



**Politecnico  
di Torino**

## Horizon Europe expert group questions on FP10

### Contribution by Politecnico di Torino, Italy

**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)?**

In the second half of Horizon Europe and the future Framework Program (FP10), Politecnico di Torino considers that major challenges that should need to be addressed are:

- climate change and adaptation, global warming, climate-neutral, environmental sustainability, resource-efficient economy and society
- energy transition
- urbanisation and smart cities
- peace and uncertain geopolitical landscape
- research security
- ageing society
- ethical handling of new technologies, especially AI

In order to face these challenges, the twinning of the green and digital Transitions approach should be maintained since the digitalisation should be leveraged to accelerate the transition to a low-carbon economy. Investments in artificial intelligence (AI) and quantum computing solutions should be directed to enhance environmental sustainability and energy efficiency. Funds should be focused on health and biotechnology, effective management of critical resources and raw materials, use of advanced materials and nanotechnologies, fostering the blue and space economy, improving the quality of life in cities, and strengthening of the EU social fabric. As in H2020 and HE, FP10 should boost the involvement of social sciences and humanities throughout the whole innovation cycle.

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

**a. Major Successes of the current HE (2021-2023):**

- ERC and MSCA Programmes: The European Research Council (ERC) and Marie Skłodowska-Curie Actions (MSCA) have been key highlights of Horizon Europe. These programmes have played an important role in promoting high-quality research and supporting the mobility and training of researchers across Europe. The ERC has funded cutting-edge research projects, contributing to scientific excellence, while MSCA has facilitated international research collaboration and career development for researchers at all stages of their careers.
- Research Infrastructures: HE has made significant investments in research infrastructures, providing the necessary support for groundbreaking research and innovation. These infrastructures have enabled researchers to access state-of-the-art facilities and technologies, fostering interdisciplinary collaboration and advancing scientific discoveries. The development and



enhancement of research infrastructures have also promoted the sharing of resources and knowledge across borders, boosting the overall research capacity of Europe.

- Integration of Collaborative Research and Innovation (Pillar 2): The integration of collaborative research and innovation into a single pillar (Pillar 2) has facilitated interdisciplinary and cross-sector collaboration, thus enabling more efficient management of research projects and enhancing the impact of research outcomes. By bringing together diverse stakeholders, including academia, industry, and policymakers, Pillar 2 has fostered a holistic approach to addressing complex societal challenges.
- Partnerships: this tool has been instrumental in driving innovation and tackling societal challenges. The rationalisation process started in HE has been positive, but it should be potentiated in order to aggregate strengths and resources of specific sectors.
- Innovation and Technology Transfer (Pillar 3): the inclusion of innovation and technology transfer into a single pillar has enhanced the focus on translating scientific discoveries into market-creating innovations, therefore supporting the growth of deep tech start-ups and SMEs and driving economic development.

b. Major Roadblocks/Threats for success:

- Focus on Higher TRL Levels in Pillar 2: while Pillar 2 has been successful in promoting collaborative research, there is a need to balance the focus on higher Technology Readiness Levels (TRLs) with support for lower TRLs (TRL 2-3). Encouraging early-stage research is crucial for fostering groundbreaking innovations and ensuring a continuous pipeline of new ideas and technologies.
- Low Success Rate for European Innovation Council (EIC) Projects: the low success rate for EIC project proposals may discourage potential applicants and hinder innovation. Improving the evaluation process, as well as providing clearer guidance and support for applicants, could help address this issue.
- Gap between EIC Transition and EIC Accelerator: There is a gap between the EIC Transition, which mainly targets start-ups, and the EIC Accelerator, which supports more mature companies. Bridging this gap by providing tailored support for mid-stage companies would ensure a smoother progression from early-stage innovation to market-ready solutions.
- Apparent overlap between EIC and European Institute of Innovation and Technology (EIT): clarifying their distinct roles and improving coordination would prevent redundancies and streamline efforts, maximising the impact of both programmes.
- Not clear/sufficient access to information related to projects funded under pillar 3: adding projects funded under the EIC, EIE, and EIT programmes into the Horizon Dashboard would improve the accessibility and dissemination of projects' information and would enhance transparency and the dissemination of best practices.
- Weak synergies among European Innovation Ecosystems (EIE): synergies among the EIE Programme and other programmes of pillar 3 should be improved in order to enhance their impact.
- Risk of Duplication Between Clusters and Missions: ensuring better coordination and synergy between the programmes would enhance the overall coherence and impact of the programme.
- Complexity and Fragmentation in Partnerships: while Partnerships have been successful, they are characterised by an apparent high level of fragmentation, and sometimes they are characterised by



complex participation rules and unclear contractual and internal procedures. Not all partnerships are equally open to new members. Simplifying participation processes and ensuring that partnerships are open to new members would enhance their effectiveness and inclusivity.

