

SNSF position paper for the development of the next EU Framework Programme for Research and Innovation

The Swiss National Science Foundation (SNSF) is the leading research funding organisation in Switzerland, covering all areas and sectors of scientific research and supporting researchers at all career levels. It aims to promote scientific excellence, strengthen international cooperation and increase the visibility and impact of Swiss research worldwide. In view of the upcoming 10th Framework Programme for Research and Innovation (FP10) of the European Union, the SNSF presents its vision and expectations for this Framework Programme in the following text.

1 Principles

The SNSF suggests the following principles for developing the next EU Framework Programme for Research and Innovation.

1.1 Excellence

FP10 should maintain its focus on supporting high-quality research projects and thus promoting scientific excellence. Excellence should be the key criterion for funding research, regardless of the geographical location, scientific discipline, topic or expected impact. Excellence of a research project should be determined by peer-based evaluation of the research question and the feasibility of its implementation. According to the Excellence Model of the Swiss National Science Foundation, excellence includes the originality and relevance of a research question as well as its embeddedness within academic practices. This model also includes rigorousness of the research design and the sustainability of its methodology as elements. This multidimensional approach to excellence, includes the dimensions of the question (original, relevant, embedded), of the methodology (rigorous, sustainable, open, ethical) and of behaviours (collaborative, engaging, acknowledging). In line with the underlying principles of the Coalition for Advancing Research Assessment (CoARA), primarily qualitative criteria should serve as a principle for the evaluation of researchers, supported – if necessary – by the responsible use of quantitative indicators. Given the limited predictability of excellent research, funding also requires the necessary flexibility to adapt projects to new and surprising research questions and results and to provide the appropriate balance between basic and applied research.

1.2 Diversity

FP10 should promote diversity in the European research landscape and encourage the participation of researchers from different countries, regions, institutions, cultural and socio-economic backgrounds, genders and career stages. Diversity is also promoted by the inclusion of non-EU countries. FP10 should also enable work on a wide range of research topics, approaches and methods as well as cultivate interdisciplinarity, multilingualism and collaboration between the academic and non-academic sectors. It should provide adequate space and recognition for the social sciences, humanities and arts (SSH&A). This includes providing SSH&A topics appropriate representation in the work programme. FP10 should also be based on a global approach, especially in certain strategic areas like research on quantum technology and semiconductor chips, ensuring Europe's competitiveness.

1.3 Openness

FP10 should follow the path of Open Science already taken in the previous framework programme, including open access to publications and data, the use of open-source software and hardware and

open innovation. Openness is a key for success in science. As pointed out in the UNESCO Recommendation on Open Science, it improves research quality, accelerates research efficiency, enhances the impact of research and ensures a fair and equitable transition to Open Science. In order to achieve its ambitious goal of becoming a global leader in research and innovation, FP10 needs to foster a global exchange of minds and ideas. FP10 should also facilitate the mobility and exchange of researchers at all career stages within and outside Europe and improve cooperation and coordination with other research funding programmes and initiatives at national, regional and global levels. Restriction of this principle of openness should be limited to cases of highly sensitive topics (for instance, when the risk of misuse of results for military purposes is concerned) and when a collaboration with a country would be detrimental to the values and principles of Europe. It is also important to ensure that inequality of means and power are not enlarged due to Open Science, for instance by the exploitation of research results. As a consequence, the principle of being as open as possible and as closed as necessary does apply; however, intents to close parts of the programme must be clearly justified and limited to the minimum.

1.4 Engagement with society

FP10 should promote dialogue with the public and policy makers and encourage their participation, thereby allowing a broad range of society to be involved in the research endeavour. In this regard, FP10 should also seriously address the major challenges and opportunities facing Europe and the world, such as climate change, the digital transformation, physical and mental health (including preparation for upcoming pandemics) and social cohesion across the continent and worldwide. In developing the programme, it should, however, be borne in mind that the outcomes of the scientific process are not always visible at first glance and that any reference to impact must not be at the expense of free and curiosity-driven research. FP10 should address the whole value chain: from curiosity-driven to innovation-driven research. Cooperation with industry should be facilitated for the valorisation of knowledge and scientific discoveries. A broad approach to citizen involvement includes the promotion of science communication (including researcher training and support of science communication activities) and the exploration of the potential of citizen science.

1.5 Values

FP10 must follow the underlying values of the European Research Area. These include academic freedom and institutional autonomy, in particular the freedom of researchers to pursue their research without implicit or explicit external political pressure. Another key element of the underlying values of the European Research Area is the unconditional adherence to the principles of research ethics and integrity, in all parts of the scientific process. These values must be applied throughout the research process – from the development of an idea to the publication and implementation of results. In view of the rapid technological and societal developments, it is important to reflect continuously on newly developed ethical challenges while keeping the needs and autonomy of people at the centre. This caution is particularly important in the current context of artificial intelligence and increased global tendencies towards authoritarian rule as well as in light of technological changes such as genome editing. Research and its applications need to be human centred, and human guidance, oversight and responsibility should not be given up. This also applies to the introduction of AI in funding processes (including evaluations of research proposals). Good practices developed by funders on both national and European levels need to be thoroughly considered before internal procedures are updated accordingly.

