



EUA

European University Association

The Design of Missions in the Next Framework Programme

Views from European
Universities

APRIL 2018

I. Introduction

The European University Association (EUA) welcomes the introduction of mission-oriented research and innovation (R&I) in the next EU Framework Programme for R&I (FP9). Missions, as set out in recent European Commission publications, in particular “[Mission-Oriented Research & Innovation in the European Union](#)” by Mariana Mazzucato, promise to deliver palpable impact and to increase the societal benefits of science and innovation. Moreover, missions can foster widespread support for core European values such as equality, solidarity, that drive our frameworks for public education healthcare, security and social welfare, as pointed out in a [memorandum](#) on mission-oriented R&I by the EC Expert Group on the Economic and Societal Impact of Research (ESIR). A broad debate among policymakers and stakeholders alike should be encouraged in the coming months to discuss existing proposals related to mission-oriented activities in FP9, such as defining missions by building on the organisation of the Knowledge and Innovation Communities of the European Institute for Innovation and Technology. This was suggested, for example, in a [recent report](#) from the high-level [advisory group RISE](#) of European Research, Science and Innovation Commissioner Carlos Moedas. The overall design of FP9 should build on the lessons learned from recent Framework Programmes and take into account ways in which Europe can be more effective in R&I considering rapid societal, cultural, economic and technological changes. This approach will help in guaranteeing the success of FP9.

Mission-oriented R&I can provide crucial links between specific R&I projects and the grand challenges articulated in the UN Sustainable Development Goals. In addition, they can mobilise actors across sectors, disciplines and society at large. Ambitious perspectives for EU investment in R&I are needed to achieve these goals, specifically a doubling of the budget for FP9 as argued in a recent [joint statement](#) by EUA and other university networks. It is also important to bear in mind that mission-oriented R&I should enrich the existing portfolio of highly-successful instruments in the current and future Framework Programme. Universities across Europe will play an important role in the delivery of missions since they are truly transversal actors, as reflected in their current success across most pillars and thematic areas of Horizon 2020. Universities are, moreover, highly-responsive to societal needs and adept in addressing grand challenges. This is also mirrored in novel and agile institutional set-ups all across Europe. Last but not least, according to Eurostat, European universities educate and train [19.5 million students](#) per year, an estimated [738,000 doctoral candidates](#) and are home to almost [710,000 researchers](#). The university sector in Europe is therefore the world largest reservoir of creative, innovative and highly-skilled people who fuel the continent’s labour market and economy and who will do so in the future.

A dedicated EU instrument in FP9 could leverage mission-oriented research activities in Europe and its innovation ecosystems and contribute to further building strong European R&I networks. Universities, as integral parts of these innovation ecosystems, can fully utilise their potential if a number of framework conditions are met: Missions should create a level playing field; foster the participation of a broad range of stakeholders; build on a flexible and dynamic geometry of project sizes; and, increase the societal benefits of science and innovation. At the same time, it will be important to develop a realistic perspective on mission-oriented R&I and to consider its challenges and opportunities.

II. Four general conditions for successful missions

II.I Create a level playing field

Missions based on an approach driven by research excellence have the potential to create a level playing field across countries and sectors as they stimulate cross-border, cross-disciplinary and cross-sectoral collaboration. A focus on excellence will also ensure an optimal allocation of resources and contribute to the overall efficiency of this instrument. Missions could thus become a tool to decrease fragmentation and further strengthen connections within the R&I landscape in Europe. In order to successfully exploit the outcomes of research-oriented missions, adequate investment policies, including competitive salary schemes for researchers, and supportive regulatory frameworks building on the autonomy of universities need to be put in place as much on the national level as on the European level.

II.II Involve a broad range of stakeholders

While it should be clear from the outset that universities and fundamental research must be at the heart of a mission-oriented instrument in the next Framework Programme, fully reaping the potential of missions requires concerted efforts such as the mobilisation of a broad and diverse range of stakeholders. Universities and their researchers are only one part of the equation. Citizens, business, industry, SMEs, NGOs, policymakers and public bodies, amongst others, need to join forces. Open mindsets, mutual trust, transparency of actions and the willingness to engage in dialogue are prerequisites for missions to flourish.

II.III Build on flexible and dynamic projects of different sizes

Missions need to be set up in a modular way. They should include collaborative research projects ranging in scale from large to small. An imbalance towards large projects risks forestalling momentum and missing out on the dynamism of small- and medium-sized projects. At its outset, a modular approach needs to define pathways for collaboration within and between projects. It is moreover necessary to establish transparent mechanisms for the governance structure of mission-driven R&I. Balancing and complementing flexible and dynamic projects of different sizes in a well-defined modular set-up will also enhance focus and ownership.

II.IV Ensure citizens involvement to maximise social benefits

Missions that tackle societal challenges promise to have positive impacts on citizens, their health, environment, longevity and lifestyles. They can, moreover, increase science literacy and culture in an era of populist politics and growing distrust in science. As missions are bound to impact society, it will be necessary to involve citizens in selecting and solving missions. Engagement of citizens should be promoted using the latest information and communications technology and build on existing good practices, such as the Dutch National Research Agenda. Missions will hence capture the public imagination and lead in the long run to numerous societal benefits.

III. Looking ahead: Six recommendations and opportunities for mission-oriented R&I

III.I Balance of direction and experimentation

Missions that deliver verifiable objectives on a planned timescale involve significant amounts of directionality. Research and discovery are, however, non-linear and serendipitous processes. Missions therefore must strike a balance between top-down direction and bottom-up experimentation and exploration. They need to keep clear spaces open for creative solutions and include exit strategies if a mission proves to be unsuccessful. An experimental approach, again, favours modular, small- to medium-sized projects that can be easily scaled up and down.

