

EU missions and the way forward for mission-oriented research & innovation

Position dated 18 December 2023

CESAER - the strong and united voice of universities of science & technology in Europe - welcomes the European Commission [communication](#) 'EU Missions two years on' and the accompanying [staff working document](#). The [EU missions](#) were introduced in Horizon Europe to provide 'a new way to bring concrete solutions to some of our greatest challenges'. Part of the conceptual foundation was laid down in a [2018 report](#) 'Mission-oriented research & innovation in the European Union' which included a definition of missions as 'big science deployed to meet big problems'. The introduction of the 2018 report concluded by asking 'how can the missions be best designed to enable participation across actors, bottom-up experimentation and system-wide innovation?'

In a section of the [communication](#) on outstanding challenges, the Commission identifies the following as the first two issues: (i) 'improve the governance and political steer of EU missions' and (ii) 'secure more and better co-investment, including from the private sector'. We agree that these are two main challenges that the EU missions are facing. However, the solutions proposed, largely focused around 'the Commission will work harder' falls short of addressing the underlying issues (which are not because the Commission is not working hard enough). Instead the issues are more conceptual around the approach to implementation.

The missions were introduced to 'enable participation across actors, bottom-up experimentation and system-wide innovation'. Member of European Parliament Christian Ehler [has stated that](#) for mission-oriented research and innovation "the model should be the European Research Council: everything it does is geared to enable the best proposals in a bottom-up approach." In contrast, what we see for the EU missions from the last few years is a highly political landscape encumbered by complex governance structures and where research & innovation funding is being diverted away from well-functioning and high-performing instruments in Horizon Europe towards the EU missions. Instead, we should envision the EU missions as lean and clear instruments where a key measure-of-success is their ability to 'crowd in' and marshal new funding from new sources (non-governmental or governmental sources at EU, national or regional level), and especially from sources not typically related with research & innovation activities, toward such activities. This would evidence the ability and value-add of a mission-oriented research & innovation approach to 'enable participation across actors' to boost 'system-wide innovation'.

An adjusted trajectory is needed. This realignment can be achieved by efforts in several interconnected dimensions: (i) unprogramme the missions to unleash bottom-up experimentation in science & technology, (ii) shape the missions to drive new synergies across science & technology, and (iii) enhance citizen and stakeholder engagement to advance shared understanding of vital role of science & technology in society.

Unprogramme the missions to unleash bottom-up experimentation in science & technology

The [communication](#) elaborates on the current governance structure with mission boards, mission managers, deputy mission managers, missions secretariats, national inter-ministerial task forces, and national mirror-groups with many of these internally also functioning across several levels of governance and matrix structures. The Commission proposes to add another element to the governance structure through the addition of ‘High Level Representatives’. This highly complex and political governance acts as a substantial barrier towards facilitating and advancing bottom-up experimentation.

We recall that in our [addendum note](#) for our association’s contribution to the ‘Public consultation on the past, present and future of the European Research & Innovation Framework programmes 2014-2027’, we underlined the need to adopt a strategic planning approach focused on research and innovation opportunities and needs. This is also true for the EU missions.

We call upon the EU institutions to unprogramme the missions to unleash bottom-up experimentation by:

- Decoupling the missions from the highly complex governance structure and instead putting funding of research and innovation activities at the centre of the missions;
- Unleashing bottom-up experimentation by adjusting the implementation approach to focus on open, competitive and non-prescriptive calls, including via transfers of budget from outside Horizon Europe to the EU missions;
- Adjusting the governance structure accordingly to be lean, clear and focused on communication and engagement including at national and regional levels, with the explicit goals of the governance structure being to (i) create and advance a shared understanding of the societal importance of research & innovation and full knowledge value chain to be able to realise the laudable headline objectives for each mission, and (ii) mobilise new funding sources;
- Refraining from introducing new missions until outstanding issues on the current governance model and implementation approach are addressed; the added-value and outcomes of current missions are demonstrated; and ensuring that overlap with existing missions and partnerships is avoided.

Shape the missions to drive new synergies across science & technology

We warmly welcome that the [communication](#) explains that a ‘broader portfolio of instruments needs to be mobilised, with the Horizon Europe calls serving only as seed funding’. We recall our [position](#) ‘Boost synergies in research and innovation funding’. In this position, it was recalled that the EU missions are intended to enable ambitious and cross-cutting approaches in research and innovation to bring concrete solutions to local and global challenges. Missions are therefore perfectly placed to act as ‘synergy boosters’ for exploring and piloting new ways to create synergies. Missions should leverage a relatively small budget allocated

at EU level to coordinate and be an umbrella and ‘single-pot’ for much larger amounts coming from other sources on the national and regional levels transferred to the Horizon Europe missions through the framework programme for research & innovation, and by doing so creating major simplification for researchers and innovators.

