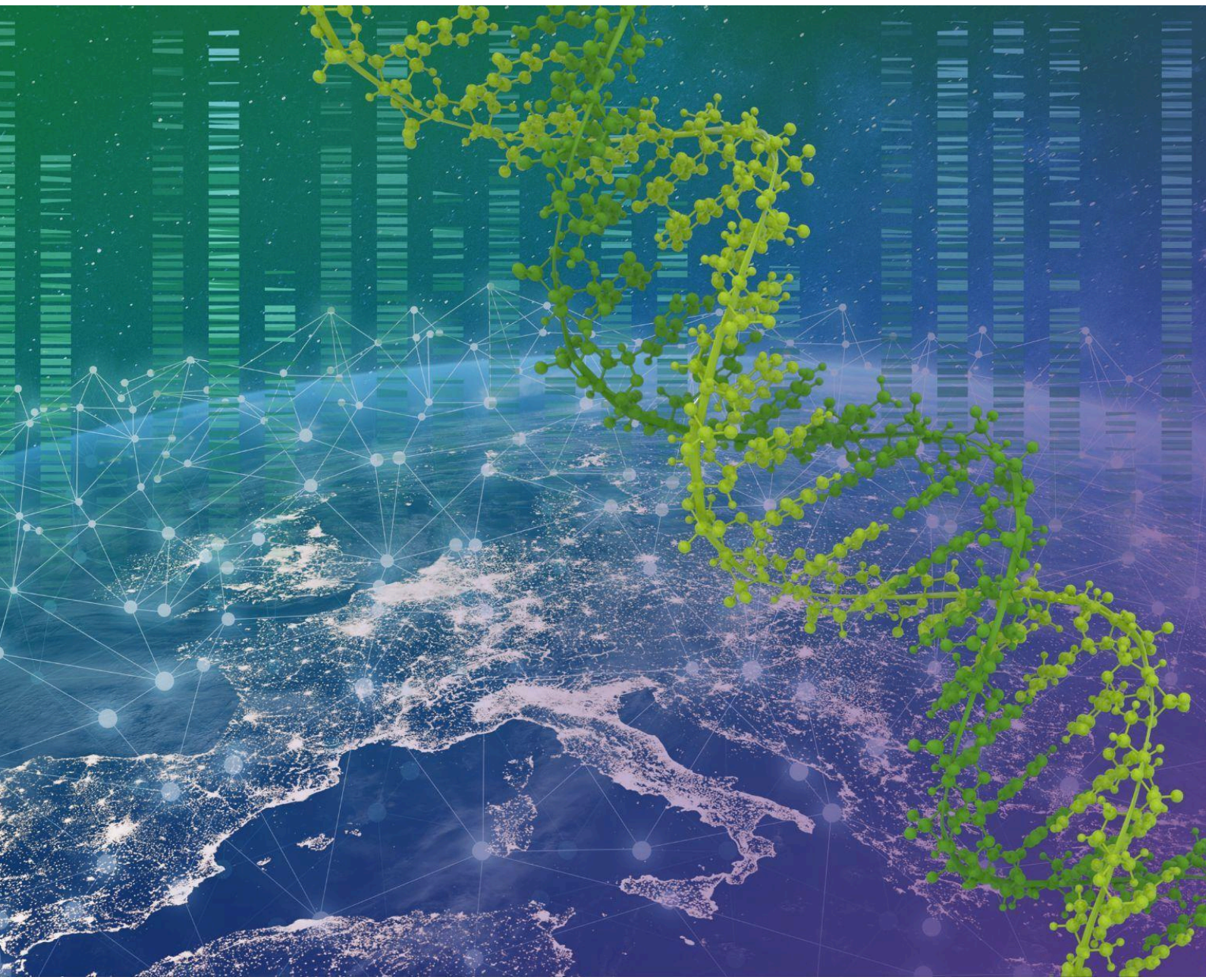


EMBL's Reply to the High Level Expert Group Consultation on Horizon Europe

July 2024



The European Molecular Biology Laboratory ([EMBL](#)) is one of the world's leading research institutions, and Europe's flagship laboratory for the life sciences, founded in 1974. EMBL welcomes the opportunity to provide additional reflections, based on the four questions put forward by the Commission Expert Group on the Interim Evaluation of Horizon Europe.

