



Annual Report on Public-Public Partnerships 2021



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Foreword

Throughout 2021 the focus of the work on European Partnerships was strongly on putting in place the portfolio of 49 Partnership candidates that was included in the first Horizon Europe Strategic Plan. The proposal for a Single Basic Act included 9 Joint Undertakings and was adopted by the end of 2021, as was the Article 185 initiative on Metrology. 11 Memoranda of Understanding were signed to implement the co-programmed European Partnerships. For multiple co-funded European Partnerships, proposals have been evaluated and grant agreements are being prepared.

Apart from this work on implementation, another focus of work has been on strengthening the evidence base for European Partnership policy, notably through the development of the first Biennial Monitoring Report on the performance of European Partnerships, and on coordination and community building, notably through the work of the Partnership Knowledge Hub.

ERA-LEARN has continued to be a strong partner of the Commission in this work. Its website has is an invaluable resource and repository of information for policy makers and other stakeholders. Targeted workshops on and preparation of co-funded European Partnerships, the globalisation of Partnerships or the widening aspects of Partnerships have contributed significantly in this respect, as has the publication of frequent News Alerts and the dissemination of information on e.g. the data structure for reporting in co-funded European Partnerships.

This annual report provides a comprehensive overview of the activities and achievements of European Partnerships that would not have been possible without the fantastic support and meticulous work of the ERA-LEARN consortium and in particular Hayley Welsh, Katrina Watson and Angus Hunter from Optimat.

As ERA-LEARN is entering a new phase in its work, the team, led by Roland Brandenburg from FFG, will continue to be key in accompanying the implementation of European Partnerships under Horizon Europe and the preparation of their role in its successor. We very much look forward to continuing this close collaboration.

Aleksandra Kordecka

Head of Unit DG Research & Innovation
G4 'Common Missions & Partnerships Service'

Executive Summary

This is the 7th Annual Report on Public-Public Partnerships (P2Ps) that has been prepared by the ERA-LEARN project team using data provided by the P2P networks. The report provides an updated picture of the evolving P2P landscape and some headline statistics. It also highlights examples of good practice and achievements from networks during 2021 as they seek to address specific challenges and create a wider impact within the community, in an increasingly collaborative manner.

ERA-LEARN has undertaken a range of strategic activities during 2021 that includes work aimed at promoting widening and inclusiveness in Partnerships, the publication of two reports related to Synergies with Cohesion Policy Funds, continuation of the work looking at the globalisation activities of the European Partnerships, the development of a guidebook on the process of designing Strategic Research and Innovation Agendas (SRIAs) for prospective European Partnerships in Horizon Europe and the publication of two further Country Reports for Norway and Germany. Furthermore, work has been ongoing in a bid to investigate and understand how innovation-related impact is produced and the processes of translating excellent research into innovation as well as investigating in more detail a key element of the strategic design of Partnerships, namely their intervention logics. ERA-LEARN has also updated its website and introduced valuable background information on the changes that come along with the new Partnership process and will continue to provide information and support to meet the needs of all stakeholders.

The current P2P landscape continues to evolve, with the leverage of the ERA-NET Cofund instrument evidenced by the ever increasing number of additional calls being implemented by the ERA-NET Cofund networks with no EU co-funding. There are also some clear examples of good practice from networks across the community as they work to address challenges related to widening, multilateral collaboration and globalisation, among others. Details on some of these have been provided in the report to demonstrate such activities and the wider achievement of long-standing programmes, for example:

- **Record breaking number of projects funded by an ERA-NET Cofund:** The M-ERA.NET Call 2021, which was launched on 15 March 2021 by 45 funding agencies from 32 countries, resulted in the highest number of funded projects ever achieved by an ERA-NET Cofund. In total, 70 proposals were selected for funding with a corresponding funding value of Euro 69.9 million. These were selected from 174 consortia that were invited to the full proposal stage
- **Joint JPI Effort to identify new challenges and perspectives:** A collaboration between the Joint Programming Initiative on Cultural Heritage and Global Change (JPI Cultural Heritage) and the Joint Programming Initiative 'Connecting Climate Knowledge for Europe' (JPI Climate) began in 2019 and is motivated by the belief that tackling climate change and building resilient and sustainable societies would benefit from greater collaboration between the cultural heritage and climate research communities. A White Paper was prepared during 2021 and since introduced at the 'Heritage for the Future, Science for Heritage' symposium organised under the French Presidency of the Council of the European Union

- **Cross-collaboration between Partnerships to facilitate systemic change:** The collaboration journey of the JPI More Years Better Lives, the Art. 185 AAL Programme and the EIPonAHA for Active & Healthy Ageing in Europe through to 2021 are the first steps towards pushing the demographic change and healthy ageing R&D agenda at EC level and demonstrates how working together can foster real change within the community
- **Supporting the response to the COVID-19 pandemic:** In its 2021 Annual Work Plan, PRIMA adopted several measures to address the COVID-19 crisis, for the management of both calls and funded projects. It included a specific topic “Increasing resilience of small-scale farms to global challenges and COVID-like crisis by using adapted technologies, smart agri-food supply chain and crisis management tools” to foster resilience to the COVID-19 crisis or future similar crises. This has demonstrated flexibility within its programme to address change and increase cooperation.

ERA-LEARN continues to provide updated statistical data in relation to networks, calls and funded projects. Detailed charts and statistics can be found on the ERA-LEARN website and much of this is summarised throughout this report. Some headlines include:

- 82 networks were active in January 2021, six of which were new in the first quarter of the year. 13 networks ended during 2021
- 38 joint calls closed in 2021, 63% of which were ERA-NET Cofund calls
- Of the 24 ERA-NET Cofund calls that closed in 2021, 10 were initial co-funded calls and 14 were additional calls (with no EU co-funding) with three networks implemented their 4th additional call
- By the end of 2021, some 789 joint calls were implemented by P2P networks, with cumulative investment of some Euro 9.6 billion in more than 9,700 transnational projects

We could not provide the statistical data without the support of the P2P networks that take the time to provide this data on a regular basis and so we thank all of them for their continued support.

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1. Introduction

This 7th annual report on the P2P landscape, from the ERA-LEARN project, commences with a short overview of the work of ERA-LEARN during 2021 and some insight into the current situation on European Partnerships under Horizon Europe. It then provides the results of an exercise to map the transition of P2P networks to the new European Partnership landscape. Following this, it provides an update regarding the evolving P2P landscape in relation to calls, committed budgets and transnational projects and then highlights some of the work undertaken in 2021 individually and collaboratively by different networks across the various types. The report concludes with an outlook on future planned activities, an overview of further mapping work of the active P2Ps, a summary of the evolving Country Reports series produced by ERA-LEARN and an overview of the work undertaken by ERA-LEARN to support the preparation of the 2022 edition of the Biennial Monitoring Report (BMR) on European Partnerships, and the related Commission Expert Group.

Note that additional statistics are available on the ERA-LEARN [website](#).

In line with previous reporting, the networks are segmented into eight types:

- ERA-NET Cofund (the Horizon 2020 ERA-NET Cofund instrument)
- EJP Cofund (European Joint Programme)
- JPIs (Joint Programming Initiatives)
- Article 185 Initiatives
- ERA-NET FP6 (the FP6 Coordination and Support Actions)
- ERA-NET FP7 (the FP7 Coordination and Support Actions)
- ERA-NET+ (the FP7 ERA-NET Plus Instrument)
- Self-Sustained Network (P2P networks that continue implementing joint calls after the end of the EU funding)

1 Analysis of Cofund networks is shown for both the EU co-funded joint calls and the additional calls (without EU co-funding)

Limitations

The majority of the information and statistical analysis contained in the report is based on factual data provided by the P2P networks but there are some limitations and gaps. In such cases, informed estimates have been made so that the scale and diversity of the joint calls are fully apparent.

The ERA-LEARN team and the Commission rely on the data that comes directly from the P2P networks in relation to calls and projects to ensure we can provide the community with the most accurate and up-to date information and analysis available. It is, therefore, important that we can count on the continuing support of those network coordinators and call secretariats that have provided the necessary data that will help us to improve the overall quality of the aggregated data.

Acknowledgements

The ERA-LEARN team would like to sincerely thank the P2P networks that have provided the detailed datasets to support production of this report and the additional statistics available from the ERA-LEARN website. We very much appreciate this ongoing support.

We would also like to thank Marnix Surgeon and his colleagues for providing access to European Commission data, helping to address data gaps and their valuable insight and guidance to support the descriptive analysis.

Feedback

Any comments on this report and/or suggestions for future reports may be addressed to hayley.welsh@optimat.co.uk.

2. ERA-LEARN in 2021

The ERA-LEARN Platform entered its next phase of development in the middle of 2018 and will continue to support the P2P community until the end of 2022. Its scope has been extended to build on the lessons from the previous phase, help address policy issues and support the transition from Horizon 2020 to Horizon Europe.

A summary of various strategic activities from ERA-LEARN's work in 2021 is provided here.

With the new Partnership approach in Horizon Europe, the stakeholders of European Partnerships have been confronted with a lot of changes as Horizon Europe introduces a more strategic and impact-driven approach to Partnerships. It sets out common life-cycle criteria for all Partnerships with the focus on the effectiveness in achieving agreed Union priorities like openness, coherence and synergies with other relevant Union initiatives (including missions). Also, it introduces a systemic process of selecting, implementing and monitoring for all Partnerships, linking them with the Strategic Planning of Horizon Europe. To address this, ERA-LEARN updated its website and introduced valuable background information on the changes that come along with the new Partnership process. We explain the Strategic Coordinating Process and continue to provide support regarding administrative issues for both the Horizon Europe and the H2020 Partnership landscape. With the new Partnership process of Horizon Europe, ERA-LEARN has adapted its website according to the whole portfolio of European Partnerships and the broadened target group that includes all stakeholders from co-funded, co-programmed and institutionalised Partnerships. We present the new Partnerships in our ERA-LEARN database and have further improved the accessibility of the website to ensure that the information we provide is available for as many users as possible.

In 2021, ERA-LEARN continued its activities aimed at promoting widening and inclusiveness in Partnerships. In April 2021, a webinar on Widening in Partnerships was organised to present best practice in supporting widening and less performing countries in Horizon 2020, as well as to discuss possible inclusiveness measures that can be employed in Horizon Europe. The speakers included coordinators of both H2020 and Horizon Europe future Partnerships as well as European Commission officers and representatives of the widening countries active in ERA-NET Cofund programmes and widening actions. During the webinar, a new list of widening countries was presented². Moreover, the Horizon Europe principle of openness and transparency in the set of criteria for evaluating new Partnerships was introduced. According to this principle, Partnerships should demonstrate openness towards all relevant partners and stakeholders already in the process of the programme design and remain open to newcomers and interested parties throughout its lifetime.

The key messages for funding organisations, from the widening countries represented, were:

- Encourage the implementation of actions promoting participation of widening countries in Partnerships
- Take a flexible approach towards funding schemes that can be implemented to fund your research community

² Widening Countries in Horizon Europe - Bulgaria, Croatia, Cyprus, Czechia, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia, Slovenia and all Associated Countries with equivalent characteristics in terms of R&I performance and the Outermost Regions (defined in Art. 349 TFEU). Source: Horizon Europe Work Programme 2021-2022, 11. Widening participation and strengthening the European Research Area

- Secure adequate national funds for calls for proposals to attract your research community
- Involve your research community in shaping the topics of calls for proposals
- Increase awareness of national stakeholders and trigger alignment across national R&I policies and priorities
- Engage in policy and impact oriented actions in order to achieve ambitious and sustainable goals

The [summary report and presentation](#) from the webinar can be found on the ERA-LEARN website.

During the first half of 2021, ERA-LEARN published two reports that presented the findings of our work related to Synergies with Cohesion Policy Funds. In-depth analysis was carried out to identify, among the solutions implemented by funders and beneficiaries, good practices that were suitable for guiding R&I Partnership stakeholders in increasing the impact of future joint programming. The first report “Updated Policy Brief on Synergies between R&I Partnerships & European Structural and Investment Funds” provides information from the different target audiences on their experiences of synergies in key areas such as:

- Measures to create the necessary pre-conditions for participation in R&I Partnerships (e.g., by supporting relevant infrastructures, or capacity building activities)
- Measures to support the follow-up of Partnership-funded projects in terms of exploiting their research results
- Measures for funding ‘additional activities’ of R&I Partnerships
- Direct support/funding of R&I Partnership-supported projects with national/regional ESIF
- Main barriers and obstacles in designing and implementing synergies across different funding sources, notably H2020 and ESIF

The second report “Synergies between European R&I Partnerships and European Structural and Investment Funds (ESIF): Good practice catalogue of synergies adopted in Horizon 2020” is a catalogue of experiences in relation to the pursuit of synergies. In particular, the examples provide insight into how synergies between ESIF funds and different Partnerships (public-public, public-private) were achieved in H2020. The report identified seven good practice cases falling into the categories: parallel, sequential and alternative fundings. Both reports are available on ERA LEARN web site.

Globalisation was another significant area of work for ERA-LEARN during 2021. Data suggests that European Partnerships have established global Research, Technology and Innovation collaborations with more than 60 non-EU countries. Indeed, European Partnerships have achieved more than 700 memberships or associations with global counterparts, they tackle global threats and challenges and they coordinate research communities with countries that share their values of free speech and democracy in order to maintain independence and competitiveness. Today, European Partnerships are well-reputed and have established coordination nodes around the globe, in particular in many research areas with a common global challenge such as climate change, water and food. Single Partnerships, such as in materials research, count for more than 50 collaborating countries and regions. In the area of health, Partnerships collaborate with global organisations like the World Health Organisation (WHO) or United Nations organisations. With their coordination excellence and implementation of important research activities, they lead on tackling joint global health challenges, in, for example, antimicrobial resistance and neurodegenerative diseases. During 2020 and 2021,

ERA-LEARN put a spotlight on the globalisation activities of European Partnerships in order to explore good management and operation practices, as well as the potential for synergies and mutual learning. A series of Interviews were held in 2020 and compiled into a report in 2021, the main conclusions of which were disseminated in a policy brief. During 2021, community policy makers and practitioners gathered in two consecutive ERA-LEARN online workshops in which good practice case studies were presented and discussed, with the potential for collaboration between Partnerships explored. This work continues into 2022. Please check the [ERA-LEARN website](#) for up to date information on events and publications related to this area of work.

Further work that was carried out by ERA-LEARN during 2021 builds on the results of a thematic landscape analysis of P2Ps, PPPs, and related initiatives and how they are embedded in the thematic clusters in Horizon Europe, with ERA-LEARN providing further support and analyses to strengthen the societal innovation dimension of P2Ps. In this respect, a central activity was the development of a guidebook on the process of designing Strategic Research and Innovation Agendas (SRIAs) for prospective European Partnerships in Horizon Europe. The guide outlines the key principles and elements of the development process, ranging from the necessary stakeholders to the SRIA validation and adoption. It also includes a description of methods to be used in the SRIA development, such as foresight activities and online consultations. The [guidebook](#) can be found on the ERA-LEARN website.

ERA-LEARN also investigated in more detail a key element of the strategic design of Partnerships, namely their intervention logics. In particular, we analysed to what extent transformative processes and outcomes are reflected in the intervention logics in Partnership proposals, regarding both the overall narratives as well as the key transition pathways that aim for transformative outcomes. The analysis revealed that many Partnerships have adopted a transformation-oriented framing in their proposals, with many Partnerships pursuing increasingly transformative goals into their ambitions. Indeed, most proposals resemble a complex transformative theory of change, translating a common Partnership vision into the mechanisms and activities that can deliver transformative impacts. Moreover, these impacts are often strongly connected to current grand challenges and policy goals. Findings of this analysis were presented at the EU-SPRI conference in 2021. During 2022, ERA-LEARN will focus on maximizing the impact and transformative potential of Partnership activities, conducting analyses and guidance on creating synergies within and between European Partnerships and other R&I initiatives.

Another strategic activity that has started in 2021 and continues into our 2022 workplan, addresses innovation related impact. The impact assessment work conducted in 2020, and published in the Policy brief on impacts from three bio-economy Partnerships, highlighted that there is a gap between Research and Innovation outcomes underscoring that Partnerships' impact in excellent research does not always materialise in the creation of new and innovative products and services. In 2020/21, therefore, ERA-LEARN set out to investigate and understand how innovation-related impact is produced and the processes of translating excellent research into innovation. The scope of the activities are i) to develop a methodology to assess Partnerships' (and their projects') processes and needs in the field of health, regarding the translation and implementation of research towards innovation outcomes and ii) validate and scale up the methodology in other thematic areas such as digital and green energy R&I Partnerships in the next phase of the ERA-LEARN impact assessment workplan.

The investigation is being conducted through case studies. Three health-related Partnerships have been selected for the task given that translational research in the medical field has a long and well-established tradition going back several decades. Interviews are being organised with Partnership and projects representatives. The interview campaign began in mid-2021 and will end in June 2022. The investigation focuses on activities and processes implemented by Partnerships and their projects in order to translate research results into novel health processes, products and services. Areas of investigation include collaboration activities, access and development of innovation-related capabilities and knowledge/technology transfer processes in place within Partnerships and their beneficiaries in order to foster successful outcomes.