III.II Implementation of missions in a multi-level governance system

For mission outcomes to be implemented for the benefit of society at large, civil society and governments at all levels need to contribute to defining mission proposals. Missions need to be co-defined and co-owned on regional, national and European levels of governance. This is a complex, challenging and time-consuming task. Synergies between the current generation of EU funding programmes furnish evidence for the complexity of joining up multiple governance levels. In addition, transparency of decision-making and broad stakeholder participation in governance are a sine qua non of implementing missions successfully.

III.III Responsible, collaborative, multidisciplinary research and the role of social sciences and humanities

Responsible, collaborative and multidisciplinary research must be at the centre of mission-oriented R&I as it largely deals with complex, interconnected societal challenges that cannot be solved by a single discipline. Missions will thus embrace the whole gamut of disciplines, ranging from STEM to social sciences, humanities and the arts. As most, if not all, missions will impinge on society it will be of utmost importance to integrate social sciences and humanities, in particular, in mission-oriented projects from start to finish. To a large extent, sustainable solutions to complex societal problems will build on the knowledge and views provided by these disciplines.

III.IV Strengthening the links between education, research and innovation through missions

Mission-oriented R&I cannot afford to miss the opportunity of strengthening the links between education, research and innovation. These three sides of the knowledge triangle are fundamental drivers of increasing European growth and competitiveness. Solving complex and interrelated societal challenges requires a broad, experimental mindset and transversal skills, which are primarily developed and nurtured at universities through research-based education. Education must hence be considered in the design of missions and the participation of students, graduates and early-career researchers in mission-oriented research must be fostered. The current and next generations of students, doctoral candidates and post-doctoral researchers are an invaluable asset of universities throughout Europe in designing, carrying out and assessing mission-oriented research.

III.V Attracting and retaining talent

Attracting and developing human talent must also be an important ingredient in a mission-driven context for R&I since the best and brightest young minds are needed to solve Europe's present and future grand challenges. This should include identifying and supporting qualified scholars among the influx of refugees and migrants in Europe. In that way, missions could strengthen societal cohesion and enlarge the European talent pool vis-à-vis global competitors. This measure could increase linkages between the next Framework Programme and the successor of Erasmus+ by building on recent [EUA proposals](#) for a specific Erasmus+ grant supporting scholars and students facing persecution in their home countries.

III.VI The time scale of missions: short-term goals vs. long-term benefits

Missions in R&I should not be understood as a panacea for all problems societies in Europe face today. It is important not to overburden the science and innovation system with expectations that it cannot address. Research cannot solve all political, societal or moral problems. Another crucial element in this regard relates to the time scale of missions. It will be necessary to make explicit the short-, mid-, and long-term objectives of missions. Clear, transparent and dynamic evaluations must take place alongside these three timeframes to ensure that projects are on the right track towards fulfilling their goals set within the overall architecture of a mission. Some benefits of missions will, however, accrue only in the long term which goes beyond the lifecycle of the next Framework Programme. Thus long-term, sustainable funding perspectives need to be ensured to make missions work past 2027.

IV. Working towards solving mission-oriented R&I: four examples from European universities

A select number of illustrative examples may demonstrate the breadth and diversity in approaches in universities across Europe that are currently working towards solving grand, mission-oriented challenges:

First, the [Stockholm Resilience Centre](#) established itself within less than ten years as an important multidisciplinary hub for resilience and sustainability science that is receptive to societal needs and instrumental in addressing climate change through research and policy interventions.

Second, the [Oslo Centre for Global Health](#) similarly provides a platform for researchers, clinicians, policymakers and students on issues related to global health, such as non-communicable diseases, infectious diseases or migrant health and social inequalities.

Third, [Utrecht University](#) recently reorganised its research around four strategic, interdisciplinary areas, namely life sciences, pathways to sustainability and institutions for open societies to dynamics of youth, which correspond to current societal challenges.

Fourth, the [Origins Centre](#) in the Netherlands is an initiative that brings together a broad range of scientific disciplines to address one of the biggest challenges in science: the origin(s) of life in the universe. Its aim is to spark and facilitate transdisciplinary research between scientists at Dutch universities and research institutes tackling five game-changing topics: 1) the origin and co-evolution of earth-like planets and life, 2) predicting evolution, 3) building and directing life from molecule to biosphere, 4) finding extra-terrestrial life and 5) bridging long temporal and spatial scales. The Centre was set-up as a result of the Dutch National Research Agenda discussion.

This document was developed by EUA's Research Policy Working Group ([RPWG](#)) in close collaboration with the [Board](#) of the Association. The RPWG advises the EUA Board and Council on European research and innovation policy matters.

The European University Association (EUA) is the representative organisation of universities and national rectors' conferences in 47 European countries. EUA plays a crucial role in the Bologna Process and in influencing EU policies on higher education, research and innovation. Thanks to its interaction with a range of other European and international organisations EUA ensures that the independent voice of European universities is heard wherever decisions are being taken that will impact their activities.

The Association provides a unique expertise in higher education and research as well as a forum for exchange of ideas and good practice among universities. The results of EUA's work are made available to members and stakeholders through conferences, seminars, website and publications.



European University Association asbl · Avenue de l'Yser 24 · 1040 Brussels, Belgium

Tel: +32 2 230 55 44

· info@eua.eu

· www.eua.eu