EMBL's first reflection paper on FP10 is accessible [here](#).

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What major challenges (scientific, social, economic, technological) should still be attempted to be addressed in the second half of HEU and further addressed by a future FP?

Scientific: Sustaining investment in scientific excellence and fundamental research, both principal investigator-driven and within thematic clusters, is critical. By breaking down traditional silos and fostering collaboration between disciplines through bottom-up calls, interdisciplinary research has the potential to drive innovation and address global environmental challenges in a more holistic and impactful manner.

Technological: Europe should further capitalise on the technical expertise, talent pool and abundant computable data offered by existing large European Research Infrastructures (RI). Strengthening existing European assets such as RI, rather than fragmenting ecosystems further, will strengthen Europe's digital, green and Artificial Intelligence (AI) leadership and overall competitiveness.

Economic: Reinforcing the competitive edge of Europe's AI lighthouses in key scientific domains, such as the life sciences, will ensure that Europe's research benefits from world class AI under FP10.

Social: Bridging institutional and geographical gaps within the European Research Area (ERA) should remain a priority. FP10 needs to invest further into increasing connectivity of research, particularly with other programmes supporting health and digitalisation, bridging disciplinary and national borders, and levelling the playing field in the ERA.

Which are the major successes of the current HEU and which are the major roadblocks/threats for success?

Successes: The ERC and MSCA are clear successes. FPs' support for fundamental research strengthens Europe's global scientific leadership and contributes to a fairer and more competitive ecosystem, notably through Widening measures.

Roadblocks

- There cannot be world-class AI in Europe without good scalable data. However, FPs offer limited structural support for the long-term sustainability of open data resources hosted by research infrastructures.
- Transnational access (TNA) to RIs has been a precious means for mobilising and connecting research teams across Europe and driving research projects forward. Continued decreased TNA funding over FPs limits the maximisation of Europe's RIs.
- International collaboration remains essential for European research, as it amplifies its impact and influence. Delayed involvement of international partners reduces FPs' capacity in addressing transnational scientific challenges.
- FPs should offer flexible and innovative funding mechanisms for effective translation, such as top-up funding to support new company creation after project end, and ambitious proof-of-concept funds that embrace failure.

Which subprogrammes of HEU should be preserved and strengthened in a future FP and which should be altered? How far a future FP should keep/alter the current three pillar architecture of HEU?

Preserved and strengthened:

“Research Infrastructures” for domain-specific and cross-domains collaborations among existing RI particularly in the area of digitalisation. **“Marie Skłodowska-Curie Actions”** for training the next generation of scientists and research professionals. **“European Research Council”** for supporting excellence in science and EU's global scientific leadership and competitiveness.

Altered

- Pillar 2 could be made more flexible to support interdisciplinary and fundamental research.
- Widening should be preserved and allow for collaborative science. There should be instruments supporting the sustainability of Teaming projects following the first seven years of establishment.
- RI should be better connected to other pillars and sub programmes, and HEU/FP should allow for RI user access across the FP.
- European Partnerships should better leverage and capitalise on international organisations' global expertise, ensuring that they are eligible to join research actions.

What should be a catalyst to overcome current roadblocks of HE and be implemented in a future FP? What should be the most important innovations to be considered in a future FP?

Complex issues such as climate change, public health, and food security are interconnected and require collaborative efforts across research disciplines. In the life sciences, fields of environment, agriculture, medicine have, at the core, the same challenge of understanding how life works. Interdisciplinary research allows scientists to draw on diverse perspectives, methodologies, and data sources to tackle these complex problems effectively. By breaking down traditional silos and

fostering collaboration between disciplines through bottom-up calls, FP10 has the potential to drive innovation and address global environmental challenges in a more holistic and impactful manner.

FP10 will also test Europe's capacity to leverage AI in science ambitiously and effectively. AI is a generationally changing technology for the science we do, and the way we do research. Research has a pivotal role to play in those technological transformations. It is essential that Europe capitalises on the existing strengths of its research community to strengthen its digital and AI leadership, and adequately support AI in science throughout the programme.

Simplification also means some degree of continuation. Grants and research teams have acquired a sound understanding of the funding mechanisms in place over several Framework Programmes, making drastic changes will only delay the programme's uptake and accessibility.