Preliminary results from the fieldwork show that health-related Partnerships are fully aware of the need to link research excellence to innovation expectations and have implemented a range of supporting activities fostering smooth translation. Within project consortia, the awareness of linking research to innovation at the bed-side is also very well manifested with several activities conducted both at the research end and with final users. These activities are usually conducted through cross-cutting and multidisciplinary research and innovation teams meaning that project activities may involve both researchers and clinical partners to facilitate the application of research findings in clinical trials, accessing or mobilising specific competences to promote innovative products, services and procedures such as medical, diagnostics or health development support infrastructure (i.e. health data management initiatives). Preliminary results also show that the type of support available is very varied and is usually appropriate for the objectives set out; yet, the ERA-LEARN research team is conducting further work to systematise the evidence and produce a typology of translational resources available

Two outputs are planned:

- 1) Report on translational practices and processes in European R&I Partnerships in the health area. Policy brief to be published in Autumn 2022
- 2) Methodological guidelines for examining translational research in European R&I Partnerships. Methodology guidelines to be published by end of 2022

Finally, we would like to highlight that further work has been carried out during 2021 on the series of Country Reports being developed by ERA-LEARN and a summary of these, to date, is provided in section 9. We also provide, in section 10, an overview of how ERA-LEARN has supported the preparation of the 2022 edition of the Biennial Monitoring Report (BMR) on European Partnerships, and the related Commission Expert Group.

3. European Partnerships under Horizon Europe

Implementing the European Partnership portfolio

The first Horizon Europe Strategic Plan, covering the period 2021-24, included a portfolio of 49 candidate European Partnerships. The focus of the work in 2021 has very much been on putting in place and implementing this portfolio:

- On 23 February 2021, the Commission adopted a proposal for a Single Basic Act to establish 9 Joint Undertakings on the basis of Article 187 TFEU. On the same day it adopted a proposal for a new Article 185 initiative on Metrology. Both files were adopted by the Council and/or the European Parliament by the end of 2021, allowing for their swift set-up and implementation as of 2022
- 11 Memoranda of Understanding were signed between the Commission and Partners other than the Union in order to launch and implement co-programmed European Partnerships. Corresponding topics were also included in the first Horizon Europe work programme and most Partnerships have submitted their first Additional Activities Plans
- The first Horizon Europe work programme also included the necessary topics to implement the co-funded European Partnerships and intense work has been ongoing to evaluate the proposals received and conclude the respective grant agreements. Some co-funded European Partnerships have, in the meantime, already launched their first joint calls

While work on implementing the portfolio of the first Horizon Europe Strategic Plan is still ongoing, preparatory work has already been launched to establish a list of potential new European Partnership candidates to include in the second Horizon Europe Strategic Plan.

Strengthening the evidence base on European Partnerships

A key development in the work on European Partnerships has been the development and publication of the first Biennial Monitoring Report on the performance of European Partnerships. The Report is the first attempt to provide a comprehensive overview of Partnership performance, implemented in a coherent manner across all Partnerships and Partnership types. In doing this, it has set a standard for the monitoring of complex, large-scale and multi-actor funding structures and has significantly strengthened the evidence base for further policy developments on European Partnerships.

The Report is now available at: https://ec.europa.eu/info/publications/performance-european-partnerships_en

Member States and Associated Countries will prepare an Opinion on the Report through the Partnership Knowledge Hub and discussions are also scheduled in the ERA Forum.

Coordination with Member States/Associated Countries and community building

The Strategic Coordinating Process is a dedicated new governance system set up for European Partnerships, as called for in the Horizon Europe Regulation. At the heart is the Partnership Knowledge Hub, where Member States, interested Associated Countries and the Commission gather to strengthen the Partnership community.

Strengthening the evidence base for European Partnerships is the main function of the Partnership Knowledge Hub, but the group also contributes to portfolio building, communication actions and strategic discussions on cross-cutting Partnership relevant topics. The Partnerships are observers in the Partnership Knowledge Hub and are included in the discussions on topics of specific relevance to them.

4. Mapping of the Transition to European Partnerships

The mapping diagrams described in this section are a first attempt to highlight the main links between the [Horizon Europe] European Partnerships and the public-public (P2Ps) and public-private (PPPs) Partnerships that were funded in Horizon 2020.

It is a rather simplified view of the overall landscape and transition from Horizon 2020 to Horizon Europe. In some cases, there are direct links between the Horizon 2020 funded Partnerships and the European Partnerships but for others these are linked to a group (or merger) of Horizon 2020 predecessor Partnerships. It is also worth noting that some of the European Partnerships are in 'new' subject areas and have no direct alignment with previous Horizon 2020 funded Partnerships but may have some thematic synergy.

Most of the new Partnerships are aligned with four of the Horizon Europe Clusters and their typology (i.e. Institutional (IP), Co-funded (CF) or Co-programmed CP)) is highlighted in the mapping diagrams. The Horizon 2020 predecessors are shown by timeline.

More specific details of the P2Ps (ERA-NET Cofunds, Article 185 initiatives, EJP Cofunds) that continue beyond December 2021, and their timelines, are included in Section 8. Furthermore, those that have 'no obvious successor' are highlighted in the appropriate diagrams.

There are nine European Partnerships in Cluster 1 (health) and they include all three types of Partnership (IP, CF and CP). The majority are of the Co-funded type and there is one that represents a 'new' subject area (Pandemic Preparedness).

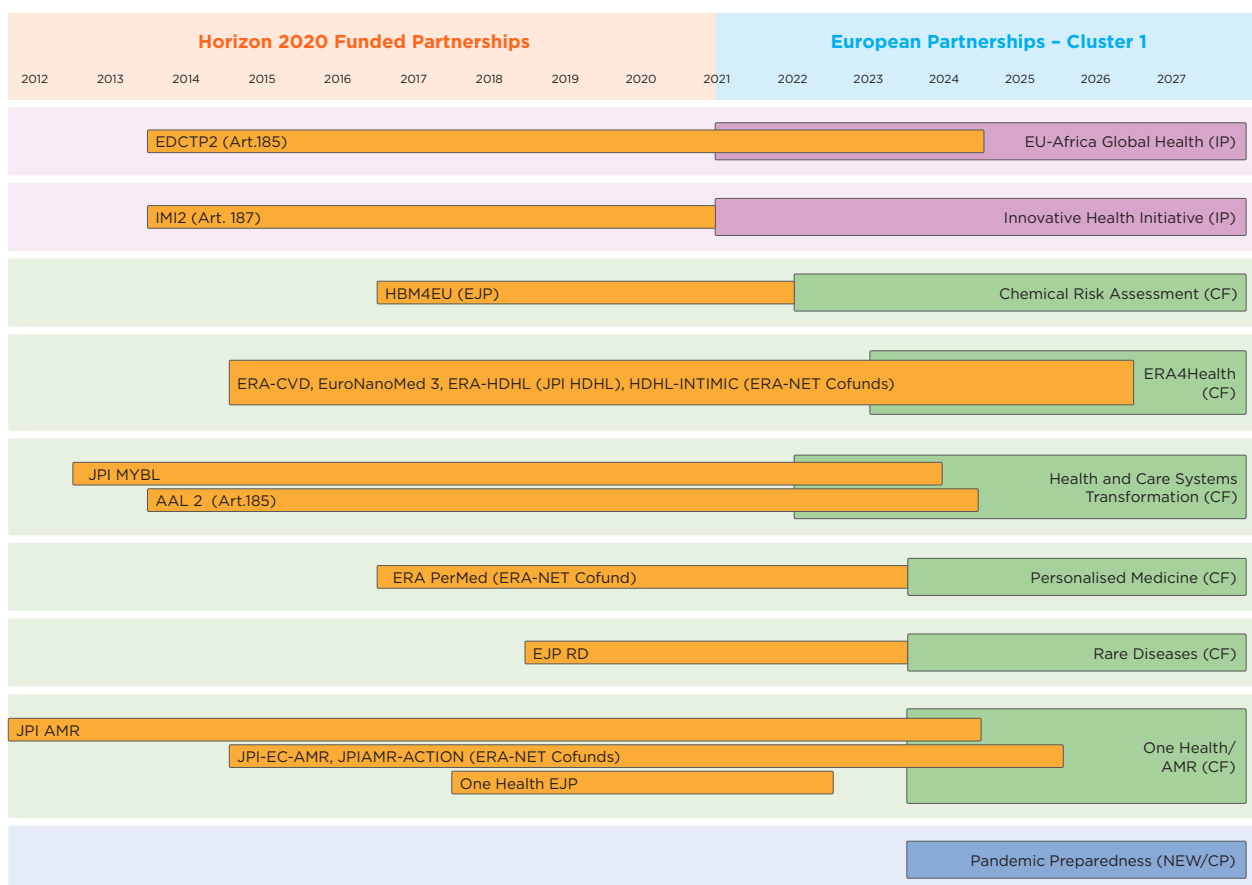


Figure 1: Cluster 1 European Partnerships and Horizon 2020 predecessors

The predecessors to the European Partnerships are quite varied and, in some cases, include JPIs as well as Horizon 2020 instruments. The consolidation of multiple ERA-NET Cofunds related to the ERA4Health Partnership is also quite clear.

The Partnership landscape for Cluster 4 (digital, industry and space) is quite different to that of Cluster 1 and is dominated by successors to the Horizon 2020 public-private Partnerships (Article 187 initiatives and cPPPs). There are 10 European Partnerships, including two that cover new subject areas, but only one can be regarded as a P2P successor (Metrology).

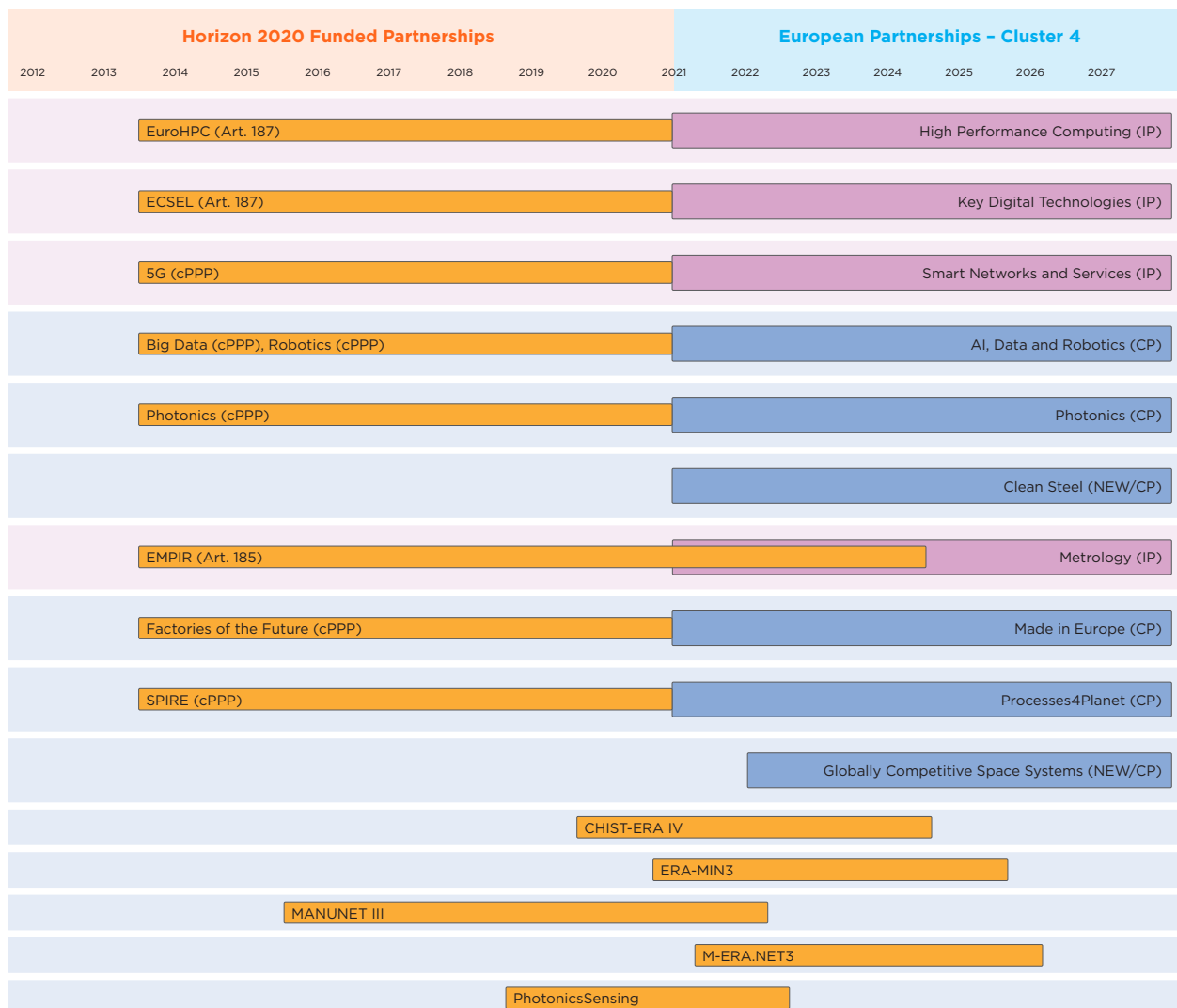


Figure 2: Cluster 4 European Partnerships and Horizon 2020 predecessors

This means that there are a number of active ERA-NET Cofunds within the cluster area that have no obvious successor moving into Horizon Europe.

The overall picture for Cluster 5 (climate, energy and mobility) is similar to that of Cluster 4. It is also dominated by European Partnerships that are successors to Horizon 2020 PPPs. There are 11 Partnerships in total, of which three are considered to be new subject areas. All of these are of the Co-programmed type so have most synergy with PPPs. There are, however, two important Co-funded Partnerships in this Cluster that provide a succession path for P2Ps including ‘Clean Energy Transition’ that represents a merger of more than 10 previous and ongoing ERA-NET Cofunds.

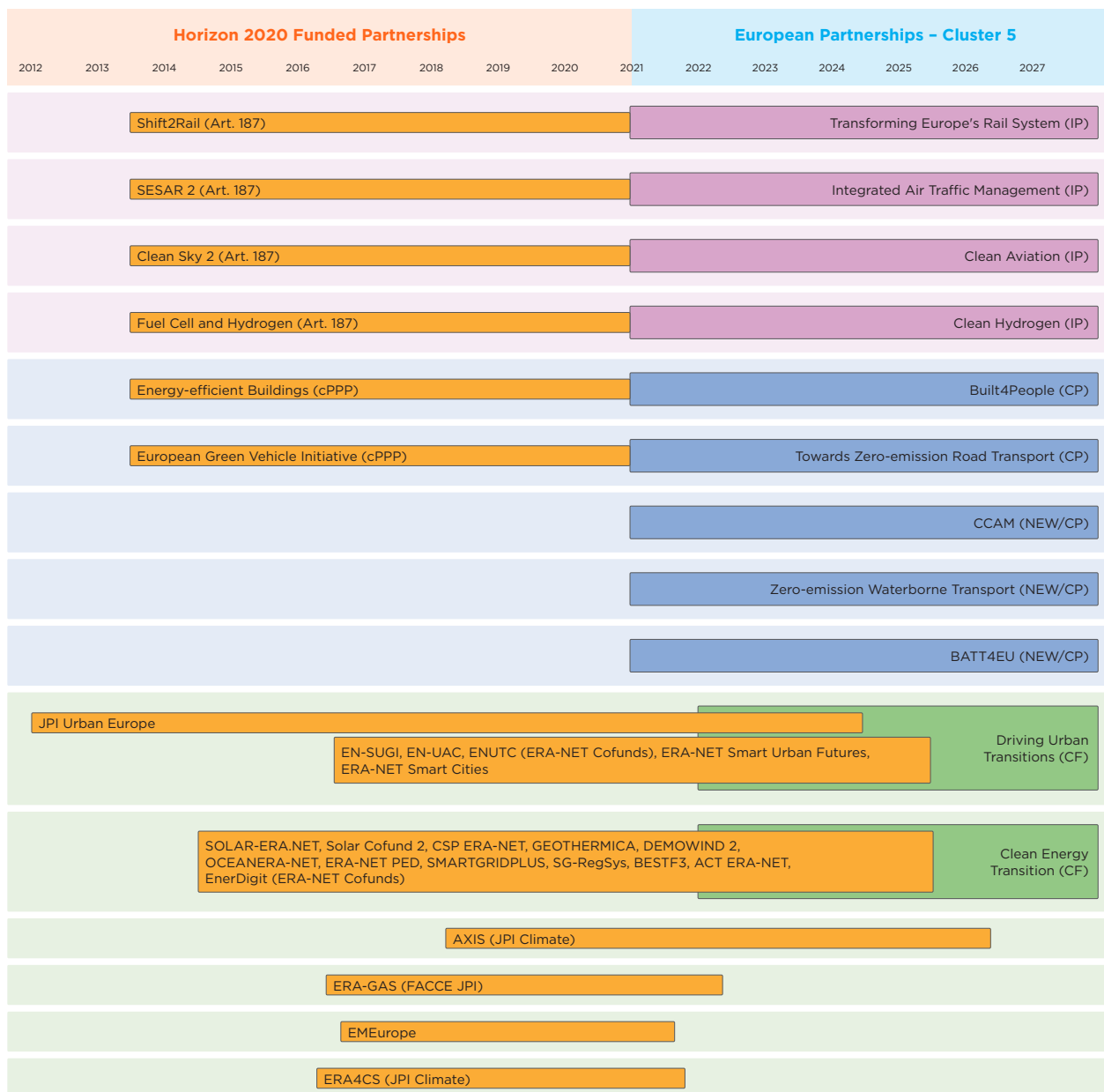


Figure 3: Cluster 5 European Partnerships and Horizon 2020 predecessors

There are, however, some active and ongoing ERA-NET Cofunds that have no obvious successor. These are related to the ‘climate’ and ‘mobility’ parts of Cluster 5.

