is a new Partnership

Start date–end date: 2024 - 2030 (7 years)

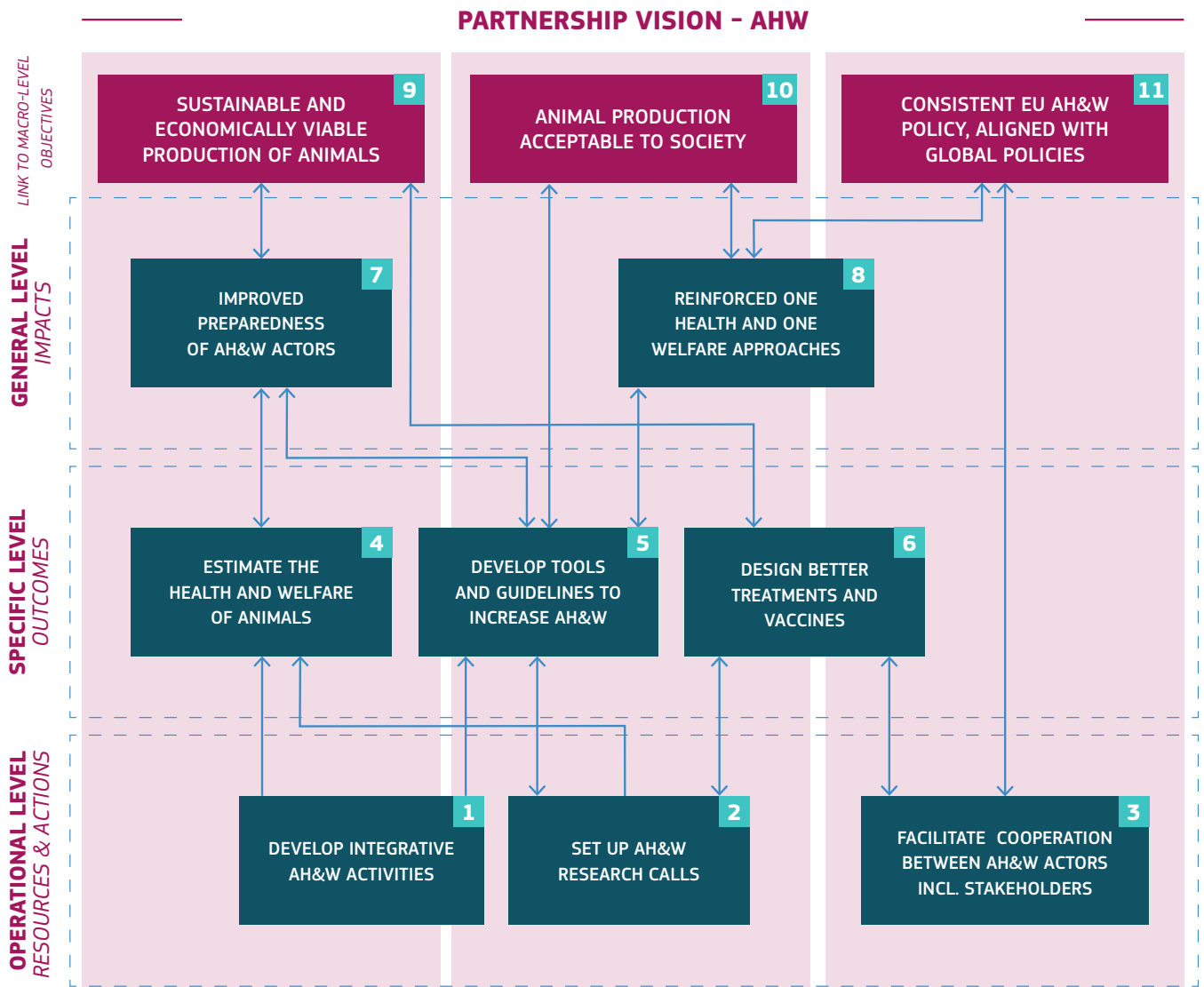
FIND OUT MORE

<https://www.eupahw.eu/>

✉ eupahw@UGent.be



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)



The numbers relate to the kpi table below.



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
1. Internal programme (integrative)	Million EUR for 3-year internal programme	84	TBD	TBD	TBD	TBD
2. External research calls/projects	Million EUR FSTP and # 3-year external research projects	21 and N/A	TBD	TBD	TBD	TBD
3. Cooperation between EU AH&W actors	# partners and # stakeholders/scientific publications	90 and N/A	TBD	TBD	TBD	TBD
OUTCOMES						
4. Collection of data to monitor AH&W	# deliverables measuring animal health or animal welfare status	N/A	TBD	TBD	TBD	TBD
5. Tools and guidelines to increase AH&W	# tools and guidelines per year (deliverables)	N/A	TBD	TBD	TBD	TBD
6. Development of new or improved vaccines and treatments	# projects involved in vaccines and treatments	N/A	TBD	TBD	TBD	TBD
7. Improved preparedness of all AH&W actors	# national reference labs/centres implementing EUPAHW outcomes	N/A	TBD	TBD	TBD	TBD
8. Improved One Health One Welfare approaches	# partnership publications referring to One Health or One Welfare	N/A	TBD	TBD	TBD	TBD
IMPACTS						
9. Sustainable and economically viable farms	# farms that implement a label scheme	N/A	TBD	TBD	TBD	TBD
10. Animal production that is acceptable to society	Public perception, measured via Eurobarometer	2023	N/A	N/A	N/A	TBD
11. Consistent EU AH&W policy, aligned with global policies	# policy briefs	N/A	TBD	TBD	N/A	TBD



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

EUPAHW seeks collaboration with industrial partners in the area of AH&W: i.e. relevant industrial associations like [Animal Health Europe](#) and [Diagnostics for Animals](#) and many other organisations included in the Partnership Stakeholder Committee.

EUPAHW will provide support in priority areas of the EMA regulatory science and network strategies. EMA's participation in the partnership as an associate partner is on account of its unique role as a central EU regulator and its consequent capacity to mobilise and provide expertise and a pan-European regulatory perspective.

The Partnership has privileged contacts with the global [STAR-IDA2](#) network, which has the objective of 'coordinating animal health research globally to accelerate delivery of disease control tools and strategies'. The network is supported by the European Commission through [SIRCAH 2](#) (international coordination of animal disease research) and has about 30 partners (animal health research funders, research institutes and private companies). It has regional networks worldwide: in Europe, the Americas, Africa and the Middle East, and Asia and Australasia.

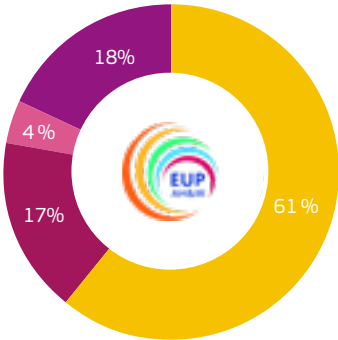
The Partnership will report its progress to these regional networks at regular intervals. In addition, discussions are ongoing to examine ways in which funders outside Europe could co-fund external calls organised by EUPAHW.

At its launch in January 2024, EUPAHW included five non-EU countries: Georgia, Norway, Switzerland, Türkiye and the UK. Participation in the Green Era Hub network for widening to Western Balkan countries and other initiatives, such as BIOEAST for eastern Europe, is foreseen.



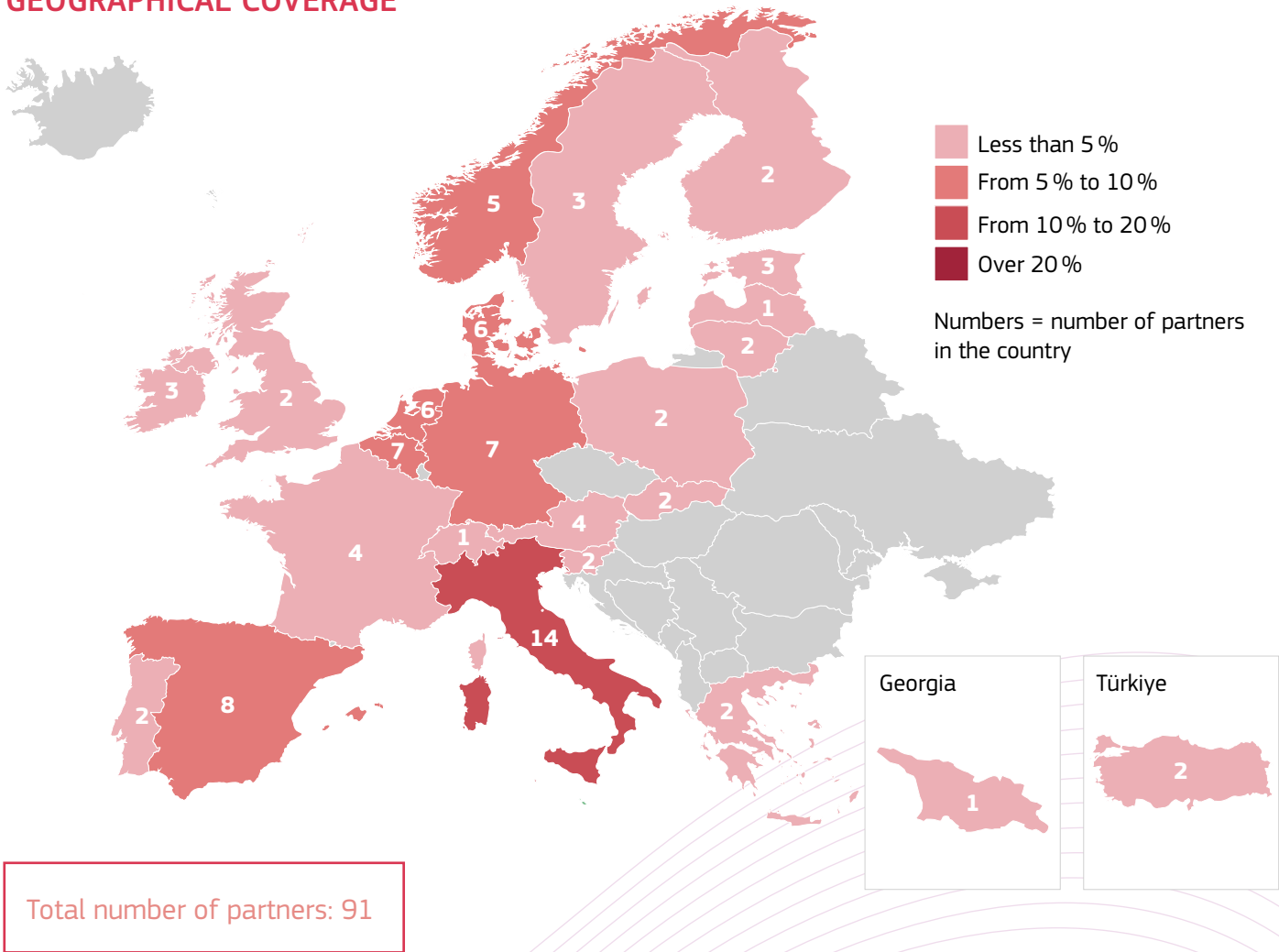
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

Part of the European biodiversity strategy for 2030, Biodiversa+ aims to build a bridge between science, policy and practice, focusing on five main objectives: planning and supporting R&I on biodiversity; establishing a transnational network of harmonised biodiversity monitoring schemes; producing knowledge for deployment of nature-based solutions and valuation of biodiversity in the private sector; providing science-based support for formulation and implementation of policy; strengthening the relevance and impact of pan-European research on biodiversity in a global context. In line with the post-2020 global biodiversity framework, Biodiversa+ will implement an ambitious programme to support the general vision of getting nature in Europe on the road to recovery by 2030 and ensuring that, by 2050, people are living in harmony with nature.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 6: Food, bioeconomy, natural resources, agriculture and environment

Type of Partnership: Co-funded

Coordinating entities: Belgian Science Policy Office, until 31 October 2023; Fondation pour la recherche sur la biodiversité (FRB), as of 1 November 2023

Total estimated budget: EUR 801 m

EU commitments: EUR 165 m

Partners' commitments: EUR 191 m + EUR 445 m in kind*

* incl. EUR 251 million for research as non-eligible; EUR 187 million for biodiversity monitoring and EUR 7 million for other activities as eligible.

FIND OUT MORE

www.biodiversa.org

[in https://www.linkedin.com/company/biodiversaplus/mycompany/](https://www.linkedin.com/company/biodiversaplus/mycompany/)

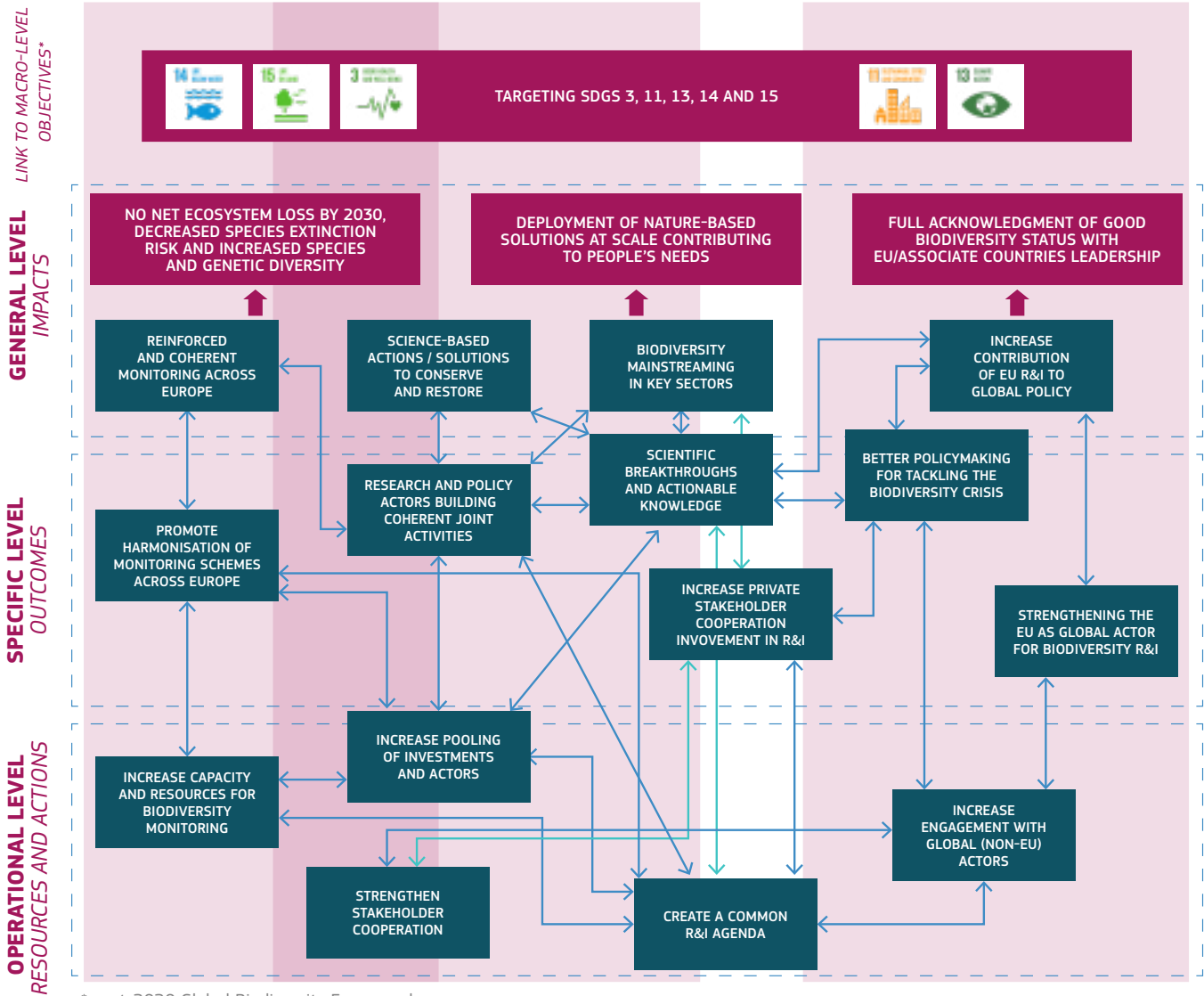
[X https://x.com/BiodiversaPlus](https://x.com/BiodiversaPlus)

[✉ contact@biodiversa.org](mailto:contact@biodiversa.org)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

EUROPEAN BIODIVERSITY PARTNERSHIP VISION:
CONTRIBUTE TO SOCIETAL CHALLENGES THROUGH ...





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	RESULT 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Joint call funding	Million EUR (cumulative)	42	91	168	252	N/A
Monitoring capacity and resources	# policy actors engaged	18	42	45	45	> 45
Global network engagement	# international networks/initiatives	4	6	10	12	15
OUTCOMES						
Scientific breakthroughs	# Q1 journal publications	20 per project	0	TBD	TBD	3 600 (by 2035)
Stakeholder involvement ¹	average # stakeholder groups per funded project	10	12 ¹	12	14	14
Shared monitoring priorities ²	# priorities implemented (cumulative)	6 pre-identified in 2022	5	7	9	9
Global policy contribution	# joint activities feeding global policy (cumulative)	2/ year	4	10	15	15
IMPACTS						
Joint R&I activities	# topical flagship programmes (cumulative)	2 in 2022	4	5	6	6
Private sector contribution	# joint calls for research proposals (cumulative)	1 per 2 years	1	2	4	N/A
Private sector in projects ³	# private sector project partners (cumulative)	N/A	36	60	90	> 100
Availability of harmonised monitoring schemes ⁴	# countries mobilised for set-up of transnational monitoring schemes	N/A	14	18	20	> 30
Uptake of nature-based solutions	# success stories (cumulative)	N/A	5	10	20	25
EU leadership in biodiversity R&I	# participating ministries and agencies of non-European countries (cumulative)	6 per call	13	20	30	N/A

¹ Unit is the number of institutions/organisations/groups. Targets are based on a posteriori analysis of actual implementation in completed BiodivERsA projects. Actual numbers will be reported as end-project outcomes, i.e. 4 years from the start of the project.

² For 2023, two topical priority activities (soil and IAS pilots) and three transversal biodiversity monitoring activities (governance, data interoperability and standards) have been implemented.

³ New indicator (alongside previously existing number of calls with private partner participation to fund research) detailing the actual number of organisations from the private sector involved as partners in funded research projects.

⁴ Unit is specified as the number of mobilised countries (previously just '#'), since the objective is to support the harmonisation and establishment of a network of national biodiversity monitoring schemes across countries, with a focus on transversal aspects (protocols, governance, data interoperability, novel technologies). Other, more topical networks are better suited for the role of harmonising individual (species-oriented) monitoring schemes.



- Baselines for which a value is indicated are based on the BiodivERsA experience, taking into account the upscaling and the activities undertaken in line with the 1st annual workplan of Biodiversa+.
- Impacts related to Biodiversa+-funded research will only become available after several years.
- The impact of Biodiversa+ on policy processes is difficult to assess as such impacts are aggregate effects determined by many external circumstances.
- Some KPIs will remain stable (same annual average), some will steadily increase as capacity and collaborations are built up, and some might vary (targets changing over the years) depending on the flagship programmes and developments in the EU funding and implementation landscape as a whole.
- The previous KPI 'Joint research and implementation workshops Biodiversa+/LIFE' has been removed, as this work has now been replaced by other efforts integrated into the annual work plans.

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 1

Biodiversa+ is performing in line with its plan of launching yearly joint calls for research proposals with budgets of over EUR 42 million each. The partnership works to engage new countries in each joint call and generally across the partnership. It continuously evaluates the results and successes of the research communities in these countries to develop their engagement in Biodiversa+ calls and activities. In the partnership's first three calls, non-EU partners and associate partners came from the countries listed below. However, not all of these countries' research groups were successful in obtaining funding. To address this issue, the partnership has launched a dedicated task force to follow up and strengthen its commitment to inclusivity and global reach. The task force pays specific attention to smaller and less successful research communities, both within Europe and beyond.

- Call 1 on biodiversity protection: Brazil, Israel, Moldova, Morocco, Norway, South Africa, Switzerland, Taiwan, Tunisia, Türkiye;
- Call 2 on biodiversity monitoring: Brazil, Côte d'Ivoire, Morocco, Norway, South Africa, Switzerland, Taiwan, Tunisia, Türkiye;
- Call 3 on nature-based solutions for biodiversity: Brazil, Canada, Faroe Islands, Georgia, Iceland, Israel, Moldova, Morocco, Norway,

Link: [Research funding – Biodiversa +](#)

SUCCESS STORY 2

Biodiversa+ has an internationalisation strategy which orients its work towards contributing to the implementation of the EU biodiversity strategy for 2030 and the Kunming-Montreal global biodiversity framework (GBF) and supporting the EU's global action for biodiversity through R&I cooperation.

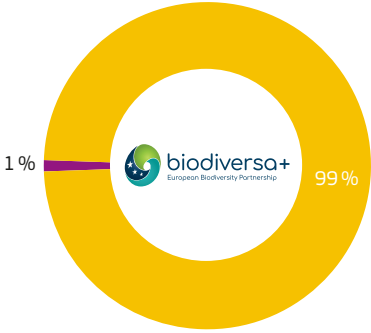
In April 2023, Biodiversa+ organised a science-policy forum in Prague, Czechia. It brought together conservation actors and knowledge communities to share experience in order to identify pathways to reach the GBF goals and targets. The forum was attended by over 100 people in person plus 115 attendees online and was an opportunity to facilitate scientific input into policymaking processes. The first part of the forum consisted of plenary keynote speeches by the Secretariat of the Convention on Biological Diversity, the European Commission, the Key Biodiversity Areas Secretariat and the International Institute for Applied Systems Analysis. The second session was structured as two panel discussions: one inviting national conservation actors to share experiences and needs and discuss barriers to setting up a trans-European nature network; the other inviting researchers funded under Biodiversa+ calls to discuss knowledge and capacity needs for facilitating the implementation of the GBF.

Link: [Science-policy forum on knowledge and capacity for implementing the Kunming-Montreal global biodiversity framework – Biodiversa+](#)



OVERVIEW OF MEMBERS

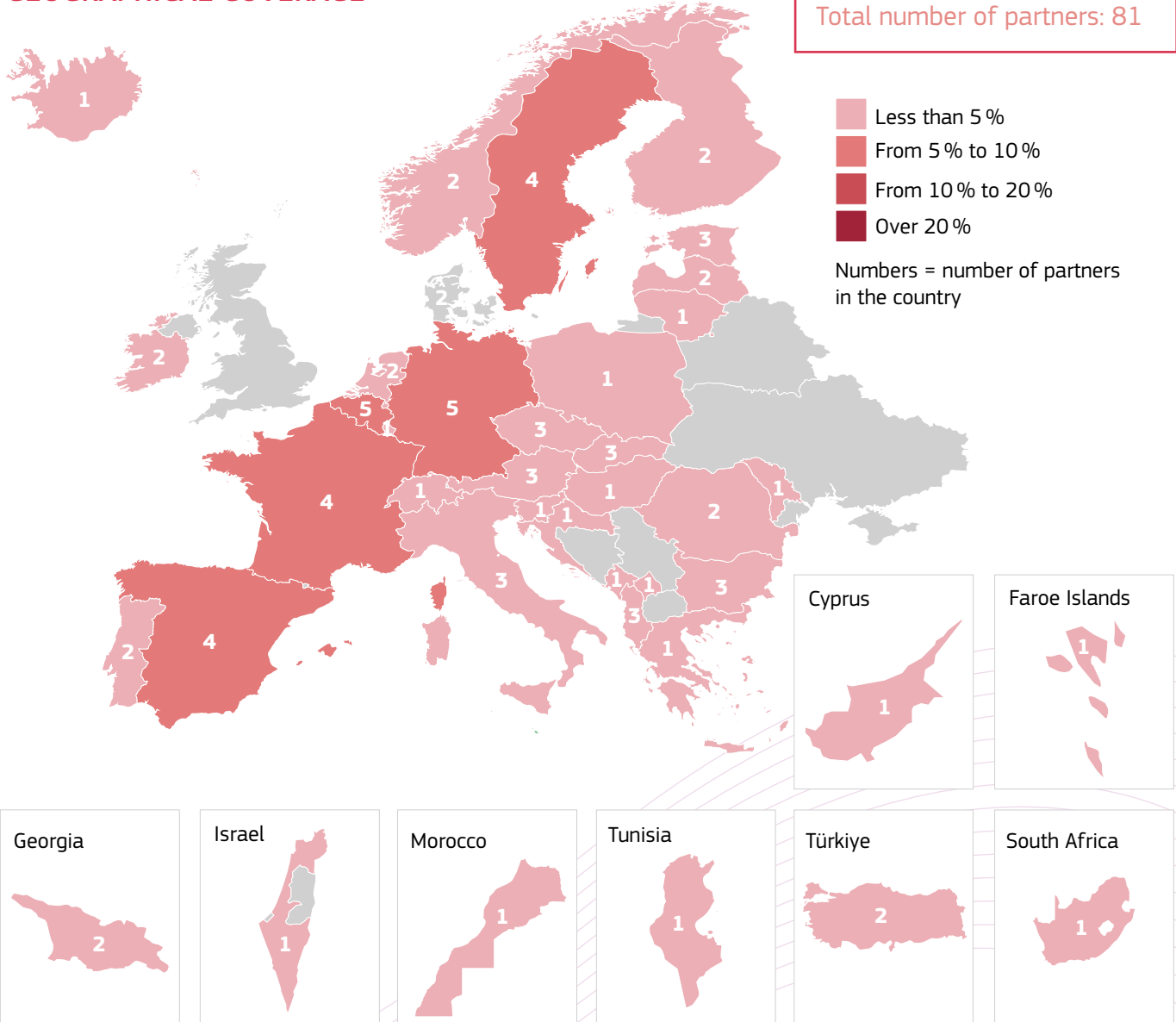
MEMBERS PER TYPE



PUBLIC Research funders, ministries, regions, cities
OTHERS Non-profit, associations, state companies etc.

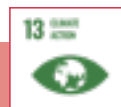
GEOGRAPHICAL COVERAGE

Total number of partners: 81





**Circular
Bio-based
Europe**
Joint Undertaking



MISSION AND VISION STATEMENT

The CBE JU's mission is to change the existing paradigm of production and consumption to drive industry, markets and consumers toward more sustainable industrial processes, reducing the impact on our planet. By shifting away from fossil-based processes, the CBE JU supports European industries in creating new value chains, deploying innovative ideas and realising inclusive business processes starting from sustainably sourced biomass.

The CBE JU aims to contribute to reaching the EU's ambitious climate targets and the European Green Deal objectives by shifting from non-renewable fossil-based raw materials to innovative, sustainable and circular bio-based production processes. While pursuing climate neutrality, resource efficiency, zero pollution and the protection of biodiversity, it also contributes to a just economic transition, creating jobs and economic growth across Europe.

The CBE JU brings together all actors from the bio-based sectors across the whole value chain, including primary producers, bio-based process industries, brand owners, academia and RTOs, among others, in order to solve the challenges of the sector.

Three main objectives of the CBE JU are to* :

1. accelerate the innovation process and development of innovative bio-based solutions;
2. accelerate market deployment of existing mature and innovative bio-based solutions;
3. ensure a high level of environmental performance of bio-based industrial systems.

