

ISE answers to four questions on the Framework Programmes Horizon Europe and FP10 asked by the HLG chair, Manuel Heitor, to ISE

January 2024, update 18 July 2024

Initiative for Science in Europe ([ISE](#)) is an independent platform of European learned societies and research organisations operating throughout all disciplines and across all research sectors. ISE was invited to answer four questions on the ongoing Framework Programme, Horizon Europe, and the one to come. Here are the answers¹.

1. *What major challenges (scientific, social, economic, technological) should still be attempted to be addressed in the second half of HE (2025-27) and further addressed by a future FP (FP10)?*

ISE wishes to highlight four major challenges:

a. The geopolitical context has changed in a radical way in the last few years:

- the rise of authoritarian regimes and populist parties which threaten democratic processes and freedom of thought, outside Europe, but also among the EU members states,
- the war of Russia against Ukraine, and more generally the increase of Russia's destabilising efforts in Europe and the world, particularly in the Balkans, but also in Africa and elsewhere,
- the growing awareness that Europe cannot rely as before on the military and diplomatic umbrella provided by the USA.

Impact on R&I policies: Questions of sovereignty as well as EU's strategic and security preparedness must be taken into account in R&I policies. Academic freedom must be protected.

b. Climate change has much wider consequences than imagined. Although it is not a new phenomenon and the scientific understanding of its causes has been high for several years, the public awareness of its impact has increased significantly because of warm temperatures, draught and floods, forest fires, etc.

Impact on R&I policies: A critical mass investment is required to accelerate the knowledge generation in key areas such as: Food and nutritional security, human health, biodiversity and environmental sustainability (including soils); One health; Energy security, Water management, towards innovation for economic sovereignty and affordable cost of living for citizens.

c. Overcome the technology gap. In some essential technological developments (AI, quantum, etc.), Europe has become aware that it was lagging behind its main competitors. Major plans have been or are being put in place, which shall allow us to catch up.

Impact on R&I policies: To avoid a similar situation for ongoing and the next disruptive technologies, we must overcome three main blockages by:

- *improving the legal framework to foster and not block new technologies,*
- *raising the level of investment in basic and low TRL research²,*
- *reducing risk adversity of research funders, industries and financial sector across Europe,*

¹ ISE contributed to the EC's public consultation on the past present and future of the European R&I Programmes in February 2023; it is available here https://initiative-se.eu/wp-content/uploads/2023/10/ISE-Position-Paper-EC-Consultation_2023_def-5.pdf; ISE main recommendations on HE and towards FP10 (26.10.2023) are available here: <https://initiative-se.eu/2024/01/16/ises-main-recommendations-for-horizon-europe-and-fp10/>

² When basic research is properly financed, it can make radical changes, as has been the case with the ERC grant to Uğur Şahin, which led to the BioNTech Comirnaty covid vaccine. Further examples are in the ISE Annex on Collaborative Basic Research (attached).

d. Migrations and demographics. First, birth rates in all EU member states do not guarantee population stability. As a consequence, the work force in academia (including teaching capacity), industry and other sectors will need qualified immigrants to compensate for the ageing population in Europe. Second, talents are lost to outside Europe due to low attractiveness of careers in academia. Third, we need to improve the situation in countries experiencing crises to have incentives for their citizens to stay in these countries or to return and help rebuilding these countries.

Impact on R&I policies. All of these require research in the social sciences and humanities. We need to have a better knowledge of the socio-economic factors leading to emigration, and a better understanding of the causes of tensions around immigrant populations. Regarding specifically advanced students and early career researchers, we need to have an improved knowledge of their situations, careers, work contracts etc. in the form, of an observatory as has been proposed by the Commission³. In addition, as elaborated below, the quality of researchers' careers has to be substantially improved in the coming years.

2. Which are the major successes of the current HE (2021-2023) and which are the major "roadblock"/threats for success?

Two major successes

Two programmes, the Marie Skłodowska-Curie Actions (MSCA) and the European Research Council (ERC), each with different yet complementary objectives and criteria, have demonstrated their exceptional ability to **identify excellence in Europe**.

They are the only programmes currently available for conducting bottom-up, curiosity-driven, and ground-breaking research at the frontier of knowledge. Both **produce new knowledge and have yielded useable outcomes and unexpected benefits to economic and social welfare**.