2 Recommendations

2.1 General considerations

In order to adapt the EU Framework Programme to a constantly changing world with new and emerging challenges while continuing to maintain the core and central values of democratic and open research, the SNSF also proposes that FP10 address the following topics.

2.1.1 *Strengthen global perspectives on research and innovation*

The EU Framework Programme for Research and Innovation is the largest multinational research funding programme and a success story that has attracted attention and interest far beyond Europe. Cross-border exchange is one of its key characteristics, based on adequate and appropriate funding. In the strategic development of global collaboration between Europe and the rest of the world, the next framework programme (FP10) should be the preferred programme for research and innovation (R&I) when it comes to cooperation beyond the EU. Therefore, simplicity, flexibility and openness should be important elements of this cooperation. At the same time, there is a need to adapt international cooperation to a changing geopolitical environment and to strengthen European capacities in research and innovation. This also includes critical technologies, for which close collaboration with countries with shared principles and values should be the norm. Based on this collaborative approach, the development of critical technologies should also be promoted within FP10. It is important that classification as a critical technology does not prevent countries with shared principles and values from fully participating in the relevant programme sections. In addition, it is also important to pursue an ambitious strategy of global cooperation, specifically to effectively tackle enormous global challenges such as climate change, thereby making full use of the potential of cooperations with countries of the global south based on the values mentioned above.

2.1.2 *Reinforce a multidimensional approach to sustainability*

FP10 should take a holistic approach to sustainability, in line with the perspectives of the UN Sustainable Development Goals and the GRC Statement of Principles on Sustainable Research. This includes environmental sustainability, sustainable growth, social inclusion and the building of partnerships based on the principles of equity and solidarity. When it comes to environmental sustainability, the framework programme needs to reflect on the potential of greening research and reducing the environmental impact, while maintaining important aspects of research, including the value of interpersonal exchange across borders. The diversity of current challenges requires investments in research at all stages (from curiosity-driven research to applied research) and in all fields, including the social sciences, humanities and the arts. For sustainable economic growth, it is important to focus on both technological and social innovation in research programmes. Sustainable social inclusion requires research projects to be designed in such a way that the needs, forms of research and knowledge of different stakeholders can be adequately incorporated in the design and implementation of research programmes. It also requires fostering the dialogue between society and science (for instance when it comes to threat of global warming), discussing societal expectations towards science and explaining its potential and limits. To promote a more inclusive research environment overall, it is important to broaden the scope of EDI (Equity, Diversity, Inclusion) planning by including more EDI dimensions, transforming gender plans and strengthening global collaborations. FP10 should also support the

financial sustainability of projects and project partners by enabling long-term developments and ensuring the sustainability of projects after funding expires where needed.

2.1.3 Maintain a civil focus

FP10 is being designed in an increasingly complex geopolitical environment. The current challenges call for increased cooperation, while geopolitical tensions require a balance between openness and considerations of research security. At the same time, calls for increased investment in military research have become louder in the last years. These needs must not be ignored, but there is a significant risk that an increasing mix of the two elements (civil and military) in one programme will weaken research, as it increases the effort required of many participants like SMEs and smaller research units to participate in such a programme due to added complexities. The risks include additional administrative burden due to security concerns, slowing down innovation cycles and not covering the broad needs of European societies. It also must be avoided that the full spectrum of research approaches for a given topic become unnecessarily limited due to a bias towards military use. Therefore, FP10 should remain a civil programme. In this context, the SNSF also reiterates the importance of freedom of research; researchers should never be forced to participate in military research if they do not wish to do so. With the aim of fully exploiting the potential of dual use, however, additional opportunities for researchers could be created where dual use and the potential for dual use are concerned. Supporting European research with dual-use research includes promoting and expanding opportunities for spin-offs from the civil to the military sector, as described in option 1 of the European Union's dual-use consultation, would respond to this need. As expressed in the SNSF position paper on [“Dual use in the EU Framework programme and the SNSF perspective”](#), guidance and training for researchers in dealing with the risks associated with dual-use research should be promoted in national and European contexts, based on basic values like the respect for academic freedom and institutional autonomy.

2.1.4 Promote SSH&A research across the whole FP10 programme

SSH&A research plays a key role in addressing the complex and interrelated societal, economic, cultural and environmental challenges that Europe and the world face in the 21st century. SSH&A research also contributes to the development of more responsible, ethical and inclusive research and innovation practices that are in line with the values and expectations of European societies and ensures a human-centric focus. It is therefore critical to promote SSH&A research in the next Framework Programme for Research and Innovation by systematically integrating SSH&A research into all three pillars (or any alternative architecture that may be chosen for FP10). This can be done by both additional specific SSH&A calls for proposals and appropriate inclusion in the other programme parts, ensuring an appropriate balance between the social sciences, humanities and arts. In addition, training, assistance and skills development for applying for and conducting projects in FP10 is needed. Funding schemes themselves need to consider the specificities of SSH&A research, especially regarding project size and evaluation criteria. To ensure that the proposed goals are met, it is also necessary to regularly monitor the state of SSH&A in the framework programme during its existence and, if necessary, take timely action.