*CBE JU general objectives, SBA article 46.1: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R2085&from=EN>

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 6: Food, bioeconomy, natural resources, agriculture and environment

Type of Partnership: Institutionalised (Art 187 TFEU) – Joint Undertaking

Coordinating entities: The Bio-based Industries Consortium (BIC) and DG RTD

Total estimated budget: EUR 2 bn

EU commitments: up to EUR 1 bn

Partners' commitments: at least EUR 1 bn

Predecessor under Horizon 2020: Bio-Based Industries Joint Undertaking

Start date-end date: 2021 - 2031

FIND OUT MORE

<https://www.cbe.europa.eu/>

<https://biconsortium.eu/bio-based-industries-consortium>

[in https://www.linkedin.com/company/cbe-ju/](https://www.linkedin.com/company/cbe-ju/)

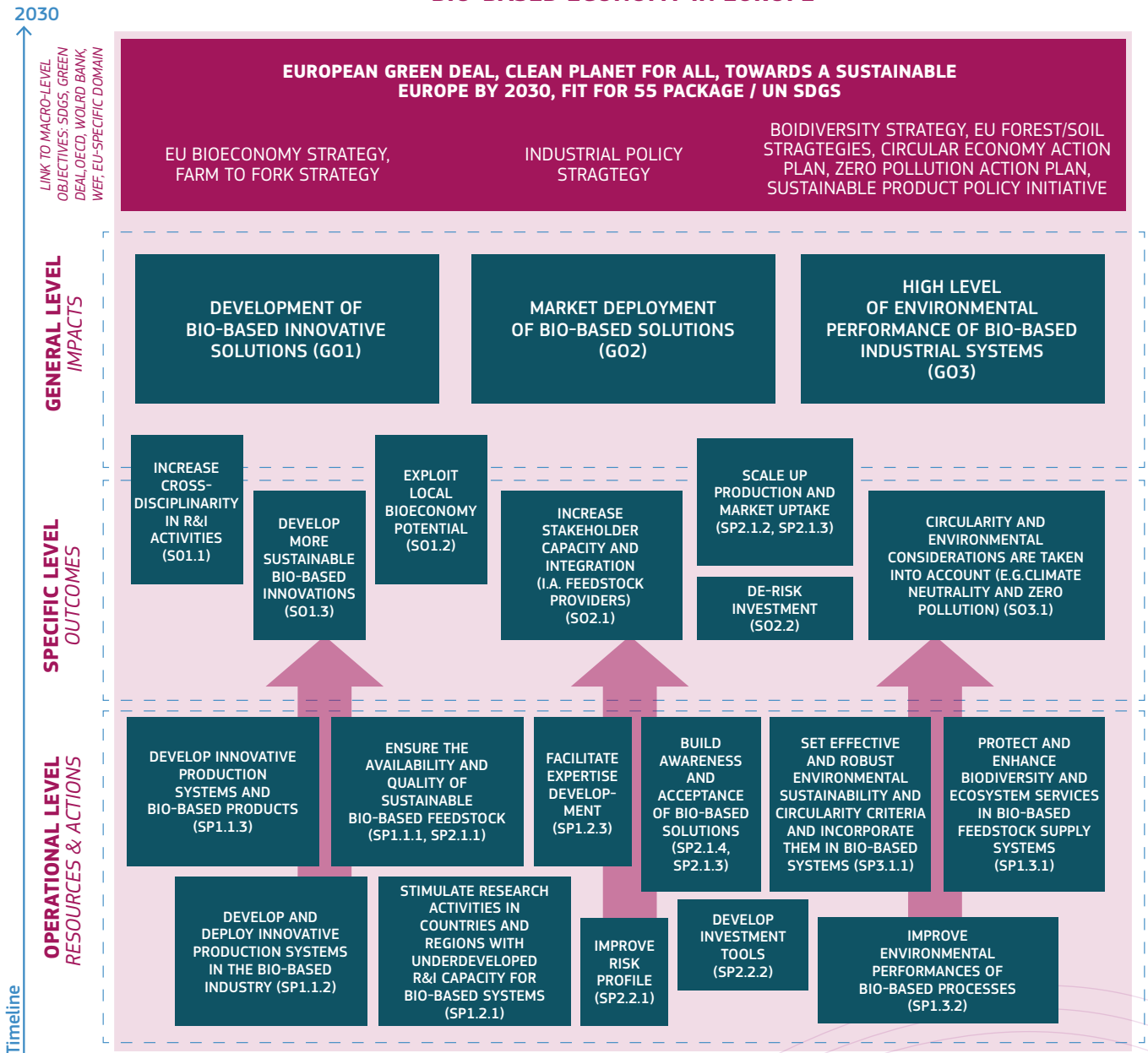
[X https://x.com/CBE_JU](https://x.com/CBE_JU)

[✉ info@cbe.europa.eu](mailto:info@cbe.europa.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

A SUSTAINABLE, CIRCULAR AND COMPETITIVE BIO-BASED ECONOMY IN EUROPE



References are included to:

- General Objectives (GO) and Specific Objectives (SO), as set in the CBE JU Single Basic Act, and Strategic Priorities (SP) defined in the Strategic Research and Innovation Agenda
- (*) Only the main EU policy areas and initiatives are included in the graph. CBE JU will likely contribute to many other EU policies, such as: 'Textiles strategy', 'Construction Products regulation', 'Renovation wave', 'New European Bauhaus', Sustainable carbon cycles communication, among others.



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES					
1. Strategic participation and integration of feedstock producers and suppliers	1.1. # primary producers involved as project beneficiaries and/or engaged in value chains at project level	14	52	79	100
	1.2. # (bio)waste management actors involved as project beneficiaries and/or engaged in value chains at project level	8	10	16	20
3. Ensure environmental sustainability of feedstock	3.1. # projects using feedstock generated with practices that contribute to enhancing biodiversity	15	16	24	30
	3.2. # projects using feedstock generated with practices aiming at zero pollution (soil, water, air) and/or at reducing water consumption	22	19	28	40
	3.3. # projects using feedstock generated with practices contributing to climate change mitigation and/or adaptation	21	32	47	60
7. Improve the market uptake of bio-based products	7. # brand owners involved as project partners and/or engaged with other mechanisms	12	24	38	50
OUTCOMES					
2. Unlock sustainable and circular bio-based feedstock	2. # innovative bio-based value chains created or supported based on sustainably sourced biomass	29	60	95	120
4. Improve environmental sustainability of bio-based production processes and value chains	4.1. # projects with innovative and sustainable processes that contribute to greenhouse gas emissions reduction	15	32	47	60
	4.2. # projects developing innovative and sustainable processes that improve on resource efficiency and zero waste	22	32	47	60
	4.3. # projects developing innovative and sustainable processes allowing zero pollution to be addressed	21	32	47	60
	4.4. # projects with innovative and sustainable processes that improve energy efficiency	15	32	47	60
	4.5. # products with improved environmental life cycle performance	22	25	40	50
5. Expand circularity in bio-based value chains	5.1. # innovative products that are biodegradable, compostable, recyclable, reused or upcycled (circular by design)	21	51	76	100
	5.2. # projects developing circular production practices (incl. industrial and industrial-urban symbiosis)	15	20	32	40
6. Increase innovative bio-based outputs and products	6.1. # innovative dedicated bio-based outputs with novel or significantly improved properties vs. relevant alternatives	22	47	71	100
	6.2. # innovative bio-based drop-in outputs meeting application requirements	21	16	24	30



8. Attract investment in the bio-based sector	8. # actions implemented at project level to attract investment and/or to create awareness in the investment/funding community	2	15	23	30
9. Increase resilience and capacity in the bio-based sector	9. # projects contributing to developing the skills and capacity needed by the EU bio-based sector	2	26	40	50
10. Improve participation of regions and countries with high unexploited potential	10.1. # participants from underrepresented EU countries and regions	9	50	100	150
	10.2. # regional hubs established and operated to process bio-based feedstocks and other cooperation aspects	4	8	13	15
	10.3. # projects with synergies with other funding programmes at EU, national or regional level	7	30	47	50

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

The EU's bioeconomy sector provides an innovative portfolio of climate-neutral materials and products, ranging from bio-based chemicals, construction materials and textiles to feed and food ingredients. In this context, bio-based industries can play an instrumental role in ensuring the EU's strategic autonomy, while boosting competitiveness, especially of SMEs. The development and deployment of 15 innovative first-of-their-kind biorefineries with high replicability potential demonstrates the capacity of European industry to lead the transformation to a sustainable economy, while contributing to the ambitious European green deal target of making Europe climate neutral by 2050. The following success stories showcase the contribution of the CBE JU to technological sovereignty in key strategic sectors, such as fertilisers, alternative proteins for food and feed, and chemicals.

BIO-BASED FERTILISERS

Currently, most fertilisers used in agriculture across Europe contain nitrogen, phosphorus and potassium sourced outside the EU. In addition, they are composed of fossil-based ingredients, which are not sustainable. Bio-based fertilisers are, therefore, a great opportunity to increase European autonomy while supporting local economies. For example, [B-FERST](#) uses bio-waste to produce different types of bio-based fertilisers that improve productivity and soil health, and [SUSFERT](#) develops multifunctional fertilisers for phosphorus and iron supply. See the [article](#) on CBE JU fertiliser projects for further examples.

ALTERNATIVE SOURCES OF PROTEINS FOR FOOD AND FEED

Europe needs to diversify its protein sources both to reduce the environmental footprint associated with animal-based proteins and to reduce its dependence on vegetable protein imports, which account for 75 % of its supply ([EP INI Report](#)). Two CBE JU flagship projects are directly contributing to the production of bio-based proteins: [PLENITUDE](#) aerobically ferments sustainable cereal crops to produce mycoproteins for use as food ingredients in meat alternatives, meat hybrids, pet food and many other products; [FARMYNG](#) converts mealworms into sustainable proteins and lipids for the fish feed and pet food end markets.



BIO-BASED CHEMICALS

In the context of the transformation of the chemical industry, Europe has big potential to lead the global production of bio-based chemicals, as shown by its current 31 % share of the global bio-based chemical market ([JRC study](#)). As an example, the CBE JU flagship project, [RESOLUTE](#) converts waste cellulosic biomass into safe, sustainable chemicals with applications across diverse industrial markets. The main bio-based chemical it produces is the novel solvent, Cyrene™, which is a replacement for petrochemical solvents. [AFTERBIOCHEM](#), another CBE JU flagship project, has developed a first-of-its-kind all-in-one chemical platform for transforming sugar industry sidestreams into bio-sourced molecules and ingredients for products such as preservatives for food and feed, nail varnish, fertilisers, flavours and fragrances.

LEADING THE WAY TO A GLOBAL SUSTAINABLE BIOECONOMY

The 15 CBE JU flagship biorefinery plants represent excellent examples of how innovative, first-of-their-kind bio-based processes and products can outperform and substitute their fossil-based equivalents, while contributing to the achievement of environmental and climate objectives and having a positive impact on local economies and communities (see [publication](#) with descriptions of flagship projects).

These novel biorefineries lead the way in the global production of a wide range of sustainable bio-based products, such as bio-based polymers from residual vegetable oils and sugars ([FIRST2RUN](#)); microfibrillated cellulose ([EXILVA](#)); nutritional, healthy ingredients and cosmetics from microalgae ([SCALE](#)); or a range of other intermediate products created by valorising the organic fraction of municipal solid waste ([CircularBioCarbon](#)).

OVERVIEW OF MEMBERS

The Circular Bio-based Joint Undertaking includes the European Union and the Bio-based industries consortium (BIC, 250+ industry members and 200+ associate members)*.

[The organisation | Circular Bio-based Europe Joint Undertaking \(CBE JU\) \(europa.eu\)](#)

[Home Page | Bio-based Industries Consortium \(BIC\) biconsortium.eu](#)

*Cut-off date, April 2024.

FutureFoodS**MISSION AND VISION STATEMENT**

The vision of FutureFoodS is to achieve an environmentally friendly, socially secure, fair and economically viable healthy and safe food system for Europe. FutureFoodS brings together 87 partners from 22 EU Member States, 6 Associated Countries and 1 Third Country.

FutureFoodS is as inclusive as possible, with public and private actors, policymakers and foundations involved at local, sub-national, national and EU-wide levels.

All of these FutureFoodS partners are fully aligned with the vision for the Partnership and the methodology for its achievement in line with SDG 17 and the European green deal.

The implementation of the eight FutureFoodS work packages will have a direct or indirect impact on most areas of Horizon Europe's Cluster 6 2023-2024 work programme, particularly on 'fair, healthy and environmentally friendly food systems from primary production to consumption', in line with the main EU and global food safety policies and strategies.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 6: Food, bioeconomy, natural resources, agriculture and environment

Type of Partnership: Co-funded

Coordinating entities: French National Research Agency (ANR)

Total estimated budget: EUR 525 m

EU commitments: EUR 175 m

Partners' commitments: EUR 350 m

Predecessor under Horizon 2020: FutureFoodS builds on the SUSFOOD (2011-2014) and SUSFOOD2 (2017-2022) ERA-NETs

Start date-end date: 2024 - 2033

FIND OUT MORE

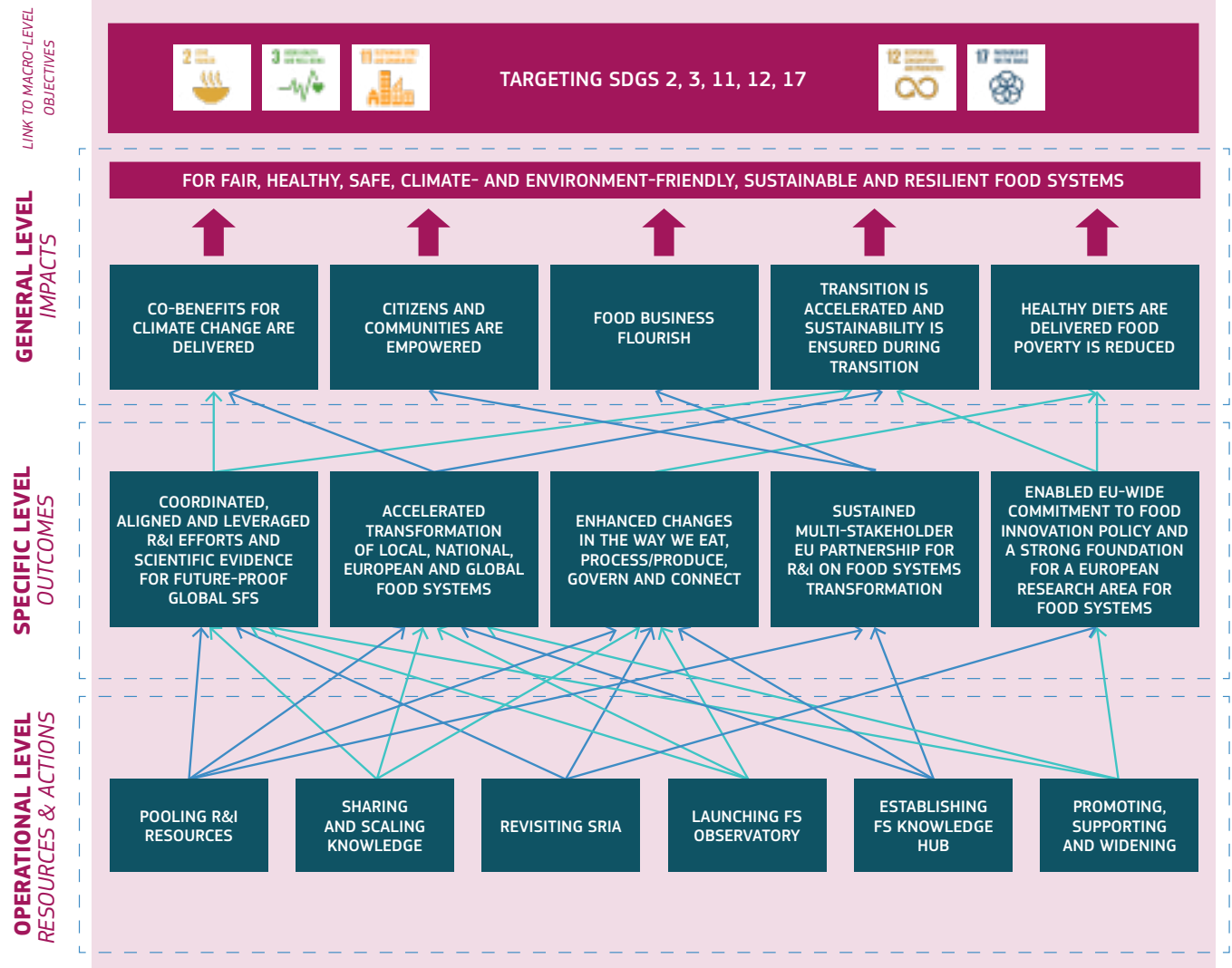
<https://www.foodpaths.eu/sfs-partnership/>

✉ FutureFoodS@agencerecherche.fr



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

**FUTUREFOODS PARTNESHIP VISION:
CONTRIBUTE TO OVERCOMING CHALLENGES THROUGH...**





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Joint calls	# (cumulated)	6 calls in 10 years	1	2	4	6
Partnership composition	# participants (per type, region and country)	26 organisations, 3 regions, 15 countries	87 organisations, 6 regions, 29 countries	87 organisations, 6 regions, 29 countries	TBD	TBD
Support for activities (internal calls)	# (cumulated)	N/A	TBD	TBD	TBD	TBD
Food safety labs on systemic innovations at different scales	#	N/A	TBD	TBD	TBD	TBD
Platforms shared	#	N/A	TBD	TBD	TBD	TBD
Data shared	#	N/A	TBD	TBD	TBD	TBD
Methods shared	#	N/A	TBD	TBD	TBD	TBD
Publications (peer-reviewed papers, policy briefs, reports)	#	TBD	TBD	TBD	TBD	TBD
Training sessions, webinars, events	#	TBD	TBD	TBD	TBD	TBD
OUTCOMES						
Interdisciplinarity of projects	# (or % of projects)	TBD	TBD	TBD	TBD	TBD
Public and private commitments	# (or EUR)	TBD	TBD	TBD	TBD	TBD
Citizen engagement	# projects	TBD	TBD	TBD	TBD	TBD
Case studies	#	TBD	TBD	TBD	TBD	TBD
Young researchers upskilled	#	N/A	TBD	TBD	TBD	TBD
New topics	#	TBD	TBD	TBD	TBD	TBD
Social media outreach	# followers	TBD	TBD	TBD	TBD	TBD
SOCIAL MEDIA OUTREACH						
Reduction of moderate or severe food insecurity	%	TBD	TBD	TBD	TBD	TBD
Prevalence of malnutrition	%	TBD	TBD	TBD	TBD	TBD
Dietary changes (intake of animal and plant protein, fruit and vegetables)	g/capita/day	TBD	TBD	TBD	TBD	TBD
Reduction of calorie intake	kcal/capita/day	TBD	TBD	TBD	TBD	TBD
Prevalence of obesity and food-related disease	%	TBD	TBD	TBD	TBD	TBD
Carbon footprint	kg CO ₂ equivalent	TBD	TBD	TBD	TBD	TBD
Water footprint	m ³ /capita/year	TBD	TBD	TBD	TBD	TBD

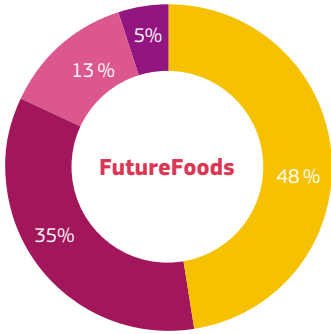
TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

Not available



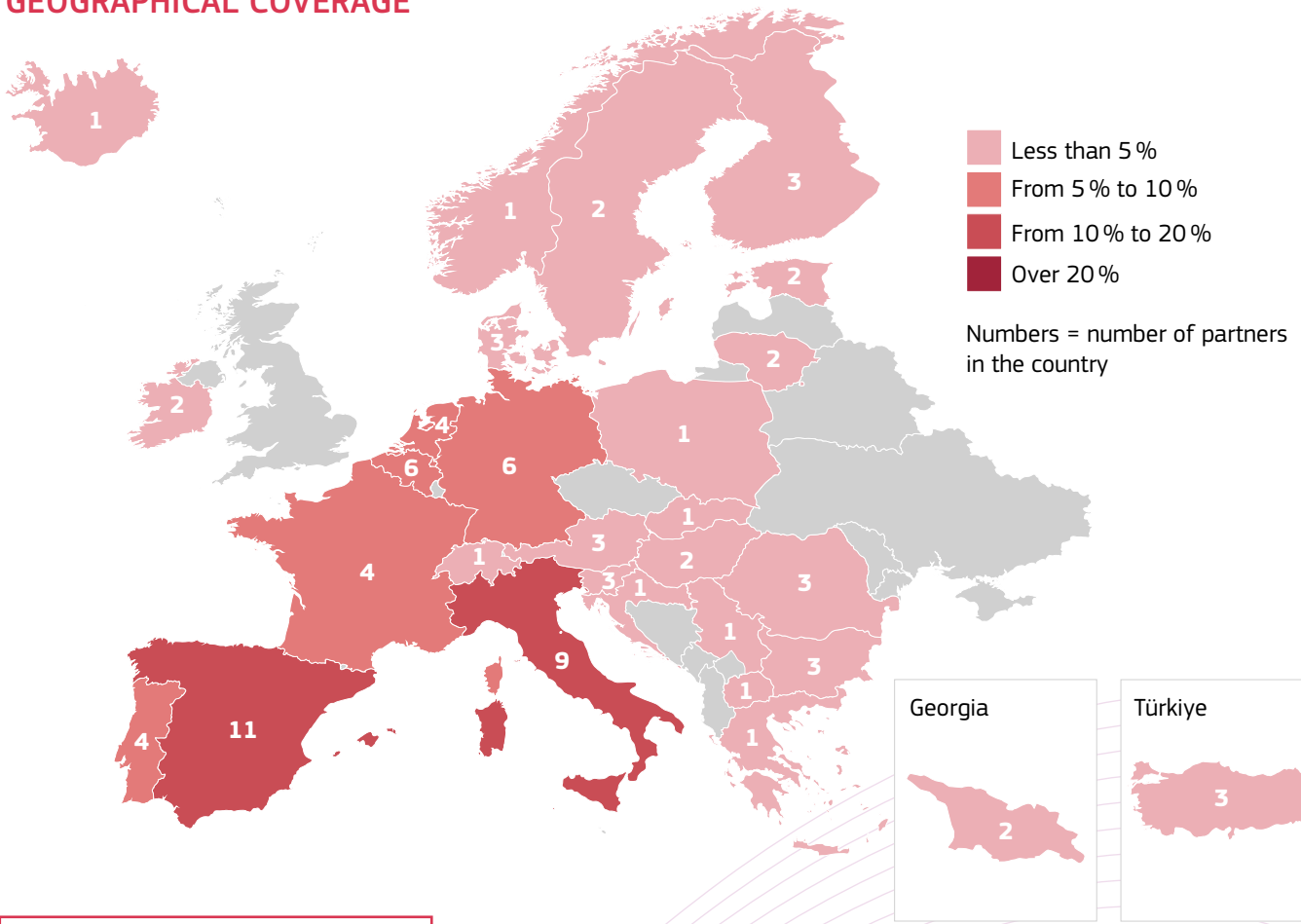
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 86



**Sustainable Blue
Economy Partnership**



MISSION AND VISION STATEMENT

SBEP will facilitate a just and inclusive transition to a climate-neutral, sustainable and productive blue economy that prioritises healthy ecosystems and the well-being of citizens. It will contribute to achieving EU policy objectives related to the green deal, the digital transition and recovery and resilience, and ultimately to the SDGs. By connecting different geographical dimensions and relevant initiatives at national, regional, European and global levels and mobilising stakeholders from different sectors and disciplines, the partnership will co-create and co-deliver knowledge-based solutions and innovative governance models through joint R&I calls on impact-oriented thematic areas of intervention and additional activities, combining various resources. Within this framework, support will also be provided to the Restore our Ocean and Waters Mission and the Global Earth Observation System.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 6: Food, bioeconomy, natural resources, agriculture and environment

Type of Partnership: Co-funded

Coordinating entities: Italian Ministry of Universities and Research /
The Research Council of Norway

Total estimated budget: EUR 490.72 m

EU commitments: EUR 150 m

Partners' commitments: EUR 340.72 m

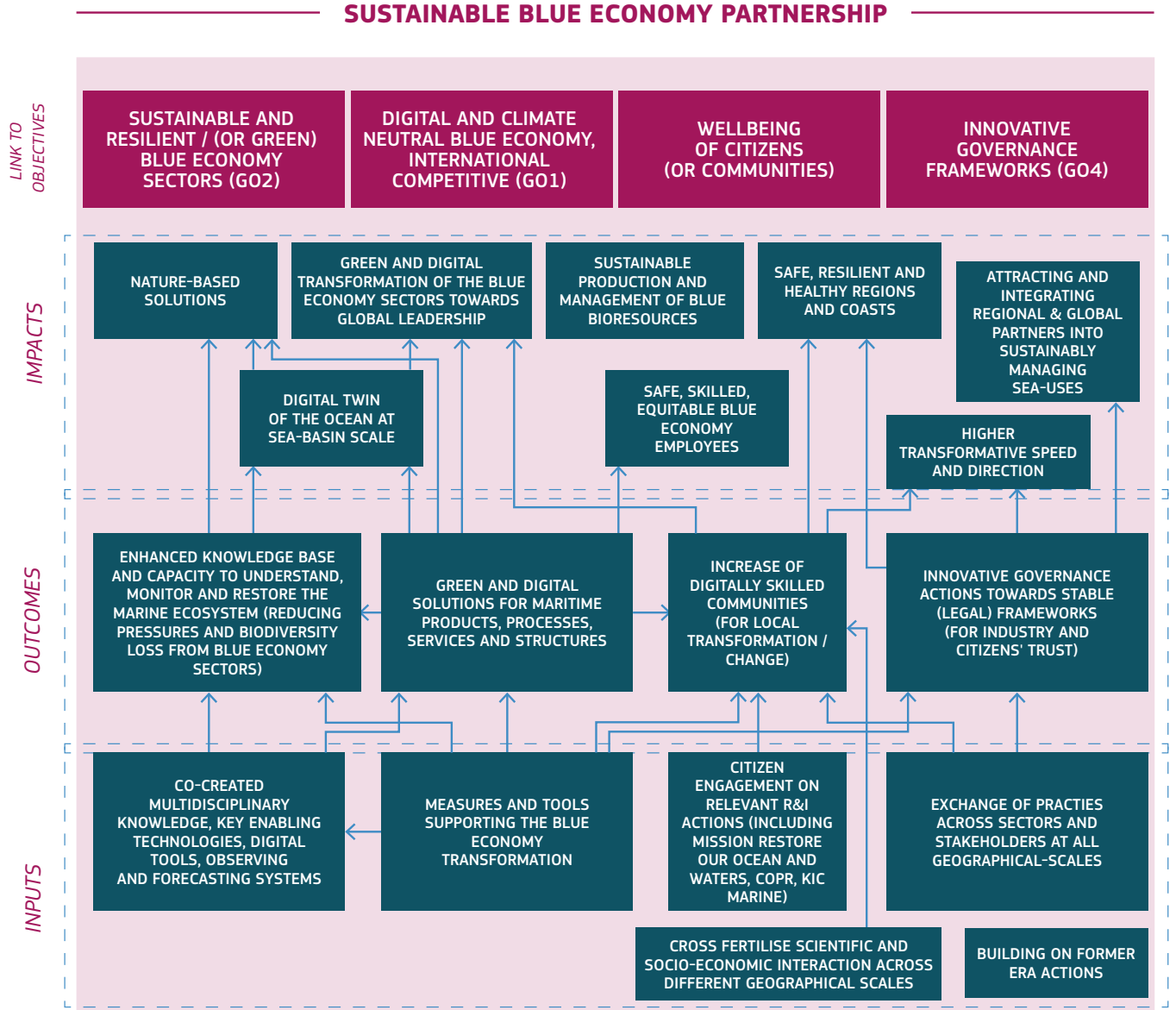
FIND OUT MORE

<https://bluepartnership.eu/>

✉ sbep@mur.gov.it



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE (WORK IN PROGRESS)	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
R&I financial support	Million EUR (national funding through calls)	43	N/A	N/A	229	N/A
Peer-reviewed publications	#	N/A	N/A	N/A	3 per project	3 per project
Citizen engagement	% projects with citizen involvement	4 out of 19	N/A	10 %	10 %	10 %
Ocean literacy promotion	% funded projects	N/A	N/A	50 %	50 %	50 %
Funded projects addressing at least two sea basins	%	N/A	N/A	25 %	25 %	25 %
Funded projects involving companies	%	75 %	N/A	75 %	75 %	75 %
High TRL projects	%	N/A	N/A	10 %	10 %	10 %
Countries with complementary funds	#	N/A	N/A	3	5	5
Projects with non-EU countries/non-Horizon Europe-associated countries	%	5 %	N/A	20 %	20 %	20 %
OUTCOMES						
Capacity building and training	# people trained	N/A	N/A	N/A	2-3 per project	2-3 per project
FAIR data	% projects sharing their data	N/A	N/A	N/A	30 %	30 %
Monitoring, understanding and restoration of marine ecosystems	% projects targeting marine ecosystems	N/A	N/A	10-20 %	10-20 %	10-20 %
Green innovation projects	%	N/A	N/A	60 % of projects/call	60 % of projects/call	60 % of projects/call
Digital innovation projects	%	N/A	N/A	10 % of projects/call	10 % of projects/call	10 % of projects/call
Funded projects with sub-regional applications	%	N/A	N/A	60 % of projects/call	60 % of projects/call	60 % of projects/call
Funded projects contributing to public policy	%	N/A	N/A	N/A	20 % of projects/call or 1 project/region	20 % projects/call or 1 project/region
Projects in thematic annual programming calls	%	N/A	N/A	5 %	10 %	10 %
Shared infrastructure in actions	%	N/A	N/A	10 %	15 %	20 %



IMPACTS						
Increased employability	# scientific positions created	N/A	N/A	N/A	50 % of non-permanent participants	50 % of non-permanent participants
Nature-based solutions	% funded projects	N/A	N/A	N/A	25 % projects/call	30 % projects/call
Market uptake of project results	% projects with a commercialisation budget	N/A	N/A	N/A	0 %	0 %
Digital skills development	# projects moving to high tech as a result of increased digital skills	N/A	N/A	N/A	30 % of projects/call	30 % of projects/call
Higher transformative speed and direction	# project clusters connected to CoPr (e.g. DG Mare aquaculture)	N/A	N/A	N/A	5 project clusters	N/A

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 1 – INTERNATIONAL POSITIONING

The Partnership's Brussels office acts as the liaison office, connecting the sea-basin, European and global dimensions. Designed to support the co-creation approach outlined in the strategic R&I agenda, its activities have already had a tangible structuring effect.