The Partnership landscape for Cluster 6 (food, bioeconomy, natural resources, agriculture and environment) is dominated by the Co-funded type of European Partnership, which account for seven of the eight in this Cluster. As for Cluster 5, there are some obvious mergers of Horizon 2020 funded Partnerships, particularly in relation to the ‘Sustainable Food System’ Partnership, as well as some collaboration between JPIs and P2Ps.

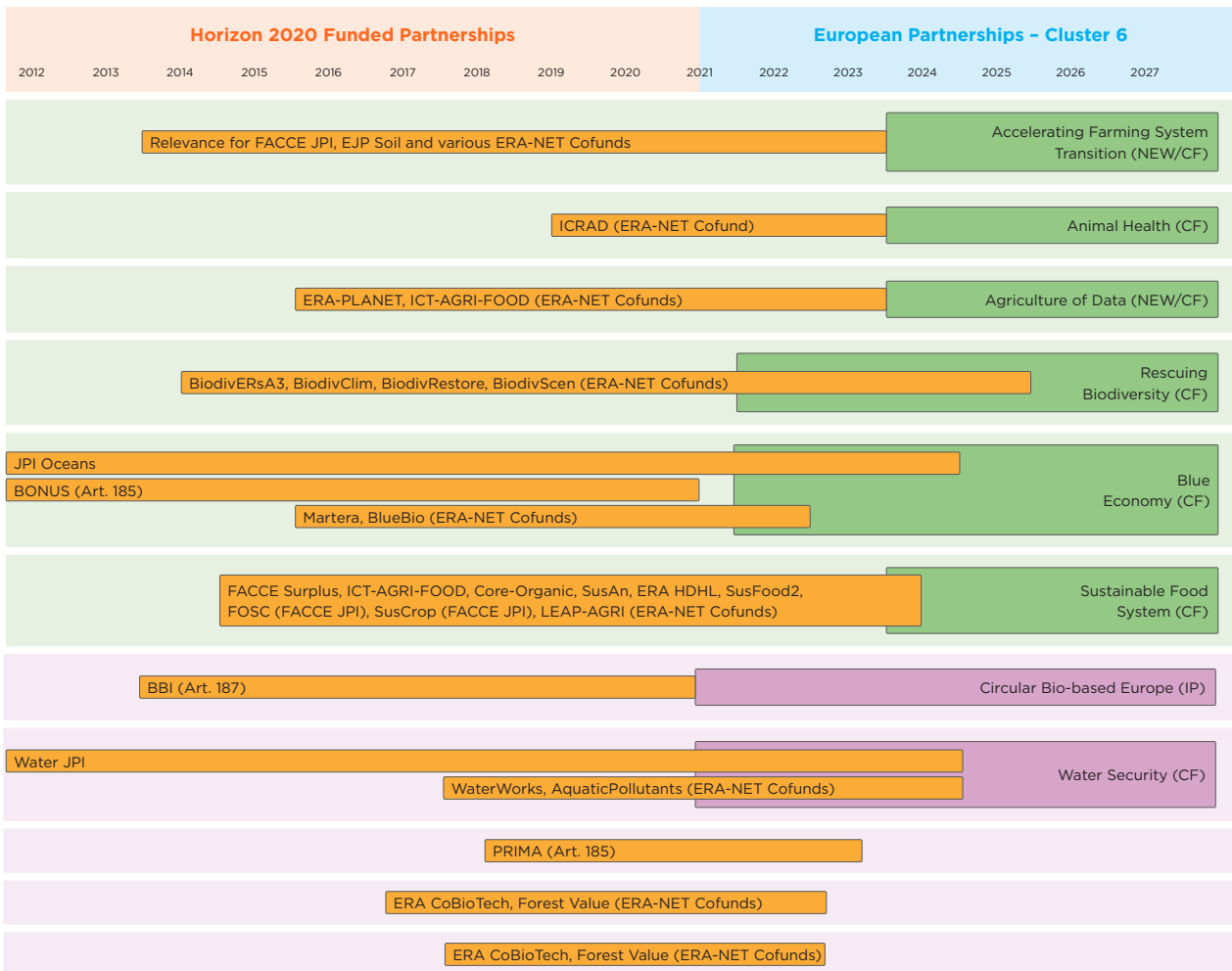


Figure 4: Cluster 6 European Partnerships and Horizon 2020 predecessors

The 'new' Partnership within this Cluster (Accelerating Farming System Transition), which does not have a direct relationship with any previous or ongoing P2P or PPP, also creates additional future options for the Horizon 2020 P2Ps that have synergy with agriculture and sustainable food systems. There are, however, also some active and ongoing P2Ps in this Cluster that have no obvious successors.

Finally, there are two Other European Partnerships that do not align with the Horizon Europe Clusters. One of these (Innovative SMEs) is the successor of a Horizon 2020 P2P. The other is a new thematic topic for PPPs. There are also some active and ongoing ERA-NET Cofunds that have no obvious successor.

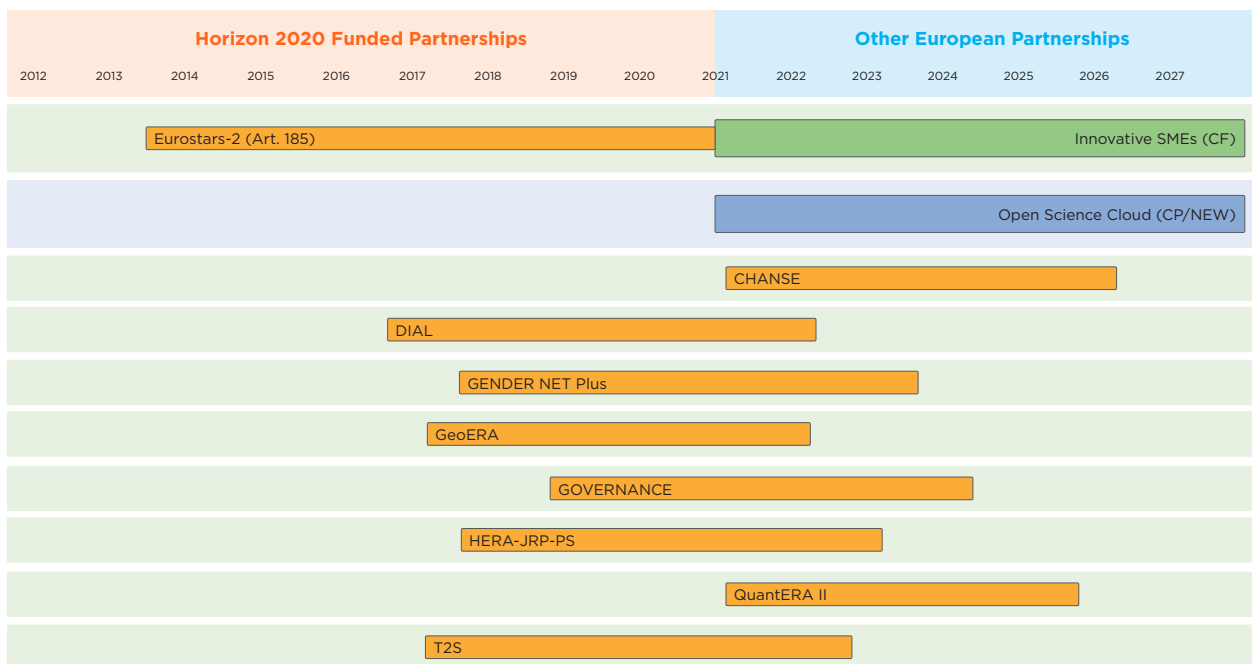


Figure 5: Other European Partnerships and Horizon 2020 predecessors

5. Evolution and Diversification of P2Ps

This section provides an update on the evolution of the P2P landscape since the dawn of the ERA-NET scheme in 2003. It builds on data presented in the previous annual reports and includes all network types. Please visit the [ERA-LEARN website](#) for more detailed graphs and statistics.

5.1. P2P Networks

The analysis indicates that 82 discrete networks were active at the beginning of 2021, six of which started in the first quarter of the year. During 2021, 38 joint calls closed. It is clear, therefore, that not all networks continue to implement joint calls, although there will be a significant level of monitoring of ongoing transnational funded projects. It is worth noting that 13 networks ended during 2021, mainly the early ERA-NET Cofunds.

As mentioned in previous annual reports, some of the ERA-NET Cofund networks are directly linked to a JPI, FP7 ERA-NET or self-sustained network and so, while they appear to be less active than others, there continues to be ongoing joint activities within the thematic area (further details are provided in section 5).

5.2. Joint Calls

Since 2004, some 789 joint calls have been implemented, this excludes those that were launched, but not closed, before the end of 2021. A summary of calls that closed each year is shown in Figure 6. Note that additional data made available since the previous report has updated some historical figures.

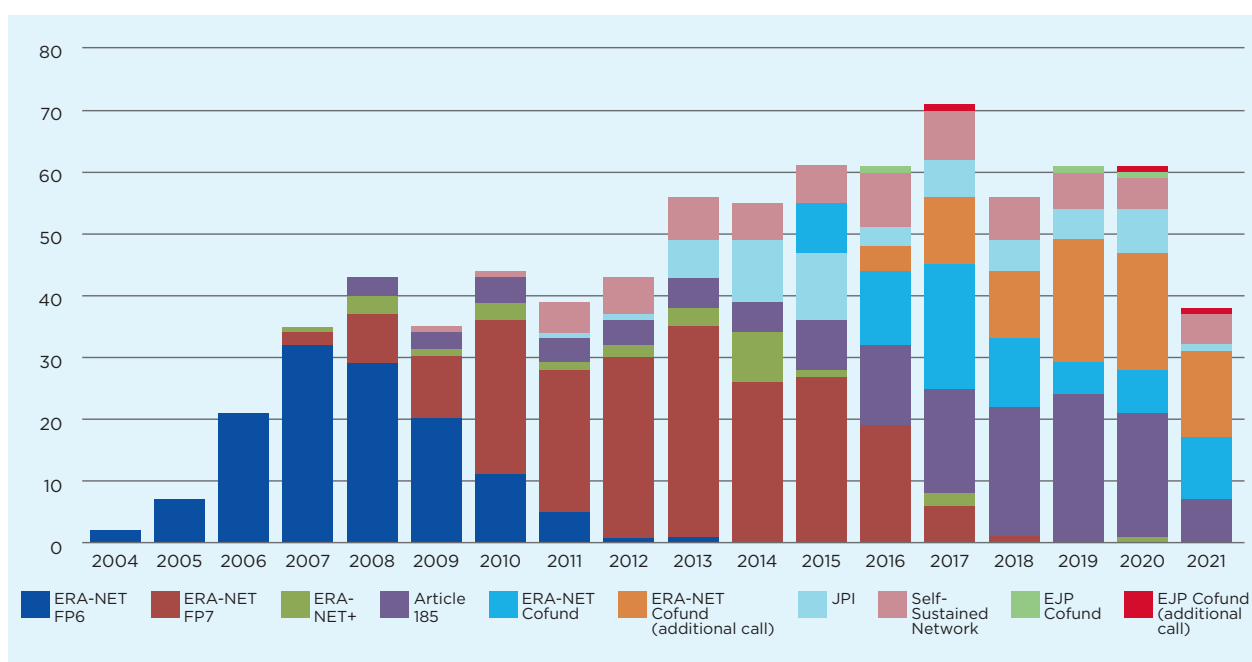


Figure 6: Number of Joint Calls (closed) between 2004 and 2021, by Network Type

Figure 6 presents a clear picture of the evolving landscape of P2Ps across the years. The changing pattern of calls from FP6 through FP7 and into H2020 is evident. 2017 remains the peak of joint call activity with more than 70 calls closing that year, around 44% of which were from ERA-NET Cofund networks. The landscape in 2021 changed somewhat, with ERA-NET Cofund networks representing around 63% of all calls, albeit having implemented two fewer calls than in 2020. The prominence of ERA-NET Cofund calls during 2021 is primarily due to the drop in the number of calls being implemented by the Article 185 networks and JPIs during this year.

It is also interesting to note that:

- Once again, the number of additional ERA-NET Cofund calls (without EU co-funding) was higher than the number of ERA-NET Cofund calls that received EU co-funding in 2021, demonstrating the leverage effect of the initial EU co-funding within this particular instrument. This trend has continued from the position in 2018
- Fewer JPI specific calls were implemented in 2021 than in any year since 2012. This does not take account of the ERA-NET Cofunds being implemented by many of the JPI networks (both alone and collaboratively) to support their programmes and launch calls within specific topics

A cumulative picture of the number of joint calls since 2014 is shown in Figure 7. Until now, the FP7 funding framework had spawned the largest number of joint calls since 2004, amounting to 264 over the years but the joint transnational calls within the Horizon 2020 framework have now superseded this number at some 274 joint calls. Since 2015, 156 ERA-NET Cofund calls have closed, 80 of which have been additional calls with no EU co-funding.

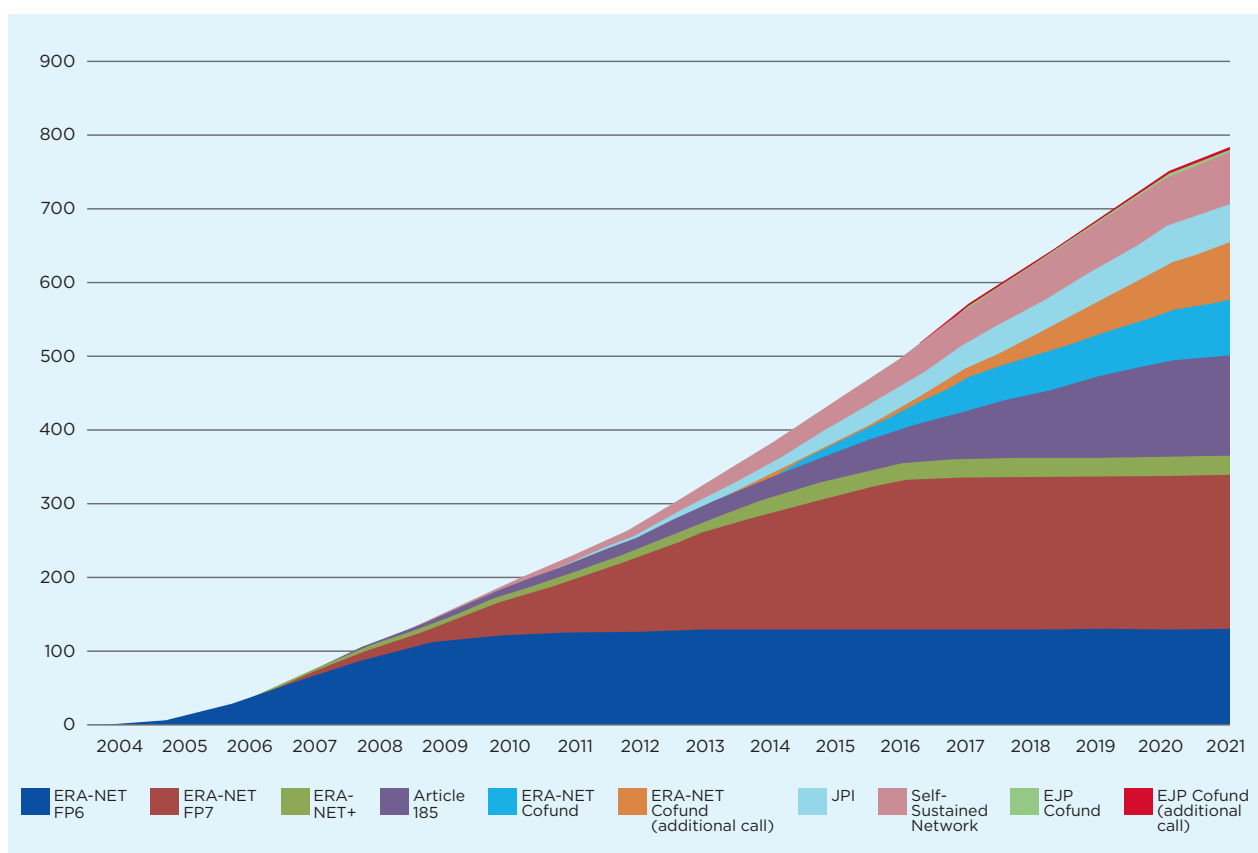


Figure 7: Cumulative Number of Joint Calls, since 2014, by Network Type

The total national cumulative pre-call budget for all joint calls, since 2004, is almost Euro 9.3 billion (excluding EU contributions). The annual comparison, by network type, is shown in Figure 8, below. This demonstrates the intention and commitment of the funding agencies participating in the calls rather than the funds that were actually invested following evaluation of, and negotiation with, the selected transnational projects.