**3. Which sub programmes of HE should be to 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)?**

**a. Which sub programmes of HE should be to be preserved and strengthened in a future FP (i.e., FP10) and which should be altered?**

- European Research Council (ERC): Preserving and increasing funding for the ERC would allow for continued support of high-quality and innovative projects. ERC grants, especially its Proof of Concept grants, need to foster synergies between the ERC and EICs and help fill research gaps that are currently underexplored and unexploited.
- Marie Skłodowska-Curie Actions (MSCA): MSCA is crucial for the development of researchers' careers; these actions should be further strengthened to attract and retain top talent, promoting mobility and advanced training. Strengthening MSCA would attract and retain top talent in Europe, ensuring a robust pipeline of skilled researchers and fostering international collaboration.
- Research and Technology Infrastructures: Ursula von der Leyen, into her *Political Guidelines for the next European Commission 2024–2029*, gives great evidence to the issue of European competitiveness through a new plan for European of prosperity. Continued investment in research infrastructures is vital for keeping Europe at the forefront of scientific and technological advancement. In this context, R&I plays a key role, so the Guidelines propose some concrete initiatives. In particular, emphasize the importance of increasing investment in research to better support the EU's strategic priorities, fundamental research, disruptive innovation and scientific excellence. Specifically, the document states that the Commission will work to strengthen the ERC and the EIC; to become innovation leaders, it is important to support researchers in developing ideas by providing them with innovative infrastructure through new public-private partnerships, such as joint undertakings. To this end, the document argues, it is necessary to attract and retain talent in Europe by strengthening collaboration between research, education and business. Strengthening these programs would improve researchers' access to advanced tools and resources, facilitating cutting-edge research and innovation; the infrastructure programme should be transversal in FP10 since they cover the whole cycle from fundamental science to innovative solutions.
- Collaborative Research Programmes (Pillar 2): Collaborative research within one Pillar has been successful in addressing global challenges. As highlighted above, it would be useful considering the possibility of introducing more opportunities for collaboration on low TRLs in the second pillar in order to enhance more fundamental research in cooperation and giving more space to smaller collaborative projects in order to facilitate the participation in the programme of all types of relevant actors.



- European Innovation Council (EIC): EIC Pathfinder should be maintained for its role in supporting visionary, high-risk projects; opening EIC Transition to all kinds of projects, not just those stemming from Pathfinder or HE projects, would support companies in overcoming the "valley of death" in business development; ensuring stronger connections and seamless continuity between the EIC Transition and EIC Accelerator would provide better support for start-ups and scale-ups, enhancing their competitiveness. Financial support to partially capitalised scale-ups and the early development of high-potential start-ups could help to ensure greater competitiveness in the European technology landscape. Increasing funding for EIC programmes to improve their success rates and enhancing the quality of their evaluation processes (e.g., consensus and panel meetings) would bolster innovation and technological advancement in Europe.
  - Missions: to make HE missions more effective as a tool to further strengthen the link between EU strategic orientations and Framework Programme priorities, the calls for missions may be complemented with thematic programmes (clusters).
  - Partnerships: partnerships have fostered industrial innovation and should be to be preserved. However, in line with the harmonisation implemented in the first phase of Horizon Europe, rationalising their number, simplifying participation rules, and standardising contractual and internal procedures would enhance their effectiveness. Additionally, synergies between the European Institute of Innovation and Technology (EIT) and the EIC should be promoted (see previous section).
- b. 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)?

POLITO is satisfied with the current pillar structure of HE and hopes it will be mainly maintained in FP10. Encouraging inter-pillar synergies, especially between Pillar 2 and Pillar 3, would enhance technology transfer and knowledge valorisation. FP10 should contribute to the achieving of the European Research Area (ERA) actions, and it should be maintained as a programme that finances transversal actions to improve aspects of research and innovation. WIDERA calls on transversal aspects of the European Research Area (such as ethics, open science, research careers, research management) are very useful for the creation of ecosystems and interaction among stakeholders.