1. Recognising sea basins as gateways for international blue economy cooperation, 10 contact nodes in different countries have been designated as regional antennas for fostering dialogue across the four sea basins (Mediterranean, Black, North, Baltic) and the Atlantic Ocean, as well as increasing local-level impact. This has resulted in increased regional-level visibility of the Partnership, cross-fertilisation, best practice exchange and ownership.
2. Interactions with international organisations and initiatives such as the G7 Future of Seas and Oceans Initiative, the UNESCO Intergovernmental Oceanographic Commission and the Organisation for Economic Co-operation and Development contribute to EU internationalisation and global cooperation strategies and the strengthening of ERA beyond Europe.

These connectivity activities support the development of a widening and internationalisation roadmap. In line with the roadmap provisions and building on EU collaboration agreements with other countries, the Partnership is engaging newcomers: Brazil, Georgia, Tunisia and Ukraine. Furthermore, the Partnership has met with representatives from Western Balkans countries at a dedicated policy conference. Finally, organisations from non-member countries and self-funders have also been involved.

SUCCESS STORY 2 – TECHNOLOGICAL SOVEREIGNTY

In ocean-based sectors such as the maritime industry, offshore energy, aquaculture and underwater robotics, Europe has a leading position, with players ranging from unicorns to global industries. These sectors should be developed within a clustering framework to ensure synergies and trade-offs, and weaker areas should be strengthened to reinforce technological sovereignty. Key challenges relate to lagging behind on AI and digitalisation. The Partnership focuses on bringing different actors together within a quintuple helix concept encompassing science, industry, public authorities, civil society and the environment, with a view to integrating technology to generate ocean-related digital market opportunities in the public and private sector.

Given the increased pressure to strengthen Europe's competitive edge and overcome bottlenecks to support its autonomy, the Partnership will address:

- AI in the framework of Digital Twins of the Ocean (DTO) intervention areas, multiuse offshore platforms and management of use of the sea
- Digital technologies as a cross-cutting element of all actions and key in particular to DTO implementation, taking account of coastal and sea basin needs and subsurface specificities; and development of sensors and materials for multiuse offshore platforms

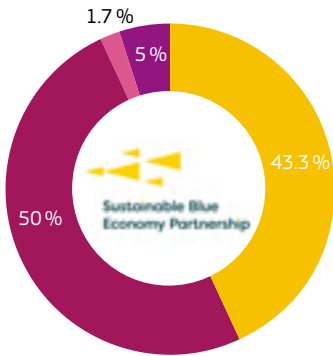
So far, the Partnership has mainly worked on structuring the landscape for transformation in an agreed direction and at a higher speed through the following actions:

- Cooperation with other EU partnerships working with industry, such as the Zero-Emission Waterborne Transport and Innovative SMEs partnerships;
- Establishment of a specific task dedicated to facilitating market uptake and helping co-funded projects through the 'valley of death' with instruments such as BlueInvest and the European Innovation Council;
- Dialogue with the European Commission Directorate-General for Maritime Affairs and Fisheries on the use of place-based innovation and communities of practice to ensure that no one is left behind;
- Consideration of the potential for synergies between the thematic and regional project clusters to be established by the Partnership and activities implemented within smart specialisation strategies.



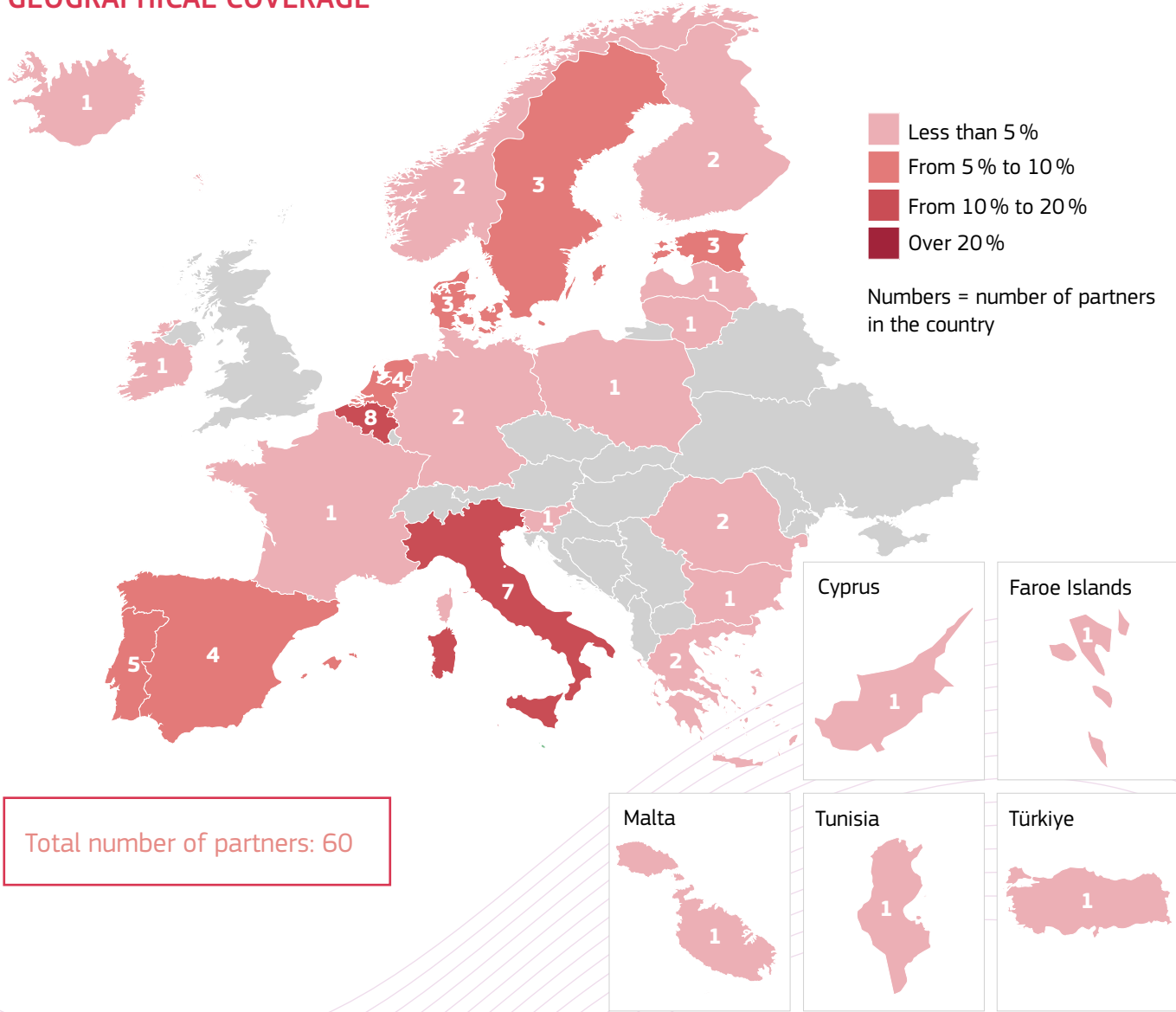
OVERVIEW OF MEMBERS

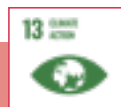
MEMBERS PER TYPE



- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

Water4All aims to facilitate systemic transformation and change along the entire water R&I pipeline, fostering matchmaking between problem owners and solution providers to ensure long-term water security for all.

The Water4All consortium encompasses R&I funders, environmental authorities, water sector networks and researchers. It takes and promotes a holistic approach to freshwater R&I, connecting actors from research to decision-making and field implementation, including citizens. The Partnership is striving to address water challenges in a more integrated and informed way and to increase uptake of innovative solutions.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar II – Cluster 6: Food, bioeconomy, natural resources, agriculture and environment

Type of Partnership: Co-funded

Coordinating entities: Agence Nationale de la Recherche (ANR)

Total estimated budget: EUR 420 m

EU commitments: EUR 126 m

Partners' commitments: EUR 294 m

Predecessor under Horizon 2020: Water4All builds on the **Water Joint Programming Initiative (Water JPI)**, and also on a number of ERA-NETs (Water Works, Aquatic Pollutants)

Start date-end date: 2022- 2027

FIND OUT MORE

www.water4all-partnership.eu

 <http://linkedin.com/groups/8455262>

 <https://x.com/water4alleu>

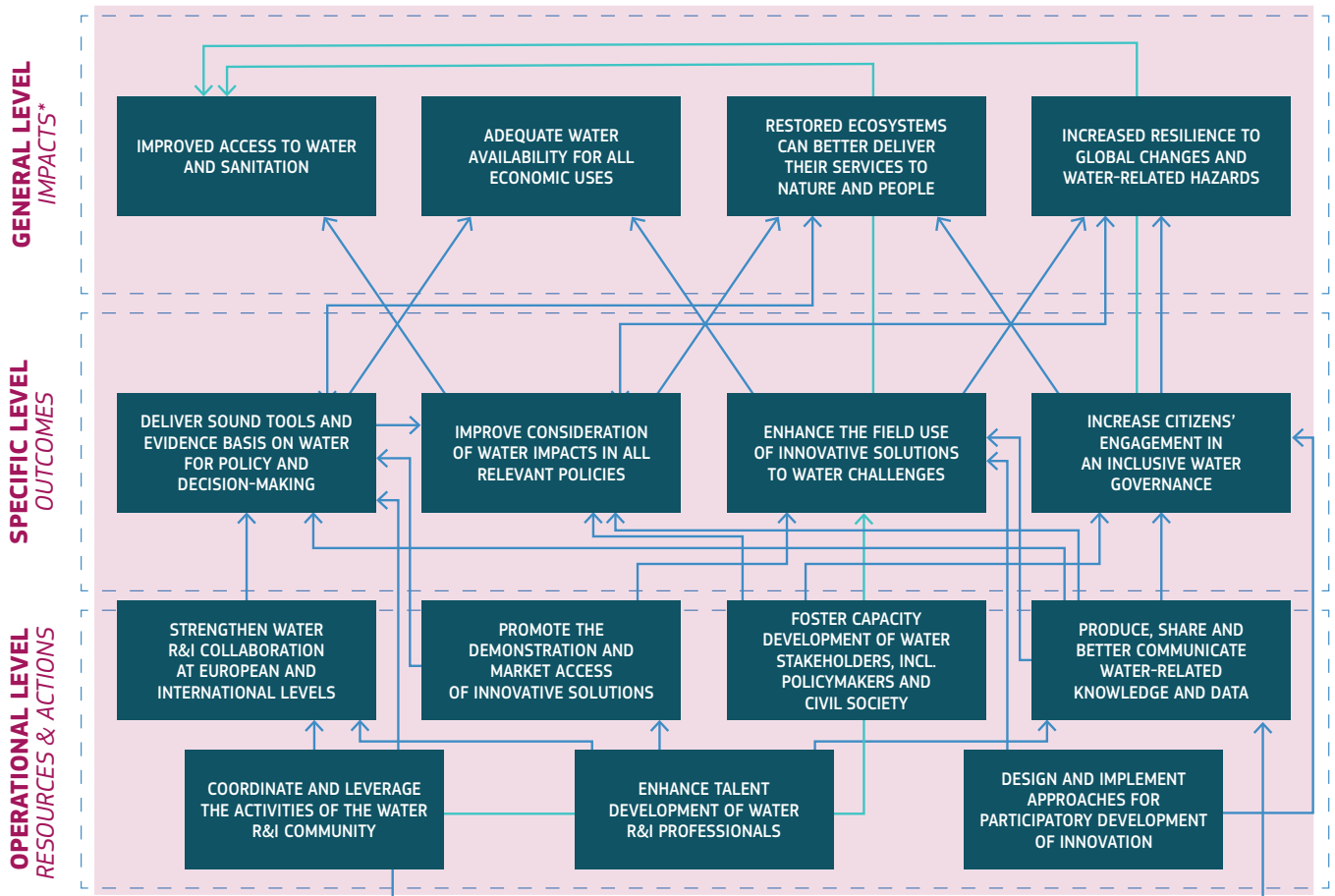
 <https://www.youtube.com/channel/UCIR880cyeg5v87KzLzeVlkQ>

 Water4all@agencerecherche.fr



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

**SDG 6: CLEAN WATER AND SANITATION
WATER SECURITY FOR ALL ...**



* The targeted long-term impacts refer to the components of water security proposed by UN-Water (2013) for the sustainable development agenda: https://www.unwater.org/app/uploads/2017/05/unwater_poster_Oct2013.pdf



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Partnership composition	# participants (per type and country)	20	74 from 28 countries	90	100	N/A
Coordinated activities	# European initiatives	4	8	10	10	N/A
Innovative solutions presented	# in central web portal	N/A	N/A	TBC	TBC	N/A
Social media outreach	# followers (e.g. LinkedIn)	N/A	800	1 000	TBC	N/A
Early-career researchers upskilled	#	N/A	N/A	10	TBC	N/A
Individuals benefiting from capacity and knowledge building	#	N/A	N/A	3	10	N/A
Citizen/end-user contribution to R&I projects	% funded projects	N/A	N/A	15 %	50 %	100 %
Water4All water-oriented living labs (WOLL)	# new WOLL	N/A	N/A	15	TBC	N/A
Participation in and organisation of international conferences	# high-level international conferences	N/A	5	15-20	TBC	N/A
OUTCOMES						
Water data delivery in an open access platform	# funded projects gathering produced data	N/A	N/A	15	50	100
Contributions to public policy and strategic documents	# contributions (meetings, working groups, strategic documents)	N/A	5	20	TBC	
Uptake of research-produced tools	# start-ups/SMEs supported	N/A	8	25	TBC	
Peer-reviewed scientific publications	#	N/A	-	-	1 per project	
Inclusive water governance	% W4A activities, including funded projects	N/A	20 %	40 %	60 %	75 %
IMPACTS						
Population access to drinking water	% (EU)	94 %	N/A	N/A	N/A	TBD
Population access to sanitation	% (EU)	73 %	N/A	N/A	N/A	TBD
Level of water stress	% (withdrawal vs resources)	8.51 %	N/A	N/A	N/A	TBD
Permanent water area	km ² (lakes and rivers)	520 881	N/A	N/A	N/A	TBD
Economic loss from water-related hazards	% GDP	0.25 %	N/A	N/A	N/A	TBD



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 1

Water4All deals with water challenges in Europe and beyond. It will not directly contribute to the development of key enabling technologies defined within the EU technological sovereignty framework as Europe is not (yet) dependent on non-EU countries for water resources.

However, water is a major issue for European industries. Innovations supporting sustainable and shared use of freshwater in the context of climate change will be relevant and useful for independent technological industries. This concerns both quantitative (available amount of freshwater for industries and processes) and qualitative (management of wastewater, water treatment) aspects.

In this context, the 3rd Water4All joint transnational call on water and the circular economy (published in September 2024) is a good example of an activity supporting independent EU industries, as it will certainly include proposals for the development of innovations and solutions to help industries to save water.

SUCCESS STORY 2: INTERNATIONAL POSITIONING

At its launch in June 2022, the Water4All consortium included seven non-EU countries: Brazil, Israel, Norway, South Africa, Switzerland, Türkiye and the UK. Inclusion of non-EU countries has been a priority for the Partnership from the beginning. Based on an international strategy and active participation at high-level international conferences like the UN Water Conference 2023* (22-24 March 2023 in New York) and the 10th World Water Forum in May 2024,** Water4All is set to welcome more new countries. In 2024, Georgia and Tunisia will join the Partnership, and discussions are ongoing with several other countries, including China, Cuba, India and Western Balkans countries.

The Water4All international strategy, published at the end of 2023, reinforces this element and gives more visibility to the Partnership's priorities and opportunities.

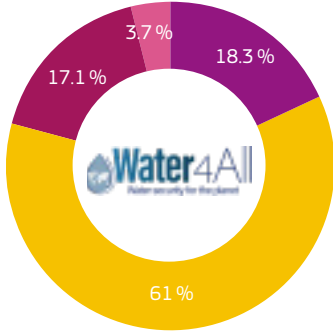
* Review of the UN 2023 Water Conference | European Partnership Water4All (water4all-partnership.eu)

**2024 World Water Forum – Bali, Indonesia | European Partnership Water4All (water4all-partnership.eu)



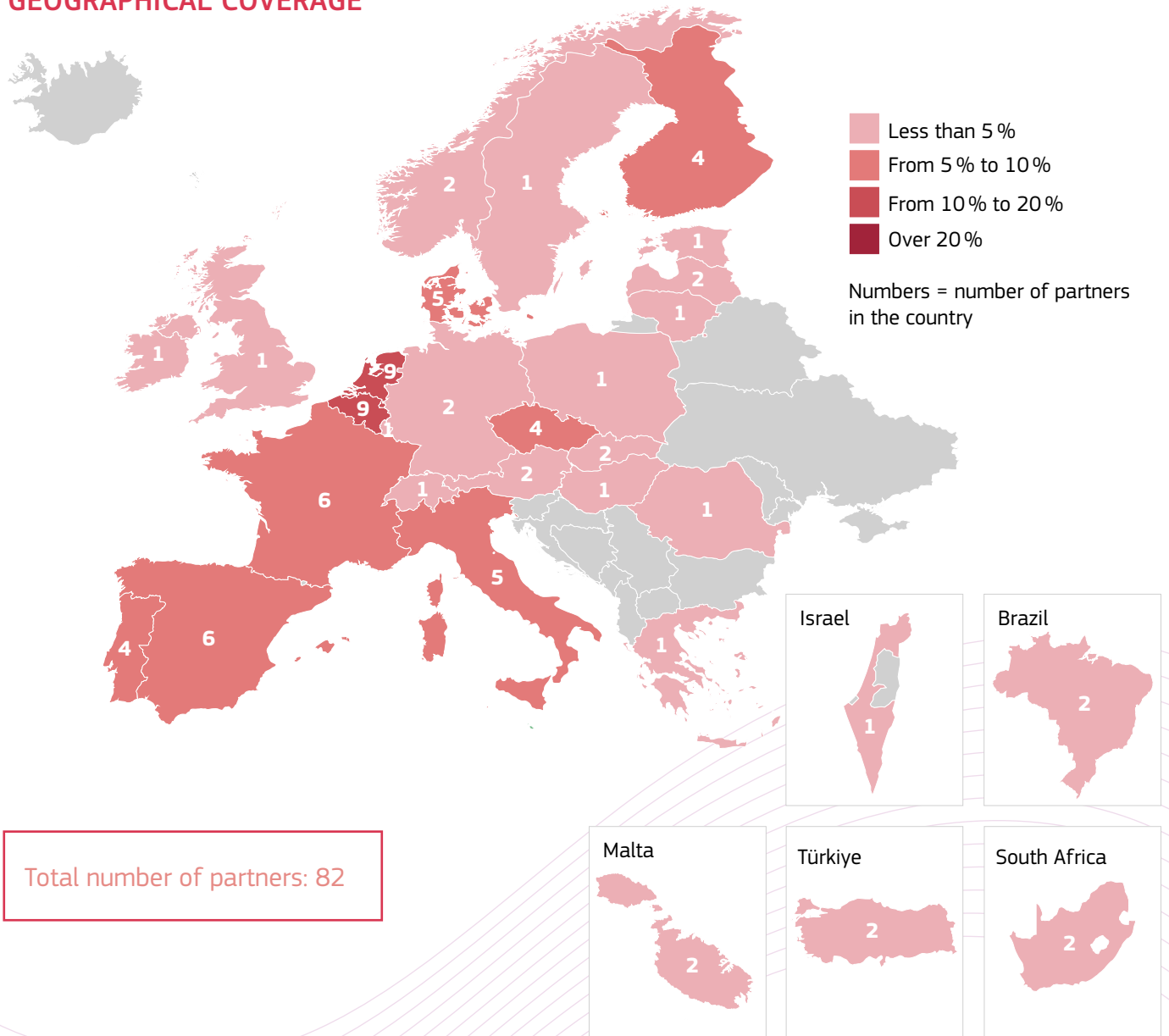
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





OTHER PILLARS



MISSION AND VISION STATEMENT

EIT Climate-KIC's mission is to catalyse systemic change through innovation. We work in partnership with places: cities, regions, states, and their industry value chains, to help them deliver their ambitious climate targets. We integrate financial mobilisation, social change, regulatory alignment, and technology solutions to advance climate mitigation and resilience. With partners and stakeholders, EIT Climate-KIC mobilises large-scale demonstrations of rapid change, platforms on which to test, learn and scale solutions that can trigger exponential decarbonisation and build resilient communities. We build momentum by demonstrating what is possible.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar III – European Institute of Innovation and Technology

Type of Partnership: Institutionalised – EIT KIC

Coordinating entity: EIT Climate-KIC Holding BV

Total estimated budget: EUR 22.7 m*

Start and end date: 2010-2024

* Budget of the multiannual grant cycle covering the 2023-2025 period.

The KIC multiannual budget is assessed annually by the EIT based on the KIC's Business Plan, with the possibility, in case of positive assessments, to make additional allocations to it.

FIND OUT MORE

<https://www.climate-kic.org/>

[f https://www.facebook.com/ClimateKIC](https://www.facebook.com/ClimateKIC)

[@ https://www.instagram.com/climate.kic/related_profiles/](https://www.instagram.com/climate.kic/related_profiles/)

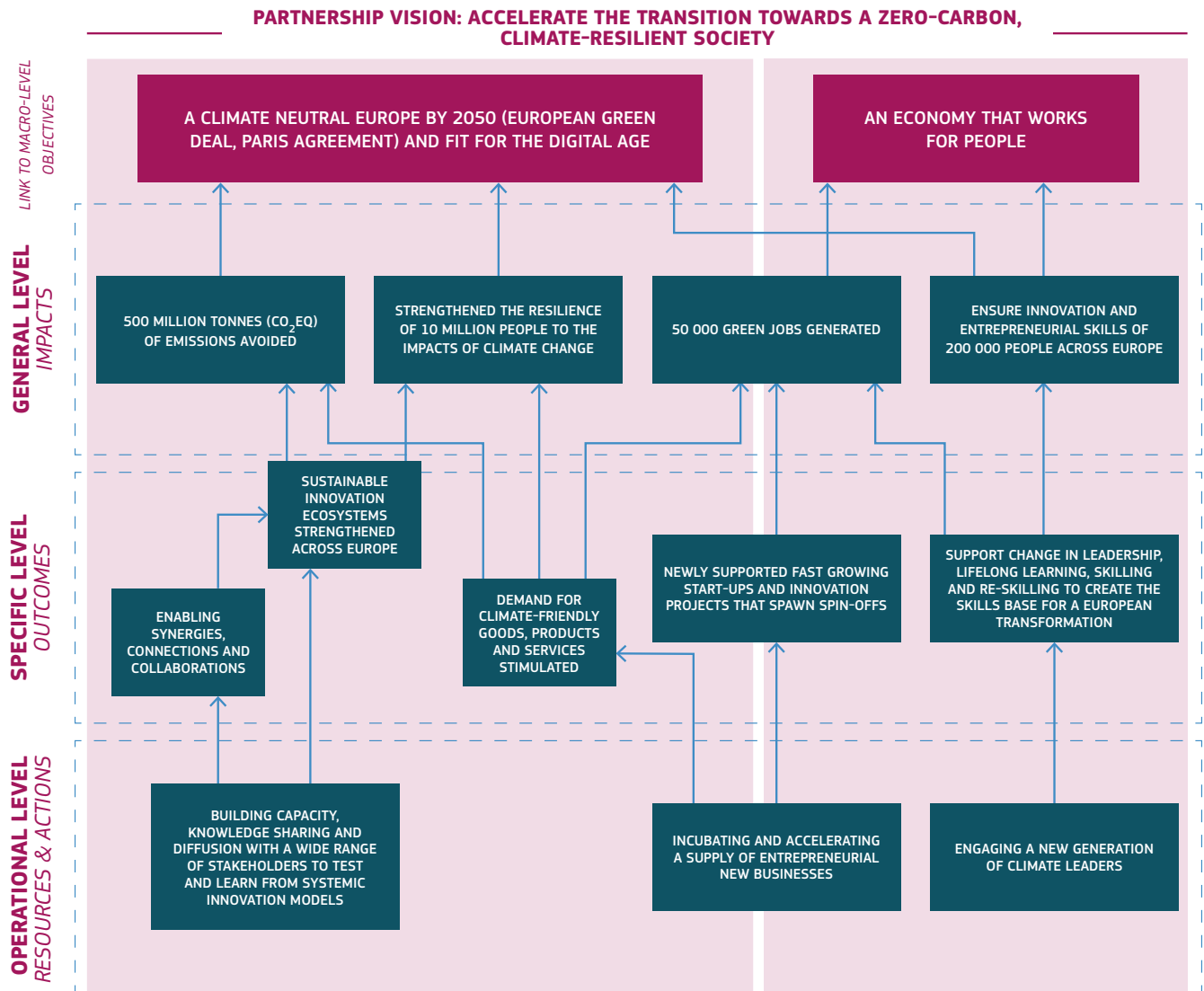
[in https://www.linkedin.com/company/climate-kic/mycompany/verification/](https://www.linkedin.com/company/climate-kic/mycompany/verification/)

[X https://x.com/EITManufactur](https://x.com/EITManufactur)

[✉ support@eitmanufacturing.eu](mailto:support@eitmanufacturing.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Active partners collaborating in the KIC	Numerical	-	160	150	150	N/A
Membership fees	EUR	300 000	800 000	TBD	TBD	N/A
Securing direct sales of SaaS with cities, regions, states, and industry sectors	SaaS contracts worth more than EUR 1 million	1	3	5	5	N/A
OUTCOMES						
Investment attracted by KIC-supported start-ups and scale-ups	EUR million	-	10	20	20	N/A
Funding leveraged to support scale-up/diffusion of innovations to tackle climate change	EUR billion	5.6	-	30	100	N/A
Financial sustainability revenues	EUR million	-	10	20	27	N/A
Climate-friendly jobs created or sustained	Numerical	-	-	20 000	50 000	N/A
Cities, regions, countries, and large-scale businesses succeeded in an ambition to tackle climate change at the speed and scale needed	Numerical	-	-	30	50	N/A
IMPACTS						
Reduced CO ₂ emissions	Million tonnes CO ₂	-	-	200	500	N/A
Strengthened resilience to the unavoidable impacts of climate change	Million	-	-	3	10	N/A



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 1: EU MISSIONS AS INNOVATION PLATFORMS FOR TESTING, LEARNING AND SCALING EUROPEAN SOLUTIONS.