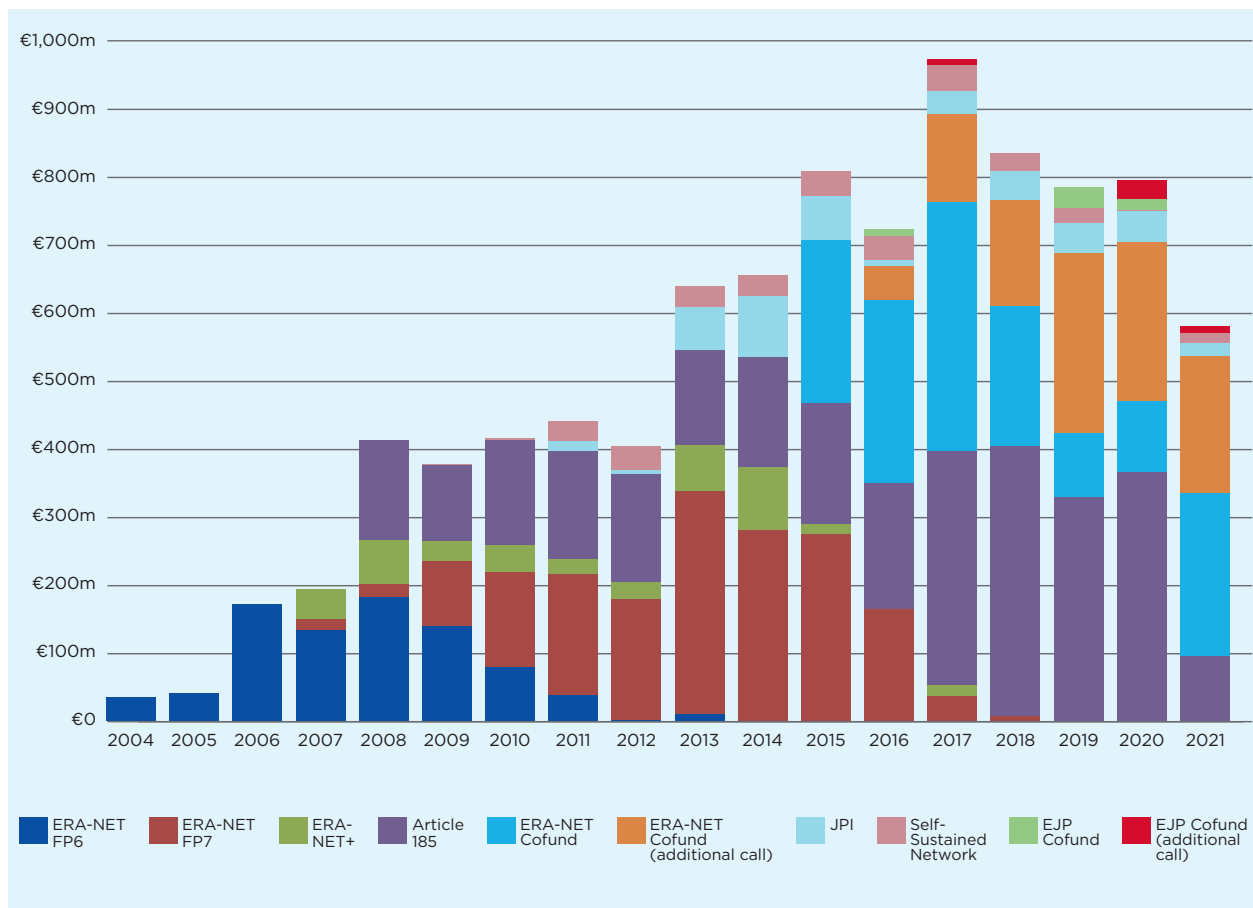


Figure 8: National Joint Call Commitment for all Calls closed 2004-2021, by Network Type

Figure 8 indicates that the national financial commitment to calls in 2021 was lower than in 2020, suggesting a change in focus for some networks as they either transition to new European Partnerships or change their focus to monitoring their funded projects rather than the implementation of new calls. Overall, the ERA-NET Cofunds have produced the largest national commitment to joint calls (funded and additional calls) since 2016 (around 49%), with committed funds from Article 185 networks following closely behind (37%). Both EU co-funded and additional calls together accounted for 76% of total committed call budgets in 2021. Total national commitment to joint calls implemented by ERA-NET Cofunds since their inception has been more than Euro 2.5 billion. It is worth noting again, that funding organisations linked to the JPIs and self-sustained networks will have had an impact on the financial commitment to ERA-NET Cofund calls and so the picture presented in Figure 8 should be considered with this in mind.

As has been the case since the beginning of the ERA-NET scheme, the total national pre-call committed budget is not always fully utilised and so the actual investment in projects can be lower than planned. Figure 9, below, indicates the cumulative actual investment in projects. This also includes the EU contribution. Note that data in relation to actual national investment in calls is not available for all networks and all calls.

ERA-LEARN analysis indicates that, on average, the national investment in joint calls is some 90% of the pre-call committed budget and so where actual investment data is not available or has not been provided, the average realisation of budget has been used to produce estimates for the missing population and allow the scale of investment to be approximated.

Without the EU contribution, the estimated actual investment in calls, as expected, is lower than the figures budgeted by the networks. When the EU contribution is added, however, total investment still reaches some Euro 9.6 billion.

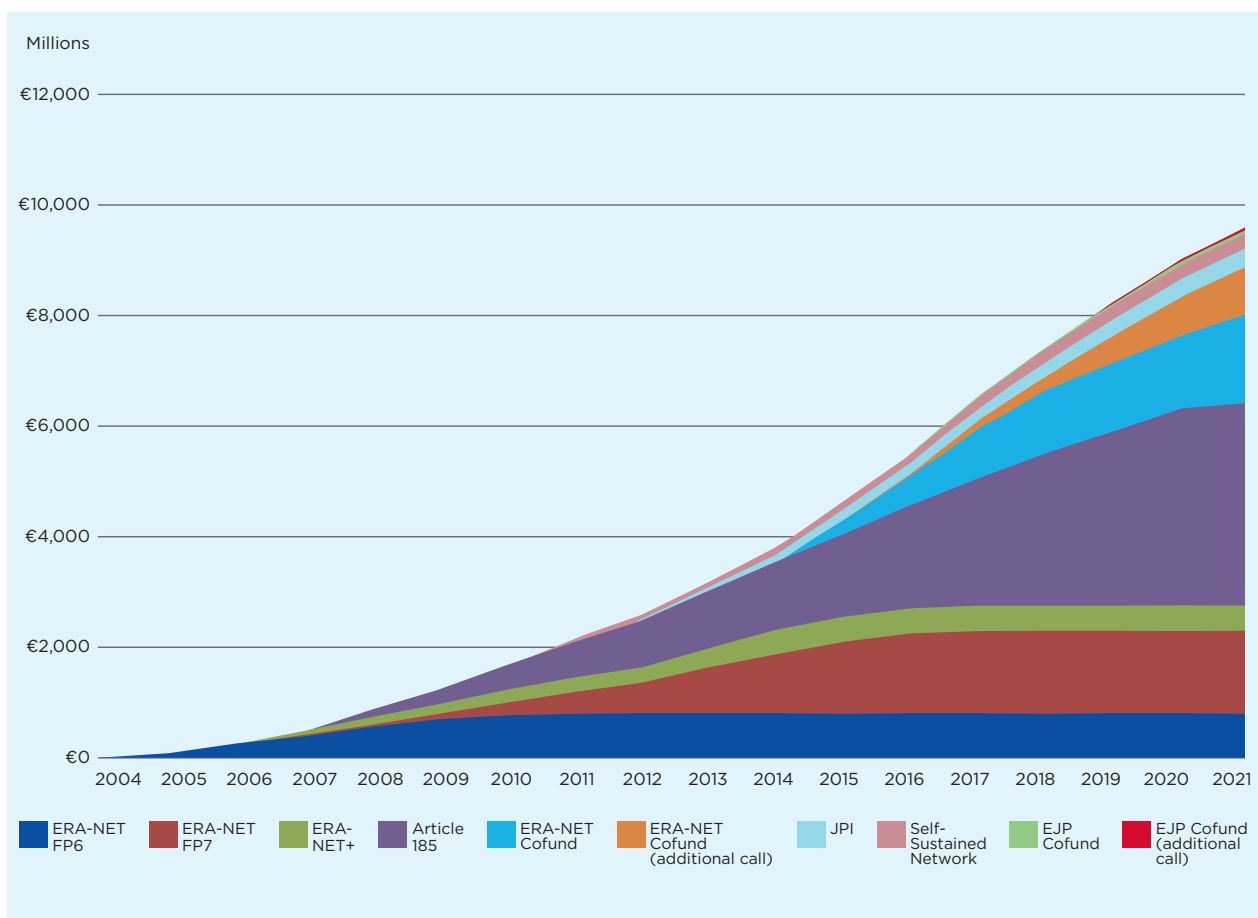


Figure 9: Cumulative Investment in Joint Calls, including EU Contribution, 2004-2021

Note that neither budget nor actual figures include any in-kind contribution to projects (apart from the Metrology Article 185). Complementary investment of institutional funding in Joint Actions, particularly from the JPIs, is also not included.

5.3. Portfolio of Funded Projects

More than 9,700 projects have been funded by the joint calls since 2004. Figure 10 shows the annual volume by network type (based on the year the call closed).

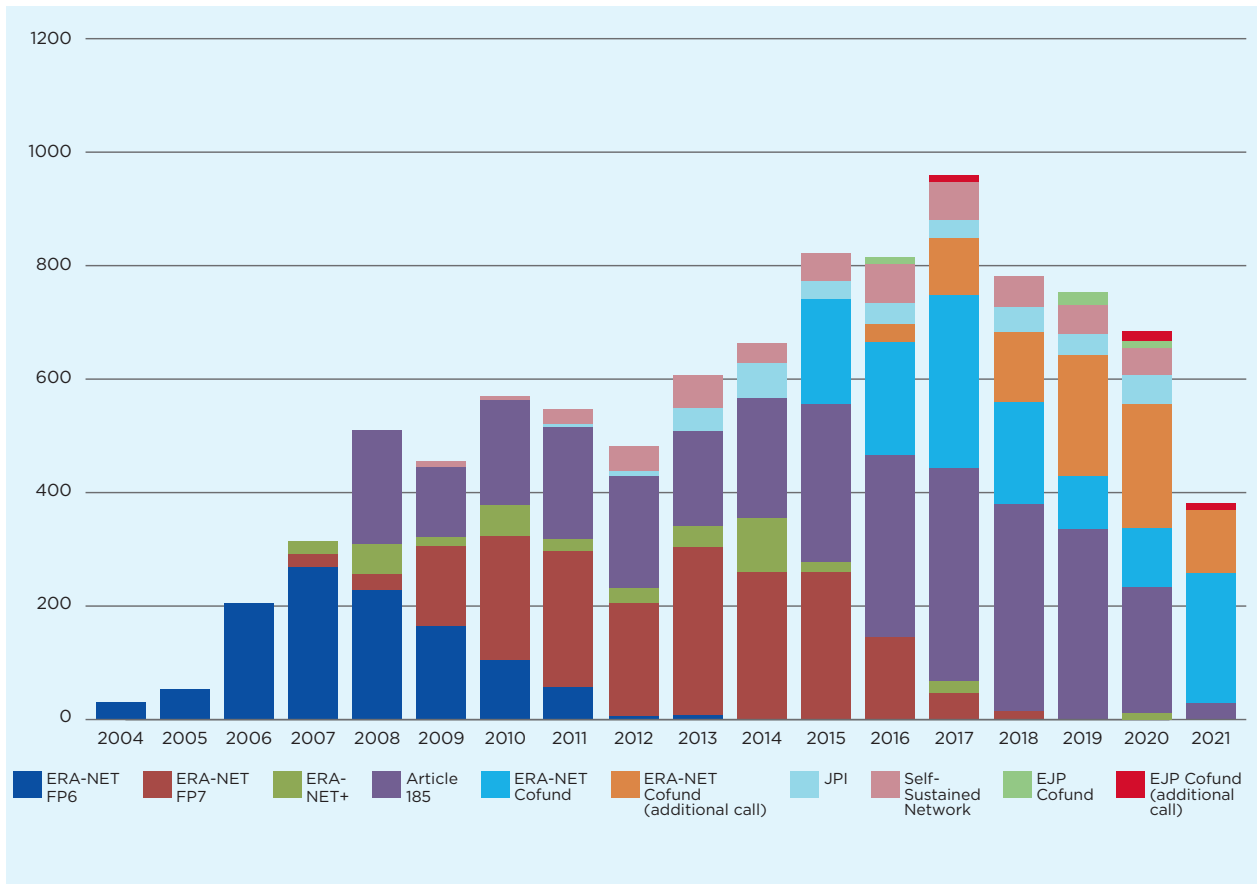


Figure 10: Number of Transnational Projects, by Year and by Network type

In line with the limited data available at this time each year, the figures for 2021 are assumed to be lower than the actual number of funded projects due to the time lag between the joint call being closed and the transnational projects being evaluated and started, which can often be many months. Some networks have not yet been able to provide project specific data in relation to their 2021 calls and the data collection process is ongoing.

Note that where no project level data has been provided by the networks, an average figure has been applied to the call to allow reasonable assumptions to be made regarding the overall number of projects that have been funded. Historically the figure for the latest year has increased when accurate data has been provided by the networks. Figure 10 will be updated on the ERA-LEARN website during 2022 as more information becomes available.

The cumulative picture of transnational funded projects is shown in Figure 11.

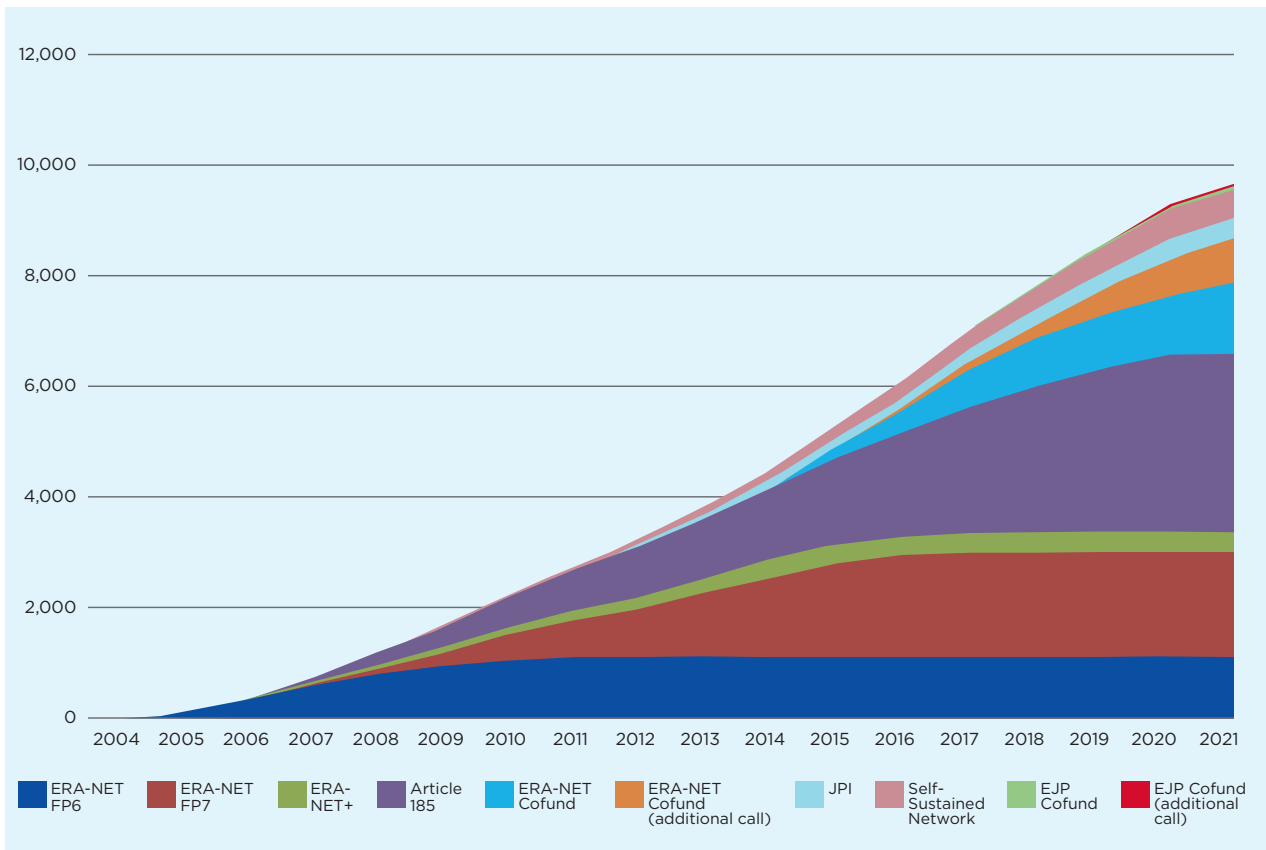


Figure 11: Cumulative Number of Transnational Projects Funded

ERA-NET Cofund networks have funded almost 2,100 transnational projects since 2015, with around 38% of these resulting from additional ERA-NET Cofund calls (without any EU co-funding).