We call on the EU institutions to:

- Shape the EU missions as thematic ‘synergy boosters’ funded through different sources via transfers of budget to the Horizon Europe missions through the EU framework programme for research & innovation;
 - To strengthen the resilience of the EU, we suggest to move the current Horizon Europe mission budget to calls on mission topics in the Horizon Europe clusters calls, implemented as ‘regular’ calls following standard procedure for cluster calls (i.e., unencumbered by the governance approach of the missions), notably ensuring a fully balanced approach with sufficiently lower technology-readiness-levels to boost frontier science & technology;
- Introduce as a key measure-of-success for each mission the ability to ‘crowd in’ and marshal new funding from new sources transferred to the EU framework programme for research & innovation;
- Be bold and dare to pause or cancel missions where the key measure-of-success to marshal new funding from new sources cannot be evidenced.

We call on member states and regions to:

- Directly engage with the mission approach, particularly by opening doors and removing barriers for research and innovation activities to transfer funds to the Horizon Europe missions to boost contributions intended to achieve the headline objectives of the missions;
- Create major simplification, by allowing for the transfer of funds of different European, national and regional sources to the EU missions through the EU framework programme for research & innovation.

Enhance citizen and stakeholder engagement to advance shared understanding of vital role of science & technology in society

A positive element standing out from our own engagement with the missions and from the [communication](#) concerns citizen and stakeholder engagement. In a [2018 interview](#) with Mariana Mazzucato, the lead author of a seminal [2018 report](#), it was elaborated that the mission-approach has the potential to ‘unite the public behind European science and innovation’. This is a powerful and increasingly important notion for societies grappling with polarisation and where understanding of and trust in science and technology should not be taken for granted.

Citizen engagement is a welcome focus, and the idea of the missions as a science communication and citizen engagement tool would be even better served if the focus was broadened more explicitly to also engage industry, political institutions and other societal players. That does not imply reducing the aspect of citizen engagement. Indeed, one can

imagine co-creation in science & technology between industry, institutions and organisations with citizens, in particular on a more regional or local scale. In the end, when trust in science & technology is concerned, they are all equally important partners.

More could also be done on the educational level towards these stakeholders and researchers. Science communication is indeed a tool when all parties concerned understand each other and realise why and how they could and should work together, such as towards the societal goals captured by the headline objectives elaborated by the EU missions. In different words: in order to communicate and use missions as a tool for science communication, one needs education. Naturally, not all stakeholders, and not all researchers, should be obliged to participate in such science & technology communication. The overall aim should instead be structural to enable and facilitate engagement with latest developments in science & technology.

We call on the European Commission to:

- Focus on the excellent proposal to ‘further engage with communication professionals’ with the aim to align the missions as a key citizen and stakeholder engagement tool for science & technology communication;
- Build from the success story on citizen engagement and broadening towards explicit inclusion also of industry, governmental and other societal stakeholders;
- Identify missions as excellent communication tools to help advance the shared societal understanding of the vital role of science & technology in society.

Towards an all-of-society approach spearheaded by the missions

There is a growing consensus around the importance and urgency of boosting the role of research and innovation across all our societal endeavours. An all-of-society approach towards science & technology, in which research and innovation activities are fully integrated into all sectors, from agri and food, to energy, transportation, communication and infrastructures, is needed. The missions are particularly well suited to support and advance this effort, including through the ‘man on the moon’-ability to capture the imagination and enthusiasm of the broader community and all societal stakeholders.

We stand ready to provide our full support for the next stage of the EU missions, realigned to pave the way for mission-oriented research & innovation that fully enable participation across actors, bottom-up experimentation and system-wide innovation.

For more information and enquiries, please [contact](#) our Secretary General Mattias Björnmalm.

This document can be referenced using <https://doi.org/10.5281/zenodo.10400392>

Rooted in advanced engineering education and research, [CESAER](#) is an international association of leading specialised and comprehensive universities with a strong science and technology profile that advocate, learn from each other and inspire debates. Our Members champion excellence in higher education, training, research and innovation, contribute to knowledge societies for a sustainable future and deliver significant scientific, economic, social and societal impact.