We lead the Mission Implementation Platform (MIP) for the EU Cities Mission, working with 112 cities to shape the conditions and the markets (worth around EUR 1 trillion) that will enable them to decarbonise by 2030. We extend this to other cities through national platforms such as the Spanish CitiES 2030 platform, which is now blending EU funding, national cohesion funds and philanthropic funding. We have built the cross-EU platform that enables rapid testing, learning, and scaling of new business, finance, and social solutions, supporting European climate, economic and industrial policies, and preparing the ground for local investment: <https://netzerocities.eu/>

Similarly, we run a series of key programmes within the Adaptation Mission, supporting over 150 EU regions, and creating the innovation platform to test and scale new solutions for regional resilience to climate impacts, and to transform Europe's small and medium enterprises: <https://www.pathways2resilience.eu/>

SUCCESS STORY 2: SUPPORTING VENTURE FUNDS TO INVEST IN SCALABLE EUROPEAN START-UPS AND SCALE-UPS.

Our **Investing for 1.5C** fund model is targeted at the specific needs of Venture Capital Funds who wish to invest in European start-ups and scale-up businesses that systemically address the climate challenge. The approach builds on Climate-KIC's history and track-record of incubating over 2 100 European start-ups and continuing to track over 1 100 companies. Drawing upon the success of the EIT Health 'Venture Centre of Excellence' model, we have designed a new commercial service whereby EIT Climate-KIC provides strategic climate advisory services to the venture funds to help them invest in start-ups and scale-ups which can best be matched and scaled to the emerging markets being created by the EU Missions for climate-neutral cities, climate-resilient regions, and healthy soils. These missions provide the platform for rapid testing, learning, and scaling solutions from one place to cities and regions across Europe – shortening the innovation cycle for European business ideas and providing rapid market scale and supporting European technological sovereignty. The Cities Mission, itself, has an addressable market value of over EUR 1 trillion:

<https://www.climate-kic.org/get-involved/investment-opportunities/#:-:text=Investing%20for%201.5C%20is,blocks%20of%20a%20new%20economy>

SUCCESS STORY/EXAMPLE 3: TAKING EUROPEAN SUCCESS STORY GLOBAL

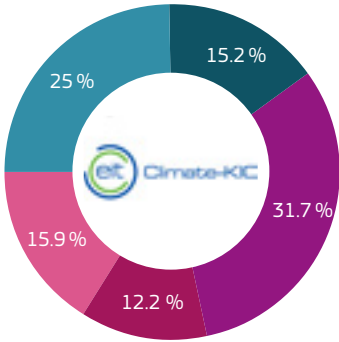
EIT Climate-KIC has a suite of innovation ecosystem building activities that create the enabling conditions to nurture development of local entrepreneurs and their solutions and to match these solutions against local demand. This includes programmes to identify, support and invest in entrepreneurs through every stage of innovation, helping them move from initial concepts to scalable solutions. These programmes have been very successful across Europe and are now gaining global traction. This model fits neatly with the European Commission policy of engagement with Africa, seeking to use European R&D&I know-how to support African economic development and resilience. EIT Climate-KIC is now operating in fifteen African countries, working with and through local partners and funded through Member State development agencies, UN agencies and local development banks. In our ClimateLaunchpad programme more African ideas were submitted and more African entrepreneurs were supported than before: 909 ideas (45 % of total ideas across programme globally) and over 150 participating in the full programme. CDC, BMZ/GIZ and Irish Aid have provided funding with the aim of building and sustaining local innovation ecosystems and local enterprise support organisations:

<https://climatelaunchpad.org/>



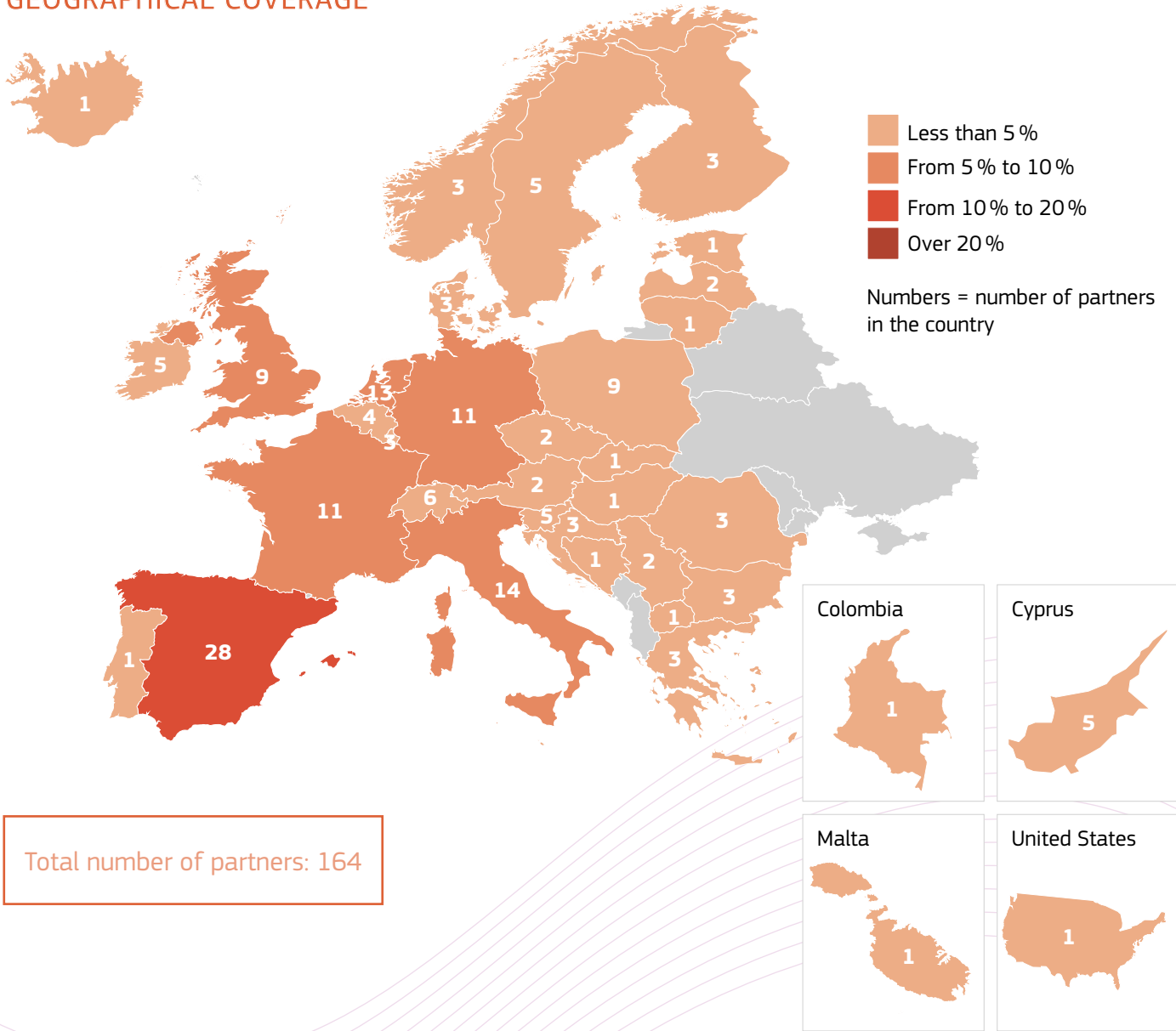
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

We embody the future of innovation by mobilising a pan-European multi-stakeholder open-innovation ecosystem of top European corporations, SMEs, startups, universities and research institutes, where students, researchers, engineers, business developers and investors address the technology, talent, skills, business and capital needs of digital entrepreneurship.

We build the next generation of digital ventures, digital products and services, and foster digital entrepreneurial talent, helping business and entrepreneurs to be at the frontier of digital innovation by providing them with technology, talent, and growth support.

EIT Digital answers specific innovation needs by, finding the right partners to bring technology to the market, supporting the scale-up of digital technology ventures, attracting talent and developing their digital knowledge and skills.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar III – European Institute of Innovation and Technology

Type of Partnership: Institutionalised – EIT KIC

Coordinating entity: EIT Digital IVZW

Total estimated budget: Budget: EUR 33.7 m*

Predecessor under Horizon 2020: Started in 2010

* Budget of the multiannual grant cycle covering the 2023-2025 period.

The KIC multiannual budget is assessed annually by the EIT based on the KIC's Business Plan, with the possibility, in case of positive assessments, to make additional allocations to it.

FIND OUT MORE

[in https://www.linkedin.com/company/eit-digital](https://www.linkedin.com/company/eit-digital)

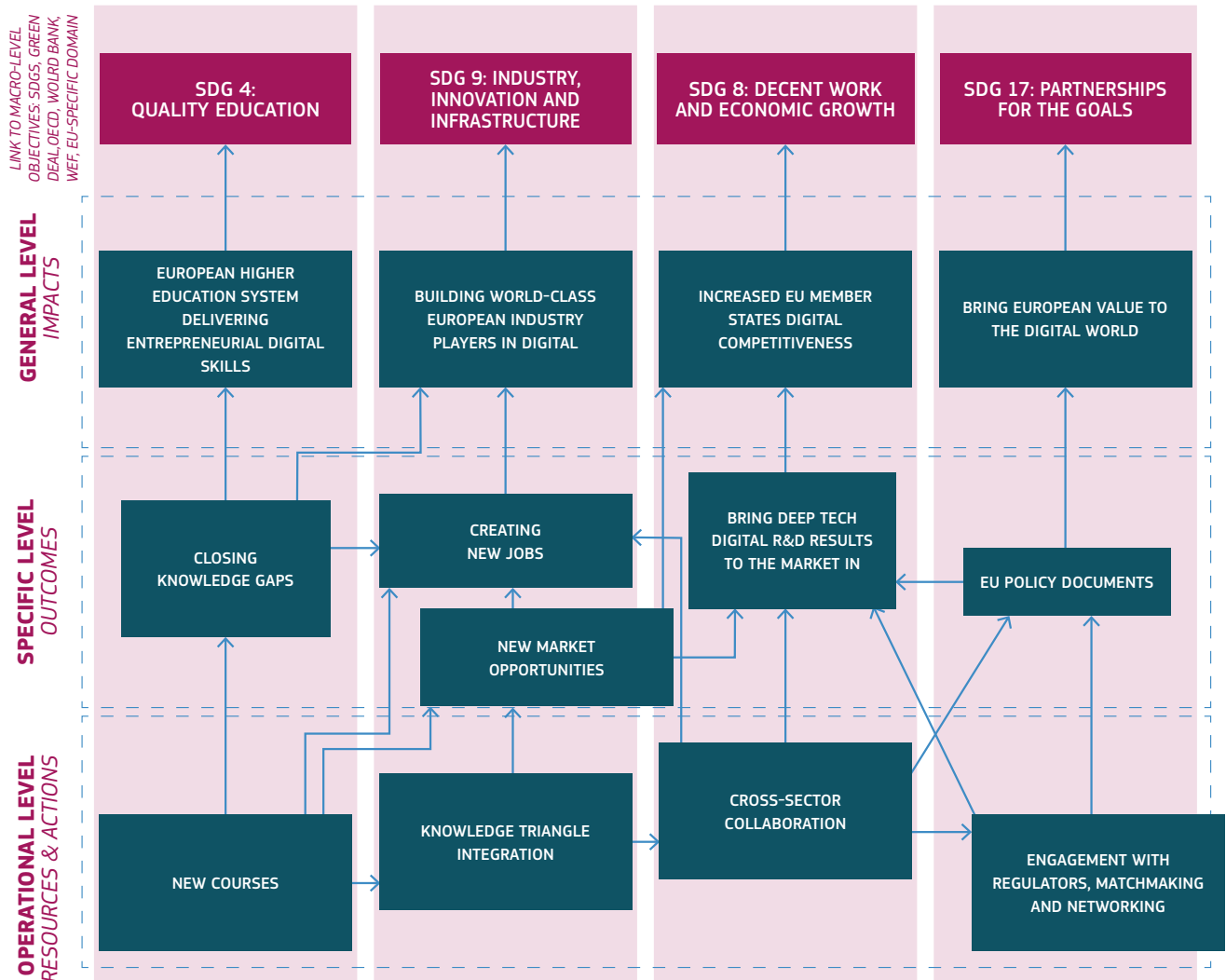
[X https://x.com/EIT_Digital](https://x.com/EIT_Digital)

[✉ info@eitdigital.eu](mailto:info@eitdigital.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

PARTNERSHIP VISION: CONTRIBUTE TO SOCIETAL CHALLENGES THROUGH ...





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Financial sustainability revenues	EUR million		13.23	19.5	24.6	30
Active partners	Number of organisations		400	500	650	650
Mobilised funding	EUR million		64.5	42	42	42
OUTCOMES						
Supported start-ups/scale-ups (EITHE03.1)	Number of supported start-ups/scale-ups by the KIC	100/year	110	120	120	120
Start-ups created of/for innovation (EITHE04.1)	Number of start-ups created by the KIC innovation activities	50/year	50	60	60	60
Investment attracted by KIC supported start-ups/scale-ups (EITHE06.1)	EUR million Amount of investment attracted by KIC supported start-ups/scale-ups	70/year	70	70	70	70
IMPACTS						
Strengthening the economic impact of EU digital firms through increasing the share of exports of their digital services to non-EU markets	% of services of firms involved with EIT Digital (start-ups, scale-ups, partners) exported to non-EU markets	New	20% (by 2024)		40%	40%
Supporting European regulation and digital standards that addresses key European values such as ethics of AI, data protection, trusted social media platforms	Deployment of an effective thought leadership and policy support capacity demonstrated by uptake and adoption (by governments, EC and other governmental organisations) of EIT Digital initiatives, policy recommendations and publications (e.g., makers and shapers journey, policy reports on the digital industry, cybersecurity and AI)	New	6 EIT Digital thought leadership publications quoted in key EU policy documents		10 EIT Digital thought leadership publications quoted in key EU policy documents	10 EIT Digital thought leadership publications quoted in key EU policy documents
Increased digital talent development in Europe by transforming the European ICT Masters and Doctoral programmes with a stronger focus on societal needs and on entrepreneurship (societal)	Adoption of the EIT Digital Master School model, Industrial Doctoral School model and EIT quality label for European Technical universities		10% of European technical universities		15% European technical universities	
Increased competitiveness of EU Member States with a special focus on countries with a DESI (Digital Economy and Society) < 50 (societal)	Level of participation of Member States with DESI lower than 50 in EIT digital activities (e.g., through RIS programme)		+100% participation		+130% participation	



EIT Digital's strategic objectives are aimed at strengthening EU impact in digital. We aim at fostering a stronger European digital ecosystem to leverage the diversity and complementarities of different players to build world class digital companies. The EU has been driving the development of the Single Market to boost business opportunities and including and empowering citizens, yet the Single Market is still characterised by high fragmentation. We aim at increasing Member States competitiveness by taking dedicated actions in RIS countries, which present lower level of innovation, while continuing to foster innovation across the EU. EU countries are known for strong publicly funded R&D, while private companies have a more conservative approach. We aim at changing this trend to speed up the adoption and commercialisation of R&D results in strategic areas. This is expected to increase societal and economic impact of EU R&D investments and stimulate industry investment. Fundamental to the ambition of a stronger digital Europe is a European education system able to adapt to the digital reality, which can equip people with the right digital skills and to deploy digital technology to support education. All our efforts are committed to overcoming female gender underrepresentation in digital with continuous and focused approaches.

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

EXAMPLE 1 OF TECHNOLOGICAL SOVEREIGNTY

Specialised Education programmes in Cybersecurity and Robotics (SPECTRO)

The SPECTRO project focuses on the design and delivery of two double degree master's programmes (120 ECTS) in two key digital technology areas for the future of Europe:

1. Cybersecurity;
2. Robotics.

The two specialised master's programmes, which will also include a minor in Innovation and Entrepreneurship, will be designed and delivered by a consortium consisting of 12 higher education institutions from 7 different countries, 2 Innovative SMEs, 1 leading research centre in Information Systems and EIT Digital (a pan-European organisation with in-depth knowledge and experience in the digital skills domain). The master's programmes developed by SPECTRO partners will address the labour market needs, foster strong interactions and mobility between academia and business, strengthen knowledge triangle integration, and promote entrepreneurship. SPECTRO will expand the specialised education offer in Europe and will contribute to reducing the current shortage of digital specialists in Europe by providing training to more than 1 000 European citizens in Cybersecurity and Robotics.

EXAMPLE 2 OF TECHNOLOGICAL SOVEREIGNTY

Reinforcing Skills in Chips Design for Europe (RESCHIP4EU)

RESCHIP4EU, an EU-funded project, aims to support the excellence of EU higher education in the area of embedded systems design in a holistic way, from silicon via System-on-Chip design and manufacturing to smart and safety-critical platform and application software. The holistic nature of the program is essential for innovation and provides a unique competitive edge to program graduates to design, analyse and innovate smart, green and safety-critical embedded systems in Europe. RESCHIP4EU will achieve this goal by designing and delivering a double-degree master's programme (120 ECTS) in Embedded Systems Design with several specialisations related to the holistic design of embedded platforms safer, greener, smarter, and more efficient and a minor in Innovation and Entrepreneurship. The master's programme will be designed and delivered by 14 Partners including 9 higher education institutions from 5 different countries with the collaboration of Semi.org (the global industry association representing the electronics manufacturing and design supply chain), and ST Microelectronics (a global semiconductor company).



EXAMPLE 3 OF TECHNOLOGICAL SOVEREIGNTY

EMotion Artificial Intelligence specialists for Europe (EMAI4EU)

EMAI4EU aims to train the next generation of specialists and innovators in Emotion AI in Europe. EMAI4EU will achieve this goal by designing and delivering a double-degree master's programme (120 ECTS) as well as self-standing modules on AI with a specialisation in Emotion AI and a minor in Innovation and Entrepreneurship. The master's programme will be designed and delivered by 8 higher education institutions from 5 different countries with 4 Innovative SMEs, a leading research centre in AI and EIT Digital (a pan-European organisation with experience in delivering education programmes in advanced digital skills across Europe). In line with the goals of the Digital Compass and New European Innovation Agenda, EMAI4EU will train more than 1 000 participants across four years and contribute to reducing the gap in advanced digital skills in Europe and increase Europe's competitiveness in a key digital technology domain such as AI.

EXAMPLE 4 OF TECHNOLOGICAL SOVEREIGNTY

EU-LAC Strategic Partnership for the Implementation of Digital Dialogues in R&I Dooperation (SPIDER)

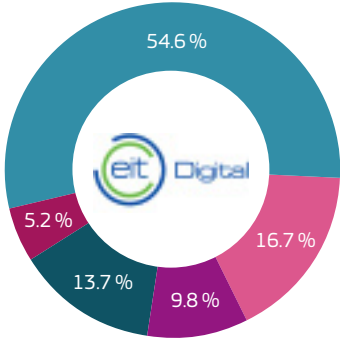
The startup Entremo, co-founded by EIT Digital Master School students, is deploying their product, a wristband to remotely monitor the vital signs of patients, in hospitals and nursing homes in Hungary. The watch can measure vital signs of COVID-19 patients.

It all started with a group of friends passionate about using technology to improve people's health and wellbeing, all of them involved in different EIT Digital Master School programmes. They had earlier won the European Commission #EuvsVirus hackathon's healthcare category with a prototype of their 3D-printed remote monitoring device. This led to an invitation to submit a call for proposals to the EIT Digital Innovation Factory DATA against COVID-19 initiative. For this they found four international partners: ELTE-Soft, MOHAnet and E.tv.s Lorand University from Hungary and InnoTractor from the Netherlands. EIT Digital supports collaboration with students – universities – SMEs and public bodies for bringing next level innovation to the market.



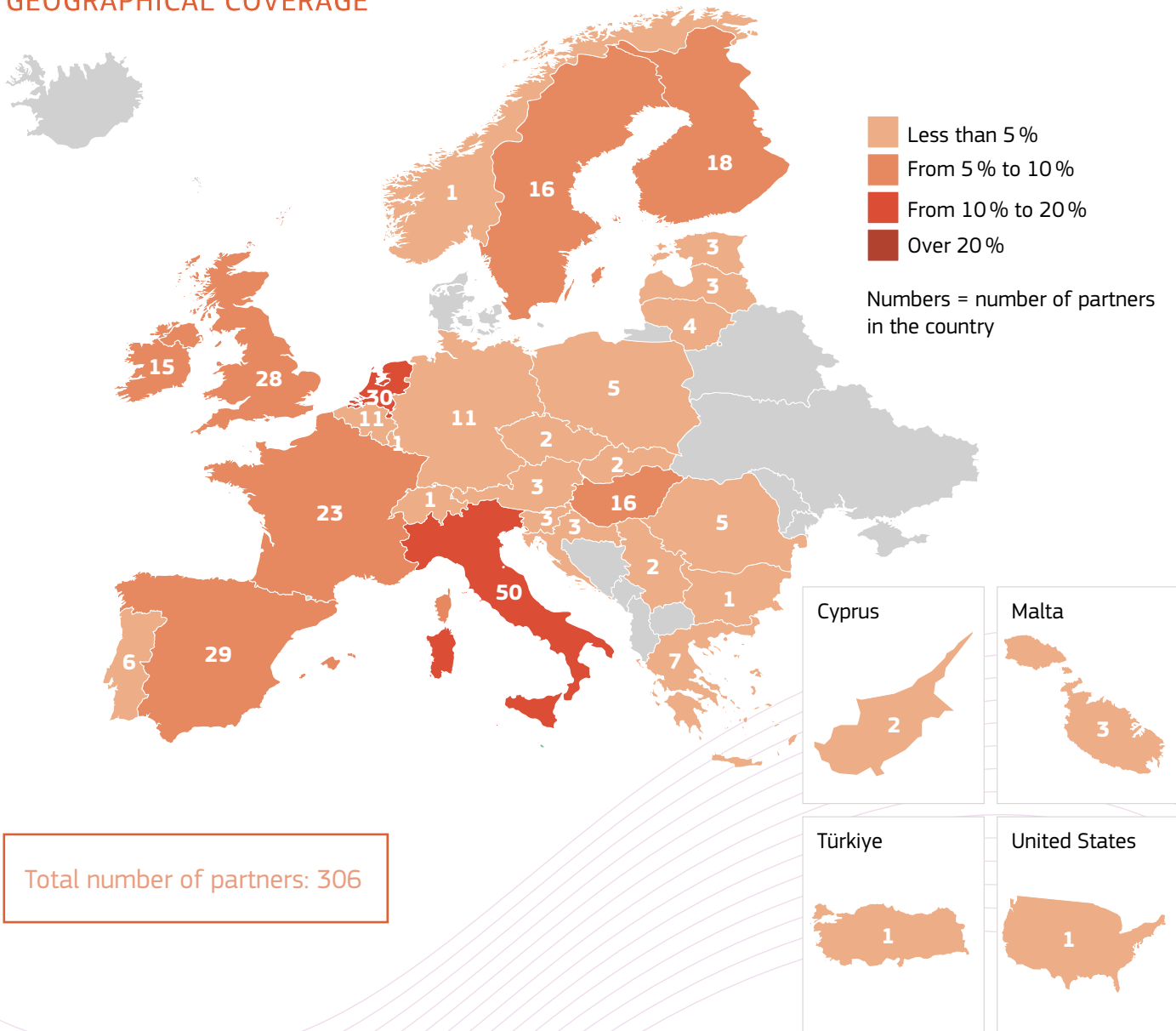
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation
(including international research organisation as well as private research organisation controlled by a public authority)
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

EIT Food accelerates innovation to build a future-fit food system that produces healthy and sustainable food for all.

EIT Food is a community which has come together to respond to the biggest issues in the food system affecting our lives. We deliver through a mission-based approach which puts needs first is our way of focusing our efforts on improving outcomes for people and planet as the starting point for our work. Our missions include A Net Zero Food System, Healthier Lives Through Food, and Reducing Risk for a Fair and Resilient Food System.

We work with start-ups, corporates, universities and research organisations across Europe to deliver food systems transformation aligned to these three missions.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar III – European Institute of Innovation and Technology

Type of Partnership: Institutionalised – EIT KIC

Coordinating entity: EIT Food IVZW

Total estimated budget: EUR 194.1 m*

Predecessor under Horizon 2020: Started in 2016

* Budget of the multiannual grant cycle covering the 2023-2025 period. These figures provide an overview of the costs undertaken by EIT Food in 2021-22, as reported in line with our biannual business plan.

The KIC multiannual budget is assessed annually by the EIT based on the KIC's Business Plan, with the possibility, in case of positive assessments, to make additional allocations to it.

FIND OUT MORE

<https://www.eitfood.eu/>

[in https://www.linkedin.com/company/eit-food?originalSubdomain=be](https://www.linkedin.com/company/eit-food?originalSubdomain=be)

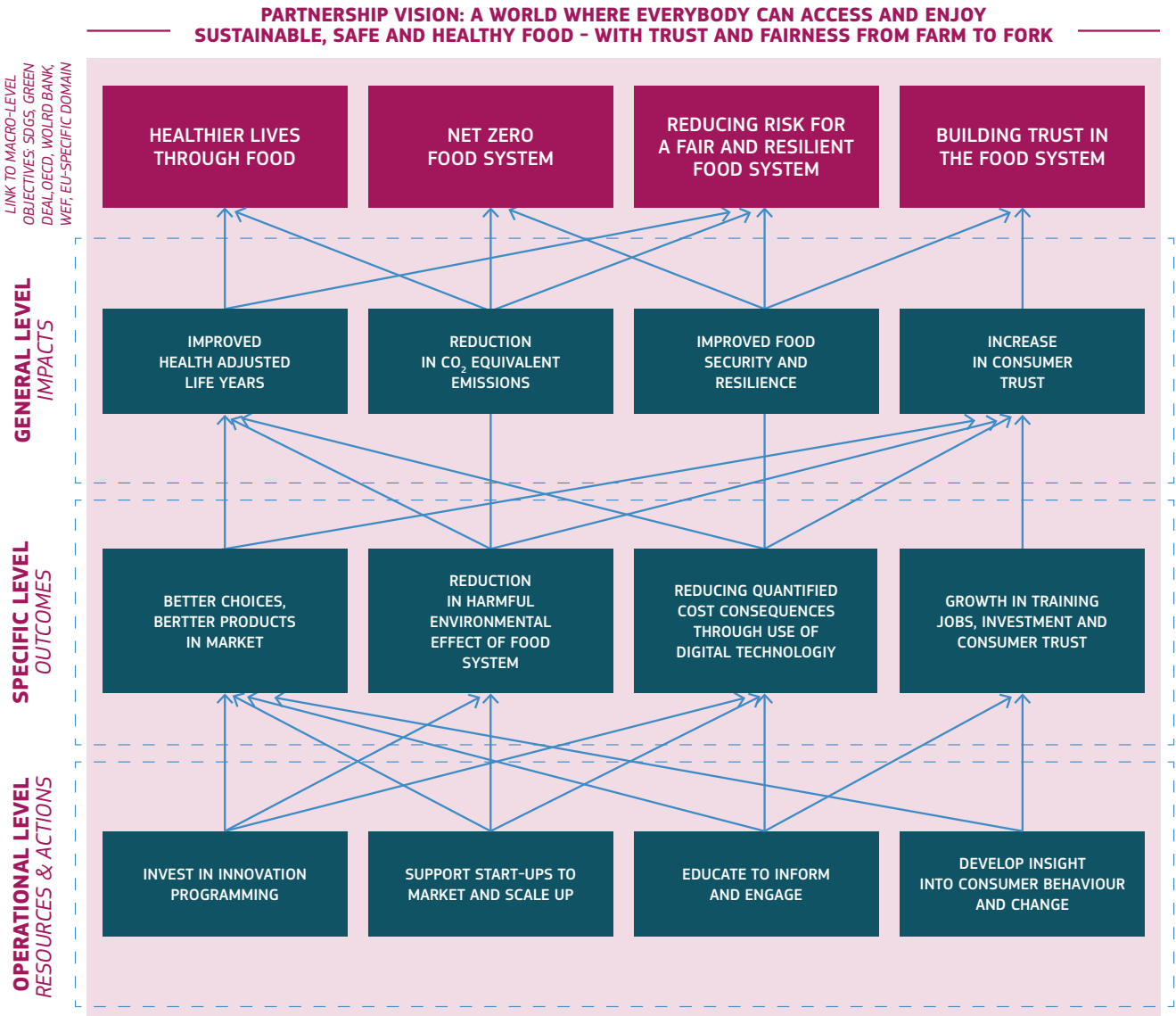
[X https://x.com/EITFood](https://x.com/EITFood)

[@ https://www.instagram.com/food.unfolded/](https://www.instagram.com/food.unfolded/)

[✉ info@eitfood.eu](mailto:info@eitfood.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Designed/tested innovations	# of innovations	193 (+176*)	N/A	N/A	TBD	TBD	On track
Marketed Innovations	# of innovations	15 (+63*)	45	129	TBD	TBD	On track
Supported start-ups	# of entities supported	361 (+328*)	N/A	N/A	TBD	TBD	On track
Innovation start-ups created	# of start-ups	15 (+19*)	18	30	TBD	TBD	On track
Investment attracted by EIT Food start-ups	EUR million	413.4 (+100.3*)	50	87	TBD	TBD	On track
Graduates from EIT-labelled MSc/PhD programmes	# of graduates	150 (+127*)	165	300	TBD	TBD	On track
Participants in non-degree courses	# of participants	8 818 (+8 244*)	N/A	N/A	TBD	TBD	On track
OUTCOMES							
Improve supply chain efficiency, integrity and transparency	Δ # digital innovations in use	0	8	12	20	TBD	On track
Tech-driven dietary change	Δ # users solutions developed by/with EIT Food	0	1 000	3 000	4 000	TBD	On track
More healthier food products on market	# of innovations in use	0	10	14	20	TBD	On track
More solutions for emissions reduction (including waste)	# of innovations in use	0	12	20	40	TBD	On track
More alternative protein products	# of innovations in use	0	12	20	40	TBD	On track
More products from circularity solutions	# of innovations in use	0	12	20	40	TBD	On track
IMPACTS							
Better health outcomes from our diet	# supported healthier products on market	0	N/A	TBD	20	TBD	N/A
Less environmental impact from food	Emission reduction potential (Mt CO ₂ Eq)	0	N/A	8 (2024)	18	TBD	N/A
Circular and sustainable economy	People completing EIT Food-labelled EDU programmes co-designed with industry	0	N/A	TBD	34 000	TBD	N/A

* Commitments in Strategic Agenda 2021-2022

Note: EIT Food operates on 3-year programming cycles. Hence, KPIs beyond 2027 are currently TBD. Several KPIs have been decided during a recent exercise to maximise the organisation's impact, hence the absence of some short-term targets. The names of some KPIs can be misleading due to the length restrictions of this table. The full list of KPIs can be found in [EIT Food's Strategic Innovation Agenda \(Annex\)](#).