6. P2P Highlights from 2021

This section of the report provides a number of highlights from 2021 to demonstrate the breadth of activities being undertaken across the P2P community. This includes good practice examples in relation to capacity building, collaboration and increased impact as well as the accumulation of long-term achievements.

2021 Joint Calls

In 2021, 38 joint calls closed, across all networks. A breakdown of these is presented in Figure 12 below. ERA-NET Cofunds were, by far, the most prominent in terms of the number of calls being implemented, in comparison to previous years where Article 185 calls featured strongly. Since 2015, EDCTP has accounted for a significant percentage of the Article 185 calls closing each year but no calls for proposals have been implemented by this network since 2020 as it moved into a phase of managing its current projects.

As in previous reports, the ERA-NET Cofunds that are specifically related to a JPI have been highlighted separately within the overall ERA-NET Cofund totals to demonstrate the additional work of the JPis beyond their own joint calls. In 2021, six JPI related ERA-NET Cofund calls closed, four of which were additional ERA-NET Cofund calls (without EU co-funding).

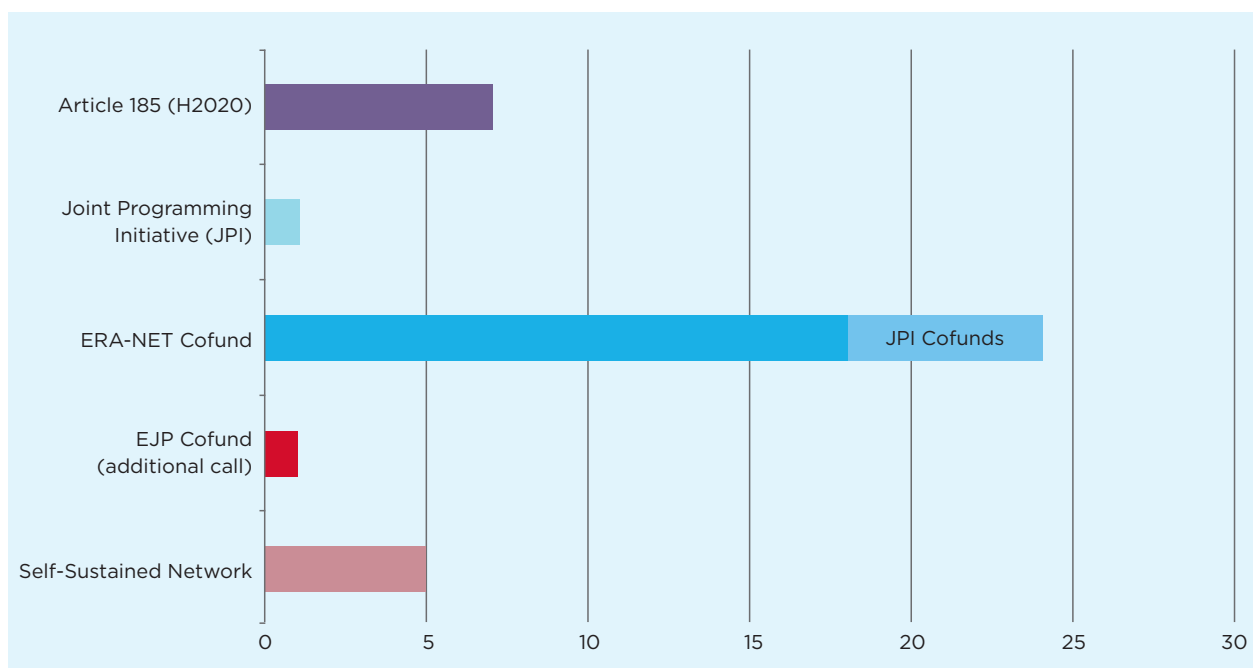


Figure 12: Number of Joint Calls closing in 2021, by network type

ERA-NET Cofunds

In relation to the whole population of ERA-NET Cofunds, 10 EU co-funded calls closed during 2021, alongside 14 additional calls. Of the additional calls, five were 2nd calls, four were 3rd calls, two were 4th calls and three were fifth calls. In 2022, the number of additional calls planned already stands at six, with two networks planning their 5th calls.

Figure 13 highlights the changing picture of ERA-NET Cofund calls, both EU co-funded and additional calls, since 2015. There are many ERA-NET Cofunds that will only ever implement one joint call, but others are using the instrument to launch multiple calls and leveraging the effects and the momentum gained from the initial EU co-funding.

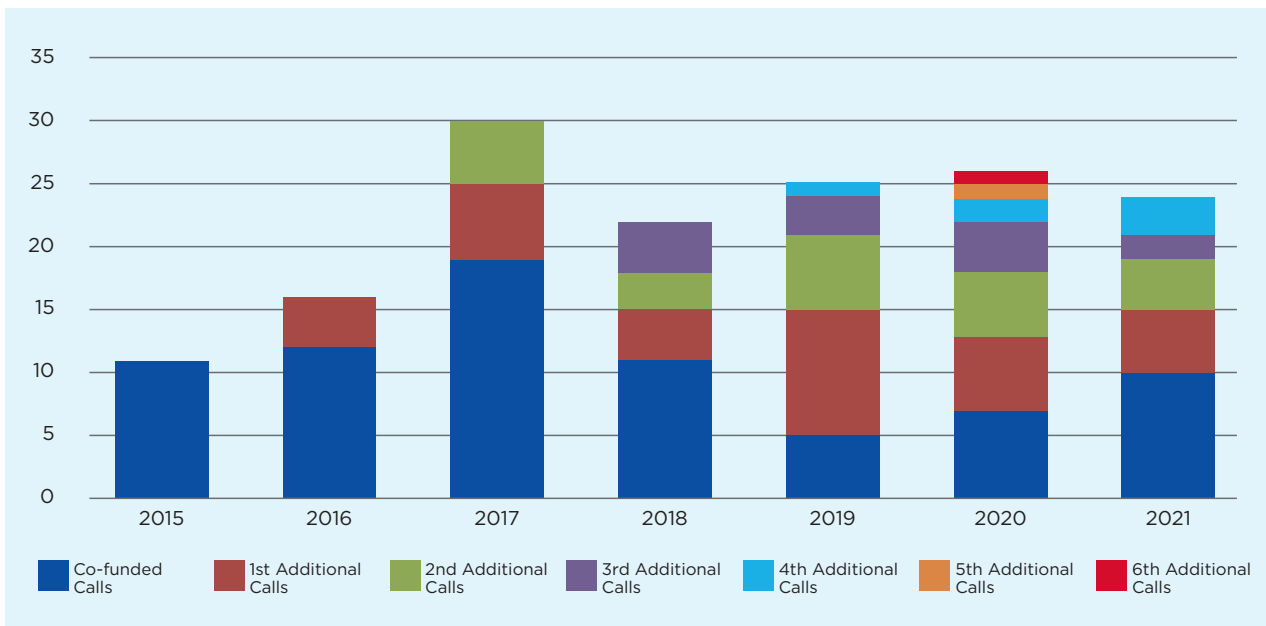


Figure 13: ERA-NET Cofund Calls by Year Call Ended

The trend in recent years for ERA-NET Cofund networks to launch joint calls together has continued in 2021, an example of which is the transnational joint call implemented by SUSFOOD2 and FOSC that brought together 15 funding bodies from 13 countries, with around EURO 7.85 million committed for transnational research.

Some selected examples of good practice being undertaken within the Cofund networks is provided here to demonstrate the breadth of work being done to address specific challenges and implement positive change within the P2P landscape.

Biodiversa Highlights from 2021 - Supporting excellent research with an impact for policy and society



In October 2021, Biodiversa and the European Commission (DG R&I and DG ENV) launched the European Partnership on biodiversity: [Biodiversa+](#). Biodiversa+ gathers 72 Partners from 36 countries who work together to support research with an impact on policy and society. More specifically, Biodiversa+ will work around the following five main objectives:

- 1. plan and support research and innovation on biodiversity*
- 2. set up a network of harmonised schemes to improve monitoring of biodiversity and ecosystem services across Europe*
- 3. contribute to high-end knowledge for deploying Nature-based Solutions and valuation of biodiversity in the private sector*
- 4. ensure efficient science-based support for policy-making and implementation in Europe*
- 5. strengthen the relevance and impact of pan-European research on biodiversity in a global context.*

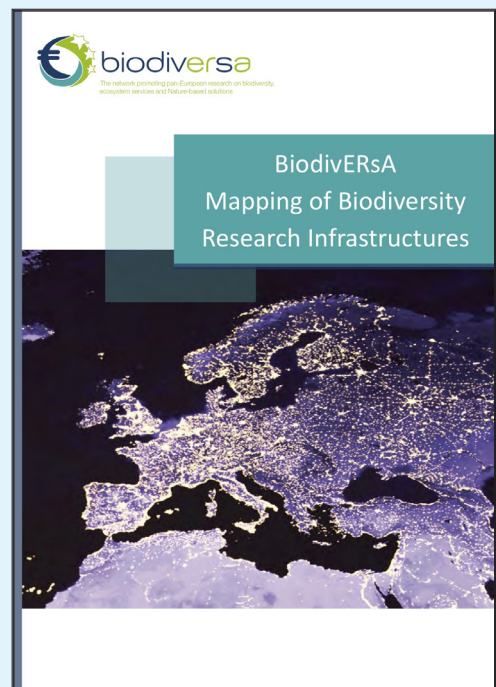
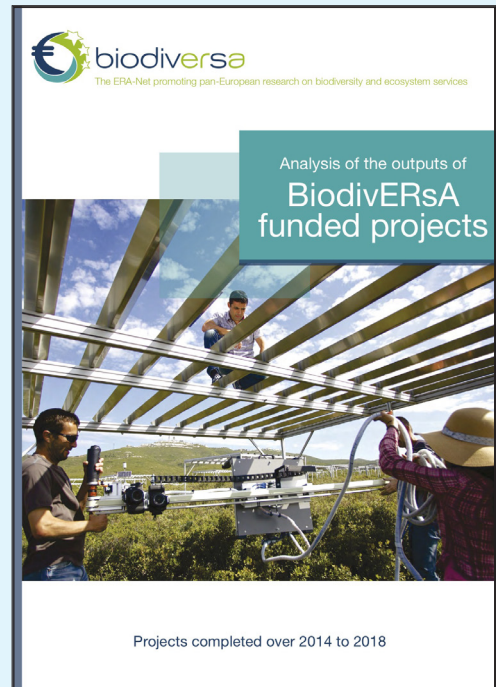
The ambition for Biodiversa+ and the type of research to be supported is detailed in the Biodiversa+ [Strategic Research and Innovation Agenda](#) that was released during the Biodiversa+'s official launch event, that took place in November 2021 in Brussels. This event was organized back-to-back with the [Biodiversa final conference](#), which was an opportunity to go over the [main achievements](#) of Biodiversa since 2008, on which Biodiversa+ builds.

- Learn more about Biodiversa+ through its short [animated video](#)*

In 2021, Biodiversa implemented many activities to support research on biodiversity in an integrated manner:

- In October 2021, Biodiversa+ launched an ambitious Joint Call for research proposals on the [protection of biodiversity and ecosystems across land and sea](#). 46 funding organisations from 34 countries are participating in this call with a reserved budget of over 40M€. This call is already a huge success in terms of number of applications submitted. The results will be known in late 2022.*
- Together with the Water JPI and the EC through the [BiodivRestore Cofund Action](#), Biodiversa funded 22 excellent transnational research projects on conservation and restoration of degraded ecosystems and their biodiversity, including a focus on freshwater. These projects mobilise a wide range of disciplines, engage many relevant stakeholders, and address various pressing scientific and societal issues.*

- **Biodiversa also implemented major activities for capacity building, networking and the uptake of research outcomes.** The [kick-off meeting](#) of the 21 projects on biodiversity and climate change, funded under the [2019-2020 Joint Call](#), was organised in May and followed by clustering and data management workshops. Biodiversa and the Belmont Forum organised, in October, the mid-term conference of their [21 funded projects](#), together with a networking and policy workshop. To promote the uptake of research outcomes, Biodiversa has also released an [analysis of the outputs of the Biodiversa funded projects between 2014 and 2018](#), [three new policy briefs](#) and awarded two Biodiversa funded projects - [ENABLE](#) & [SPONFOREST](#) - with the [Biodiversa Prize for Excellence and Impact](#) giving them the opportunity to present their work through an animated video.
- Biodiversa produced a comprehensive [mapping of Biodiversity Research Infrastructures in Europe](#), to help potential applicants to identify relevant infrastructures and help identify possible gaps.
- To ensure collaborations with initiatives working at the crossroad between biodiversity and other pressing issues, Biodiversa organised through the BiodivClim Cofund Action two strategic workshops, one with FACCE-JPI and one with [JPI Climate](#) to elaborate a joint collaboration strategy.



**M-ERA.NET Call 2021:
Record Number of Funded Projects
in ERA-NET Cofunds**



Among the 52 ERA-NET Cofund networks that were active during 2021, **M-ERA.NET 3** (3/2021-2/2026) is one of the largest networks of public funding organisations, bringing together 50 beneficiaries and a number of observer organisations from countries and regions across Europe and beyond. It is an ERA-NET for research and innovation on materials and battery technologies, supporting the European Green Deal. The M-ERA.NET Call 2021 was launched on 15 March 2021 by 45 funding agencies from 32 countries and resulted in the **highest number of funded projects ever achieved by an ERA-NET Cofund**. In total:

- 493 pre-proposals were received, with 2171 research teams applying for over Euro 400 million
- 174 consortia were invited to the full-proposal stage
- **70 proposals were selected for funding**, corresponding to a total funding value of Euro 69.9 million

It is believed that the approach taken by the network in engaging the RTD community in topics definition has played a huge part in the response to this call. The success rate for the second stage of the call (selected full-proposals vs. total submitted full-proposals) was also significant at more than 40%, with more than 47% of total funding being provided to projects related to future battery technologies.

With 11 of the EU-13 (widening) countries participating in the 2021 Call, researchers from EU-13 countries play a substantial role: 24% of the funded applicants (as noted in figure 14) and 21% of the project coordinators come from EU-13 countries. 20% of the total project funding is contributed by funding agencies from EU-13 countries.

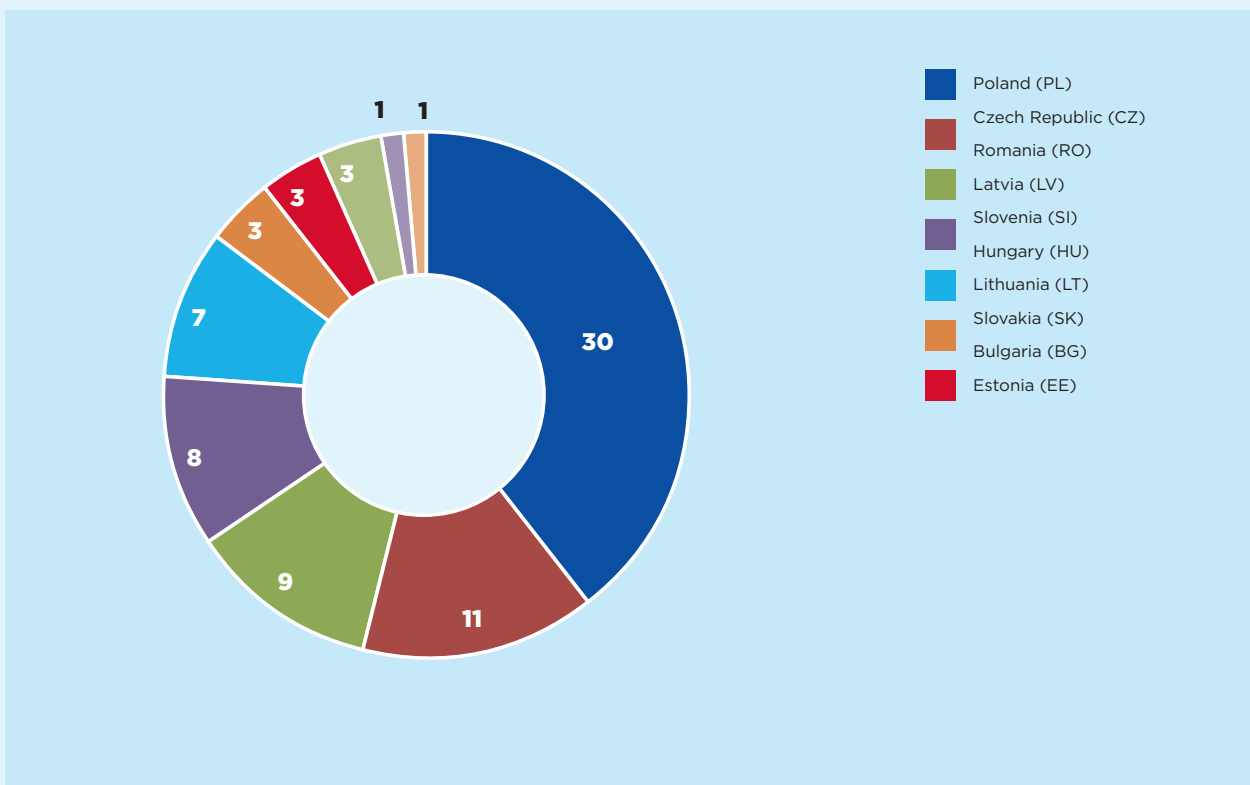


Fig 14.: Number of participants from EU-13 countries in selected full-proposals.