2.2 Cooperation

2.2.1 *Rethink the role of mission-oriented research*

Missions can play an important role in addressing grand societal challenges. However, it is necessary that these missions are truly aligned with societal needs and the demands of the global research community. FP10 should take a proactive, outcome-oriented approach to funded research and develop missions based on evaluation results. Funding should not be at the expense of other programme components, and mission funding should not be based solely on FP10 funds, especially for activities that go beyond research and innovation. Activities that do not contribute to new technologies needed to achieve the goals of the mission, should be placed outside of the framework programme. The mission-oriented programme should also consider the diversity of disciplines – especially SSH&A – and promote inter- and transdisciplinarity.

2.2.2 *Develop European Partnerships further*

European Partnerships are ambitious programmes that create momentum to find solution to long-term global challenges. They provide an excellent platform to foster scientific collaboration within and beyond Europe. In FP10, (co-funded) partnerships should continue to be designed for and dedicated to fundamental research at low TRLs. To ensure the success of the European Partnerships in FP10, the top-down approach currently used to design them should be replaced by a co-creation process involving the member states, the associate countries and the stakeholders in the field. Moreover, it is important that the current inconsistencies in the financial and administrative management of the partnerships, which often prevent them from reaching their full potential, are addressed in FP10. Finally, in case of association of a country to the framework programme, automatic mechanisms should be in place and allow the smooth transition from associated partners to beneficiaries.

2.2.3 *Address infrastructure and data*

FP10 should promote global access to research infrastructures within all relevant programme parts and improve coordination between infrastructures. The importance of FAIR data (Findable, Accessible, Interoperable, Reusable) should be emphasised in order to strengthen competitiveness and research impact. Open access should be implemented in the European context to facilitate access to research data and results. Where security needs lead to restrictions on openness in accordance with the principle of "as open as possible, as closed as necessary", this must be clearly argued. The FP must also be aware of the increasing role of metadata and their commercialisation and ensure that the IP of research and research institutions are ensured, that attention to the issue is raised and that negative effects related to the exploitation of data are counteracted. In view of the increasingly important role of AI infrastructures such as supercomputing centres, it must be ensured that such infrastructures are built and that access to them is guaranteed for all participating countries, including associated countries and third countries with shared values and principles.

2.3 Implementation

2.3.1 *Secure sustainable funding and create administration fit for purpose*

The challenges that our societies are facing – including the green and digital transformation – indicate that the budget of the FP should be increased significantly to achieve the ambitious goals of the programme. This applies particularly to the European Research Council (ERC) and the Marie Skłodowska-Curie Actions (MSCA), both of whose budgets should be doubled. The total budget of the framework programme should be at least 200 billion euros over the whole timespan of the programme. In addition to increasing the overall amount and improving accessibility for researchers, it is also necessary to reduce the administrative hurdles and associated costs as much as possible. In concrete terms, this means that applications for funding and the life cycle management of projects should not require specialist knowledge and that the corresponding calls for proposals should be adapted to the needs of the scientific community. Synergies between different programmes should only be implemented in FP10, if there is a clear added value. If they are implemented, they should not require more coordination and administration.

2.3.2 *Enhance career development of researchers and brain circulation*

Researchers are the backbone of European research efforts. It follows that funding programmes have a responsibility to provide the next generation of European researchers with the best possible support and preparation for different career paths. It needs to be ensured that the Framework Programme provides a stimulating environment for early-career researchers and perspectives for successful careers within and beyond academia. This also means that FP10 should not have any negative systematic effects on research careers – for instance by an overreliance on postdoctoral researchers on short-time contracts – and that they are counteracted by accompanying measures. In the context of the preparation and implementation of the next Framework Programme, support mechanisms that exist on institutional, national and European levels need to be considered and be part of a joint effort to combat precarity of researchers.

It is also important to support targeted skills training and to enable early-career researchers within FP10-funded research projects to invest time in their career development, while maintaining a strong focus on research practice. This also includes using the support mechanisms already developed in parts of the previous framework programme, such as the MSCA guidelines on supervision. Moreover, it is important to promote brain circulation by systematically evaluating and scaling up successful initiatives for collaboration with widening countries (EU 13), such as the MAPS and PROMYS funding scheme or COST, and by using measures like the seal of excellence to strengthen national research capacities. In addition, Horizon Europe's approach to supporting research management initiatives in keeping with ERA Action 17 should be continued in FP10. For sustainable careers for mobile researchers, it is also important to further develop compatibility of pension funds between countries and to support the administrative aspects of mobility, in particular by facilitating visa procedures for short and longer-term research stays.