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 1 (TECHNOLOGICAL SOVEREIGNTY): PROTEIN DIVERSIFICATION THINK TANK

Background:

In 2022, experts from the EIT Food community established the EIT Food Protein Diversification Think Tank. As a neutral, independent body, the Think Tank engages stakeholders across the food system, in structured discussions to identify gaps, barriers, and opportunities, to co-create evidence-based roadmaps, and to recommend actions and policies for protein diversification to drive food systems transformation.

Outcome/Impact:

In October 2023, the Think Tank launched the 'Accelerating Protein Diversification for Europe' policy brief. The paper puts forward a series of recommendations to EU decision makers, that protein diversification should be a cornerstone of future food strategies in order to feed a growing population while mitigating the adverse impacts of food production on the environment and human health.

Further details on the recommendations and paper:

<https://www.eitfood.eu/news/eit-food-launches-policy-recommendations-protein-diversification>

SUCCESS STORY 2 (TECHNOLOGICAL SOVEREIGNTY): ONEGO BIO, EIT FOOD START-UP

Background:

Onego Bio is a young but multi-awarded Finnish start-up and member of EIT Food's RisingFoodStars producing animal-free egg protein using precision fermentation. This technology allows it to produce bioidentical egg protein, with great potential impact on environment and animal welfare, supply chain stability, global health and food security.

Outcome/Impact:

As an EIT Food RisingFoodStar, Onego Bio has received EUR 1 million in investment from EIT Food, benefited from ScaleUp Scan, enjoyed preferential access and speaking slots at EIT Food's events, and a seat in EIT Food's Startup Focus Group, where we discuss main challenges, regulatory and non, faced by start-ups in Europe, and workshop solutions.

Further details:

<https://www.eitfood.eu/community/startups/onego-bio>

<https://www.onego.bio/>



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 3 (INTERNATIONAL POSITIONING): FOOD SYSTEMS PAVILION AT COP28

Background:

EIT Food acted as Secretariat for the Food Systems Pavilion at UNFCCC COP28 – a dedicated space at the UN conference, which brought together dozens of organisations at the intersection of food systems and climate, to build partnerships, share learning and unite to accelerate the transition to sustainable, healthy and resilient food systems.

Outcome/Impact:

The Pavilion hosted 11 days of programming at COP28 and united stakeholders across the food system and beyond to push for bolder, more ambitious action on food from climate negotiators. The final outcome of COP28 saw resilient food systems included for the first time, and the Pavilion community will continue to work together to achieve a sustainable food systems transformation.

COP 28 Food Systems Pavilion website: <https://foodsystemspavilion.com/>

COP 27 engagement: <https://www.eitfood.eu/cop27>

SUCCESS STORY 4 (INTERNATIONAL POSITIONING): EUROPEAN NUTRITION ASSOCIATION

Background:

The American Nutrition Association (ANA) and EIT Food are in discussions regarding the establishment of a European Nutrition Association (ENA). This initiative aims to position EIT Food as a leader in the intersection of food and health among practitioners and targeted population groups throughout Europe.

Outcome/Impact:

Key findings and recommendations from market landscape analysis are: prioritising the healthcare sector, leveraging EIT Food's Healthier Lives Through Food mission to define a clear thematic scope, and crafting a value proposition distinguishing the respective organisation's networks. This collaborative effort represents a significant opportunity to advance nutrition education and its impact in Europe.

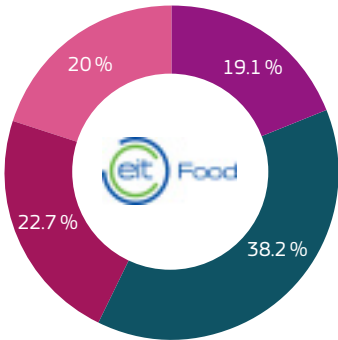
For a full summary of EIT Food's 2022 activities and impact, please see our 2022 Annual Report here:

<https://reporting.eitfood.eu/annual-reporting-data-2022>



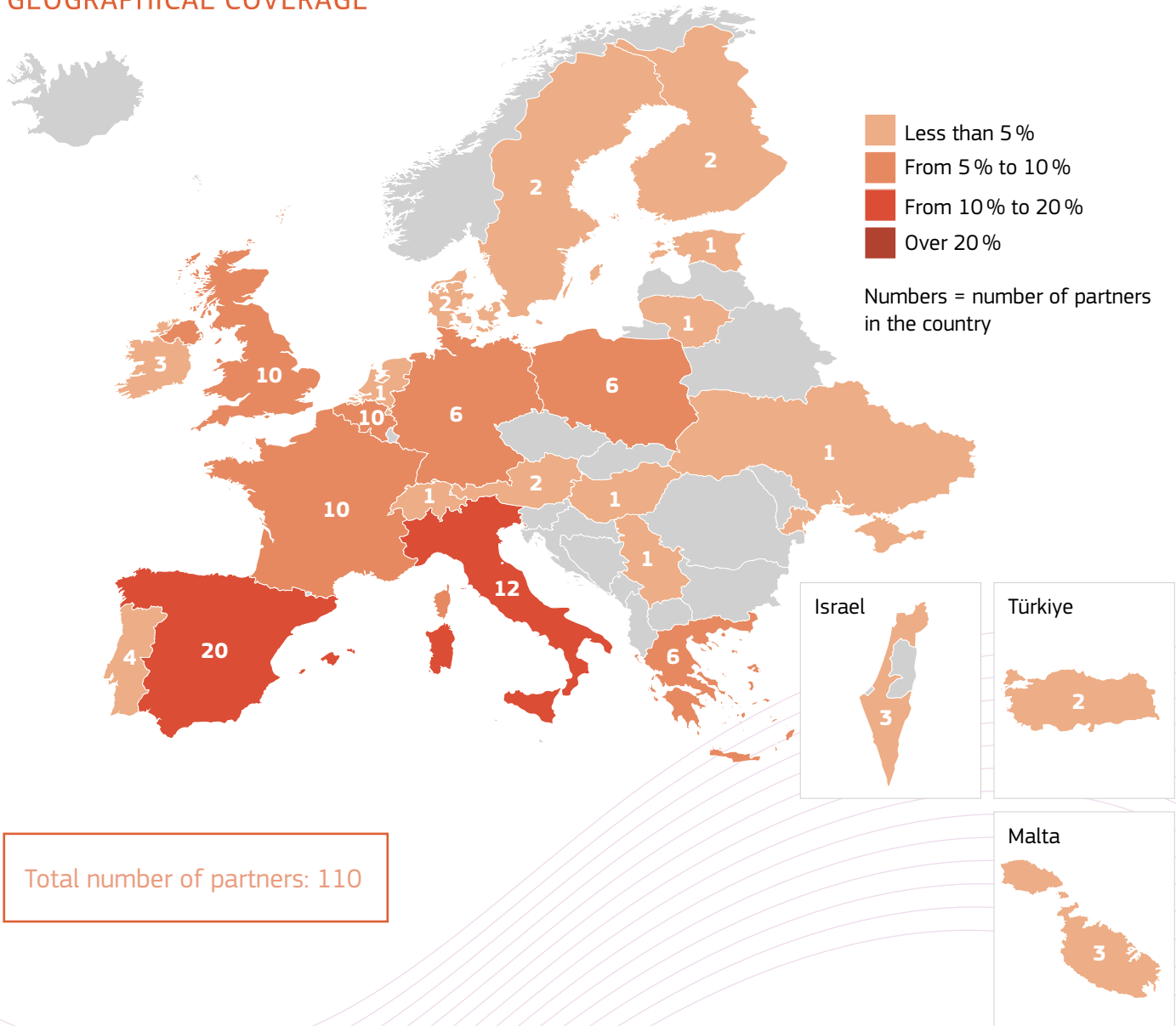
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

EIT Health is a strong, diverse and balanced European Partnership of best-in-class organisations in education, research, technology, business creation and corporate and social innovation.

EIT Health's vision is 'To enable people in Europe to live longer, healthier lives by building and growing businesses to create products and services that progress healthcare in Europe, while strengthening our economy and the sustainability of our healthcare systems.'

Following EIT Health's mission is that 'By 2030, we'll be Europe's leading innovation platform, facilitating longer, healthier lives and more sustainable healthcare systems.'

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar III – European Institute of Innovation and Technology

Type of Partnership: Institutionalised – EIT KIC

Coordinating entity: EIT Health e.V.

Total estimated budget: EUR 160 m*

Predecessor under Horizon 2020: Continuation of the Institutionalised Partnership. Current end of Business Plan 31 December 2025

* Budget of the multiannual grant cycle covering the 2023-2025 period.

The KIC multiannual budget is assessed annually by the EIT based on the KIC's Business Plan, with the possibility, in case of positive assessments, to make additional allocations to it.

FIND OUT MORE

<https://eithealth.eu/>

<https://www.facebook.com/EITHealth/>

<https://www.instagram.com/eithealth/>

<https://www.linkedin.com/company/eithealth/>

<https://x.com/EITHealth>

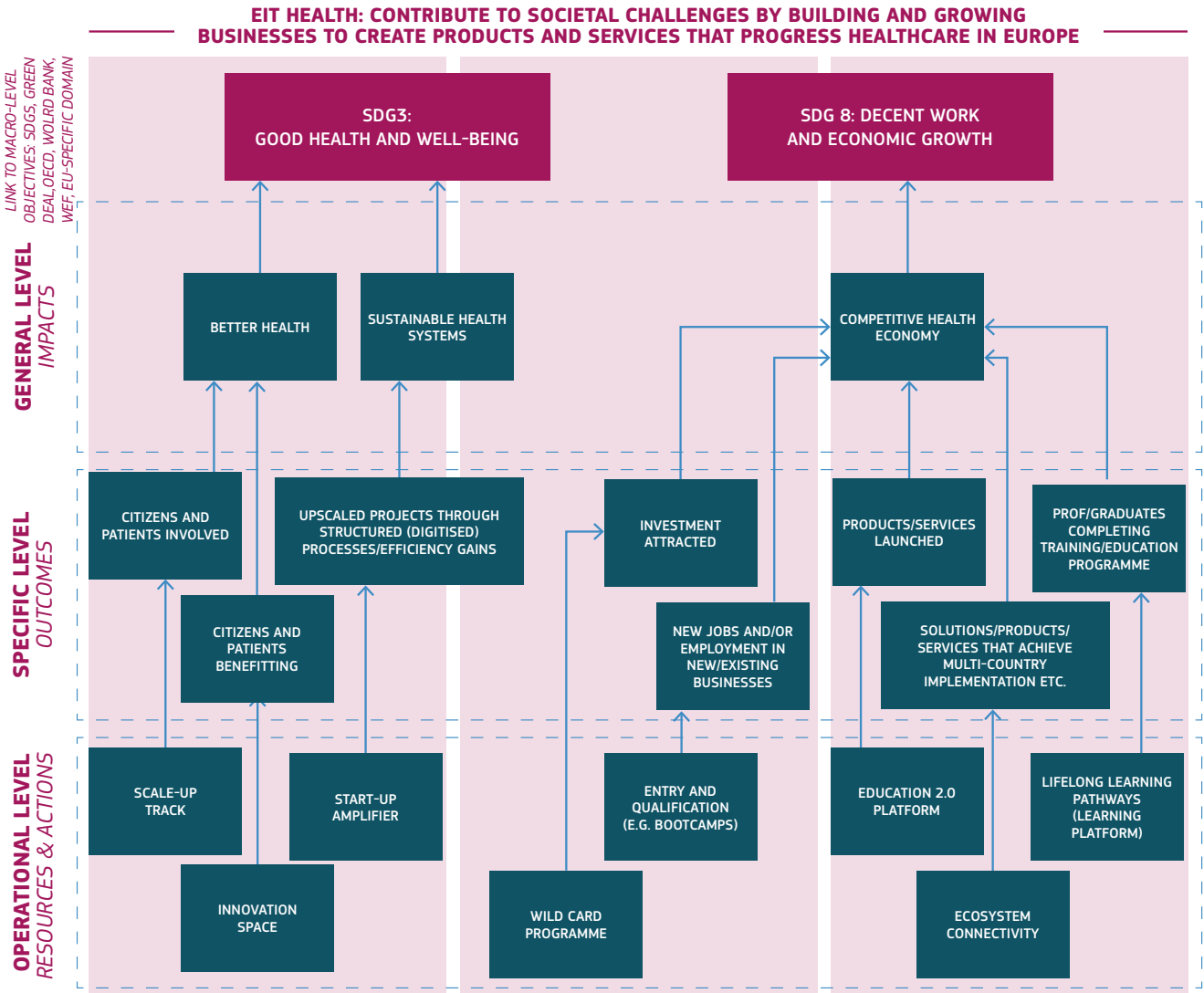
<https://www.youtube.com/channel/UC8W06RVPIATNixFMVyi6Ujw>

<https://vimeo.com/user58674995/videos>

info@eithealth.eu



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
# Project Partners	Activity partners, which are involved only in implementation of KICs activities (including project partners and wild cards; not including linked third parties)	256	276	296	316	N/A
# Partners from EIT RIS countries	(same as KPI)	77	80	83	85	N/A
# Financial sustainability revenues	EUR Million	11.9	16.3	22.6	30.4	N/A
# HEIs involved in EIT and KIC activities	(same as KPI)	20	25	30	30	N/A
OUTCOMES						
#Designed/Tested Innovations*	(same as KPI name)	18	19	19	16	N/A
#Supported start-ups/scale-ups	(same as KPI name)	103	154	126	109	N/A
#Investment attracted by KIC supported start-ups/scale-ups	EUR Million	151	199	191	186	N/A
#Participants in (non-degree) education and training	(same as KPI name)	2 890	3 640	4 840	6 340	N/A
IMPACTS**						
# Citizens and patients involved	# Citizens and patients involved (ideation, co-creation); where (and if) possible, per disease areas (such as cancer) and range of application (prevention, diagnosis, treatment)	12 800	N/A	25 600	38 400	N/A
# Upscaled projects*** that strengthen healthcare systems	# Upscaled projects*** that strengthen healthcare systems through (cost) efficiency gains and/or by improving the individual experience of care	6	N/A	12	21	N/A
# New jobs or employment created in new businesses	(same as KPI name)	760	N/A	1704	3023	N/A
# Products/services launched	Innovations launched on the market (based on KIC support) (economic)	54	N/A	74	91	N/A

* Decrease due to shift towards projects focusing on efficiency gains.

** Impact KPIs are measured with the baseline set in the year 2022. The figures in the columns for targets for 2025 and 2027 are the goals set for years 2024 and 2027 as 2024 is the closest available measurement year outlined by EIT Health's Strategic Agenda 2021-2027.

*** Upscaled projects are projects where proof exists that they were developed with EIT Health support, and are later used by organisations without further EIT Health support

Remarks:

- KPIs are taken from the EIT Health's Strategic Agenda 2021-2027, chapter 4.2 Results from the Annual KPI targets.
- Baseline is given as 2021 KPI target, defined in the Strategic Agenda 2021-2022 approved in April 2021
- Outcomes and impacts are linked to the KPIs for resources as outlined in Annex 1 KIC Impact of the Strategic Agenda 2021-2027.



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 1: FACILITATING THE UPTAKE OF DIGITAL MEDICAL DEVICES AND DIAGNOSTICS

Digital Health is a key area of research and innovation globally, with the United States leading in this field as all global digital market players are located within the United States.

To strengthen the technological sovereignty of Europe in the specific sub sector of digital health, EIT Health has launched a call for the fast track start-up driven innovation project DiGinnovation that is set out to select top digital health start-ups that have a CE-marked digital health app and pairs them with exclusive partners from EIT Health's network and beyond.

In doing so, EIT Health ensures that European R&D competencies are strengthened by actively supporting the maintenance of a strong knowledge base, industry, and networks in digital health.

Focusing upon the critical stakeholders in this field, it provides call applicants with a sound business case to turn their research into a successful market ready product. EIT Health-supported activities in the framework of DiGinnovation include clinical trial design for evidence generation, training for healthcare professionals, compliance with regulatory requirements, as well as pricing and business models.

These supported activities provide access to a diversity of resources along the value chain with the aim of reducing dependence on third countries.

Impact of these actions is measured by innovations reaching the market and reimbursement by a maximum of 1 year after the end of the project, by the number of patients that benefitted, or the number of healthcare professionals trained.



SUCCESS STORY 2: EUROPEAN TASKFORCE FOR HARMONISED EVALUATION OF DIGITAL MEDICAL DEVICES (DMDS)

The European Taskforce for harmonised evaluation of DMDs was launched in 2022, under the digital health agenda of the French Presidency of the Council of the European Union. The taskforce is coordinated by EIT Health and chaired by the Ministerial eHealth delegation of the French Ministry of Health and Prevention and co-chaired by the Vice-President of the HTA Coordination Group supported by contributors of other European Ministries of Health and/or national responsible authorities and agencies.

The harmonisation of DMDs reduces regulatory burdens significantly for a growing, future key market in health care and secures consensus on evidence requirements in the light of national implementation requirements.

As with established industry norms and standards, developing and maintaining a standardised nomenclature and taxonomy for DMDs secures global attractiveness in a growing market in need of standardisation to foster a healthy, secure market environment.

The work of the Taskforce most importantly secures that the standards are an example of adequate policies and standards that reflect European values, to influence global regulation, standards, and practices in the field. The work acts as a European lighthouse showcasing the benefits for market and consumer once European standards are followed.

The Taskforce is a success story with its vision being that the digital transformation of medicine is to integrate technologies with evidence-based clinical and organisational benefits into healthcare procedures, provide access for patients and promote social acceptance.

The mission of the taskforce is to provide a blueprint for appropriate assessment procedures and evidence standards, with the overall goal of enabling a harmonised approach for European assessment supporting national appraisal and reimbursement by statutory health insurance organisations for distinct subclasses of DMDs.

The work of the taskforce builds on the preparatory discussions coordinated by EIT Health in 2021 and 2022, with input from both France and Germany. The taskforce is constituted of 20+ members representing the academic sector, policy makers and national competent authorities and HTA agencies from Austria, Belgium, Finland, France, Germany, Italy, Luxembourg, and Spain, among others.

SUCCESS STORY 3: EUROPEAN PARTNERSHIP FOR PERSONALISED MEDICINE

Since its inception, a part of EIT Health's mission has been to secure Europe's technological sovereignty and international positioning within health care. The Knowledge and Innovation Community follow the mission to overcome obstacles to innovation to improve healthcare delivery in Europe and make life-changing solutions possible. Part of this goal has been for EIT Health to position Europe as a technological sovereign leader, as a partner in global research and securing collaboration and cooperation across healthcare markets around the world.

One success story to action this is EIT Health's role in the European Partnership for Personalised Medicine (EP PerMed) as one of three EU-level partners of this partnership, next to the European Commission and the BMRI-ERIC, a European research infrastructure for biobanking.

Considering its established goal to facilitate global research and securing collaboration and cooperation across healthcare, EIT Health in this European Partnership does not act as a granting body, but rather provides services given the unique established cross-European structure EIT Health can provide to this European Partnership.

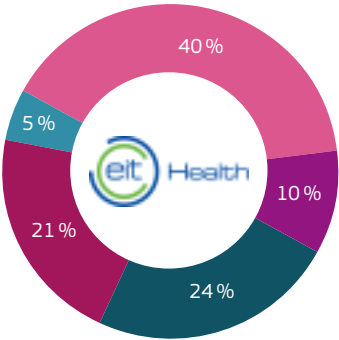
Note: Grant Agreement negotiations for the European Partnership for Personalised Medicine are ongoing at the time of writing of this publication.

Web: www.eppermed.eu



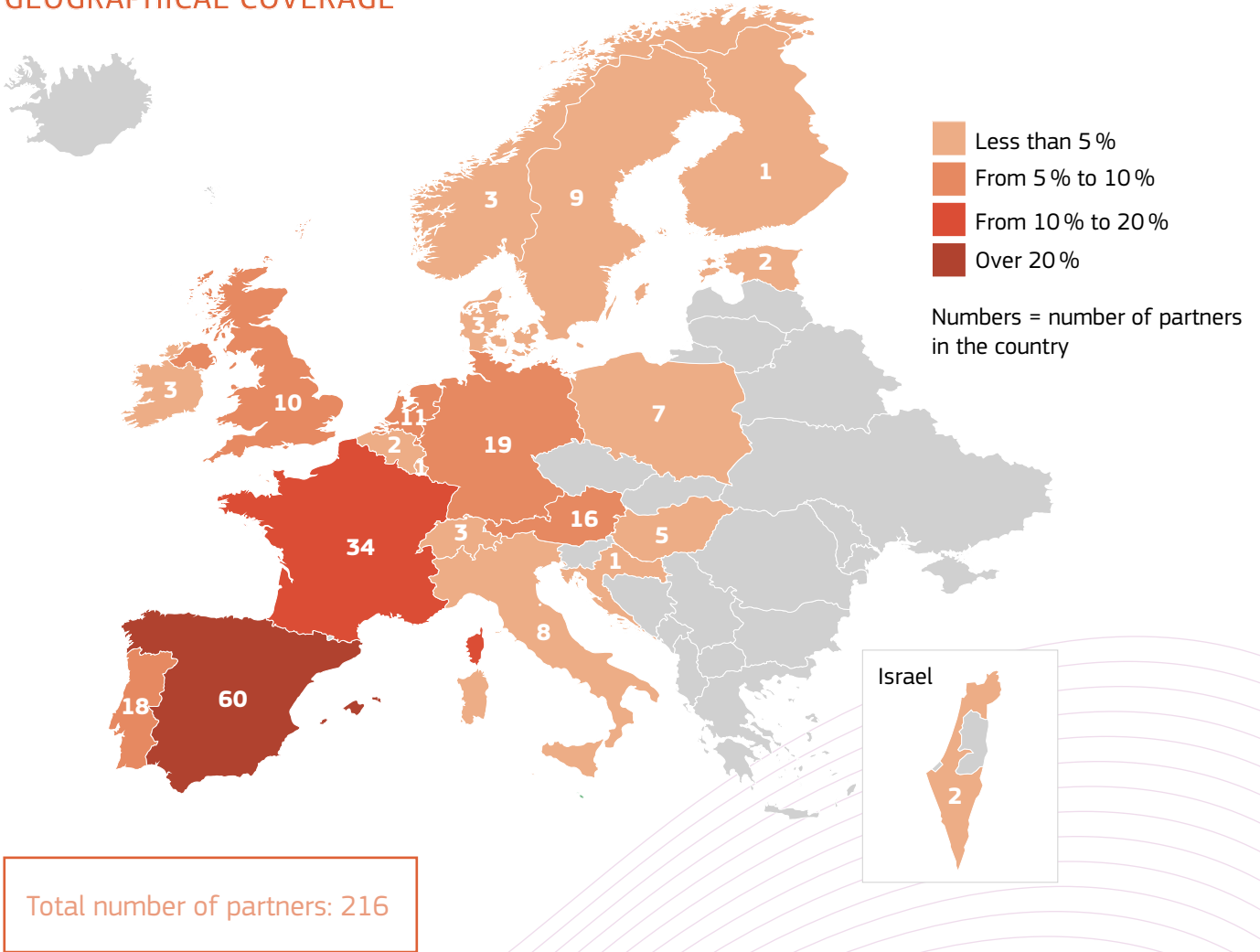
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

EIT InnoEnergy vision is **‘to be the leading engine for innovation and entrepreneurship in sustainable energy.**

EIT InnoEnergy defines its mission as: **‘to build and manage a sustainable, long-lasting operational framework amongst the three actors of the knowledge triangle in the energy sector: industry, research, and higher education, while ensuring that the integration of the three is more efficient and has a higher impact on innovation (talent, technology, companies) than the three standing alone.’**

EIT InnoEnergy, with the other KICs, have demonstrated that **innovation is vastly different** compared to research and commercial activities, requiring **different parties to be involved** (e.g. research institutes, universities, industry, public administration, financial institutions, regulators), **different dynamics** (not only project based interactions, but ambitions in a given sector), **different management** (from project or deal bilateral management to management of dynamics based on societal challenge goals) and **different values** (trust is key in InnoEnergy ecosystem).

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar III – European Institute of Innovation and Technology

Type of Partnership: Institutionalised – EIT KIC

Coordinating entity: EIT InnoEnergy SE

Total estimated budget: EUR 48 m*

Predecessor under Horizon 2020: Started in 2010

* Budget of the multiannual grant cycle covering the 2023-2025 period.

The KIC multiannual budget is assessed annually by the EIT based on the KIC's Business Plan, with the possibility, in case of positive assessments, to make additional allocations to it.