**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)?**

- a. What would be a catalyst to overcome current roadblocks of HE and be implemented in a future FP (i.e., FP10)?
- Strategic Policy Decisions and Foresight Vision: FP10 should contribute to the themes of the EU policy agenda (as defined by the Commission) by aligning R&I priorities with long-term goals and it could give input with a forward-thinking approach and a foresight vision that anticipates future scientific advancements and societal needs.



- Budget increase to fund more excellent projects: as highlighted by the evaluation of Horizon 2020, the programme has been unable to fund all proposals judged to be 'above threshold' in the calls for proposals; an increase in the budget for FP10 is necessary to ensure the funding of a broader portfolio of high-level projects and initiatives.
- Increase bottom-up proposals: FP10 should promote open calls and calls with broader thematic areas, also in pillar 2, and foster low TRL proposals in order to safeguard the balance between fundamental research, applied research, and innovation.
- More attention to the objectives pursued, rather than to the costs incurred, to enhance the results and impact of the actions financed, but also to the socio-economic impact. An extension of the lump sum approach will contribute to this goal.
- Simplification, reduction of administrative burdens, and clear rules: Continuing the path of simplification within HE, FP10 should prioritise reducing administrative complexities, in particular by simplifying the calculation of personnel costs and making greater use of lump sums. It would also be preferable to limit the use of cascade funding, which, for many participants, is difficult to implement, in particular for public bodies that are more constrained by regulations. The provision of unit costs for personnel defined in advance by the GA in different profiles (low, medium, high - based on experience or qualification) would be very useful, possibly with differentiated rates for the various countries (similarly to MSCA). Implementing more efficient and less time-consuming reporting mechanisms would allow researchers to focus more on their research rather than administrative tasks.
- Strengthening the interaction between DG R&I, the Executives Agencies and other DGs in order to harmonise calls and topic requests, to ensure the continuity of the life cycle of programmes and projects, and to guarantee the necessary level of support to R&I actors. Harmonising calls, aligning strategic objectives and ensuring continuity throughout programme lifecycle will optimise resource allocation and maximise the impact of EU-funded initiatives. In particular the interaction between DG RTD and EAC should foster coordination between education and research initiatives such as the European University Alliances.
- Regionalisation of Widening programmes: in order to contribute to the reduction of internal EU disparities in R&I, the component 'Widening participation and spreading excellence' should be set up on a regional basis, and no longer on a national basis, thus moving from the concept of 'Widening countries' to that of 'Widening regions'. Given the disparities between territories within the same States, capacity building measures should be concerted at regional level.
- Synergies between the FP and other EU-programmes: to enhance the impact of European R&I on major policy priorities, synergies and coherence between instruments (among clusters and missions/among partnerships and other instruments/among pillars) and programmes (EU, national and regional programmes) should be further promoted and strengthened. In particular, a better alignment among R&I policies and cohesion policy (European and national programmes) should be ensured, in order to strengthen the role of the FP in fostering innovation at regional level. Rules of the different EU funding programmes, including funds under Cohesion Policy, should be more aligned.
- Strengthening the Rebuttal Phase: enhancing the use of the rebuttal phase during proposal evaluations ensures fairness, transparency, and quality in project selection processes, ultimately improving the success rates of deserving proposals.



**Politecnico  
di Torino**

- Potentiating the Digital instruments: FP10 should homogenise and potentiate the Horizon Dashboard to include information of proposals and projects financed by all its programmes (3° pillar included) and create a Credible Consortium-making Platform based on research competences (the current tool is mostly used by consultants). Investing in advanced digital tools and platforms for data sharing, collaboration, and project management would enhance efficiency and connectivity among researchers.
- b. What should be the most important innovations to be considered in a future FP (i.e., FP10)?
- Co-design and Strategic planning: FP10 should maintain the innovations introduced in Horizon Europe related to strategic programming and co-design/co-creation process (Strategic Plans and consultations).
  - Engagement of Young Scientists: FP10 should provide ample opportunities for early-career researchers to participate in co-creation processes and execute R&I activities introducing dedicated calls, financed by all programme pillars (also pillar 2 and 3).
  - Bottom-Up and Low TRL Proposals in Pillar 2: allowing researchers and innovators to propose projects based on emerging challenges and opportunities through bottom-up proposals in Pillar 2 could encourage innovative solutions and accelerates scientific discovery.
  - Expansion of Lump Sum and utilisation or pre-defined unit costs for personnel
  - Simplification of the structure and functioning of Partnerships
  - Harmonisation of the Horizon Dashboard as a tool for Consortium-making and transparency