Memo

Recommendations for Key Thematic Areas for European Collaboration in EU's next Framework Programme for Research and Innovation

To	From	Contact person	Date
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The Research Council of Norway (RCN) would like to take the opportunity to give our recommendations for what should be the Norwegian priorities for key thematic areas for European collaboration in EU's next Framework Programme for Research and Innovation (FP10). This memo is our response to the invitation we received from The Ministry of Education and Research (MER) on 8 October 2024.

Which thematic areas are particularly important for us to collaborate on at European level in the upcoming Framework Programme?

FP10 should prioritise European and global cooperation to tackle global challenges, focusing on driving the necessary green and digital transitions and adaptations to strengthen Europe's competitiveness and technological sovereignty. The political guidelines for the European Commission 2024-2029, the Draghi and Heitor (HLG) reports recommend a transformative research and innovation policy agenda in line with the EU's strategic agenda. This requires large investments, a clear direction with tight priorities, e.g. with regard to priority areas, and a strong and broader research and innovation system with excellence at the forefront – all conditions that are believed to be necessary to increase the use and impact of research and innovation activities. Based on this, we suggest that only the thematic priorities in the Long-term plan for research and higher education with the highest relevance for the green and digital transitions, competitiveness and technological sovereignty are brought forward in the second Norwegian position paper on FP10.

Green Growth, Climate Resilient Development and Sustainable Energy Systems

Multiple drivers force Europe to accelerate the green energy and green and digital economy transition. The geopolitical developments and acceleration of global crises call for speeding up the transition towards a sustainable competitive economy, for which the scaling-up of circular economy and bioeconomy with bio-based solutions is a prerequisite and will provide new opportunities for innovative value chains and for society as a whole. This requires that climate, environment, land, food and energy aspects must be integrated in systemic approaches, including trade-offs.

The integration of mitigation and adaptation actions to advance sustainable development for all is a critical thematic area at the science-policy interface. New solutions are needed to both reduce emissions and ensure sustainable nature and land management on land and at sea, and to ensure a just transition from GHG-intensive to green and circular economies. The high level of existing knowledge/science on climate change, mitigation and resilience should be implemented and deployed into concrete actions in societies through innovative R&I efforts across borders within the frame of FP10.

Green transition and decarbonisation must be cost-effective and not run contrary to competitiveness and growth. R&I on energy should aim to close the price gap on energy between the EU and other global competitors (US, China) and to build a robust energy system with high level of energy security. R&I on energy should also take into account the need for security of supply along the whole value chain; from vital materials to complete energy systems as well as developing standards and regulations that facilitate effective roll out and upscaling of clean energy production technologies, including carbon capture and storage (CCS), and energy distribution/grid technologies. A continued effort on R&I on renewable energy and energy efficiency and storage should be complemented with a stronger R&I effort on nuclear energy and low carbon energy, namely natural gas and blue hydrogen.

Transformative Deep, Digital and Industrial Technologies

Transformative digital, deep, and industrial technologies are poised to drive substantial impact across sectors, provided they are deployed with ethical standards, an early stakeholder engagement and transparency to support green transitions, enhance industrial competitiveness, and build public trust. Europe's commitment to advancing collaborative R&I in quantum technologies, critical and advanced materials, biotech, cleantech, IoT, AI, and high-performance computing – alongside skills development and public education — is vital. These efforts aim to build resilient ecosystems that foster sustainable growth, industrial competitiveness and societal well-being.

Driving digital and green transitions through human centric industrial automation, sustainable energy solutions, and a responsible uptake of AI and digital technologies across all fields of science and technology can substantially reduce Europe's carbon footprint. Aligning production within European value chains and developing circular models will strengthen supply chain resilience, reduce external dependencies, and advance EU climate goals. Innovations in biotechnology, including precision medicine and climate-adaptive agriculture, further bolster the circular economy and long-term sustainability by minimizing reliance on non-renewable resources.