FIND OUT MORE

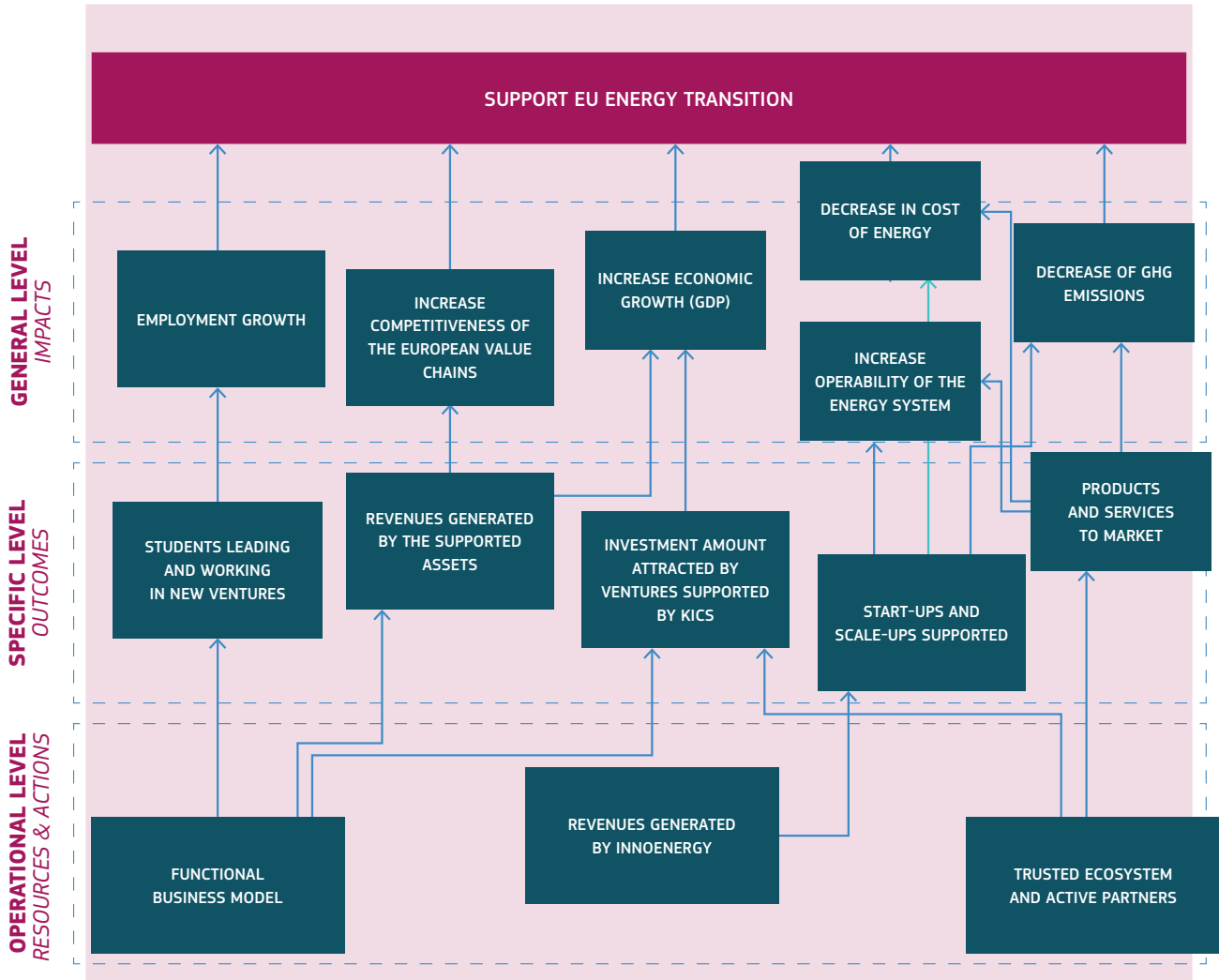
www.innoenergy.com

✉ info@innoenergy.com



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

**PARTNERSHIP VISION: LEADING ENGINE
FOR INNOVATION AND ENTREPRENEURSHIP IN SUSTAINABLE ENERGY**





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Revenue generated by EIT InnoEnergy – audited	EUR million		61.2	102.2	182.2	220
Equity positions from the balance sheet – audited	EUR million		500	1000	1600	2000
Active Partners	Number of organisations		500	800	1000	1000
OUTCOMES						
Products and services to the market	Number of products		60	60	60	60
Start-ups and scale-ups supported	Number of start -up/ scale ups supported		90	90	90	90
Investment amount attracted by ventures supported by KICs	EUR million		800	1000	1000	1000
Revenues generated by the supported assets	EUR million		500	1200	1500	2000
Students leading and working in new ventures	Number of students		40	40	40	40
IMPACTS						
New jobs created & maintained (multiplied with 4 for indirect)	Number of jobs		10 000	20 000	25 000	30 000
Increase competitiveness of the European value chains	Number of value chains		2	3	4	5
Decrease of costs of energy	EUR million saved				1800	1800
Decrease of GHG emissions	Gigatonnes of CO ₂ abated				0.3	0.3
Increase operability of the energy system	TWh of renewable energy deployed				100	100

The baseline for the impact indicators for 2020 is available here:

https://issuu.com/innoenergy/docs/eit_innoenergy_impact_report_2020_digital_low?mode=window&utm_campaign=Market%20segment-%20Transport%20and%20mobility&utm_medium=email&_hsmi=154129881&_hsenc=p2ANqtz--LLS118raYfxR2UPP7Z1Al3ftuYUXuazIVQ9V2uU9vC2aPACOrMM60mw8BEhi1BPu2XmYiKOfAsVLWuEeCvi844_JRHXA&utm_content=154129881&utm_source=hs_automation

The impact is assessed every two years and published in an impact report.



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

The EU Digital Product Passport for Batteries - convening government and industry for global development

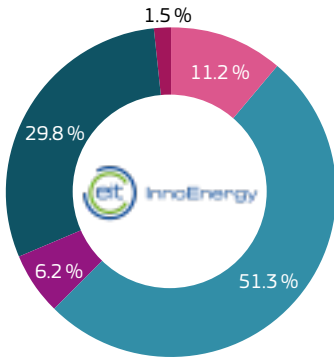
In 2022 EIT Innoenergy joined the Horizon Europe project CIRPASS (Collaborative Initiative for a Standards-based Digital Product Passport for Stakeholder-Specific Sharing of Product Data for a Circular Economy) to lay the ground for the deployment of European Digital Product Passports. The CIRPASS consortium, brings together a core network of leading organisations in building the European vision for a unified Digital Product Passport (DPP) approach across multiple value chains. Funded by the European Commission under the Digital Europe Programme, CIRPASS aims to prepare the ground for the gradual piloting and deployment of the DPPs from 2023 onwards, with an initial focus on the electronics, batteries and textile sectors. EIT Innoenergy, responsible for coordinating the industrial ecosystem under the European Battery Alliance, EBA250, leads the workstream for batteries.

While the Digital Product Passport is an EU initiative, similar ones are underway elsewhere. For example, the U.S. Inflation Reduction Act (IRA) requires manufacturers to disclose where critical materials in batteries, such as lithium, are sourced for tax credit eligibility. SAE has created a Global Battery Traceability Standards Committee (TVVBC11) to establish a standard for this information. The committee is leveraging the work of CIRPASS. In an international perspective, EIT Innoenergy is, therefore, mainly collaborating with SAE's Sustainable Mobility Solutions (SMS) group within the larger framework of the CIRPASS project and explores further cooperation in potential follow-up projects.



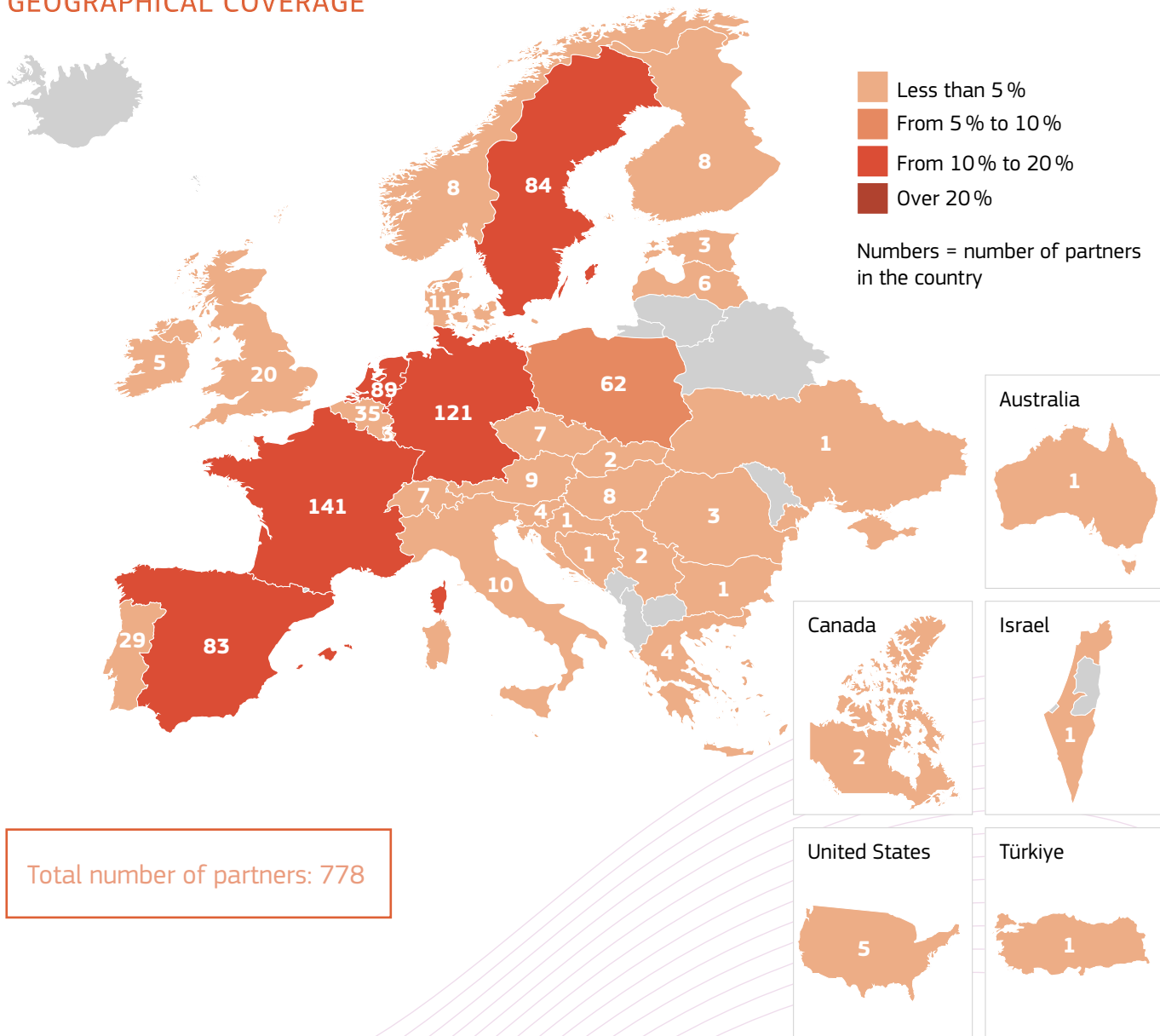
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 778



MISSION AND VISION STATEMENT

EIT Manufacturing leverages the strengths and abilities of European industry to design and manufacture the goods and services that create our wealth and underpin our ambition to reach Europe's sustainability goals. Recent geopolitical impacts and crises, such as the COVID-19 pandemic, strengthen the need for Europe to sustain a strong and resilient manufacturing industry. In alignment with the EU's recovery plan [NextGenerationEU](#), the KIC is committed to support the manufacturing industry to recover quickly and learn from the crisis. European manufacturing needs the strong innovation, business creation, and education capability created by EIT Manufacturing to fulfil our vision.

Vision : We are the leading European innovation community for manufacturing! We will achieve our vision through innovation and collaboration.

The MISSION of EIT Manufacturing is to: **Connect manufacturing players by promoting talent and entrepreneurship to accelerate sustainable innovation in Europe.**

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar III – European Institute of Innovation and Technology

Type of Partnership: Institutionalised – EIT KIC

Coordinating entity: EIT Manufacturing Association

Total estimated budget: EUR 119.8 m*

Predecessor under Horizon 2020: EIT Manufacturing started its operations on 1st January 2020

*Budget of the multiannual grant cycle covering the 2023-2025 period.

The KIC multiannual budget is assessed annually by the EIT based on the KIC's Business Plan, with the possibility, in case of positive assessments, to make additional allocations to it.

FIND OUT MORE

www.eitmanufacturing.eu

[f https://www.facebook.com/EITManufacturing/](https://www.facebook.com/EITManufacturing/)

[in https://www.linkedin.com/company/eit-manufacturing/](https://www.linkedin.com/company/eit-manufacturing/)

[X https://x.com/EITManufactur](https://x.com/EITManufactur)

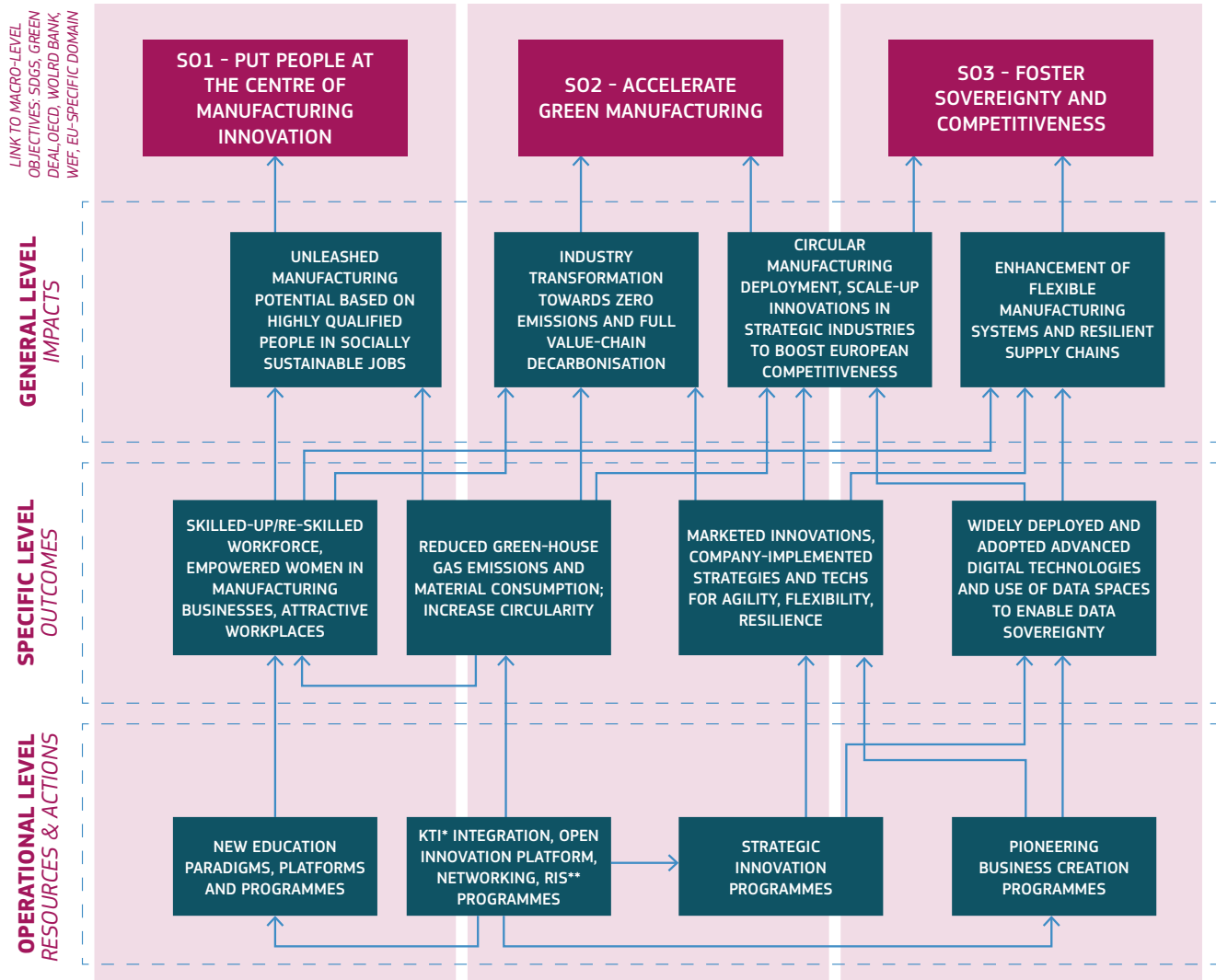
[yt https://www.youtube.com/channel/UCoj2zwV2AL-1IV0iCXkCO-Q](https://www.youtube.com/channel/UCoj2zwV2AL-1IV0iCXkCO-Q)

[✉ support@eitmanufacturing.eu](mailto:support@eitmanufacturing.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

EIT MANUFACTURING VISION: GLOBAL MANUFACTURING INNOVATION IS LED BY EUROPE



*KTI: Knowledge Triangle Integration

**RIS: Regional Innovation Scheme



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Active KIC Partners (organisations actively involved in KIC activities)	# of Partners	132 (2021)	170	202	293		On track
Co-Location Centres (CLCs)	# of CLCs	5 (2020)	6	6	7		On track
Regional Innovation Scheme (RIS) hubs	# of RIS hubs	13 (2021)	11	11	11		On track
Total KIC budget	million EUR	N/A	52.3	70.8	113.9		On track
OUTCOMES							
Start-ups created of/for innovation with a sales revenue of at least EUR 10 000	# start-ups	N/A	6	12	12		On track
Supported start-ups/scale-ups	# supported start-ups/scale-ups	N/A	73	110	130		On track
Marketed Innovations with a sales revenue of at least EUR 10 000	# of innovations launched in the market	N/A	18	24	28		On track
Start-ups established by students enrolled and graduates from EIT labelled MSc and PhD programmes	# start-ups	N/A		9	12		On track
Investment attracted by KIC supported start-ups/scale-ups	million EUR	N/A	22	39	50		On track
Graduates from EIT labelled programmes	# graduates	N/A	111	488	661		On track
IMPACTS							
Upskilled employees working in the manufacturing sector (SO1)	% of upskilled employees working in the manufacturing sector	N/A		34 %	36 %		On track
Women-led startups in manufacturing (SO1)	% of women-led startups in manufacturing	N/A		12.5 %	15 %		On track
Circular material use rate (SO2)	% of circular material use rate	N/A		13.8 %	15 %		On track
Reduction of GHG emissions compared to 2005 levels (SO2)	% of Reduction of GHG emissions compared to 2005 levels	N/A		20 %	25 %		On track
New jobs created in supported start-ups/scale-ups (SO3)	# new jobs	N/A		2 779	6 451		On track



Short, mid and long-term impact KPIs are defined to monitor the progress towards achieving the three EIT Manufacturing Strategic Objectives (SO) and respective Strategic Initiatives (SI), identified in the EIT Manufacturing Revised Strategic Agenda 2021-2027:

- **SO1 – Put people at the centre of manufacturing innovation**
 - SI1.1 – increase skill agility and reduce skill gaps through upskilling and reskilling on key manufacturing technologies, innovation and entrepreneurship;
 - SI1.2 – reinforce the attractiveness of the manufacturing work environment through technologies and digitalisation.
- **SO2 – Accelerate green manufacturing**
 - SI2.1 – promote circular manufacturing through servitisation of business models and optimised design;
 - SI2.2 – transform the industry towards zero emissions through a holistic, full value-chain decarbonisation approach.
- **SO3 – Foster sovereignty and competitiveness**
 - SI3.1 – enhance manufacturing system flexibility and supply chain resilience and use data spaces as enabler for data sovereignty;
 - SI3.2 – scale up innovations in strategic manufacturing industries and reduce time-to-market to support European competitiveness.

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

EIT Manufacturing plays a pivotal role in fostering technological sovereignty and enhancing Europe's international positioning. By bringing together diverse stakeholders, including manufacturing industry actors, solution providers, SMEs, start-ups, universities, and RTOs, EIT Manufacturing creates innovation ecosystems. These ecosystems aim to add unique value to European products, processes, and services, while ensuring that global manufacturing innovation is spearheaded by Europe. To achieve this, EIT Manufacturing actively promotes synergies across Europe. It collaborates with initiatives at both European and national/regional levels, seeking mutual benefits through strategic partnerships. The cross-sectorial nature of manufacturing, spanning various industrial domains, allows for cross-fertilisation across modern technologies. Notably, EIT Manufacturing explores synergies with other Knowledge and Innovation Communities (KICs), European Partnerships, regional and national authorities, and key initiatives such as the European Digital Innovation Hubs, the New European Bauhaus, and the GAIA-X initiative. Additionally, it engages with international associations and fora, including the World Manufacturing Forum and Manufuture ETP.

Below, are indicative examples of these synergies:

- collaborations with other KICs and European Partnerships;
- partnerships with regional and national authorities;
- engagement with initiatives such as the European Digital Innovation Hubs and the New European Bauhaus;
- participation in the GAIA-X initiative;
- interaction with international associations and forums, such as the World Manufacturing Forum and Manufuture ETP.

SYNERGY WITH EFFRA AND THE MADE IN EUROPE EUROPEAN PARTNERSHIP

EIT Manufacturing collaborates closely with the **European Factories of the Future Research Association (EFFRA)**, forging a strategic partnership that holds immense promise for the future of European manufacturing. EFFRA serves as the private counterpart to the European Commission within the ambit of the Made in Europe European Partnership under Horizon Europe. This collaboration marks a significant milestone, uniting stakeholders from two distinct pillars: **Made in Europe (Pillar 2)** and **EIT Manufacturing (Pillar 3)**. Together, they share a common goal to fortify European manufacturing and amplify the impact of research and innovation endeavors.

In the years ahead, this collaboration is poised to extend beyond its current scope, encompassing not only research and innovation but also education and business creation. The **Cooperation Agreement**, signed in Brussels on **27 October 2021**, garnered support from key entities including **DG EAC**, **DG CONNECT**, and **DG RTD**. Within this collaborative framework, EIT Manufacturing introduced the **INNOVATE TOGETHER** initiative in 2021. This open call for proposals seeks to bolster tested and demonstrable results (supported by FoF/MiE) and expedite their market deployment. By synergising the strengths of **Made in Europe** and **EIT Manufacturing**, we unlock substantial potential, accelerating the market exploitation of research and innovation activities while maximising their economic and societal impact.



DEEP TECH TALENT INITIATIVE (DTTI)

EIT Manufacturing is the KIC leading the Deep Tech Talent Initiative (DTTI) launched by the EIT in 2022 as part of the European Commission's New European Innovation Agenda. The DTTI is a pioneering programme that aims at skilling one million people within deep tech fields over the next three years in order to advance in technological sovereignty. Deep tech innovations (cutting-edge technological solutions combining fields of science and engineering in the physical, biological and digital spheres) are indispensable in addressing the most pressing global challenges. This initiative will certainly enhance Europe's global prominence and positioning in terms of deep tech learning.

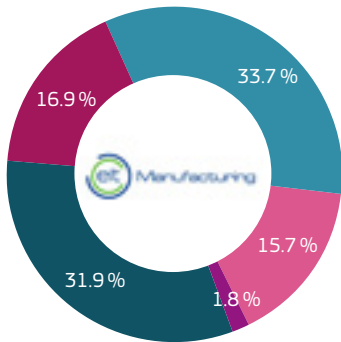
REGIONAL/NATIONAL AUTHORITIES

EIT Manufacturing has signed a large number of cooperation agreements (MoUs, MoCs, LoIs) as well as contractual ones, with relevant regional and national stakeholders, especially in EIT RIS eligible countries. These agreements flag the start of our cooperation towards specific collaborations in the future at regional and national level. EIT Manufacturing has also acceded to the MoUs signed by EIT with Member States and aims to strongly contribute in the context of these MoUs. By fostering collaboration with national and regional authorities, EIT Manufacturing will be able to connect SMEs and start-ups in RIS countries with instruments and funding that can be utilised by them towards innovation, education and business creation.



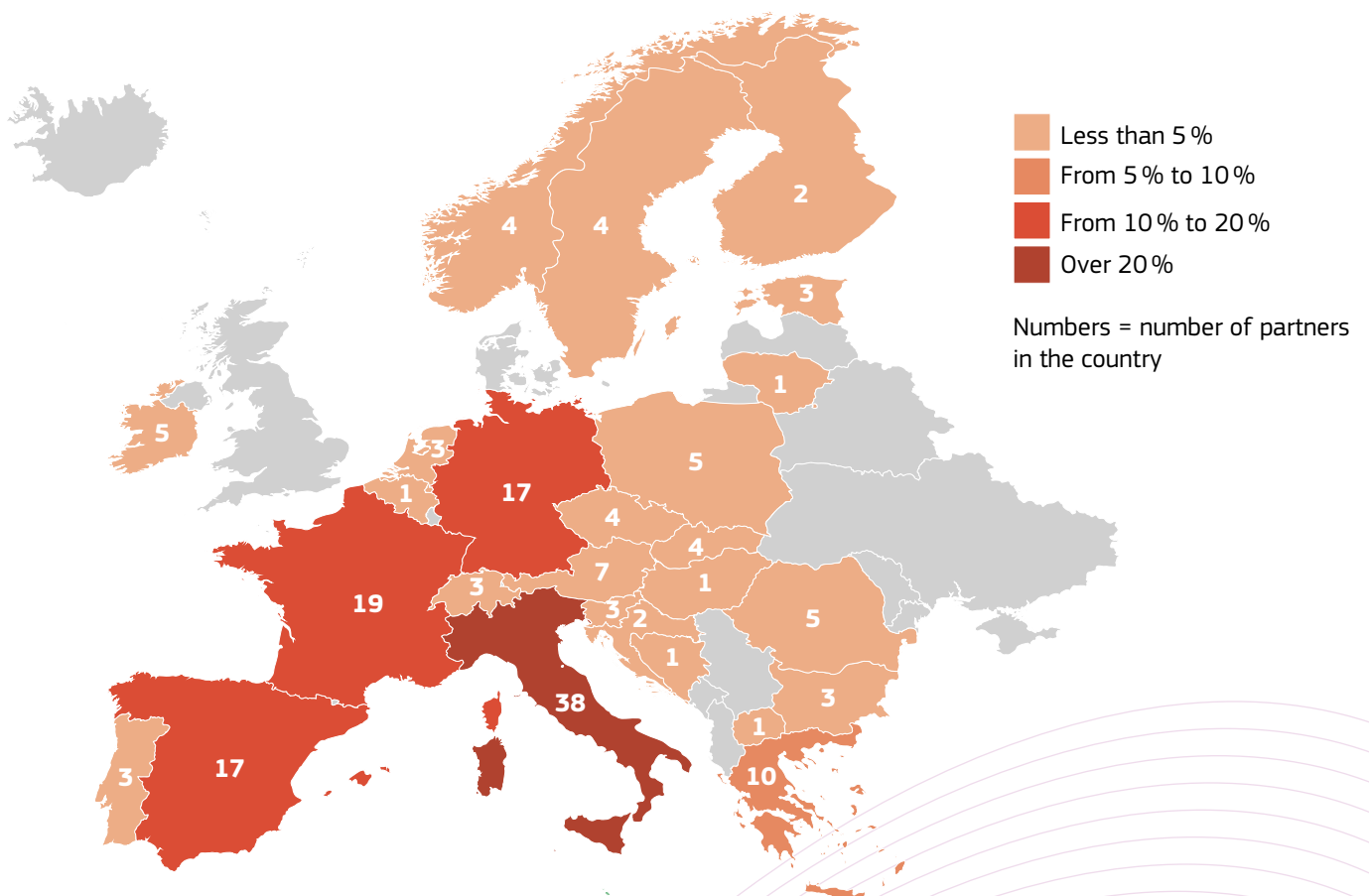
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation
(including international research organisation as well as private research organisation controlled by a public authority)
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 166



MISSION AND VISION STATEMENT

At EIT Urban Mobility, we accelerate the change towards a sustainable model for urban mobility for liveable urban spaces.

We strive for a form of mobility that allows people and goods to move affordably, fast, comfortably, safely and cleanly but at the same time enables cities to reclaim public space from cars, creating more space for people to work, meet and play.

We foster integration by bringing together the key players across the whole value chain of mobility and integrating the knowledge triangle. We engage people, connect communities, accelerate market opportunities, and educate students and professionals. To solve the most pressing mobility challenges, we put cities at the centre of all our activities.

All activities of EIT Urban Mobility serve three societal impact goals:

1. improving quality of life in cities;
2. mitigating and adapting to climate change;
3. creating jobs and strengthening the European urban mobility sector.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar III – European Institute of Innovation and Technology

Type of Partnership: Institutionalised – EIT KIC

Coordinating entity: EIT Urban Mobility management team

Total estimated budget: EUR 141.2 m*

Predecessor under Horizon 2020: Started in 2019

* Budget of the multiannual grant cycle covering the 2023-2025 period.

The KIC multiannual budget is assessed annually by the EIT based on the KIC's Business Plan, with the possibility, in case of positive assessments, to make additional allocations to it.

