HELMHOLTZ

Research for grand challenges.

Policy Considerations:
Ensuring Europe's Leadership in Research, Innovation & Competitiveness

The European Commission's proposal for a standalone Framework Programme for Research and Innovation (Horizon Europe 2028-34, in the following: FP10) will, together with the European Competitiveness Fund (ECF), decisively shape the future of European research and innovation.

Helmholtz welcomes the ambition to strengthen competitiveness and technological sovereignty. At the same time, we warn of the risks of fragmentation, underfunding, and reduced transparency. A coherent, excellence-driven framework is essential to ensure Europe's long-term leadership in research and innovation.

Key Priorities

Collaborative research across borders for future progress

Collaborative research must remain at the core of European research and innovation policy. While applied research and technology deployment are essential, Europe's long-term competitiveness fundamentally depends on continuous investment in the entire Technology Readiness Level (TRL) chain, starting from low levels. Without a robust pipeline across all TRL levels of cross-border research, the European innovation ecosystem risks over-reliance on short-term technological gains and will eventually dry out. Complementing the scope of the European Research Council (ERC) and the European Innovation Council (EIC), we urge strong funding instruments that enable cross-border, interdisciplinary collaboration, also at early research and innovation stages.

To address Europe's grand challenges, Helmholtz suggests an additional portfolio-inspired model that connects disciplines, TRLs, and funding streams, fostering synergies and accelerating innovation. This would allow Europe to mobilise critical mass, respond flexibly to emerging challenges, and increase efficiency in deployment where applicable.

Policy recommendations:

- Provide a ring-fenced funding across the full spectrum of research, development and innovation.
- Ensure funding for low and medium TRL collaborative research projects
- Provide bottom-up instruments for agile, small and science-driven consortia
- Design a mixed, bottom-up and top-down scheme covering the entire TRL chain to develop and verify promising technologies with RTOs and industry in the lead, allowing for targeted applied research up to deployment
- Use the common rules of Horizon Europe for collaborative research, especially apply a 100% funding rate for research activities
- Implement a portfolio-based coordination model across FP10 and the ECF to integrate projects and maximise impact, where necessary
- Continue the partnership instrument with clear objectives and proven impact

Central role for Research & Technology Infrastructures (RTIs)

RTIs are not only essential for research fields such as physics and biology, but are key to breakthroughs in health, energy, transport, earth and environmental sciences, AI, quantum and material sciences. Underpinning Europe's technology sovereignty, their potential as strategic enablers for long-term collaborations with industry and magnets for talent must be fully exploited. Helmholtz has reservations with the Commission's proposal for 20% EU co-funding of novel pan-European RTIs: Investment in RTIs strengthens both fundamental research and innovation capacity and decisions on co-funding must be carefully taken after a transparent process to avoid possible imbalances in the European Research Area. Appropriate financing models should be developed together with the research stakeholders in order to ensure fair conditions and broad participation.

Policy recommendations:

- Ensure adequate RTI funding, combined with simplified legal and administrative frameworks particularly for combining EU, national, regional, and private funds
- Support the upgrade and integration of research and technology infrastructures; Allow for flexible access models to adapt to evolving user needs (academia, research and industry)
- Enable broad access for early-career researchers and wider participation across all Member States

Excellence as the main criterion

Helmholtz reaffirms that Europe's competitiveness critically depends on the quality of their research. Therefore, funding decisions must be taken on the basis of scientific excellence. Shifting towards other criteria would undermine Europe's reputation and lead to lower quality output. Excellence-driven selection processes ensure that Europe attracts the best talent and produces world-leading science.

Policy recommendations:

- Anchor scientific excellence as the primary selection criterion for all research and innovation projects and portfolios
- Protect and expand the independence of the ERC
- Ensure that more open and less prescriptive work programmes maintain a high quality and fair expert evaluation process
- Draw on the ERC's expertise of how excellence is integrated in proposals

Researchers and skills as drivers of innovation

Europe's long-term competitiveness and innovation capacity rely heavily on the people who drive science forward. FP10 must therefore strengthen capacity building, skills development and attractive careers for researchers across all career stages. Diversity and gender equality are proven drivers of excellence and creativity. Ensuring equal opportunities, balanced participation, and inclusive research culture is vital for Europe to remain globally competitive and to attract bright minds.

Policy recommendations

- Ensure that Europe is an attractive destination for researchers from around the globe also by keeping administrative burdens to a minimum
- Anchor gender equality, diversity, and inclusiveness as cross-cutting principles in FP10 design and evaluation

The Essentials

Governance: Ensure coherence between FP10 and the ECF

The relationship between the standalone FP10 and the ECF remains unclear, creating risks of budget shifts, funding gaps, duplication and fragmentation. Particularly, the notion of integrated work programmes for ECF and FP10 Pillar II competitiveness as delegated acts needs more clarification on how cocreation and comitology will be preserved. Without transparent and inclusive governance, research priorities risk becoming secondary to short-term industrial or geo-political considerations.

Policy recommendations:

- Ensure clear and transparent governance with stakeholders fully involved, maintaining strong roles for programme committees and integrating scientific expertise in strategic decision-making
- Guarantee research-driven priorities remain central to the ECF policy windows related to pillar II of FP10
- Include flexibility for explorative low-TRL projects to keep feeding the innovation pipeline

Budget: Ambition, exploration and strategic priorities

Europe's global competitors are investing massively in Research and Innovation. Without significantly increased funding, Europe risks losing ground in strategic knowledge and technologies. Industrial policies may address immediate challenges, yet it is essential to safeguard research and innovation funding as the cornerstone of Europe's long-term prosperity and technological sovereignty. It must be ensured that the grand challenges of our time can be properly addressed with the adequate instruments, processes and sufficient financial resources.

Policy recommendations:

- Ensure that FP10 funds for research-driven innovations are not consumed or reduced by pure deployment activities which should be funded out of the ECF or other European programmes
- With the competitiveness of the European industries in mind, strengthen the essential role of partnerships
- Address the entire TRL chain when setting up moonshots
- Safeguard a budget of (at least) 200 billion Euros for FP10 as proposed in the Draghi-Report

Helmholtz stands ready to contribute its expertise and capabilities to shaping a coherent, excellence-driven, and future-oriented European research policy.

About Helmholtz:

We are Germany's largest research organization. At Helmholtz, more than 47 000 people work together in 18 centres and develop solutions and technologies for the world of tomorrow. With an annual budget of six billion euros and long-term, interdisciplinary research programs and unique research infrastructures we address global challenges - in our six thematic fields: Energy, Earth & Environment, Health, Information, Matter and Aeronautics, Space & Transport.

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