Oceans and Blue Growth

The oceans lay the foundation for fulfilling human demand for food, energy and transport. To meet these demands and to manage the different uses in a sustainable way, research and innovation are needed on the sustainable coexistence of different industries such as fisheries, aquaculture, energy production, maritime transport, and raw materials. To safeguard the basis for these industries across Europe, sustainable ocean management needs to reconcile them with marine ecosystem conversation. Interdisciplinary research is required to ensure the resilience of coastal and polar communities.

The oceans and polar regions also play a crucial role in the climate system, but the interrelationship between climate change, marine ecosystems and human activities is still little understood. Robust marine ecosystems require solutions that deal with threats such as acidification or plastic pollution. Integrated ocean and polar observation systems and an appropriate regulatory framework are important for sustainable management of healthy oceans and the blue economy.

Health and Resilience

Collaborative R&I efforts are essential to enhance health and well-being, improve healthcare accessibility, sustainability, and resilience, and address challenges like climate change, health threats, demographic shifts, and inequities. Digitalisation and access to high quality health data are vital. Public health priorities include disease prevention, treatment, improving life quality and mental health. Investments in personalised medicine can tailor care to individual needs and boost outcomes. Additionally, innovative labour-saving solutions are needed to ease the growing burden on the health and care systems and workforce.

Civil Security, Preparedness, Trust and Democracy

Polarization, misinformation, foreign interference and declining trust have become significant challenges across Europe, undermining both democracy and social cohesion. Challenges to trust often span national borders and require a coordinated response. Through joint research efforts, Europe can foster a shared understanding and develop effective strategies to rebuild trust and strengthen democracy.

Europe should prioritise cross-cutting research involving security practitioners on preparedness for and resilience to a wide range of threats, whether accidental or intentional, of human or natural origin and of physical or – hybrid nature. Europe needs to pre-empt and be prepared for crisis and threats that can arise at the same time/compound events and cascading consequences and to implement a total defence strategy. In this context, safeguarding food security and the digital autonomy in Europe is crucial. Multidisciplinary R&I cooperation is also vital to solve Arctic challenges related to international cooperation, security and preparedness.

Europe must protect its digital sovereignty by prioritizing cybersecurity and resilience. Coordinated Europe-wide approaches are crucial to secure Europe's digital infrastructure, particularly in post quantum cryptography, critical software and hardware components and systems, digital supply chains with emphasis on open-source software, cloud-edge infrastructure, and comprehensive preparedness and response capabilities

Public sector's role

Across the thematic priorities, the public sector's role as a transformative force is central. To address societal challenges and accelerate sustainable growth, FP10 must prioritize the modernization of public sector systems. This includes leveraging innovation to enhance efficiency, accountability, and impact, with a strategic and effective use of public procurement of research and innovation instruments.

In which areas is it particularly important for Norway that missions and partnerships are used?

Missions

It is obvious that the fulfilment of a Mission's objectives requires more than the Framework Programme can address on its own and goes beyond R&I activities. A different governance model for the missions should therefore be adapted. A possible solution would be to anchor the missions at a higher and more horizontal political level, so that all the relevant sectoral EU, national and/or regional programmes contribute, also financially, to reaching the objectives. In the next MFF, priority should be given to implement a new governance model for the five existing Missions under Horizon Europe. No new missions should be introduced before a new governance model has been implemented and evaluated.

Partnerships

The reduction of the number of partnerships from Horizon 2020 to Horizon Europe has not been sufficient and the partnership instruments remain overly complicated. There is a need for fewer, stronger, thematically clearer partnerships of broad European interest, where enhanced national and EU alignment is deemed necessary.

To maximize the impact of partnerships in FP10 on Europe's strategic Research and Innovation agenda, partnerships should be streamlined, thematically focused, and aligned with core EU priorities such as green and digital transitions, health resilience, civil security and economic competitiveness. Simplifying and consolidating partnerships will foster stronger, broader European interest and coordination. Effective partnerships should emphasize cross-partnership coordination when a clear added value can be identified. Regarding the different types of partnerships in FP9:

- The lack of clarity in rules and contractual models for co-funded partnerships has led to delays, uncertainty, and frustration among stakeholders.
- The advantages of co-programmed partnerships are often ambiguous. A lack of alignment with national initiatives frequently results in missed opportunities for collaboration and resource optimization, while transparency in accounting for private partner contributions remains insufficient.
- Improved alignment across all institutionalized partnerships is essential, with a strong focus on transparency and accessibility for new participants and those outside industrial associations.