M-ERA.NET 3 contributes the success of the call to a combination of different measures and considerations put in place by the network, based on its experience and dedication to the process, which includes the following:

- A good balance between the committed national/regional budgets and requested funding from the first stage*
- Substantial budget increases of several funding organisations in step 1 and again in step 2*
- Application of evaluation criteria with half-integral scores, while taking into account the thematic focus of proposals to ensure that 1/3 of the funding was directed at batteries-related research (EU requirement)*
- Sufficient time between evaluation and selection meetings and the final selection list to discuss and agree tailored budget increases where necessary*
- An even distribution of the EU top-up funding as much as possible*
- Weeks of preparation by the call secretariat*

In addition, sufficient flexibility was agreed in the Consortium Agreement to be able to use EU top-up in a mixed-mode approach. In this way, rather than defining a fixed percentage, a flexible range was defined for using the EU contribution. After simulating various funding scenarios, the consortium agreed to allocate 25% of the EU top-up funding proportionally (juste retour) and to use 75% to fill funding gaps where they appeared. This resulted in the longest possible list and entitled the M-ERA.NET 3 consortium to claim the entire available EU contribution (Euro 15 million).

CORE Organic Highlights from 2021: Increasing Cooperation between National Research Activities

The logo for CORE organic, featuring the text "CORE organic" in white on a green rectangular background. Above the text, there are stylized white birds in flight.

CORE Organic 15 Year Activity Report (2014-2019) presented at the Organic World Congress 2021

The ERA-NET CORE Organic ('Coordination of European Transnational Research in Organic Food and Farming Systems') was established in 2004 and, in 2021, presented its 15 Year Activity Report in the international setting of the Organic World Congress in Rennes, France. The CORE Organic Session was hosted at the Stakeholder Forum, in an on-line format, and followed a varied agenda. In the first session, the ERA-NET transnational model of cooperation was presented interactively as a role-play activity that was very well received. In the second session, three CORE Organic research macro-themes analysed in the Report were presented and discussed, these were: animal production, plant production and organic food processing. This session led to the final part where the network conducted an international Panel discussion on the past achievements of the CORE Organic network and the future vision. A link to agenda and recordings from the on-line session can be found on the [CORE Organic website](#)

On 1 October 2019, the network celebrated its 15th year of activity. It currently includes 26 ministries and research councils from 19 countries and regions whose main purpose is to fund and support transnational organic research. CORE Organic (CO) partners have been working together to increase innovation potential, knowledge accessibility, alignment of national research and international outreach in support of the ERA-NET's objectives. By joining forces, the network sustains focused and coordinated research and innovation efforts, covering the most important challenges at every link of the organic value chains. Since 2004, the network has launched 8 transnational calls and funded 62 multi-actor projects with a total budget of EUR 61.9 million.

A copy of the [15 Year Activity Report](#) can be found on the CORE Organic website.

CORE Organic 2021 call "Organic farming systems for improved mixed plant and animal production"

In 2021, 12 projects from the CORE Organics Transnational Joint Call, launched in 2016, were finalised. In order to continue its commitment towards organic research in the Horizon Europe Framework Programme, the network launched its Third Call for proposals on "Organic farming systems for improved mixed plant and animal production" in January 2021. The EU has adopted ambitious targets to increase organic production as part of the European Green Deal and indicated in the Farm to Fork and Biodiversity Strategies under the objective of reaching 25% of the EU's agricultural land under organic farming by 2030. This ambitious goal entails specific knowledge and research needs that can be achieved through new and innovative solutions related to the organic sector. This was addressed under the 2021 transnational joint call. The expected research impacts focus on organic food systems adopting mixed farming practices, supporting animal health and welfare, innovative cropping and production systems as well as feed production and biodiversity, aimed at accommodating the growing demand for more organic products. 13 funding bodies participated in this call, from: Algeria, Bulgaria, Denmark, Estonia, Finland, Germany, Italy, Morocco, Norway, Poland, Romania, Slovenia and Turkey, committing around 5M EUR for transnational research. Five proposals were selected for funding in relation to: Robust and resilient mixed animal farming systems; Support for robust and resilient crop production systems; and Eco-efficient production and use of animal feed at local level.

CORE Organic in the future European Partnerships on Agroecology and Sustainable Food Systems

The CORE Organic Cofund partners have expressed their commitment to take part in the future European Partnership on Agroecology and Sustainable Food Systems and will bring highly relevant competences from its research and innovation activities in the organic sector. CORE Organic is part of the SCAR-Food Systems SWG and CSA FOODPathS preparing respective Partnerships on Sustainable Food Systems. Its participation in the Sustainable Food Systems Partnership will also build on its close collaboration with the SUSFOOD2 network, with which it has recently established a joint monitoring team to monitor projects funded from their bilateral call on sustainable and organic food systems.

CORE Organic is also involved in Partnerships preparatory actions through the SCAR-Agroecology SWG and participation in the Coordination and Support Actions (CSA) ALL-Ready, preparing the Agroecology Partnership.

Multilateral Collaboration across P2Ps to support the Energy Transition

The planned Clean Energy Transition Partnership (CETP) is a multilateral and strategic Partnership of national and regional RD&I programmes in European Member States and Associated Countries that seeks to boost and accelerate a just energy transition, in all its dimensions, for Europe to become the first climate-neutral continent. During 2021, a significant amount of collaborative effort and dialogue was undertaken to build on the work of numerous existing energy related P2P networks to finalise details of the new Partnership, which was granted funding in December 2021. More than 11 P2P networks (including ACT, BESTF, CSP ERA-NET, DEMOWIND, EnerDigit, GEOTHERMICA, JPI Urban Europe, OCEANERA-Net, ERA-NET Smart Cities, ERA-NET Smart Energy Systems, Solar ERA-NET) have come together within this Partnership to align their ambitions and bring together their collective knowledge, experience and best practice to work towards a common agenda and vision for Europe. This Partnership represents one of the largest mergers of P2P networks from Horizon 2020 in moving forward to achieve the ambitions of Horizon Europe.

This Partnership will support all collaborating networks, Member States and Associated Countries to extend their opportunities for international collaboration, maximise the number of R&I projects that can be funded and bring about real energy innovation in Europe. It boasts ambitious targets to be delivered before 2030 and intends to have a significant impact on the energy transition, across all its dimensions, and to achieve a carbon neutral society by 2050.

JPIs

In 2021, seven JPI related calls closed, one of which was specific to a JPI and the others were part of ERA-NET Cofund networks. Four of these calls were additional ERA-NET Cofund calls with no EU co-funding. The pattern of JPI related calls since 2015 is shown in figure 15.

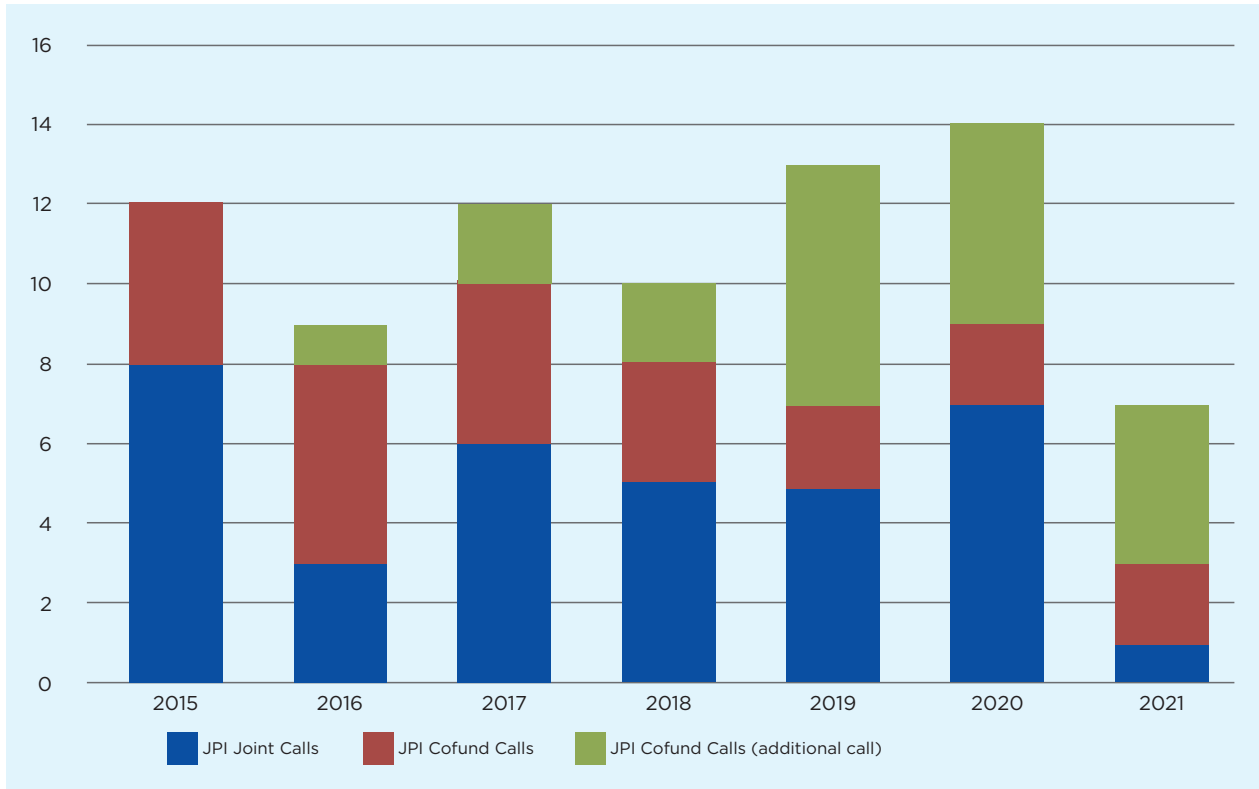


Figure 15: JPI Calls by Year Call Ended

This shows a reduction in call activity within the JPI networks, with 2021 seeing fewer JPI related calls than any year since 2015.

The implementation of joint calls does, however, continue to be an important element in the work undertaken by the JPIs, with cooperation and collaboration between them increasingly evident. An example is described below of a collaboration that has been building between one JPI and one of the Article 185 networks to address challenges in new ways. We also present the achievements of another JPI that has reached its 10 year milestone in an important health area.

A Joint JPI Effort to Identify New Challenges and Perspectives for Research on Cultural Heritage and Climate Change

The collaboration between the **Joint Programming Initiative on Cultural Heritage and Global Change (JPI Cultural Heritage)** and the **Joint Programming Initiative ‘Connecting Climate Knowledge for Europe’ (JPI Climate)** began in 2019 when representatives from both initiatives met several times to explore areas of shared interests. This led to the organisation of a joint online expert workshop in September 2020, where around 70 participants discussed two main topics: the impact of climate change on cultural heritage and the opportunities for climate mitigation and sustainable development.

From the discussion, ten key messages and several recommendations emerged. These were summarised in a short report that was regarded as the starting point for further cooperation. Subsequently, the Governing Boards of both JPIs approved the development of a joint *White Paper* to scope research priorities at the interface of cultural heritage and climate change.

In 2021, a working group composed of 20 experts from 9 countries, representing both the cultural heritage and environmental fields, was established and coordinated by a dedicated joint Task Force. Over the course of a year, the expert group and the Task Force met several times to identify and discuss research gaps and opportunities that could be addressed jointly by the JPIs to provide the knowledge needed for the implementation of relevant national, European, and international processes and policies. Members of the Task Force also participated in sessions organised by other initiatives (the Open Method of Coordination ‘Strengthening Cultural Heritage Resilience for Climate Change’ and the European Commission’s expert group on Cultural Heritage) and international events such as COP26 to communicate their work and explore potential synergies.

This collaboration is motivated by the belief that tackling climate change and building resilient and sustainable societies would benefit from greater collaboration between the cultural heritage and climate research communities. This is particularly relevant for the understanding and assessment of risks, impacts and vulnerabilities that threaten the values of cultural heritage, but also for the development of adaptation and mitigation strategies powered by the knowledge, data, experiences, and skills inherited from the past and which are at the heart of people’s daily lives.

The *White Paper* was officially published in March 2022 and introduced at the [‘Heritage for the Future, Science for Heritage’](#)³ symposium organised under the French Presidency of the Council of the European Union. It describes, under five themes, research priorities that require more advanced knowledge in the coming years, as well as funding, networking, exploration, and capacity-building instruments that the JPIs could implement to support knowledge production and strengthen cooperation between the cultural heritage and climate research communities. This strategic document is expected to support the two JPIs in generating policy-relevant research outcomes.

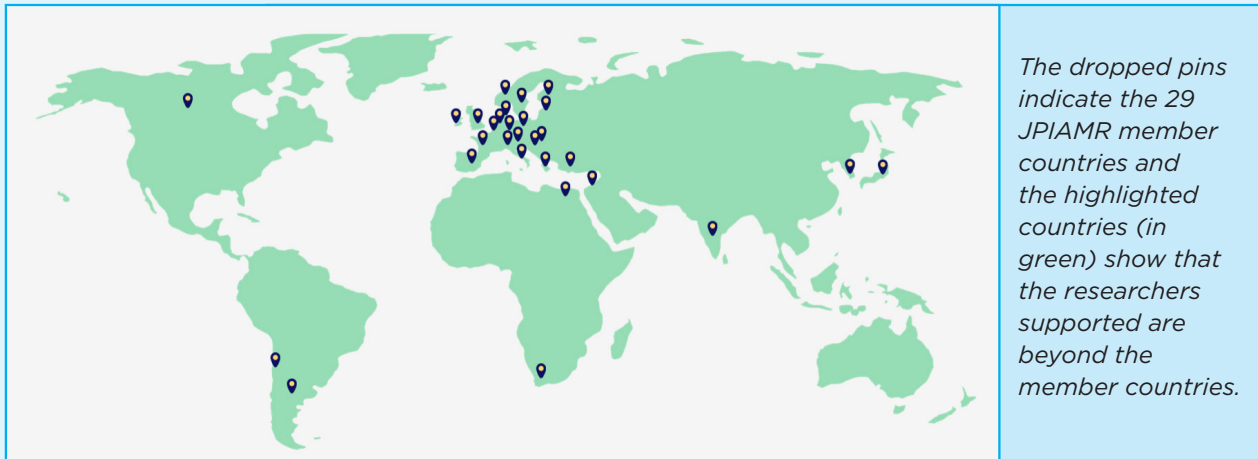
In 2022, the Joint Task Force will continue its activities with the preparation of a joint funding call in 2023 and explore the possibility of joining forces with other funding networks to open this call to non-European countries.

³ The video recording of the presentation is available following [this link](#). Time code: 00:49:00 to 01:06:25

JPIAMR Celebrating its 10 Year Anniversary

In one decade, a proven model for successfully enabling global One Health AMR research

The Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) was established in 2011 to coordinate and align national research funding and leverage excellent transnational research within AMR. The JPIAMR started as a European Programme.



