10 Key Messages

For the 10th EU Framework Programme for Research and Innovation (FP10)

Context

Ambitious investments in research and innovation (R&I) have never been more critical as the world grapples with multifaceted challenges such as climate change, global competitiveness, and technological advancement, against a more testing geopolitical setting. As the current Framework Programme for Research and Innovation, Horizon Europe, will conclude in 2027, it is imperative to shape its successor to effectively address these pressing issues.

Research funding organisations and research performing organisations, through their field experience and insights, play a pivotal role in crafting a robust and forward-thinking new EU Framework Programme from 2028-2035 (FP10). Their contributions will ensure that FP10 fosters scientific excellence, while delivering long term benefits such as cultural development, secure and safe societies, prosperous economies, and a protected environment.

This position paper discusses the successes and challenges of Horizon Europe and proposes ways forward to increase investment in R&I, while preserving academic freedom, open science, international collaboration, and R&I integration as foundational principles for the upcoming FP10. Further, it calls for a cautious approach to dual-use research, and a balanced approach to knowledge security, while advocating for renewed investment in peace research.

Key Messages for FP10

Science Europe's 10 key messages for the next Framework Programme for Research and Innovation are as follows:

1. Investing in R&I for an ambitious programme
2. Structure and objectives of the programme
3. Basic research and diversity of research practices
4. Fostering academic freedom and trust in science
5. Strengthening R&I integration across Europe
6. Equality, diversity and inclusion in research
7. Research Infrastructures
8. EU Missions and European Partnerships
9. International collaboration
10. Improving programme accessibility

Science Europe
Rue de la Science 14, 1040 Brussels, Belgium
Tel: +32 (0)2 226 03 00 | Fax: +32 (0)2 226 03 01 | Email: office@scienceeurope.org | www.scienceeurope.org

1. Investing in R&I for an ambitious programme

A €200bn investment is essential to leverage knowledge created through research and innovation to tackle societal challenges such as climate change and health disparities. The budget must exceed inflation adjustments to ensure impactful research outcomes.

An investment of €200bn is our ambitious goal, because of the major role science and innovation can play in addressing societal challenges such as climate, health, inequality, and the energy transition. Moreover, the investment must go beyond inflation adjustment to produce real impact.

Investment in FP10 should ensure adequate, ambitious funding for basic research, as it is essential to invest in our future and pave the way for scientific breakthroughs.

For the Framework Programme to be successful and attractive to participants, it requires stability, transparency, and a robust budget. Horizon Europe has been the target of sudden budget cuts in favour of other initiatives (defence research, industrial partnerships linked to the EU Chips Act or the Strategic Technologies for Europe platform) that have limited the development of the programme.

The European Research Area (ERA) is the EU's flagship programme for excellent and curiosity-driven research and the foundation of European scientific success. This prestigious programme does not only lead to ground-breaking research, but also contributes to the EU's innovation potential. Therefore, a strong budget is essential to ensure future successes and reinforce the ERA as an instrument of excellence.

2. Structure and objectives of the programme

The structure of Horizon Europe should be maintained in FP10. Addressing climate, sustainable development, digital technologies, and fostering a resilient, inclusive Europe are key priorities. Transparency remains a key challenge.

The four-pillar structure of the Horizon Europe, as well as the cluster approach for collaborative projects in Pillar II, is clear and rational, and should be kept in FP10.

Although the ambition to align priorities with the FP work programmes has been largely achieved, it is not always easy for applicants to understand the policy or political background that guide the development of the calls for proposals. More transparency should be provided in FP10.

Challenges related to climate, sustainable development, and the advancement of digital technologies (including Artificial Intelligence and Quantum Technology) should be specifically addressed in the second half of Horizon Europe, as well as in FP10. These are among the most pressing challenges to be tackled through R&I.

Efforts to ensure a more resilient, inclusive, and democratic Europe should be continued as our societies face a number of challenges, such as increasing geopolitical tensions, migration, and health issues. In this respect, there should be more emphasis on peace research. The strategic goal of Horizon Europe to commit parts of the budget to biodiversity- and climate-related topics should continue in FP10.

3. Basic research and diversity of research practices

Strong support for basic research (low Technology Readiness Levels, TRLs) will bolster EU resilience, while transparent and sustainable research assessment practices remain essential for Open Science to thrive. FP10 should integrate arts, social sciences, and humanities from the outset of programmes and projects, fostering interdisciplinarity approaches.