To maximize the impact of partnerships, greater openness and guaranteed access for a broader R&I community must be assured. Norway recommends re-evaluating these partnership structures to ensure they effectively deliver on the strategic goals of FP10. A re-introduction of an instrument similar to the ERA-nets, for smaller scale agile and bottom-up collaborations, should be considered.

Are there other factors that are important to highlight in a national thematic input?

Norwegian participation

Above all topics, the most important issue for Norway is that we get full access as an associated country. With ongoing conflicts and wars in several regions of strategic interest to the Europe, there will be an increasing number of sensitive issues and a heightened risk of being excluded from critical cooperation and information-sharing. These areas could be dual use, critical raw and advanced materials, space, deep and digital technologies, critical infrastructures, health and pandemic preparedness, defence industry to mention a few. It is paramount that Norway's access to all parts of the FP follows the rules laid down by the EEA-agreement.

The framework programme should be developed with continuity

The current format, structure and impact-driven intervention logic is a good starting point. FP10 should be set up as an integrated framework program with a budget that is ringfenced and only can be allocated to its programmes dedicated to research and innovation.

International cooperation with like-minded countries that share EU values is necessary if FP10 is to achieve the desired impacts. We must ensure that the framework program is structured in a way that does not exclude participation of likeminded partner countries.

Furthermore, it will be important to have a close dialogue with associated countries regarding synergies to be developed between FP10 and other EU-funded programmes.

Support for ground-breaking, fundamental research and breakthrough technologies is vital for European competitiveness

FP10 should give major contributions to deepen the knowledge base. Collaboration on science, technology and innovation should generate the knowledge and preparedness we need to meet long-term challenges. Support for ground-breaking, fundamental research needs to be a strong part of this.

Currently, the support for collaborative groundbreaking research and breakthrough technologies is limited to ERC Synergy Grants and EIC Pathfinder, both of which are underfunded with low success rates and need increased budgets. Additionally, collaborative research, currently supported in Pillar II, should support 'technology- and social challenges driven' initiatives, allowing for the development and testing of groundbreaking innovations, concepts, methods, or platforms, complemented by instrument which support market deployments within and beyond FP10.

Furthermore, research and technology infrastructures must be seen and enhanced as strategic assets in policy making, as they play a vital role in advancement of knowledge in research, education and innovation.

Rationalise the innovation instruments

There is a need to rationalise the instruments under pillar 3 in Horizon Europe. The European Institute of Innovation and Technology (EIT) has not proven to be an effective instrument. We recommend discontinuing the EIT and EIE, and simultaneously, strengthening the European Innovation Council (EIC), governed in a similar fashion as ERC, as the primary innovation instrument in FP10. Additionally, we propose refining the EIC Transition and establishing it as a core mechanism to attract and support all outstanding European research results, positioning them for investment and scale-up readiness. Similarly, the EIC Accelerator and EIC Fund should be further developed to serve as the investor of choice for European deep-tech and a complementary instrument, like Eurostars, that offers collaborative R&I opportunities for European SMEs.

Dual use

The RCN supports the approach taken on dual use in the Heitor-report, that dual use occurs naturally given the ubiquitous nature of modern technology. EDF should be maintained as a programme for "military" RD&I while everything else (civilian and dual use) should be covered by FP10. We should optimise the innovation dividend arising from the need for increased national security and defence expenditure by exploiting dual use both ways. Applicants should not be asked to specify potential future dual use except where legally required. However, applicants should be able to specify dual use on a project basis and implement measures to protect uncontrolled flow of technologies with potential for military use when appropriate.