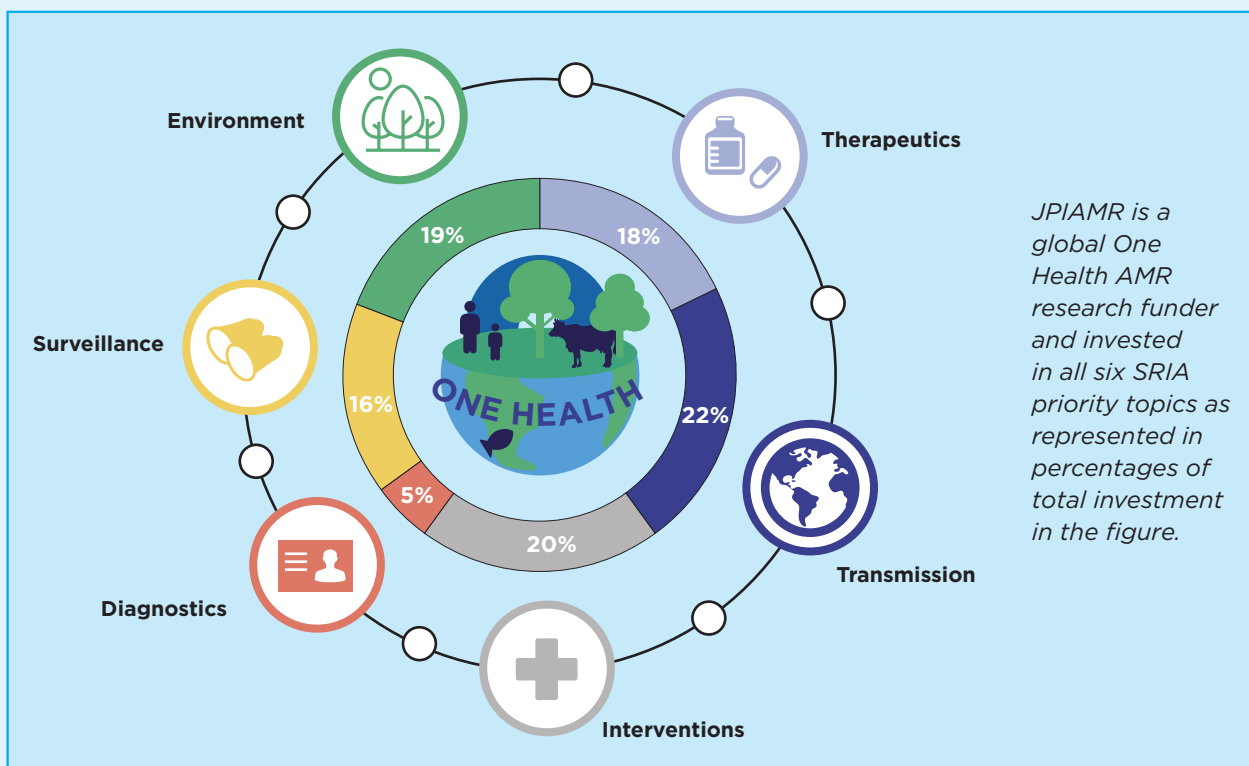
Today, JPIAMR consists of 29 nations, including many non-European members. Since its inception, JPIAMR has adopted the One Health approach, conducting joint actions to support research on AMR in humans, animals, and the environment.

Antimicrobial resistance (AMR) poses a real threat to human health worldwide. [Newly published research](#) reveals that some 1.27 million deaths were attributable to bacterial AMR in 2019 alone. Antimicrobial resistance affects our daily lives already, but if not curbed it can disrupt what we take for granted – modern medicine and access to treatments.

Collective action is needed to successfully curb the challenge of antimicrobial resistance (AMR) by supporting excellent research to deliver new innovative solutions, improved diagnostics, treatments of resistant infections, and the development of evidence-based measures to prevent or reduce the emergence and spread of AMR.

The [SRIA](#), which sets common research priorities by aligning national and international AMR research strategies and programs, outlines six key priority topics within the AMR field: Therapeutics, Diagnostics, Surveillance Transmission, Environment, and Interventions. It serves as a framework for the JPIAMR Roadmap of Actions that guides joint national investments and transnational activities of the JPIAMR. The JPIAMR coordinates jointly funded transnational research projects and network calls yearly, in close collaboration with the 29 member countries and with support from the European Commission (EC).

JPIAMR has successfully coordinated research funding and mobilised funds and investments to address AMR. In one decade, JPIAMR has launched 15 joint transnational calls, investing approximately 127M€ in supporting 137 research projects and networks. 42% of the projects use a One Health approach. In total, it has [supported 1430 researchers from 77 different countries across the world](#). The research outputs and outcomes are impressive, including six preclinical antibacterial candidates identified, six patents filed, peer-reviewed scientific publications, policy guidelines, and other diverse [research tools and resources](#).



Participation of agencies from the Member States, Associated Countries, and other European non-JPIAMR member states (Canada, South Korea, South Africa among others) as well as the participation of Latvia, Hungary, and Lithuania in joint calls, has helped strengthen the European Research Area (ERA) in the field of AMR. In addition, JPIAMR has extended support to researchers in low-and-middle-income countries (LMICs) with world-class science by including developing aid agencies in the funding model. Agencies such as the Swedish International Development Cooperation Agency (SIDA), International Centre for Antimicrobial Resistance Solutions (ICARS) from Denmark, and International Development Research Centre (IDRC) in Canada have participated in calls.

Invaluable support and synergies between the JPIAMR and the European Commission have laid the foundation for the future OH AMR Partnership. Under the Horizon Europe Framework Programme, the candidate OH AMR European Partnership has the potential to build on the experiences and outcomes of the already existing global collaboration model enabled by JPIAMR. It will further extend the actions of JPIAMR and engagement with other new and existing international AMR initiatives and stakeholders, including those in the animal health, agricultural and environmental sectors, and civil society. The future OH AMR Partnership may scale and refine the model facilitated by JPIAMR, supporting stellar research that may curb AMR globally.

Article 185s

In 2021, seven Article 185 calls closed, with five of these being implemented by one network, PRIMA. As mentioned previously, there is a decreased level of activity among some Article 185 networks in relation to the implementation of new joint calls, although they continue to monitor the projects funded by their previous transnational joint calls. The broader pattern of call activity since 2015 is shown in figure 16, demonstrating a change in the landscape during 2021.

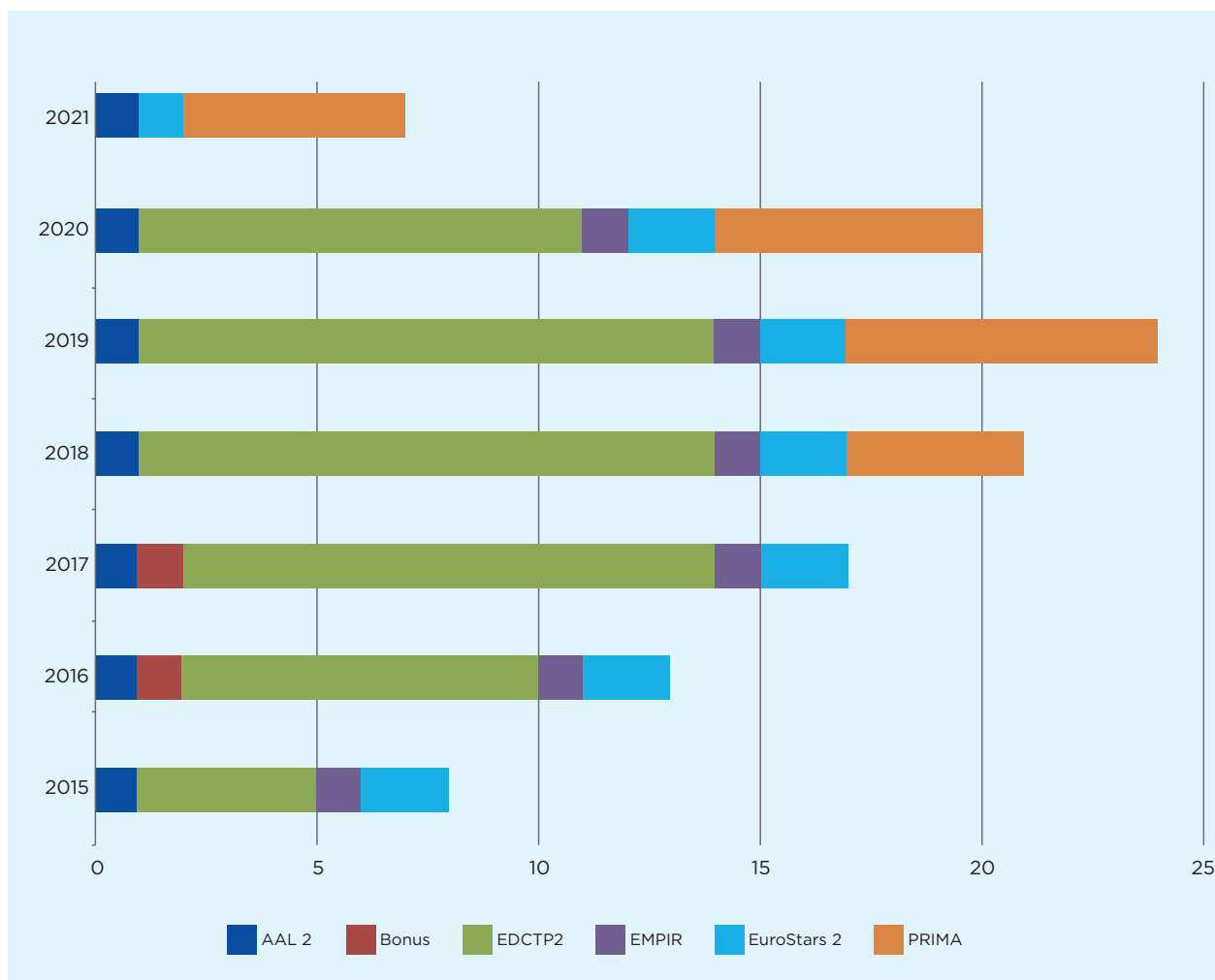


Figure 16: Article 185 Calls by Year Call Ended

Two examples are provided here to demonstrate the work being undertaken by some of the Article 185 networks to increase their impact through collaboration, creating effective cooperation models, adapting their programmes to address key issues and changing landscapes as well as adopting new measures to support and simplify procedures for beneficiaries.

“TOGETHER we are STRONGER”

The collaboration journey of the JPI More Years Better Lives, the Art. 185 AAL Programme and the EIPonAHA for Active & Healthy Ageing in Europe through to 2021 and beyond

How it all started - In 2018, three Horizon 2020 initiatives, the Active & Assisted Living (AAL) Programme, the European Innovation Partnership on Active & Healthy Ageing (EIPonAHA) and the Joint Partnership Initiative ‘More Years Better Livers (JPI MYBL) met up to explore possibilities for collaboration. The idea of a ‘European Umbrella mission on active and healthy ageing’ was floated as the three partners united the different parts of the R&D&I value chain for this key societal issue.

Collaboration is based on goodwill and mutual recognition - Getting different European Partnerships to work together is much easier said than done. Not only does each of the Partnerships have a particular structure, intervention domain and target group, they also not necessarily designed for open collaboration with other European initiatives. It takes people to collaborate, not structures, which, in turn, requires openness to reach out to each other, the capacity to listen and be aware of each other and the goodwill to move out of one’s own comfort zone. The collaboration, therefore, started with a number of ‘getting to know each other better’ meetings.

In doing this, the EIPonAHA brought in their experience in collaborating with regional active & healthy ageing ecosystems, to scale up solutions, for example; the JPI MYBL advocated the pathway of taking up a societal question and get it into policy implementation through their experience with thematic co-programming; and AAL provided its strong end-user centric, market-driven innovation experience for the development of innovative digital solutions for ageing well through its collaborative funding & institutionalised public Partnership approach.

You need to walk the talk - Learning by Doing ‘Activities’ Together - Bringing three initiatives together creates additional complexity, which in turn requires time and engagement to put this to good use - and the networks relished the challenge, i.e. collaborating on a first joint initiative. AAL was already organising an Annual Forum to bring together its AAL community, and so the three partners decided to join forces for the 2019 AAL Forum in Denmark. The EIPonAHA organised its annual meeting in parallel to the Forum, allowing its members to participate in both events, while the three partners encouraged their communities to organise joint workshops. A joint panel of the three initiatives demonstrated the force of working together to the audience while helping to overcome some previous prejudices of ‘false competition’.

Greater influence through joint advocacy - In mid-2019 it became clear that the European Commission was shifting its focus for Horizon Europe towards health, with less focus on demographic change and well-being as in H2020. The Covid-19 pandemic only strengthened this shift while highlighting the vulnerability, in particular, of older adults. Such policy considerations and the need for close collaboration with the European Institutions had incited the three initiatives, from the start, to engage in regular meetings with the relevant DGs (RTD, CNCT and Sante).

For AAL, EIPonAHA and JPI MYBL it was of utmost importance that the future public Partnership on ‘transforming health & care systems’ would be inclusive by taking a holistic health focus from prevention to (social) care. The importance of the home and community environment was also put forward next to the classic health & care institutions. The three initiatives mobilised their respective research & innovation communities to actively participate

in preparatory meetings with the EC and member states and to provide input into the pre-Partnership proposal and the 'Strategic Research and Innovation Agenda'. This effort was reinforced by turning the AAL Forum into a yearly 'European Week of Active & Healthy Ageing' organised in collaboration by the three partners in both 2020 and 2021.

Cross-collaboration between Partnerships is essential for systemic change - The efforts highlighted above were the first steps towards pushing the demographic change and healthy ageing R&D agenda at EC level. The pandemic reiterated the importance of close collaboration, alignment and the need for investment into healthy ageing. Given the increasingly complex societal and social challenges of our time, the EU's R&D approach requires such cross-cutting, vertical collaboration. Getting out of your silo, fostering eco-system thinking and acting - AAL, MYBL, EIPonAHA have taken their first baby steps here.

PRIMA - Achievements in Fostering Cooperation and Change

PRIMA is a long-term (2018-2028) public-public Partnership (P2P), consisting of 19 Participating States (11 EU Member States, three Associated Countries and five Third Countries) and the European Commission. With a distinctive geographical focus on the Mediterranean region, PRIMA has a strong strategic dimension, achieved through a high level of integration at management, financial and scientific level among all the countries involved in the Partnership. In recent years it has worked hard to address emerging issues that contribute to the achievement of its goals but that also support the research and innovation needs of its Participating States (PS), promote cooperation among the scientific community and reduce the burden on project beneficiaries to maximise their impacts.



Flexibility in Adjusting Activities to the COVID-19 Pandemic

Several measures were taken to address the COVID-19 crisis, for the management of both calls and funded projects, which has shown the degree of flexibility within the Programme. In the 2021 Annual Work Plan, PRIMA included a specific topic "Increasing resilience of small-scale farms to global challenges and COVID-like crisis by using adapted technologies, smart agri-food supply chain and crisis management tools" to foster resilience to the COVID-19 crisis or future similar crises. Furthermore, PRIMA has welcomed and approved the redirection of already funded PRIMA projects, to address the COVID-19 crisis; twelve PRIMA projects funded in response to 2018 and 2019 Calls have redirected their activities in response to this.

Food security and agricultural livelihoods, access to safe water and sanitation, reconstruction of the relationship between humans and ecosystems are indeed key elements of social and health protection programmes. And the outcomes of those PRIMA projects can have an important role to play to increase the resilience of the Mediterranean societies to this pandemic or possible similar future outbreaks and contribute to their well-being.

Measures adopted by National Funding Agencies to Align National Regulations and Simplify Administrative Procedures

At the beginning of the Programme, internal administrative procedures in some PS resulted in delayed payments to Section 2 project's beneficiaries. Changes triggered by PRIMA in the national regulations have sped up the procedures and thus payments. This has resulted in:

- a) Synchronisation of the grant agreements signature between the National Funding Agencies (NFAs) and beneficiaries. The lack of synchronisation among NFAs funding schedules is a critical issue that can delay payments to project beneficiaries of PRIMA section 2. To address this, NFAs have sought to implement changes internally that have resulted in better coordination and communication among them, with the support of PRIMA Secretariat staff, making the process quicker, allowing earlier contract signatures, and enabling beneficiaries to implement their projects more efficiently*
- b) An alignment mechanism concerning the extension of projects was established, so that agencies provide a coordinated framework to avoid that some project partners obtain an extension and others do not. This commonly agreed procedure represents an innovation, especially for NFAs with less experience in transnational R&I cooperation*
- c) Administrative procedures for the submission process at the national level have been simplified. Slow administrative procedures can affect beneficiary' payments but, since 2020, the national regulations of some countries have been substituted by simplified (fast-track) procedures. (One such example has been implemented by AEI, one of the Spanish funding agencies such that the international evaluation conducted by PRIMA is accepted as a reliable evaluation, and thus projects selected by PRIMA are automatically funded with no further evaluation, saving around 6 months from the previous procedure)*

An Effective Cooperation Model and a Solid Instrument of Science Diplomacy

PRIMA is proving to be an effective cooperation model, having promoted scientific excellence and increased integration in research and innovation among its Participating States fostering regional collaborations (both North-North and North-South) in the Mediterranean region. In PRIMA calls, the overall participation of PRIMA Non-EU countries represents 38% of the total beneficiary legal entities.

Over the first four years of implementation, the Programme has strengthened existing collaborations from previous projects funded under FP7 and H2020, focusing on Euro-Med cooperation by exchanging information, developing mutual understanding, and identifying areas for coordinated and collaborative activities. Based on the principle of equal footing and building trust among its members, PRIMA has been able to achieve the required scale and scope, increase the participation of researchers from the region in international calls and projects, and align national policies on key areas such as water management, sustainable agriculture and food value chain, ensuring coherence with the major agendas and initiatives for the region, such as the SDGs and relevant EU legislation.

The excellent level of cooperation among researchers across the two borders of the Mediterranean basin, achieved by PRIMA through its projects, has been facilitated by the specific legal framework of the PRIMA Programme, i.e., the particular rules of participation (Derogations to H2020 RfP) and the bilateral agreements between the third countries involved and the EU. PRIMA has proven to be successful in fostering participation for the less R&D intensive countries such as the Southern Mediterranean countries. Noteworthy, PRIMA not only succeeded in reinforcing North-South but also South-South Cooperation. For instance, legal entities from PS involved in political conflicts, succeeded in working together in the same projects.

7. Outlook

This section provides a brief overview of planned joint calls during 2022.

Planned Calls for 2022

There are currently 27 transnational joint calls that have been launched and will close during 2021 (13 of these are ERA-NET Cofund additional calls). Clearly other calls are currently in preparation and these will be detailed on the ERA-LEARN call calendar as soon as the details are made available.