Ensuring diversity of research practices implies the need to strike a balance between low and high technology-readiness levels. While it is tempting to prioritise solutions that appear to quickly resolve societal challenges in digitalisation, climate change, and defence, it remains essential to prioritise basic research and research at lower TRLs (especially in Pillar II). This will ensure the EU's long-term resilience and competitiveness through the generation of new ground-breaking discoveries.

More efforts are needed to design truly interdisciplinary calls in FP10, which include perspectives from the arts, social sciences and humanities (ASSH) from the outset. ASSH disciplines should be better integrated and strengthened within the Framework Programme through co-creation and early involvement of interdisciplinary teams in the development of the work programmes and by ensuring there are relevant competences in the evaluation panels. Without the possibility to design truly interdisciplinary calls and evaluate resulting proposals, we risk continuing the pattern of disappointing integration between ASSH and STEM. Clear guidance on how to develop interdisciplinary consortia could be implemented in FP10 to boost the involvement and collaboration across disciplines.

Additionally, FP10 should recognise the diversity of practices and research outputs regarding assessment of research proposals and researchers. As the European Commission is a signatory of the Agreement on Reforming Research Assessment, the next Framework Programme should foster more transparent and sustainable research assessment practices. Implementing this will require relying on the important guidance work done by the Coalition for Advancing Research Assessment (CoARA). Open Science will become a reality only when the necessary reforms for the evaluation of research are undertaken.

4. Fostering academic freedom and trust in science

Protecting academic freedom is crucial, necessitating strong safeguards. In addition, FP10 should include calls for public engagement and science communication projects to combat misinformation and involve citizens in the research process, enhancing trust in science.

Protecting academic research is essential, especially in the context of the challenge provided by anti-democratic, populist and anti-trust research movements in Europe. Clear and strong safeguards should be designed to that effect.

The importance of science communication and outreach outside of academia, for instance to politicians and young people, has increased in light of the heightened societal challenges and the proliferation of dis- and misinformation. Furthermore, public engagement can enhance trust in science and the scientific process. Specific calls for public engagement and science communication projects should be included in FP10: this is an emerging area of research and there is a high demand for expertise in how best to involve citizens and stakeholders

in co-design, co-creation, and co-assessment processes.

Strengthening the position of science communication in FP10 will imply ensuring its integration on the framework of research systems and processes, so that it is an integral part of all stages of the research lifecycle.

5. Strengthening R&I integration across Europe

FP10 should maintain effective schemes which build R&I capacity across Europe. Dedicated initiatives for research management training are needed, as well as more schemes to improve researchers' mobility, to minimise brain drain and promote diversity in research topics.

There should be a careful assessment of the current 'widening' schemes, with more focus on integration. FP10 should only maintain the instruments that have been proven to contribute to the aims of sustainable, long-term reduction of the R&I divide. In this regard, the ERA Chairs initiative, the European Cooperation in Science and Technology (COST) programme, as well as the Twinning initiative have been instrumental in building capacity in lower R&I performing countries and ensuring the attractiveness of a diversity of research systems.

Research management is the backbone of successful R&I activities. Ensuring that research managers are well-equipped through dedicated schemes, initiatives, and calls, should be included in the next Framework Programme. Administrative complexity, which is a classic structural obstacle for participation in a Framework Programme, constitutes an even greater challenge for entities with lower research management capacity, and are among the priorities to address in R&I integration.

Mobility schemes that encourage career progression while addressing the structural causes of brain drain are crucial ingredients in tackling the R&I divide. To this end, creating schemes allowing bilateral and multilateral co-operation agreements can combat brain drain.

Existing gaps in R&I participation between different areas of Europe need to be tackled by addressing six key factors: i) national investments in R&I; ii) triggering changes in research culture; iii) attracting talent; iv) strengthening support and capacity for R&I; v) enhance mutual learning; and vi) promoting diversity. These factors have been the subject of recommendations in a previous Science Europe publication.

6. Equality, Diversity and Inclusion in research

FP10 should enhance support for equality, diversity, and inclusion (EDI), continuing mandatory Gender Equality Plans and funding for gender research. Further, EDI efforts should encompass all diversity dimensions, adapting to evolving definitions.

