

Fraunhofer Input to the HLEG on the Interim Evaluation of Horizon Europe

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)?

Strengthening the industrial competitiveness of Europe must remain at the core of the framework program. In the current geopolitical environment, the commitment to Europe as a scientific and economic powerhouse can only be achieved by advancing research and innovation in technologies that support a sustainable economy and digital transformation. To set the course for this twin transition, **increased efforts** are required **for excellent and impactful research activities in collaborative, cross-border projects**. The twin transition needs to be understood as holistic system transformation, requiring the diffusion and societal acceptance of high-tech innovation in large companies and innovative SMEs, while at the same time allowing for the establishment of new, innovative business models in spin-offs and start-ups. To achieve this, the FP must support science, society, the economy and technological development holistically, and must not play off individual dimensions against each other, battling for an insufficient budget.

Which are the major successes of the current HE (2021-2023)?

Fraunhofer is convinced that research for and with industry must remain a central and dedicated part of the framework program. **Collaborative, transnational R&I projects in pillar II** and the **European Partnerships** effectively integrate research and innovation with the potential for industrial scale-up. The streamlining process of partnerships from H2020 to Horizon Europe was beneficial. The active participation of industry is advantageous to bridge the gap between research and market transfer, maximizing the impact of publicly funded research with private co-investments. First initiatives such as the plug-in programs for RTOs tech transfer programs to the **EIC Accelerator** are a positive development which must now be built upon.

Which are the major “roadblock”/threats for success?

Funding instruments for collaborative projects must include a **balanced mix of instruments for lower TRL and higher TRL**. The funding formats must refrain from being overly prescriptive and predetermined impacts. They need to be open to all kinds of technological innovation that create societal impact and competitive advantages and include a coherent instrument to bridge the gap between research and market application. To **improve industry participation and accelerate research and development cycles**, the program can benefit from reducing the time from proposal to grant. **Simplification measures** need to be created in close cooperation with applicants and beneficiaries. For instance, the current use of lump sums for project consortia has not resulted in the desired simplification, increasing insecurity regarding audits and the administrative work for researchers. Changes in funding conditions and simultaneously increasing management costs lead to a net loss for coordinators of EU projects. Because coordination does not result in a direct gain in knowledge, this has made project coordination increasingly unattractive. The coordination of projects by excellent research organizations must be reimbursed through full-cost funding for management activities in EU projects.

In the **European partnerships**, it is essential to **increase transparency, simplify administrative burdens** and **guarantee feasible financing mechanisms** (e.g., in-kind additional activities, cash contributions). Both need to be developed and approved

upon in close consultation with industry and the research community. For FP10, **increasing the synergies** and scientific cooperation between the different funding processes, e.g., **Pillar II and the EIC**, are welcome. Strengthening synergies cannot be an end in itself but needs to be feasible and impactful. To ensure effectiveness and facilitate seamless and meaningful support throughout the projects' lifecycle, funding mechanisms need to be considered holistically. Isolated implementation leads to gaps between project phases if there is no suitable follow-up funding, which impacts the overall efficiency and success of funded projects. The **current fragmentation of transfer instruments** evokes additional complexity, lacks transparency and clarity, and creates bureaucratic overhead. Barriers must be reduced by **consolidating transfer initiatives and establishing a systematic, reliable, and reproducible innovation pathway** for start-ups and spinoffs. Additionally, transfer in FP10 must get targeted funding for collaborative projects. Instead of shifting responsibility to solve simultaneously everything, which is reflected in overloaded and overly broad calls, **political prioritization is needed**.

Which sub programmes of HE should be to be preserved and strengthened in a future FP and which should be altered?

Transnational, collaborative European projects with strong involvement of research and industry as well as the **European Partnerships** need to be strengthened and preserved.

EU missions: The complex governance structures and independent work programs of EU missions lead to more fragmentation. EU Missions have not been beneficial for a mission-oriented research approach that is integral to framework programs. For FP10, Fraunhofer supports the expiration of the current EU Missions and welcomes the discontinuation of the concept of isolated missions. The FP needs however a clearer mission-orientation, meaning the alignment of the FP with overarching societal goals such as the Green Deal or Digital Europe, to which research, industry, society, and politics jointly contribute. The FP will then fund and contribute only research-related components of the larger missions.

The **EIT and its KICs** have become overly complex with unrealistic expectations towards and at great expense to KIC members. In contrast to the European Partnerships and the EIC, the EIT fails to provide added value to Europe's innovation ecosystems. Fraunhofer supports the dissolution of the EIT and the financial independence of the KICs or their discontinuation if proven not successful. In times of increased budgetary constraints, the EU's research policy needs to focus its efforts on **transfer activities in Pillar II and the EIC** to overcome Europe's relative weakness in the transition from research to market and to tap the potential of the most critical phase in the innovation phase, the maturation of technology (TRLs 4-7). The EIT resources need to be (re)integrated into the Framework Program for R&I and existing programs in the educational sector.

EIC: If Europe really wants to boost deep-tech it should make use of its technological capacity and foresee a role for research organizations in the EIC. The scope and scale of research conducted in the FPs must be supported by a dedicated instrument for the maturation of technology. Instead of merely merging previous program lines (such as FET and the SME instrument) and continuing with low success rates, previously fragmented resources for transfer should be allocated to the EIC, providing transfer funding to collaborative projects. The EIC must be developed into a truly compelling innovation support structure, which requires the restructuring of the EIC's governance to integrate the research community. Additionally, the EIC needs to be established as the final phase of a permeable framework program, building on strong project results from collaborative pre-competitive R&I projects.

How far a future FP should keep/alter the current basic three-pillar architecture of HE?

The **future architecture of the framework program** needs to comply with **“form follows function”** principle. Instead of focusing on separated program parts, the FP needs a mission-orientation with objectives that align clearly with overarching societal goals. The FP needs to facilitate bottom-up R&I processes shaped by the research community, industry needs, and societal demands. Prioritizing the green and digital transformation will establish sufficient directionality. Unnecessary duplication in funding activities must be avoided, as has recently occurred by various instruments within the FP (e.g., missions, clusters, partnerships, EIT) and of further DGs. Additionally, successful project results and valuable experience from research must be integrated in the policy development in a structured way.

To leverage all kinds of innovation, a **broad and collaborative approach** is needed, rather than limiting the FP to funding single beneficiaries. Concentrating resources on individual entities limits the cross-pollination of ideas and risks hampering a vital EU R&D ecosystem. Collaborative projects encourage a diverse range of perspectives, promoting higher standards of excellence and more robust outcomes. This approach not only accelerates the pace of innovation but also ensures that advancements are scalable and widely applicable, thereby maximizing the impact and relevance of the funded research across Europe and beyond. By supporting a network of collaborators, the FP fosters a more inclusive and competitive ecosystem that is necessary for addressing complex, multifaceted challenges at European level.

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 in a future FP (i.e., FP10)?

To summarize, it is important to incorporate a comprehensive governance mechanism that ensures all instruments within FP contribute to Europe’s research and innovation goals. Exploiting the full potential of research and innovation must not be guided by silos in political institutions. This includes **transparent** and **simple** as possible, **vertically and horizontally** integrated **cooperation formats** with and between executive agencies and DGs (e.g., more personal exchange, more cluster events). Accessing FP10, writing proposals, forming excellent European consortia, and conducting European research must be as simple as possible for researchers and research supporting staff. Simplification of these processes is critical. It is important to consider the feedback and experiences of program participants in the planning and implementation of these simplification measures in FP10. By doing so, FP10 will not only support high-quality research and innovation but also ensure that the procedures are clear, accessible, and responsive to the needs of the research community.