New ERA-NET Cofund Networks

There are currently 22 transnational joint calls that have been launched and will close during 2022 (12 of these are ERA-NET Cofund additional calls). An overview of those that are detailed in the ERA-LEARN Call Calendar is shown in Table 1 below but note that others may already have been launched for which ERA-LEARN is not aware or has not been informed about. Clearly other calls will currently be in preparation now or in the coming months and so this list should be considered as indicative.

Network	Joint Call	Launch	Close
BlueBio	3rd BlueBio Joint Call	08/06/2021	21/02/2022
CSP ERANET	2nd CSP Joint Call	01/10/2021	25/03/2022
ICRAD	2nd ICRAD Joint Cofund Call	01/10/2021	30/06/2022
Solar Cofund 2	Solar Cofund 2 Additional Joint Call 2021	06/10/2021	04/05/2022
JPI Urban Europe	Positive Energy Districts and Neighbourhoods for Climate Neutrality	20/10/2021	24/02/2022
CHIST-ERA IV	CHIST-ERA Call 2021	01/11/2021	17/01/2022
ERA PerMed	5th Joint Transnational Call for Proposals (2022)	01/12/2021	14/06/2022
JPI Oceans	Underwater Noise in the Marine Environment	20/12/2021	28/02/2022
NEURON Cofund2	Neuron Cofund2 Joint Call 2022	07/01/2022	28/06/2022
JPIAMR-ACTION	2nd JPIAMR-ACTION Joint Call 2022	11/01/2022	05/07/2022
PRIMA	Section 1 – Nexus 2022 Management	17/01/2022	31/03/2022
PRIMA	Section 1 – Management of Water 2022	17/01/2022	06/09/2022
PRIMA	Section 1 – Farming Systems 2022	17/01/2022	06/09/2022
PRIMA	Section 1 – Agro-food Value-chain 2022	17/01/2022	06/09/2022
PRIMA	Section 1 – Nexus 2022 Theme	17/01/2022	06/09/2022
PRIMA	Section 2 – Multi-topic 2022	17/01/2022	13/09/2022
JPI HDHL	NUTRIMMUNE	15/02/2022	21/04/2022
EN-UAC	2nd EN-AUC Joint Cofund Call	17/02/2022	13/09/2022
JPI Cultural Heritage	Cultural Heritage, Society and Ethics	08/03/2022	05/09/2022
SusCrop	3rd Transnational Joint Call on Sustainable Crop Production	17/03/2022	22/06/2022
JPIAMR-ACTION	3rd JPIAMR-ACTION Joint Call 2022	12/04/2022	14/06/2022
ACT	ACT Fourth Call	12/05/2022	21/09/2022

Table 1: Planned Joint Calls for 2022 (indicative at May 2022)

Further details of ERA-NET, JPI and Article 185 networks and calls can be found on the ERA-LEARN website, with information on the emerging European Partnerships also being added as it becomes available.

8. Mapping of Active P2Ps

The following diagrams provide an overview of the landscape of public to public (P2P) Partnerships, funded by Horizon 2020, that were still active at the end of 2021.

This includes a large number of ERA-NET Cofunds and the timeline for each of these is shown below as well as their apparent European Partnership successor. This also highlights those Cofunds that do not have a logical successor within Horizon Europe.

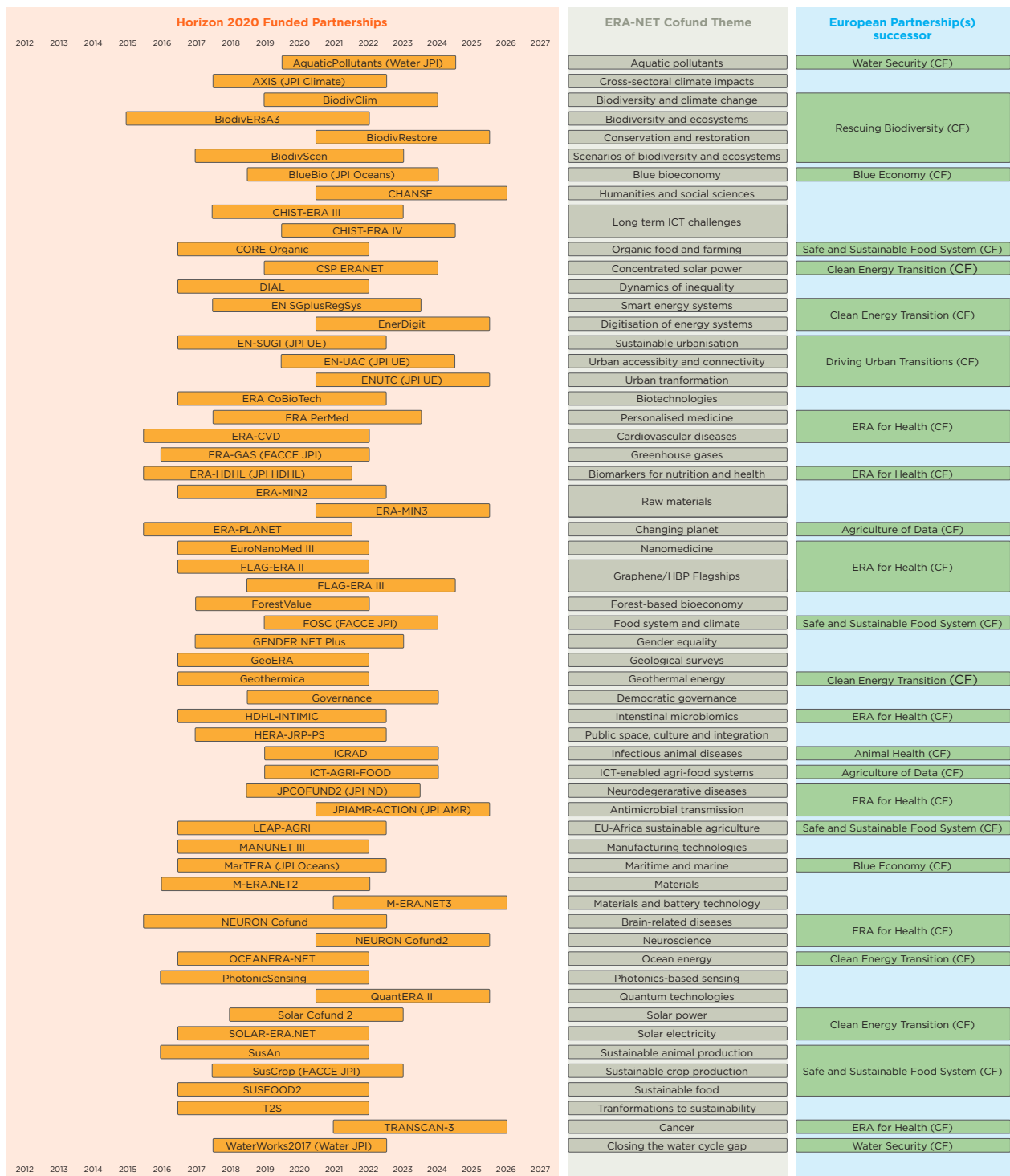


Figure 18: ERA-NET Cofunds Active at end of 2021

All but one of the EJP Cofunds have a clear European Partnership successor as shown below. EUROfusion will, however, continue with support from Horizon Europe via the Eurotom programme.

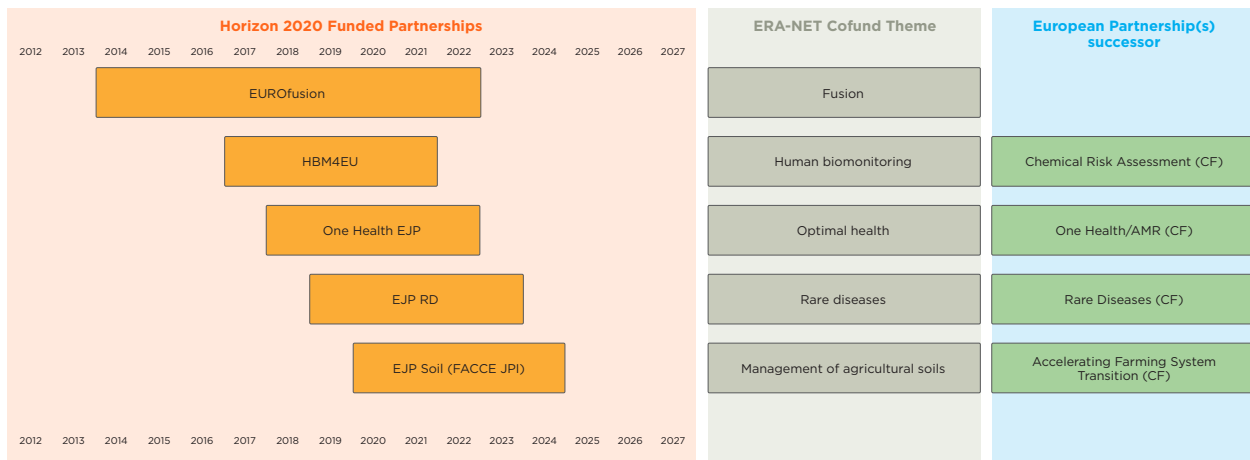


Figure 19: EJP Cofunds Active at end of 2021

Likewise, all but one of the active Article 185 initiatives has a clear European Partnership successor.

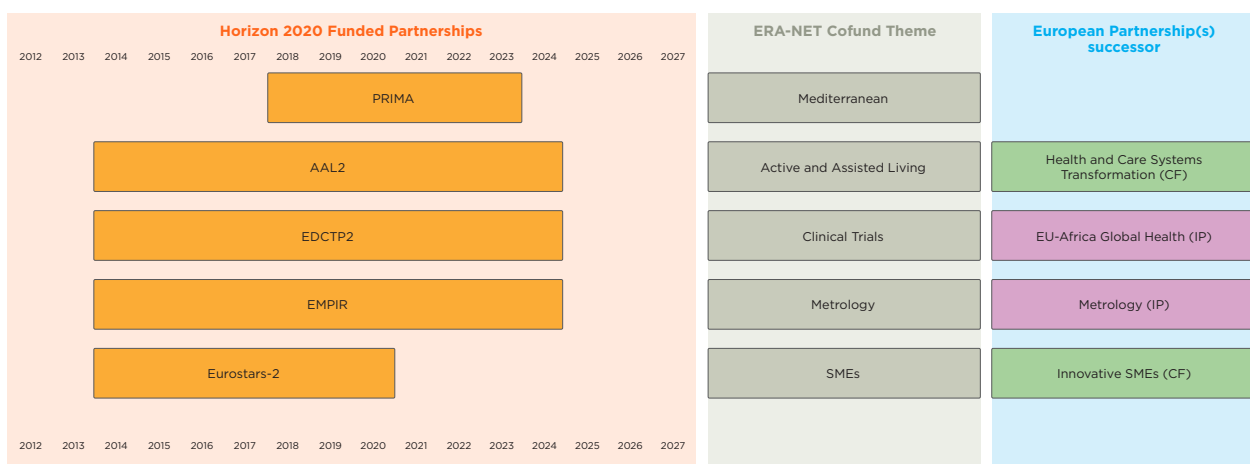


Figure 20: Article 185s Active at end of 2021

9. ERA-LEARN Country Reports

ERA-LEARN has been preparing country reports concerning the performance of countries in public-to-public European R&I Partnerships and, until now, seven country reports have been published covering Poland, Austria, Belgium, Spain, Finland, Norway and Germany. The latest reports prepared in 2021 covered Norway and Germany, while Estonia is next in the pipeline.

Summarising the situation in each of the countries for which new reports were published, **Norway** performs well in terms of its active involvement in European R&I Partnerships, with the funds committed per researcher far exceeding the levels committed by its peers. Moreover, Norwegian researchers highly appreciate the opportunity to participate in and benefit from European and international collaboration. Although some challenges going forward are envisaged, including those associated with navigating a relatively complicated landscape and coping with large variations in the way Partnerships are run, the new approach to Partnerships under Horizon Europe is nevertheless considered to be a step in the right direction.

Germany is the leader in terms of engagement and performance in public R&I Partnerships. This is due to a well-funded national R&I system with world-famous research actors whose expertise covers a wide range of research areas. Although the funds committed per researcher are not that large, Germany makes the largest investment in comparison to the other countries, even though the funds made available are considered limited in some cases. German researchers appreciate the opportunities offered by Partnerships for international collaboration and clearly see the added value in relation to national programmes or Horizon 2020. The new approach to Partnerships is a clear improvement in relation to the past, although certain challenges going forward are envisaged.

Some overall conclusions: the performance of a country does not necessarily reflect the level of the country's leadership in research and innovation. Although, strong support in international collaboration may be evidenced in the policy discourse, this may not be reflected in the budgets made available. In some cases, there is a need to raise awareness and provide incentives to collaborate internationally. However, it is also true that the rate of return (i.e. number of proposals approved with national participation divided by the number of proposals submitted) can also be affected by criteria other than scientific merit, such as the small budget made available by certain countries, which may jeopardise approval of proposals that are otherwise of high quality. This is rather discouraging for the affected countries. At the same time, national rigidities and incompatibilities may hinder full exploitation of the potential that Partnerships offer. Notwithstanding, Partnerships are indeed acknowledged as useful vehicles for internationalising the profile of the national research communities and benefiting from increased collaboration in research and innovation within Europe and beyond. There is abundance of anecdotal evidence justifying the added value of Partnerships and the new, strategic and long-term approach in Horizon Europe is clearly a step in the right direction in view of fully exploiting Partnerships both as a funding instrument and a policy approach.

All country reports can be accessed [here](#).

10. ERA-LEARN supporting the preparation of the 2022 edition of the Biennial Monitoring Report (BMR) on European Partnerships, and the related Commission Expert Group

The need for a common framework for monitoring and assessment of Partnerships in research and innovation as well as a central system for monitoring data has been acknowledged and addressed in the new phase of the Partnerships in Horizon Europe. The European Commission set up, in 2021, an Expert Group⁴ with the mandate to develop a harmonised and robust framework for data collection and monitoring of the new Partnerships in close collaboration with the Partnerships and the participating countries, and to prepare the first biennial monitoring report.

In this task ERA-LEARN has been the key source of data and information about the public-to-public Partnerships. Since not all the new Partnerships are yet fully operational and data on various indicators thus do not yet exist, Horizon 2020 data on Partnerships has been extensively used to set benchmarks for the new Partnerships and to report on the performance of the participating countries. In this regard, the first BMR has been special with one of its aims being to illustrate what kind of information, data and analysis can be presented, rather than to present actual monitoring and evaluation data of the new Partnerships and the associated country performances.

More specifically, the Partnerships covered under Horizon 2020, due to the absence of data on Horizon Europe Partnerships, include:

- 99 P2P Partnerships that include ERA-NET Cofunds, EJPs, Art 185 initiatives and JPIs (included in the [ERA-LEARN database](#) as H2020 networks plus the ten JPIs)
- 6 EIT KICs (EIT Climate-KIC, EIT Digital, EIT Food, EIT Health, EIT InnoEnergy, EIT RawMaterials)
- 8 JUs (BBI, ECSEL, EuroHPC, SC2, FCH, IMI 2, SESAR, Shift2Rail)
- 10 cPPPs (FoF, EeB, EGVI, SPIRE, Photonics, Robotics, EuroHPC, 5G, Cybersecurity, Big Data Value)

At the same time, several **ERA-LEARN publications in relation to analysis of impacts of Partnerships** were reviewed to document the added value of the Partnerships, in the specific section of the BMR 2022, based on the anecdotal evidence and data analysis that were carried out by ERA-LEARN over the years. These included the ERA-LEARN policy briefs on the impact of Partnerships as well as the **ERA-LEARN Country Reports** and the recent **joint publication with GPC on the impacts of Partnerships at the national level**.

⁴ Register of Commission expert groups and other similar entities (europa.eu)

Finally, the historical data available in the ERA-LEARN database was crucial in drawing up the evolution of Partnerships from Horizon 2020 to Horizon Europe, demonstrating the streamlining of the Partnership landscape but also revealing new additions as well as gaps. Such information is important for the strategic discussions on the future of Partnerships and the identification of new topics that need to be addressed.

The BMR 2022 will be the most visible output of the Strategic Coordinating Process, providing an evidence-base for the new policy on Partnerships and a transparent overview of the Partnership landscape under Horizon Europe. The BMR is published in May 2022 and two interim reports on the framework for monitoring European Partnerships, by the Expert Group, are also available. The mandate of the Expert Group ends with the publication of the Final Report which concentrates on the key policy recommendations that have surfaced over the past 1.5 years of the Expert Group's work.

Continuing the support to Partnerships, ERA-LEARN organised a training workshop for the new Partnerships in June 2022 to provide training in relation to the new monitoring framework under Horizon Europe in collaboration with the Expert Group. At the same time, the guidelines and advice provided by ERA-LEARN in the form of the **RIPE toolkit** will accordingly be updated and adjusted to support the new Partnerships under Horizon Europe to apply the new monitoring and evaluation methodology and meet their own as well as the centralised, horizontal reporting requirements.



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