FIND OUT MORE

www.eiturbanmobility.eu

[in https://www.linkedin.com/company/climate-kic/mycompany/verification/](https://www.linkedin.com/company/climate-kic/mycompany/verification/)

[X https://x.com/eiturbanmob?lang=en](https://x.com/eiturbanmob?lang=en)

[f https://www.facebook.com/EIT-Urban-Mobility-1951333174955858/](https://www.facebook.com/EIT-Urban-Mobility-1951333174955858/)

[@ https://www.instagram.com/eiturbanmob/](https://www.instagram.com/eiturbanmob/)

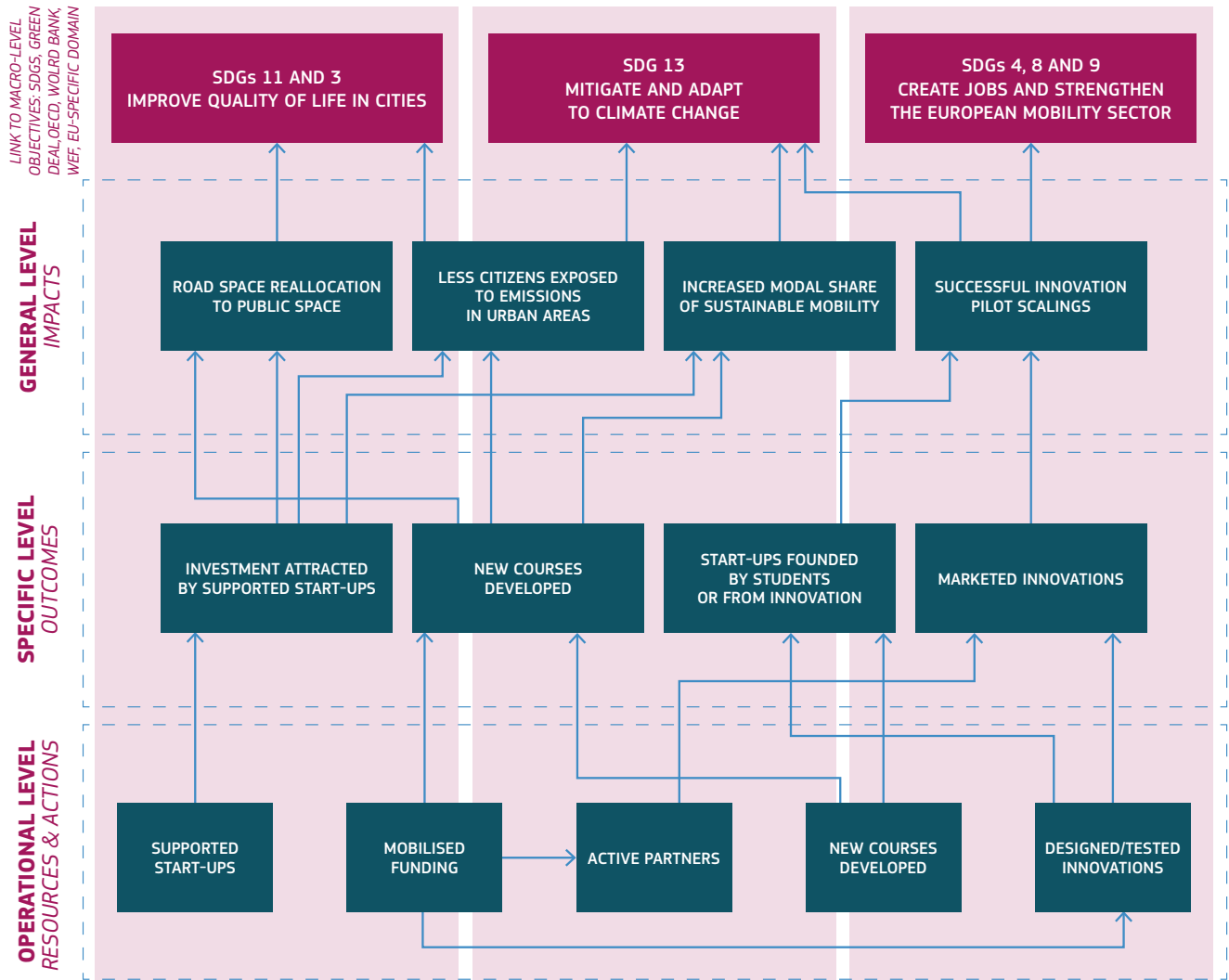
[y https://www.youtube.com/channel/UCnsVPKuZBK_UiZo0MOYNxXQ](https://www.youtube.com/channel/UCnsVPKuZBK_UiZo0MOYNxXQ)

[✉ office@eiturbanmobility.eu](mailto:office@eiturbanmobility.eu)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

EIT URBAN MOBILITY VISION: CREATION OF SUSTAINABLE MOBILITY FOR LIVEABLE URBAN SPACES





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
Supported start-ups	#/year	80	100	100	100	TBD
Active partners	#	180	220	230	250	TBD
Mobilised funding	EUR million	New	N/A	N/A	75	TBD
New courses developed	#	New	N/A	N/A	10 000	TBD
Designed/tested innovations	#/year	17	30	35	35	TBD
OUTCOMES						
Investment attracted by supported start-ups	EUR million	3	8	10	12	TBD
Start-ups founded by students or from innovation	#	N/A	4	10	15	TBD
Participants in education and training	#	2500	4000	7500	10 000	TBD
Marketed innovations	#/year	15	20	27	33	TBD
IMPACTS						
Road space reallocation to public space	% change	2020 level	N/A	N/A	-80 %*	TBD
City Club city inhabitants exposed to emissions in urban areas	% change	2020 level	N/A	N/A	-80 %*	TBD
Modal share of sustainable mobility	% change	2020 level	N/A	N/A	+100 %*	TBD
Innovation pilots scalings	#/year	New	10	10	10	TBD

*(in displayed percentage of EIT UM City Club cities).

EIT Urban Mobility monitors its outputs through three different set of KPIs. These relate to:

- Annual EIT core KPIs: same set of KPIs for all KICs in line with EIT KIC model;
- EIT Urban Mobility specific KPIs: KPIs relating to programmes of EIT UM;
- EIT Urban Mobility city impact indicators.

EIT Urban Mobility's Strategic Agenda 2021-2027 provides further insights into the KIC's strategy for 2021-2027, the intervention logic, the full set of KPIs and the pathway towards achieving our societal and urban mobility impact goals: https://www.eiturbanmobility.eu/wp-content/uploads/2021/04/210329_SA_EIT-UM-branded_Final-published.pdf



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

EIT Campus: a single platform bringing together diverse programmes in the world of innovation, sustainability, entrepreneurship and technology.

EIT Campus is an online platform for courses that support the skills transition for a greener and healthier Europe. Its offering encompasses education activities from different communities of the EIT and other European initiatives to equip students and professionals with the necessary knowledge in line with the changing needs of the labour market. The offered interdisciplinarity supports the development of well-rounded professionals with required skills to decarbonise Europe.

Further details: <https://eit-campus.eu/>

Tomorrow.Mobility World Congress (TMWC): The flagship event for international visibility of the European urban mobility ecosystem.

Tomorrow.Mobility World Congress, co-organised by EIT Urban Mobility and Fira Barcelona and held in the framework of Smart City Expo World Congress, is the ultimate event to accelerate sustainable and intelligent urban mobility. The goal is to act as a global benchmark for the mobility and transport sector, combining an ever-growing leading event with an all-year-round digital platform and an innovation hub attracting the industry's key players. TMWC allows the European urban mobility ecosystem globally to display and exchange on innovative solutions and draws international attention to societal and environmental impact in the area of mobility. In 2023, 25 000+ representatives from 140+ countries, as well as representatives from 800+ cities, were present on site.

Further details: <https://www.tomorrowmobility.com/>

Mobility Innovation Marketplace: a catalogue of market-ready solutions for the urban mobility transition

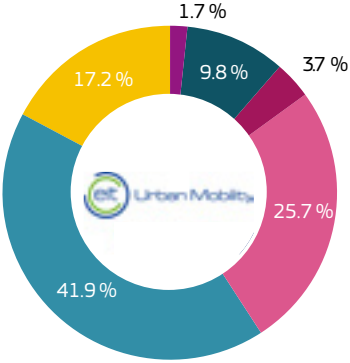
The Mobility Innovation Marketplace features leading urban mobility solutions, knowledge, and opportunities. Visitors are invited to search market-ready innovations, learn from insights and implemented use cases in cities, and browse through implementation opportunities to address open challenges faced by global cities.

Further details: <https://marketplace.eiturbanmobility.eu/>



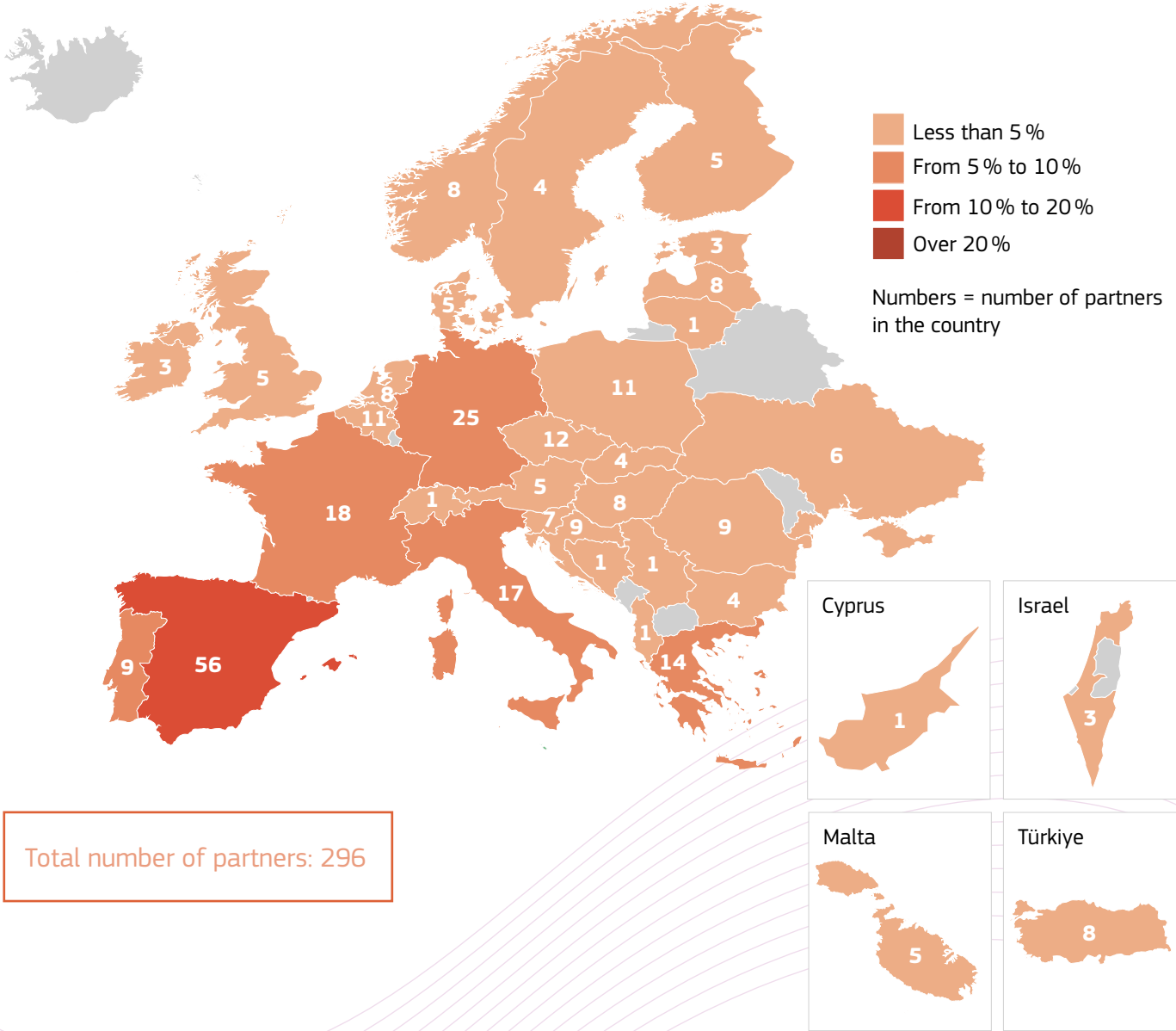
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE





MISSION AND VISION STATEMENT

EIT RawMaterials is an Innovation Community within the European Institute of Innovation and Technology (EIT).

The mission of EIT RawMaterials is to enable sustainable competitiveness of the European minerals, metals and materials sector along the value chain by driving innovation, education and entrepreneurship.

EIT RawMaterials is a key European actor to advance Europe's transition into a sustainable economy. This will be realised by integrating knowledge from industry, higher education and research by engaging stakeholders from the entire raw materials value chain.

EIT RawMaterials builds on the world's largest network of excellent partners in raw materials and advanced materials. The activities of EIT RawMaterials contribute to maintaining and increasing Europe's competitiveness whilst securing and creating new jobs.

Raw materials are critically important for society in general, and for the transition to a green economy in particular. They are key for achieving the goals set out in COP21 and the United Nations Sustainable Development Goals for implementing the European 2030 Agenda for Sustainable Development and for the European Resource Efficiency Initiative. Metals, minerals and raw materials and their sustainable supply and consumption are important in the move towards a circular economy.

EIT RawMaterials projects are either directly linked to the SDGs by measurable output or indirectly by consequences of the measurable outputs.

<https://eitrawmaterials.eu/sustainable-development-goals/>

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar III – European Institute of Innovation and Technology

Type of Partnership: Institutionalised – EIT KIC

Coordinating entity: EIT RawMaterials e.V and EIT RawMaterials GmbH

Total estimated budget: EUR 150.5 m*

Predecessor under Horizon 2020: EIT RawMaterials was established in 2015

* Budget of the multiannual grant cycle covering the 2023-2025 period.

The KIC multiannual budget is assessed annually by the EIT based on the KIC's Business Plan, with the possibility, in case of positive assessments, to make additional allocations to it.

FIND OUT MORE

<https://eitrawmaterials.eu>

✉ info@eitrawmaterials.eu

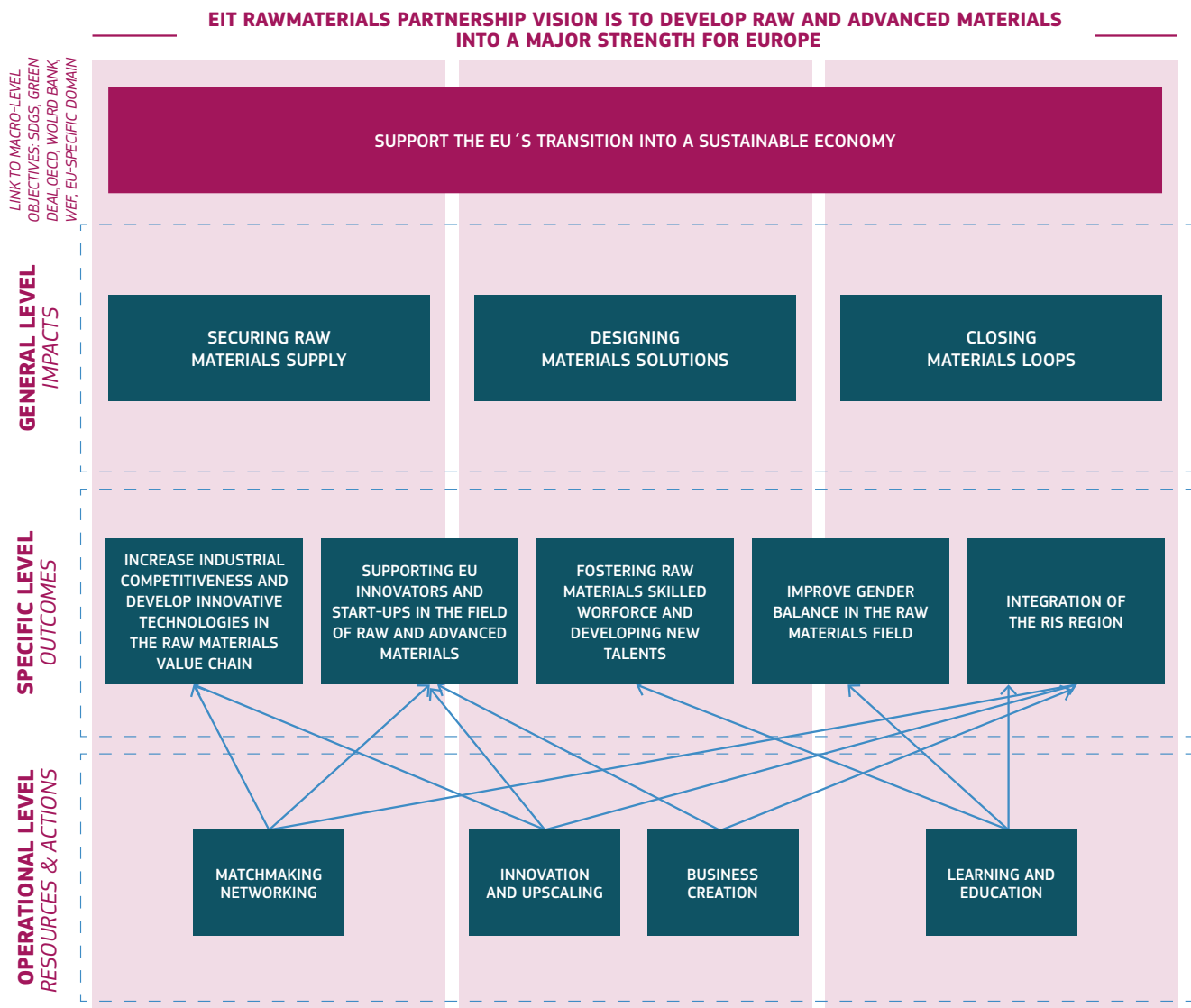
[in https://www.linkedin.com/company/eit-raw-materials/mycompany/](https://www.linkedin.com/company/eit-raw-materials/mycompany/)

[X https://x.com/eitrawmaterials](https://x.com/eitrawmaterials)

[ig https://www.instagram.com/eitrawmaterials/](https://www.instagram.com/eitrawmaterials/)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2022	TARGET 2023	TARGET 2024	TARGET 2025	TARGET 2026	TARGET 2027
RESOURCES (INPUT), PROCESSES AND ACTIVITIES								
Number of EIT RM partners	Number of active partners	300	300	300	300	300	300	300
EIT RM RIS Hubs	Number of RIS Hubs	6	7	8	9	10	10	10
HEIs involved in EIT and KIC activities	Number of HEIs	75	75	75	75	75	75	75
Partners from EIT RIS countries	Number of active partners from RIS countries	114	114	114	114	114	114	114
OUTCOMES								
Marketed innovations	Number of innovations	54	44	29	30	30	30	30
Supported start-ups/scale-ups	Number of start-ups	102	50	50	50	50	50	50
Investment attracted by KIC supported start-ups/scale-ups	Number of investments	EUR 120 million	10	10	10	10	10	10
Securing raw materials supply	Investment attracted in resources EUR million	1.79	150	150	150	200	150	200
Improve gender balance in the RM sector	Women graduating from RM-related courses	42 %	37 %	40 %	40 %	45 %	45 %	50 %
IMPACTS								
Integrate and leverage the RM potential in the RIS region	Integration of the RIS region – % funding RIS participants in non-RIS projects	23 %	20 %	20 %	20 %	20 %	20 %	20 %
Ensure stable RM workforce	Creating/maintaining/re-skilling jobs in the RM sector (including conversion from brown technologies)	178	300	600	900	3 000	3 100	3 100
Designing materials solutions	Advanced materials produced	0 %			2 %			5 %
Closing materials loops	% CO ₂ emitted savings	0 %			5 %			20 %

EIT RM Impact KPIs target

In keeping with the refinement of its strategic agenda and with changes in the EIT core KPIs, EIT RawMaterials has reviewed its impact KPIs and aligned them with its strategic objectives and overall societal impact.

KPIs' targets from EIT RawMaterials Strategic Agenda 2021-2027. Baseline figures are the figures achieved in 2021:

[EIT-RawMaterials Strategic-Agenda 2021-2027.pdf \(eitrawmaterials.eu\)](#)



TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

ERMA (<https://erma.eu/about-us/>)

The European Raw Materials Alliance (ERMA) was announced on 29 September 2020, as part of the European Commission's Action Plan on Critical Raw Materials and jointly with the publication of the 2020 List of Critical Raw Materials. ERMA's vision is to secure access to critical and strategic raw materials, advanced materials, and processing know-how for EU Industrial Ecosystems. The alliance involves all relevant stakeholders, including industrial actors along the value chain, Member States and regions, trade unions, civil society, research and technology organisations, investors and NGOs. ERMA currently lists over 750 organisations and more than 1 600 individuals.

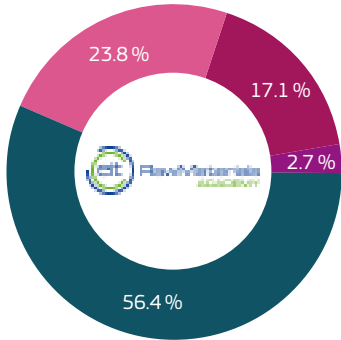
In a bid to secure large supplies of raw materials, we need to diversify our sources, both within Europe as well as beyond its borders. ERMA has supported the European Commission in driving the partnership with the Ukraine and continues to represent EIT RawMaterials in high-level joint activities with Canada and Australia. Following the model developed for Ukraine, ERMA is leading the development of a comprehensive partnership with Kazakhstan. Discussions are ongoing with the governments of Norway and Greenland on mechanisms to support ERMA projects in their countries. Along with international partnerships, meetings are regularly organised by ERMA to mobilise and engage the ERMA community, thus creating opportunities for its engagement with the various partnerships. ERMA is heavily involved in the Africa MaVal H2020 project in a bid to build an EU and Africa business network in CRM value chains. The aim is to develop a strategy for the integration of identified and emerging EU and African raw materials value chains for the twin transition. ERMA is also representing EIT RawMaterials in the EU-Latin America partnership on raw materials and is currently working with the European Commission on the development of a strategic framework to extend ERMA activities in South America, particularly in Chile, Argentina and Brazil.

Modern mining can only be achieved if it is done sustainably and this is one of ERMA's key roles - to scrutinise every business case to ensure it is done according to the highest ESG standards, which is a fundamental requirement of the investment community.



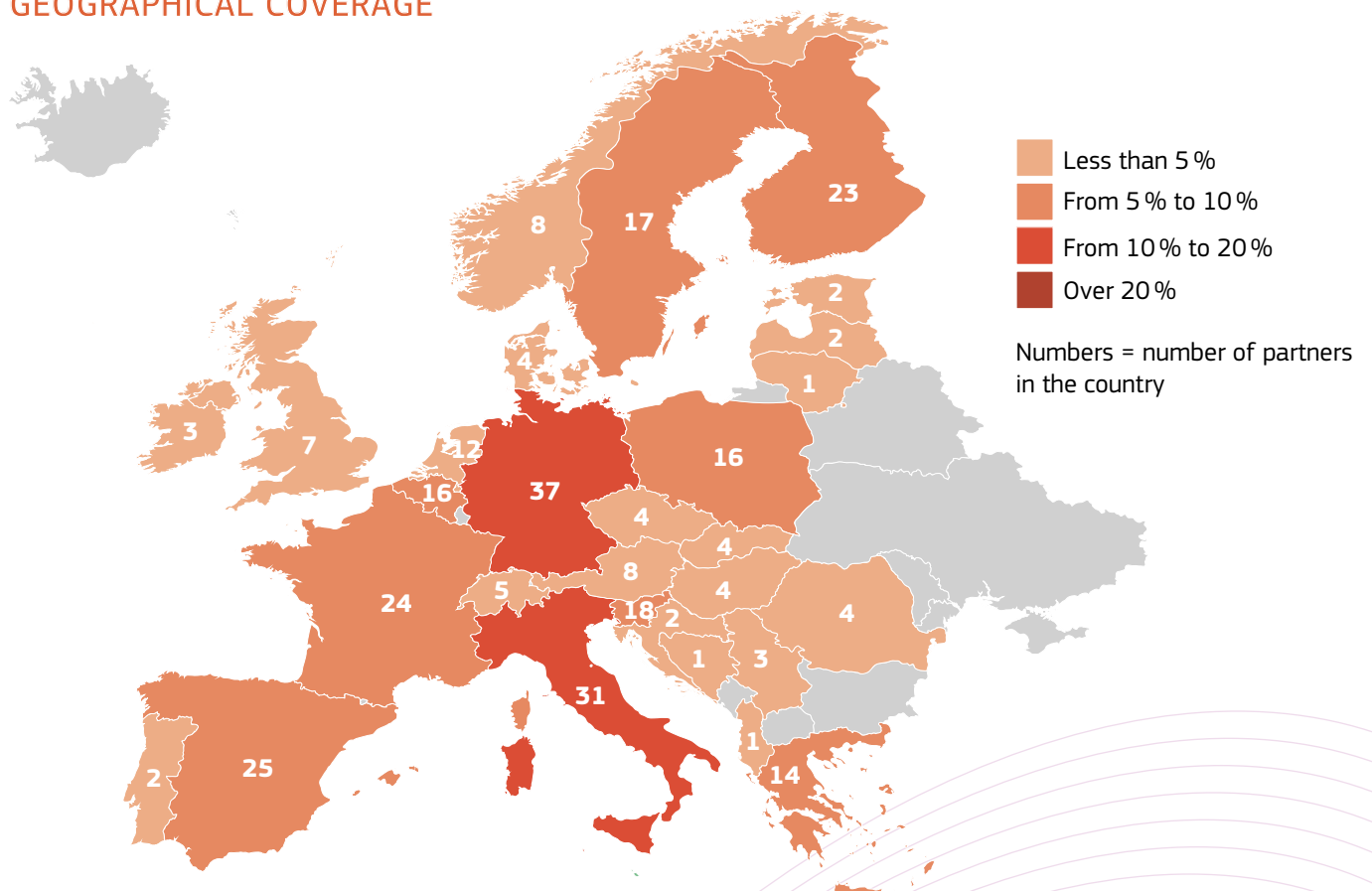
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 298



MISSION AND VISION STATEMENT

Mission: The EOSC Partnership shall advance Open Science to accelerate the creation of new knowledge, inspire education, spur innovation and promote accessibility and transparency.

Vision: To create a trusted, virtual, federated environment in Europe to store, share and reuse digital outputs from research (including publications, data, metadata, and software) across borders and scientific disciplines. The EOSC Partnership will bring together institutional, national and European initiatives, data and service providers and all relevant stakeholders, to co-design and deploy a European Research Data Commons where data are findable, accessible, interoperable and reusable (FAIR). EOSC will build on the past decade of investing in Open Science projects and initiatives by the European Commission, Member States and others. EOSC will enhance the possibilities for researchers to find, share and reuse publications, data, and software and will stimulate and enable researchers to work collaboratively and practise Open Science as well as to tackle the global societal challenges of the 21st century.