FP10 should build on efforts to support equality, diversity, and inclusion (EDI). The introduction of Gender Equality Plans under Horizon Europe has been an important step in this direction, and they should remain a mandatory requirement within FP10. Encouraging a gender dimension in R&I projects, as well as dedicating specific funding to gender research, are also important steps to take in creating gender-equal working environments across Europe.

Equality, diversity and inclusion in research should not be restricted to the gender dimension, but also consider all elements of

diversity and inclusion perspectives. The definitions of diversity are not static and may evolve according to a variety of factors, including country and research domain and new research outputs.

Science Europe has been reflecting on the breadth of factors to include in policies fostering social diversity in research organisations, which are relevant for new FP10 policies. Supporting innovative practices on EDI in research will significantly contribute to improved research environments, the development of solutions tailored to specific demographic groups, and create additional knowledge on this important topic.

7. Research infrastructures

Further opening research infrastructures to young researchers and to international partners will strengthen international collaboration networks as well as researchers' careers and skills development.

Greater synergies between EU and nationally funded research infrastructures are vital to maintain a thriving European Research Area in future years. Fostering networks and clusters of services, facilities, and resources should be considered a means of providing added value, efficiency, and quality. Research infrastructures in Europe should be further opened up to enable access from international partners in a merit-based manner, promoting further international collaboration.

Research infrastructures can play an important role in researchers' careers through training and the provision of highly sought-after skills and competencies. In line with the ongoing reform of research assessment, the role of infrastructures in training talented individuals across the European Research Area should be considered in FP10.

8. EU Missions and European Partnerships

EU missions should benefit from more transparent design and governance and could be partly reconsidered outside the Framework Programme. Simplifying European Partnerships and introducing flexible co-funding instruments will enhance collaboration and better facilitate integration of novel organisations.

Placing EU Missions in a programme other than the EU Framework Programme for R&I should be explored. The involvement of researchers and innovators and a science-based transformation are vital for the success of EU Missions, but this does not always involve research generated knowledge or direct research and innovation projects.

One option to consider is to anchor EU Missions on a higher level, in another programme linked more directly to societal transformation. It should still be possible for FP10 to fund the strict R&I component of such missions. Regarding the EU Missions' design and governance, to improve efficiency, a more transparent process for identification, co-creation, and possible termination (including monitoring and assessment by external partners) is essential.

The European Partnerships are vital instruments for collaboration between research and technology stakeholders, and industry., However, the current landscape is too complex in terms of rules of procedure and eligibility conditions, and they should be

simplified and streamlined in FP10. A new, smaller, and more flexible instrument, allowing co-funding of one or several joint calls, could facilitate the engagement of small or emerging organisations.

9. International collaboration

FP10 should reinforce international R&I collaboration, following, for example, recent agreements with the United Kingdom and Canada; and aim to reach similar agreements with Switzerland and other like-minded countries. Balancing research security with openness is crucial, as are responsible international partnerships.

The recent agreement between the European Commission and the United Kingdom concerning the Horizon Europe Programme was excellent news for intra-European R&I collaboration. There is also strong support for an imminent similar agreement with Switzerland.

Moreover, the association of third countries such as Canada, New Zealand, and South Korea is a significant development within the Framework Programme. Efforts in strengthening international collaboration are welcome, serving the need for international collaborative research in tackling current societal challenges.

It is essential that research remains an international activity, despite the geopolitical uncertainty and increasing demands for research security. International collaborations are vital for knowledge development and must be promoted and facilitated, with respect for the values and principles identified in the Pact for Research and Innovation. FP10 should therefore reinforce responsible and reciprocal openness in international R&I collaboration.

The need for increased research security must be balanced with openness, collaboration, and partnerships. The overarching principle of maintaining the programme's openness should remain in place. True risk assessments can only be done at project level. Science Europe therefore proposes that the focus should be on providing increased support for research institutions and researchers engaged in international research collaborations.

10. Improving programme accessibility

Simplification of onerous procedures and streamlining of the funding programme landscape should continue. Application forms and evaluation criteria should continue to recognise open science practices.

Building on previous efforts to reduce administrative complexity of the Framework Programme, they must be further reduced, placing applicants' circumstances more at the centre of the application process. Simplification, including through the review of the number and focus of instruments while ensuring they have a clear and defined objective, is a priority.

The modification of the application forms and evaluation criteria was an important step towards a better recognition and reward of Open Science practices. This was a pioneering development designed to provide incentives, and skills, for applicants and grant beneficiaries to practice Open Science, that should continue in FP10.