Both programmes provide funding opportunities for the best projects, the best researchers, and the best teams across the entire European Research Area. Moreover, they attract researchers from all over the world promoting the visibility of European excellence worldwide.

An illustration of their impact is the fact that most EU innovation grant winners in 2022 were ERC grantees. While one of the important MSCA achievements is its attractiveness for researchers from all over the world, a large proportion of whom remain in the EU. This demonstrates, the roles played by the ERC and MSCA within the framework programmes are of utmost importance for European progress.

Threats and Hurdles

a. Lack of collaborative basic research. Throughout Horizon 2020 and currently in Horizon Europe, collaborative basic research has been marginalised, resulting in a gap in the Research and Innovation cycle.

In Horizon Europe and in the upcoming FP10, **Pillar 2** must be designed to achieve a **balanced participation from basic and applied research in addition to demonstration and innovation actions**. This would strengthen the effectiveness of the R&I cycle of the European research and innovation ecosystem by promoting a continuous exchange between advancement of knowledge and applications at different TRLs. Ultimately, this strategy will meet the needs of the industrial sector and private companies.

b. Better conditions for researchers. ISE welcomes the recently approved "European Framework to attract and retain research, innovation and entrepreneurial talents in Europe" but expresses its concern about its implementation and about the dilution of research activity in a panoply of other competences, certainly useful for good research, but which should result from the objective of research achievements. Mechanisms and resources must be put in place to leverage better conditions, employability, adequate salaries, stability, work-life balance, and access to social rights (medical coverage, sick and maternity leaves, pensions), as they are essential for creating conditions

³ On the so called REICO (observatory) project, see the amendments that ISE has proposed: <https://initiative-se.eu/2023/07/17/statement-on-the-planned-reico-observatory/>

to retain and attract talents to researchers' careers. They are also necessary to develop intra-European researchers' circulation.

c. Limitations to academic freedom. Increasing threats against science and researchers are observed. Limitations to freedom of research, either because the research goes against a government's views or in the name of security issues, are increasing. A lack of understanding of the open nature of academic research leads to establishing detrimental barriers that slow down or even prevent the development of worthy projects. ISE calls on the EU to protect the Academic freedom of researchers. Furthermore, it is essential to maintain a balance between the risks that may arise from collaboration with researchers from third countries and the necessary openness to the advancement of knowledge.

d. Administrative burden and lack of trust. Dramatic increase in the time spent by researchers *on applying for funding* and reporting on funded projects at the expense of *doing research* is observed. The administration of HE actions and projects remain extremely complex and time-consuming. As a result, the system is biased in favour of researchers who can rely on an experienced administration or who can afford to pay private consultancies. Overall, it seems as if the European Commission current attitude towards researchers is grounded on the idea that researchers are, at best, unreliable, or, worse, not trustworthy. A radical change would make a huge difference (and contribute positively to overcome the EU15 - EU12 gap).

3. Which **sub-programmes of HE** should be **preserved and strengthened in a future FP** (i.e., FP10) and which **should be altered**? How far a future FP (i.e., FP10) should keep/alter the current basic **three-pillar architecture of HE** (i.e., Pillar 1: Excellent Science; Pillar 2: Global Challenges and European Industrial Competitiveness; Pillar 3: Innovative Europe)?

Preserve and Strengthen:

Shield the **ERC** and the **MSCA** budget from any cut during the remaining years of Horizon Europe and increase in the upcoming framework programme.

Alter:

a. Collaborative basic research must be upgraded to an integral part of the programme in the current Pillar 2 of HE. The future Framework Programme must be designed to guarantee a balanced involvement of basic and applied research as well as of demonstration and innovation actions.

b. Simplify the Widening programme and take measures in each Pillar to address the gap. This is crucial for improving European participation of researchers from EU15 countries as not up to the challenge yet. We suggest simplifying and adapting the Widening instruments to better address the needs of researchers from EU15 countries and introduce simple mechanisms in each of the three Pillars, e.g. test some RIAs requiring 10% of partners from EU Widening countries in Pillar 2.

c. Missions. It is early to make a final judgement on Missions, first implemented in 2021, however, their potential to accelerate change is not convincing. If we can observe some useful results in one or the other Mission, overall, they are still not well understood. In addition, the overlap with the Partnerships and the Clusters (e.g. soil mission) duplicates the support of some themes, while not addressing gaps regarding other research themes. In some Missions, the funding cannot provide the critical mass necessary to make a difference (e.g. cancer) regarding the step change they should achieve. Other Missions have a research component which is too thin (e.g. cities) to justify financing them by the FP; the challenges to be addressed through R&I would be better addressed if integrated into the future challenges to be redefined in FP10.

d. The case for Pillar 3 is at this stage unclear.