The Vision

Building the EOSC ecosystem collaboratively with all stakeholders through the EOSC Partnership





KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar I – Research infrastructures

Type of Partnership: Co-programmed

Coordinating entities: EOSC Association and the European Commission

Total estimated budget: EUR 990 m

EU commitments: EUR 490 m

Partners' commitments: EUR 500 m

Predecessor under Horizon 2020: New partnership

Start date-end date : 2021-2030

FIND OUT MORE

<https://eosc.eu/>

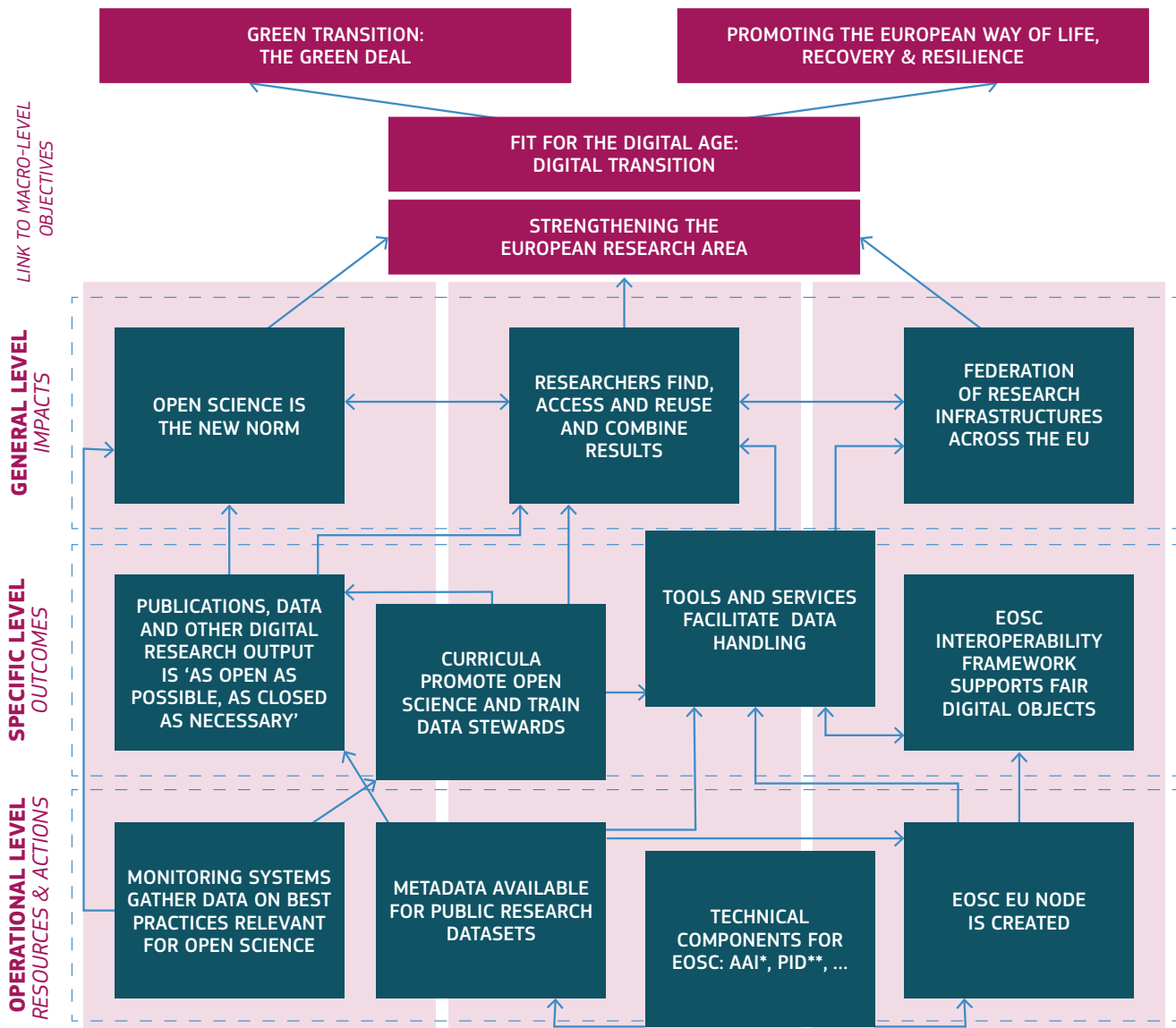
 <https://www.linkedin.com/company/80728224>

 info@eosc.eu



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)

EOSC PARTNERSHIP CONTRIBUTIONS TO SOCIETAL CHALLENGES



* AAI: Authentication and Authorization Infrastructure
 ** PID: Persistent Identifiers



PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES						
The EOSC EU Node is operational and a growing number of EOSC core functions are discoverable	# of EOSC core functions that are discoverable through the EOSC EU Node	0	n/a	4	6	underachieving
Metadata are increasingly available for public research data sets	% of EOSC-A RFOs that require (meta)data sharing and incentivise data reuse	data sharing 67 % data reuse 50 %	N/A	70%	80 %	achieved
Members' policies adopt Open Science principles and encourage Open Science best practises	% of EOSC-A members that request FAIR in project design via data management plans	40 %	70%	75%	80%	on track
OUTCOMES						
The EOSC Interoperability Framework is adopted by major EU Research Infrastructures	# of Research Infrastructures adopting the EOSC Interoperability Framework	0 Status: https://zenodo.org/records/8109528 https://zenodo.org/records/8399710	5	8	10	achieved
Publications from EOSC-A members are immediately available in open access	% of open access publication-record, per year	49 %	70 %	75 %	80 %	on track
Thematic European Research Infrastructures have documented standards and protocols for data sharing and reuse.	% of major Research Infrastructures with documented standards and protocols	83 %	60 %	70 %	80 %	achieved
IMPACTS						
Open Science is the new norm: i) A growing number of major Research Infrastructures (as a proxy for all major scientific disciplines) have relevant data and services indexed through EOSC	# of scientific disciplines (Frascati Nomenclature-Level 1), in major Research Infrastructures, that have relevant data and services indexed through EOSC	5 from the 6 major disciplines	4	5	All major scientific disciplines have relevant data and services indexed through EOSC	achieved
ii) A growing number of national education systems recognise curricula for data stewards	# of countries where educational curricula with an Open Science dimension were offered	6 (CZ, GE, NL, IE, SK, HR)	5	7	10	achieved

In this table, the baseline values were obtained from the EOSC Partnership Monitoring Framework KPI survey of October 2022, referring to the year 2021.

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

Response to the COVID pandemic: The European Open Science Cloud (EOSC) recognises the importance of collaboration and data sharing on an international scale and is establishing connections beyond the EU, on the adoption of data interoperability principles and common standards, to address global societal challenges. The SARS-CoV-2 pandemic, marked by unprecedented genomic data, faces a challenge in global data analysis due to limitations in data interoperability, data sovereignty/security, analytical capability and computational capacity. Commercial clouds, often based outside the EU, don't fully solve this, especially in low-middle income countries where research computing infrastructure is often scarce. Developed countries also struggle as expertise in infrastructure management is required. The following examples illustrate how the EOSC Partnership contributes to the European and global pandemic readiness, addressing those specific challenges:

- **The European COVID-19 Data Platform** enables the rapid collection and comprehensive data sharing of available research data from different sources for the European and global research communities, in order to accelerate research on coronaviruses, worldwide. It is a high-priority pilot to realise the objectives of the European Open Science Cloud (EOSC), providing resources for evidence-based decision-making, across scientific, medical, public health and policy domains. The Portal is forming part of the pandemic preparedness toolkit to address future pathogen outbreaks, globally:
<https://www.covid19dataportal.org/the-european-covid-19-data-platform>
- The **EuroScienceGateway** INFRAEOSC project supports the Galaxy initiative of pooling free global computational resources by developing Galaxy instances in countries, which makes deep sequencing analysis accessible and provides a framework for global pathogen surveillance. Public computational infrastructures (XSEDE, ELIXIR, Nectar Cloud) with open-source software offer a solution, although a unified platform is needed, which is best supported by an international community. The two-stage platform on public Galaxy instances in the US, EU, and Australia supports hundreds of thousands of analyses monthly, providing nearly unlimited computation capacity:
<https://galaxyproject.org/projects/esg/>
<https://www.nature.com/articles/s41587-021-01069-1>
- The **Virus Outbreak Data Network (VODAN)** is focused on improving health data analysis, under the regulatory provisions of any country, and strengthening national capacities for health data analytics as well as the use of health data at the point of care. Following the FAIR implementation recommendations from GO FAIR, their approach involves a series of questions on how the community makes data and metadata FAIR and what 'FAIR Enabling Resources' (FERs) are used. Data analytics is arranged based on the permission granted for access to the data in relation to a particular query, according to the governance frameworks in place in each country, thus overcoming barriers for sensitive data sharing:
<https://www.youtube.com/watch?v=eJe8SZB-jYM>
<https://www.vodan-totafrika.info/vodan-africa.php?i=1&a=about-vodan-africa>

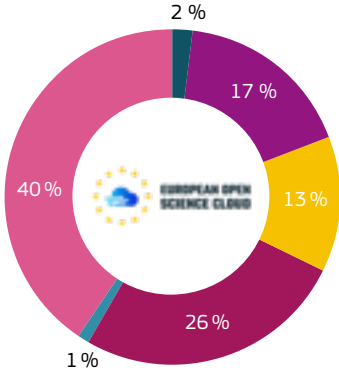
Global astronomical challenges

- **CosmoHub** is an international data exploration and data distribution platform, currently evolving into a multi-messenger framework with the capacity to analyse data from gamma ray telescopes, neutrino telescopes as well as gravitational wave data. CosmoHub encourages international users to upload, distribute and analyse their data through the platform, enabling worldwide collaborations to unveil the current astronomical challenges:
<https://cosmohub.pic.es>
<https://doi.org/10.1016/j.ascom.2020.100391>



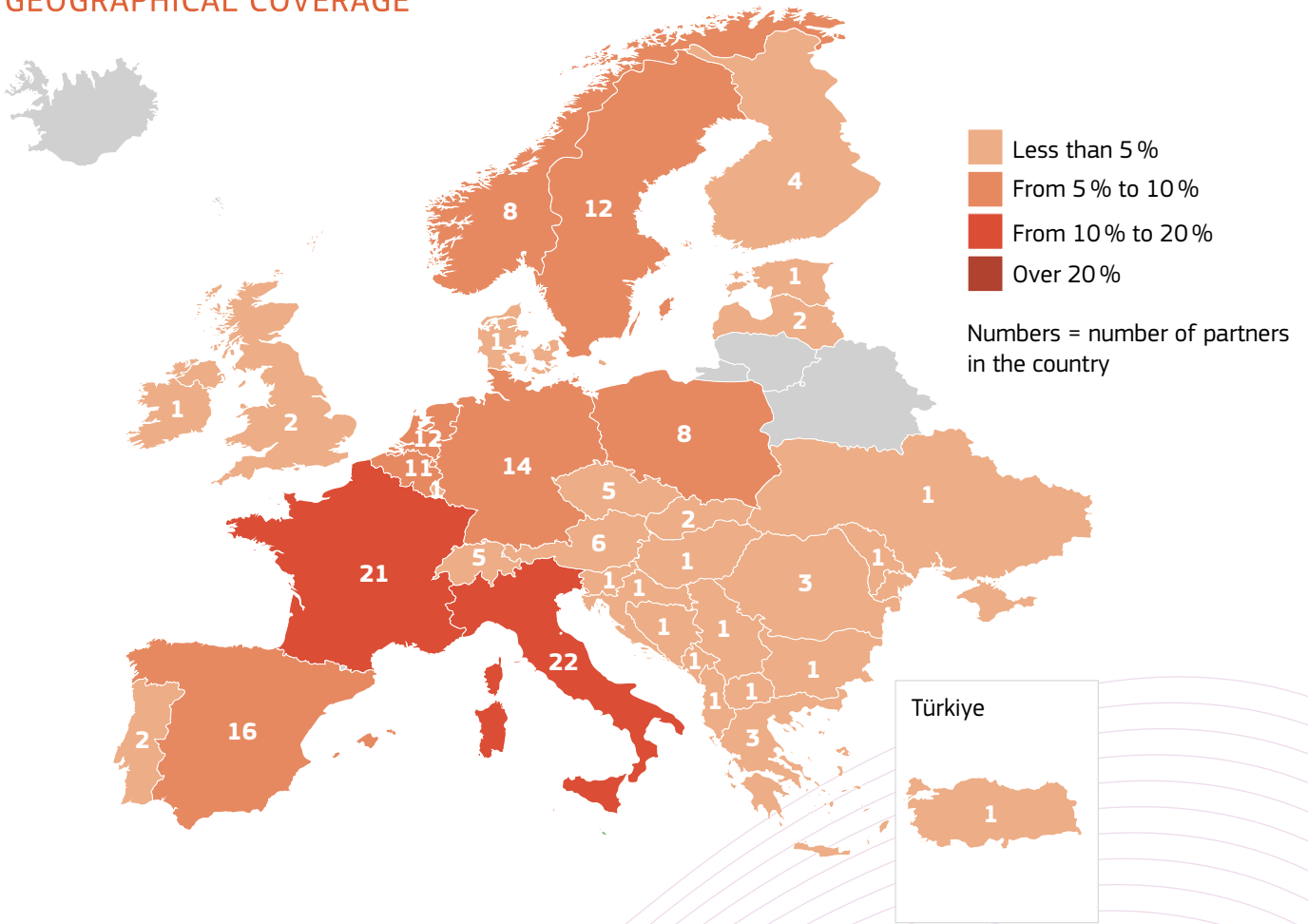
OVERVIEW OF MEMBERS

MEMBERS PER TYPE



- INDUSTRY** Other Industrial and/or profit Private organisation
- UNIVERSITY** University and other higher education organisations
- RESEARCH** Public research organisation (including international research organisation as well as private research organisation controlled by a public authority)
- PUBLIC** Research funders, ministries, regions, cities
- SMEs**
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE



Total number of partners: 172



MISSION AND VISION STATEMENT

The partnership is implemented by innovation agencies of 37 countries under the umbrella of Eureka. Its vision is to stimulate economic growth and job creation by enhancing the competitiveness of Innovative SMEs while contributing to delivering a positive societal impact in Europe and beyond.

The objectives of the partnership are to enable innovation and the internationalisation of SMEs, and to connect Member States R&D&I national programmes.

The partnership aims to do this by implementing the Eurostars-3 programme and accompanying measures to SMEs, like the Eureka-Innowwide programme and a higher connectivity to other services offered in the European innovation landscape.

KEY FACTS AND FIGURES

Horizon Europe Pillar and Cluster: Pillar III – European Innovation Ecosystems

Type of Partnership: Co-funded

Coordinating entity: Eureka Association

Total estimated budget: EUR 1,05 bn

EU commitment: EUR 250 m

Partners' commitment: EUR 800 m

Predecessor under Horizon 2020: Eurostars 1(FP7) and Eurostars-2 (H2020) implemented under Article 185 of TFEU

Start date-end date: 09/2021-08/2027*

*The amendment to the Grant Agreement is being negotiated and if it gets approved and signed, the new end date is expected to be January 2029.

FIND OUT MORE

www.eurekanetwork.org

[in https://www.linkedin.com/company/eureka-association/about/](https://www.linkedin.com/company/eureka-association/about/)

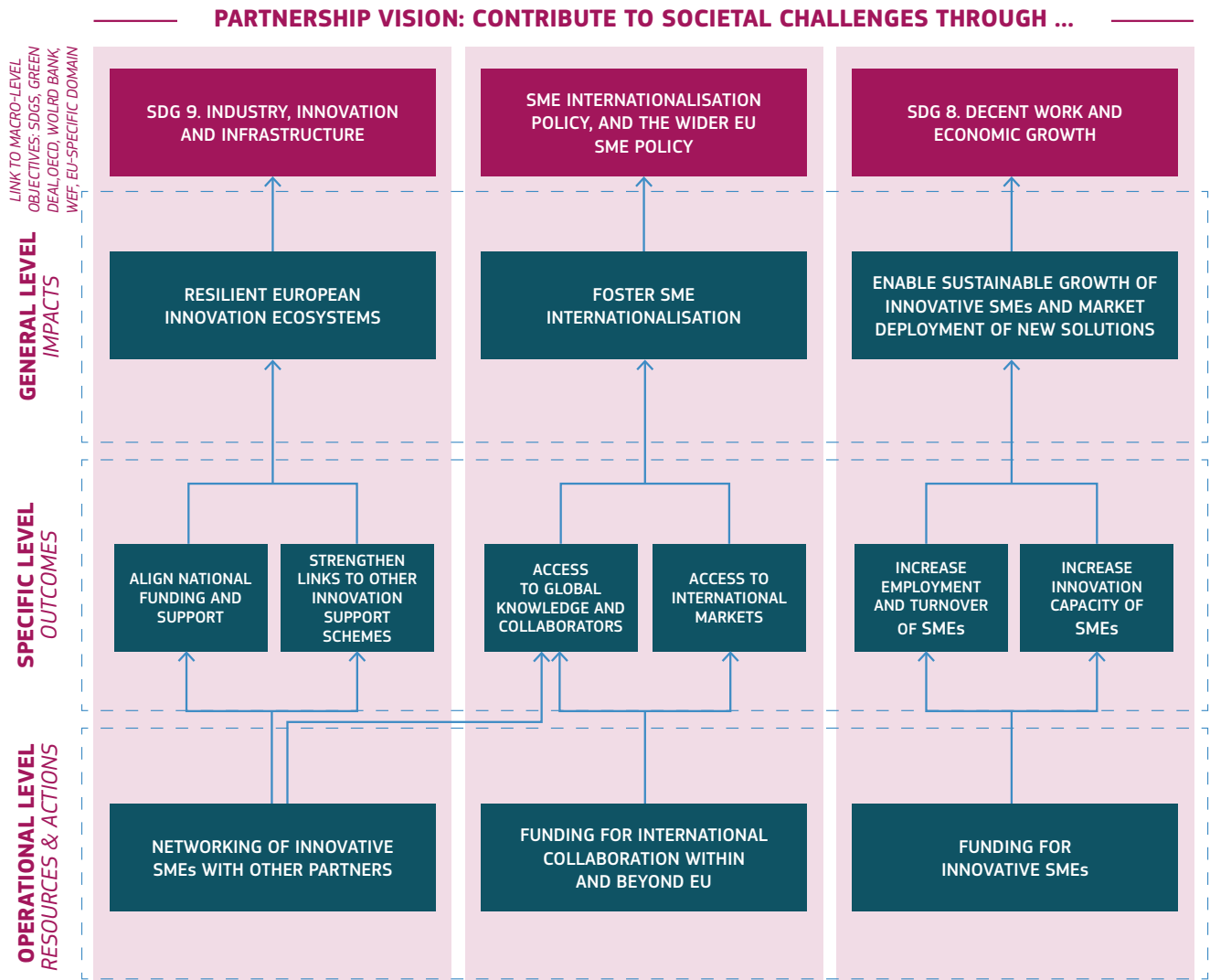
[X https://twitter.com/EUREKA_NETWORK](https://twitter.com/EUREKA_NETWORK)

[yt https://www.youtube.com/c/EUREKA-NETWORK-1985](https://www.youtube.com/c/EUREKA-NETWORK-1985)

[✉ eureka.secretariat@eurekanetwork.org](mailto:eureka.secretariat@eurekanetwork.org)



PARTNERSHIP SPECIFIC IMPACT PATHWAYS (PSIPs)





PARTNERSHIP'S KEY PERFORMANCE INDICATORS

KPI NAME	UNIT OF MEASUREMENT	BASELINE	TARGET 2023	TARGET 2025	TARGET 2027	AMBITION >2027	STATUS
RESOURCES (INPUT), PROCESSES AND ACTIVITIES							
Number of Eursotars-3 calls	Number per year	N/A	2	2	2	TBD	On track
No of IW calls	Number per year	N/A	1	1	1	TBD	On track
OUTCOMES							
Sustained cooperation over time	% of project partners	15 %	15 %	20 %	25 %	25 %	Data not available yet
Newcomers SMEs to international cooperation	% of funded SMEs	10 %	20 %	20 %	20 %	TBD	On track
Post-project private investment	% of innovative SMEs	control group	N/A*	5 % above control group	10 % above control group	10 % above control group	Data not available yet
Post-project public investment	% of innovative SMEs	control group	N/A	5 % above control group	10 % above control group	10 % above control group	Data not available yet
Widening participation	% of E3 funded projects	10 %	20 %	20 %	20 %	TBD	On track
Widening budget allocation	% of E3 public fund	10 %	15 %	15 %	15 %	TBD	On track
Use of national budget	EUR million/year	90	120	120	120	TBD	On track
Eurostars-3 projects contributing to the United Nations Sustainable Development Goals (breakdown by SDG), per call	% of E3 projects	40 %	70 %	70 %	70 %	TBD	On track
Percentage of funded projects with at least one consortium member from a non-EU country and non-Horizon Europe associated country, per call	% of E3 funded projects	10 %	15 %	15 %	15 %	TBD	On track
Percentage of funded projects with participants from at least two Member States or associated countries to HEU.	% of E3 funded projects	20 %	10 %	10 %	10 %	TBD	On track
IMPACTS							
Resilient EIE	Number of related KPIs fulfilled	5 KPI targets + 0Os	N/A*	4 SOs	4 SOs	TBD	On track
Productivity and internationalisation gap	Number of related KPIs fulfilled	2 KPI targets + 0Os	N/A*	3 SOs	3 SOs	TBD	On track
Leverage investments	Number of related KPIs fulfilled	3 KPI targets + 0Os	N/A*	2 SOs	2 SOs	TBD	On track

*No projects completed yet by the end of 2023.

Note: Ambition post 2027 starts being discussed within the consortium considering participation in FP 10.

KPIs, their targets and baselines, are being reviewed in amendment to the current Grant Agreement process.

TECHNOLOGICAL SOVEREIGNTY AND INTERNATIONAL POSITIONING

SUCCESS STORY 1: FOCUS ON EUROSTARS

Under the Eurostars-3 programme, collaboration with countries such as Canada, Singapore, Switzerland, the United Kingdom, South Africa and the Republic of Korea provides SMEs with opportunities to access new markets, adopt technologies developed in these leading countries and expand their business reach.

For example, the Republic of Korea became the first non-European state to be a member of Eurostars. Speaking about the new partnership in a press release, the country's government said: 'The ministry believes the Eurostars programme will be a great opportunity for the country's SMEs to learn and experience the advanced technology and innovation of Europe's hidden champions through exchange and mutual co-operation.'

Since then, 129 Republic of Korean organisations have taken part in 70 projects approved for funding. The projects developed involved EUR 142 million of investment in the country, in cooperation with 22 partner countries, with over 169 project participants involved.

Partnership members also support their SMEs' participation in international events and conferences hosted by these countries. The Korea Institute for Advancement of Technology (KIAT), the Korean national funding body, has been hosting Korea Eureka Day annually since 2010, where the Eurostars programme is heavily featured. Korea Eureka Day is designed to foster the growth of the international technology cooperation network between the Republic of Korea and Europe. The last edition in October 2023 saw eight European countries travel to the country with delegations of SMEs to participate in thematic ideas pitching, seminars with individual countries, and B2B meetings with their Korean counterparts.

SUCCESS STORY 2: FOCUS ON INNOWIDE

The Eureka Innowide program under the European Partnership on Innovative SMEs is open to small and medium-sized enterprises from a wide range of countries, including those within and outside of the EU. Innowide helps SMEs explore and enter new international markets. It offers financial support to conduct feasibility studies or market research, working with local organisations based in their selected target country (in Africa, the Americas, Asia or Oceania).

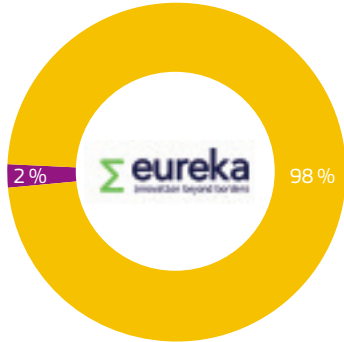
The first Innowide call had a focus on Africa, where 25 funded projects had counterparts in Africa and 25 projects partnered with other regions worldwide. In total, 56 countries were targeted, of which 24 were in Africa. The most targeted countries worldwide were the United States, India, Brazil, Colombia, China and Mexico. In Africa, Kenya was the most targeted country, followed by South Africa, Ghana, Morocco, Senegal and Tanzania.

These projects will support the EU to take a leading role in supporting international SME research, development, and innovation partnerships, and to export European innovative solutions around the world, making Europe a key pillar in ensuring green, digital and healthy societies.



OVERVIEW OF MEMBERS

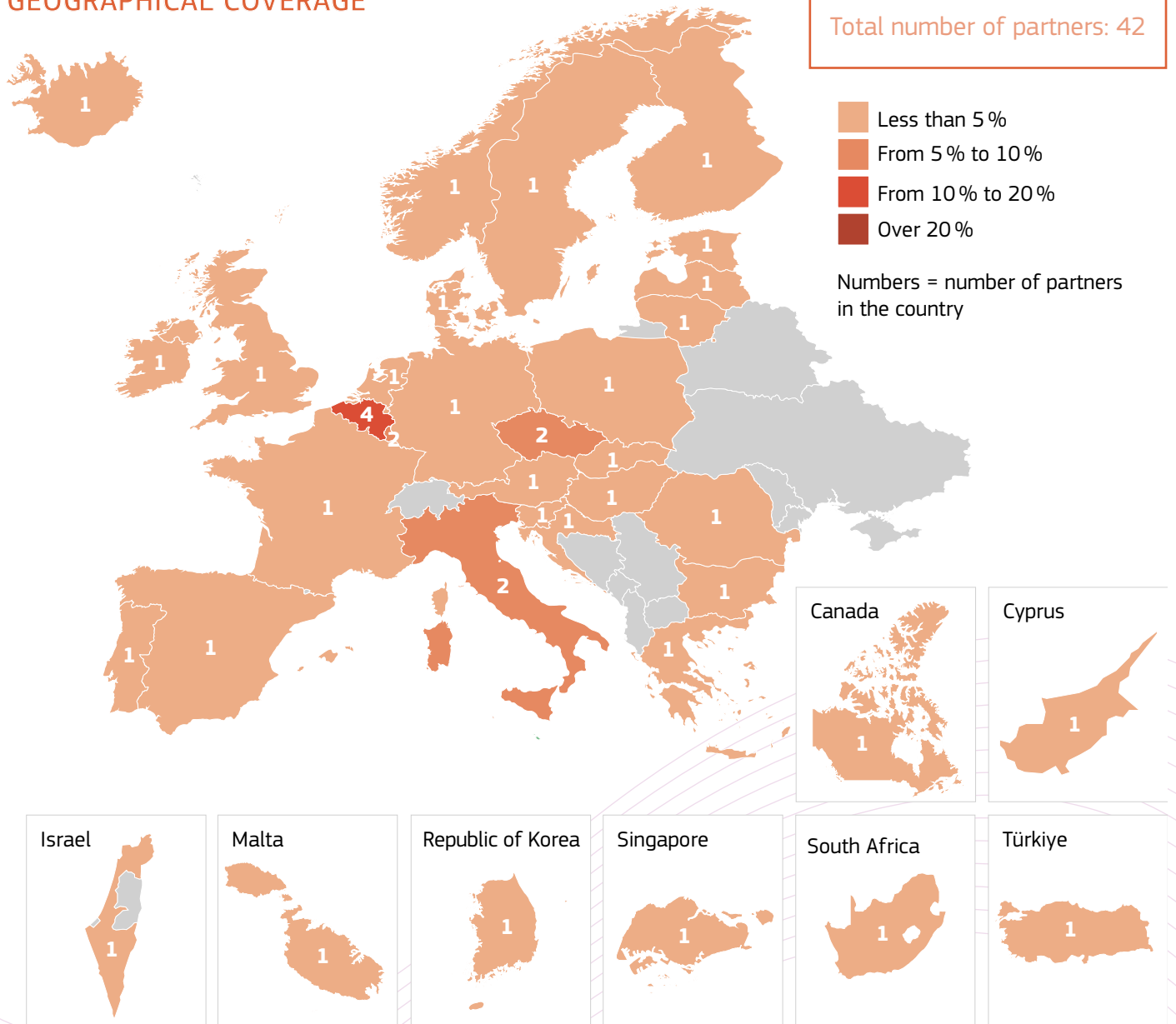
MEMBERS PER TYPE



- PUBLIC** Research funders, ministries, regions, cities
- OTHERS** Non-profit, associations, state companies etc.

GEOGRAPHICAL COVERAGE

Total number of partners: 42



Getting in touch with the EU

IN PERSON

All over the European Union there are hundreds of Europe Direct centres. You can find the address of the centre nearest you online: https://european-union.europa.eu/contact-eu/meet-us_en

ON THE PHONE OR BY EMAIL

Europe Direct is a service that answers your questions about the European Union.

You can contact this service:

- by freephone: **00 800 6 7 8 9 10 11** (certain operators may charge for these calls),
- at the following standard number: **+32 22999696**,
- via the following form: https://european-union.europa.eu/contact-eu/write-us_en

Finding information about the EU

ONLINE

Information about the European Union in all the official languages of the EU is available on the Europa website: <https://european-union.europa.eu>

EU PUBLICATIONS

You can view or order EU publications at <https://op.europa.eu/en/publications>. Multiple copies of free publications can be obtained by contacting Europe Direct or your local documentation centre: https://european-union.europa.eu/contact-eu/meet-us_en

EU LAW AND RELATED DOCUMENTS

For access to legal information from the EU, including all EU law since 1951 in all the official language versions, go to EUR-Lex: <http://eur-lex.europa.eu>

EU OPEN DATA

The portal <http://data.europa.eu> provides access to open datasets from the EU institutions, bodies and agencies. These can be freely downloaded and reused for both commercial and non-commercial purposes. The portal also provides access to a wealth of datasets from European countries.

The Biennial Monitoring Report (BMR) aims to provide a strong and continuously evolving evidence base to guide the implementation of European Partnerships throughout their life cycles and to inform strategic discussions about Horizon Europe's new policy approach to them.

European Partnerships are a key instrument for the implementation of Horizon Europe and the European Research Area. They allow the EU to team up with public and private partners to help speed up new solutions for the green and digital transitions and to strengthen Europe's resilience.

Research and Innovation policy