- The European Innovation Council (**EIC**) is a new instrument introduced with HE. Its' ability to overcome the gap in European risk financing for innovations, in particular to raise venture capital, has yet to be established.
- The European Institute of Innovation and Technology (**EIT**) is now in its 15th year and is currently questioned. The KICs have certainly matured and been able to provide capacity building in their three actions fields which are higher education, research and innovation (e.g. EIT Climate-KIC) but studying its contributions to major European challenges like battery technologies (e.g. EIT InnoEnergy), AI, semi-conductors... is still necessary. And as with the Missions, the overlap with Partnerships and Clusters should be avoided, looking closely at this and a more holistic rethinking of investments in these different "instruments" would be worthwhile. Also, the articulation of the EIT with the European Universities Initiative on the education branch would merit attention.
- European innovation ecosystems should be looked at with their regional dimension and their role to close the gap between EU15 and EU12 countries considered.

The current basic architecture with three pillars is easy to understand and to represent and should be continued. In case a tool is suggested to facilitate interaction across the pillars, it should be clear and easy to understand and to use and not undermine the criteria of the different pillars (e.g. scientific excellence and independence of the ERC).

4. What would be a catalyst to overcome current roadblocks of HE and be implemented in a future FP (i.e. FP10)? What should be the most important innovations to be considered in a future FP (i.e., FP10)?

- Add Research Actions** in Pillar 2 to create an upwards R&I spiral. Make collaborative basic research an intrinsic component of R&I Actions and introduce Research Actions focussed on basic and applied research. This is particularly necessary to address Global Challenges. In this way an upward spiral would be created that is adding new knowledge in each round, elevating the innovation to the next higher level.
- Policy makers must **define the goals but no the pathways**: leave it to researchers and entrepreneurs to choose the paths to achieve these. In this way, the pathways can compete because they are neither preferred nor excluded and the combination of the advantages of different approaches can be encouraged and move us more quickly towards the objectives
- Build, prepare and motivate the **next generation of researchers** is vital for Europe's competitiveness, security and sovereignty.
- The Framework Programme for Research and Innovation funding must be earmarked and used for R&I only. **Encourage / request the transfer of funds from programmes** in other DGs when actions are transferred from these to the R&I programme.
- Increase **trust in and flexibility for beneficiaries**. Funding should allow for a researcher to explore a new relevant path even if it is not / not to this extent in the initial project, staying cost-neutral in the overall budget.

From one framework programme to another, certain things have improved, and we can congratulate ourselves on that, but unfortunately certain others have returned to the path of becoming more complex. The budget has increased, but the number of programmes has been multiplied dispersing again the funds into a series of underfunded actions. We have many instruments available today, however a few overlaps create confusion and concern, as the budget should be better used to address existing gaps. To allow our European researchers and those from elsewhere coming to Europe to focus on their research, but also to optimise the funds of the Framework Programme, and overcome unnecessary constraints that we impose on ourselves, a more radical change would be necessary now.

- About ISE** The Initiative for Science in Europe (ISE) is an independent platform of European Learned Societies and Research Organizations supporting all fields of science at a European level to engage in European science strategies and policies. <http://initiative-se.eu>
- Attached:** ISE Horizon Europe and FP10 2 pages – [Annex Collaborative Basic Research](#), 29.5.2024
This will be published at <http://initiative-se.eu> in the coming weeks.
[ISE main recommendations on HE and towards FP10](#), 26.10.2023
- Links:** [ISE position Horizon Europe consultation](#) & [Press Release](#) 20.2.& 3.3.2023; updated October 2023.
[ISE position on Horizon Europe](#), 12.7.2021
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