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**Position paper by the Swedish Research Council
regarding the Public consultation on past, present and
future of EU Horizon R&I Framework Programmes**

The following document is the position paper of the Swedish Research Council to the regarding the Public consultation on past, present and future of EU Horizon R&I Framework Programmes launched by the European Commission (EC) on 1 December 2022.



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Swedish Research Council response to the Public consultation on past, present and future of EU Horizon R&I Framework Programmes

The core of excellence - free curiosity driven research initiated by researchers

Excellent curiosity-driven research is the foundation for Europe's future competitiveness by its creation of new ideas, knowledge and technical or societal solutions. By focusing on "frontier research and supporting research initiated by researchers through Europe-wide competition, Pillar I is a fundamental part of the framework program and delivers added value to Europe as a driver of excellence. Additionally, a strong and well-funded Pillar I also supports the long-term retention of the best talents in Europe, further strengthening our competitiveness.

Curiosity driven research is not only of interest for competitive academic sectors or industries. It is also of crucial importance for Europe's ability to tackle crises as the Covid-19 pandemic so clearly demonstrated. Because of several decades of curiosity-driven research in mRNA vaccines, it was possible to develop urgently needed vaccines in record speed to tackle the pandemic. Fundamental research is therefore crucial for building a resilient society. It is impossible to predict all future challenges that await us. Curiosity-driven research, alongside a system which encourages researcher mobility, world-class research infrastructure, and good research practice are the foundations of an excellent research system. It is of the utmost importance that these foundations are invested in by pillar I and that funds are not siphoned away to promote other policy goals.

The independence and bottom-up nature of ERC (European Research Council) and MSCA (Marie Skłodowska Curie Actions) should be kept. Given the outstanding quality of so many of the applicants to these programmes, the budget must be maintained or increased. It is important that researchers can formulate their own paths of investigation and that excellence is the only selection criterion in this part of Horizon Europe.

Furthermore, in all parts of the framework programme the principle of excellence should always be the main criteria to ensure that Horizon Europe helps build a stronger scientific and technological base for Europe and enhances our competitiveness as a robust, competitive knowledge economy and a global research and innovation leader.



Groundbreaking science to tackle societal challenges

To prepare for an uncertain future and to generate new groundbreaking knowledge, Europe must make sure that it supports free curiosity driven research, where researchers themselves have formulated the research questions and developed methods for answering these. Disruptive technologies typically emerge in an unpredictable manner and are dependent on research initiated by researchers. Europe must make sure that it supports fundamental curiosity driven research that generates new groundbreaking knowledge not only in pillar I, but also in pillar II, alongside more impact-oriented innovation. There is a need for an appropriate balance between funding of bottom-up curiosity-driven research and strategic research and innovation. Each of the three pillars of Horizon Europe has their very own *raison d'être* that needs to prevail, but the support of bottom-up curiosity driven research is a key element for success in all of them and should therefore be well-integrated in the whole framework program.

The societal challenges that Europe faces are complex and multifaceted. A multidisciplinary approach is needed to tackle them. Horizon Europe's pillar II has an important role in supporting the integration of different research disciplines. The integration of social sciences and humanities into pillar II needs to increase in Horizon Europe in order to achieve impactful and sustainable solutions. The European missions are examples of new interdisciplinary and transdisciplinary ways to work in the framework programme in order to tackle societal challenges. For this reason, it is crucial to accelerate the work in the missions to test and showcase this interdisciplinary method before the launch of the next framework programme.

The societal challenges also have a global dimension. Global cooperation is an important means to strengthen European research. Europe needs to connect with partners around the world, in advanced, emerging and developing countries to address societal challenges in partnership. The second strategic plan should contain provisions for engaging with third countries that are not associated with Horizon Europe. Horizon Europe and ERA would benefit from a revised model of the Joint Programming Initiatives. The European commission has an important role as facilitator to align national and European efforts. In this context, providing flexible instruments to support the needs of these initiatives is crucial.

Furthermore, the societal challenges we are facing calls for more evidence-based policymaking and a need for increased trust of science in society. Therefore, strengthening the role that research institutions have in science communication is needed to better share scientific knowledge to foster the democratic debate. It is key to research-informed policy making, which contributes to improving the relationships with stakeholders in education, policy, industry, and civil society. To achieve this we highlight the importance of providing incentives and ways to recognise communication activities by research organizations and researchers within the framework program.

Stronger together through smarter collaborations

European added value must always be a guiding principle for the framework programme. The framework programme should act as a facilitator and amplify the



efforts of member and associated states, thus allowing for improved alignment between national and European programmes. Important work is being carried out towards this end in the ERA policy agenda. This work should continue and the strategic plan should incorporate the conclusions and lessons learned from the ERA policy agenda so that the strategic plan supports the ERA policy process and enhances the cooperation between Europe's research systems further.

New programs and partnerships should only be introduced where they are deemed strategically necessary and only when consistent with the available budget.

The main synergies and co-funding mechanisms between different parts of Horizon Europe and between Horizon Europe and other European programmes should be further clarified. This will contribute to European added value and promote smarter collaborations. There are strong synergies and an underlying eco-system between Pillar I, MSCA-candidates and ERC grantees, and programs like ERASMUS+, research infrastructure users and even EIC-grantees.

There were important measures taken for increasing the inclusion of under-represented countries in the first strategic plan for Horizon Europe. More can be done for these countries by further developing the synergies between the European structural and innovations funds and Horizon Europe. A concern has been that directing extra support to underrepresented countries would compromise the principle of excellence in the selection of proposals. Smart specialization strategies coupled with ESIF synergies with Horizon Europe is possibly a way forward to increase inclusion without compromising on quality. Projects and partnerships with leadership in underrepresented countries should be highlighted more.

While acknowledging the need for continuity, there is also a need to further simplify participation in Horizon Europe. To this end, we would suggest that the Commission explores improving and consolidating already existing instruments, rather than creating new ones. The rules for participation can be further simplified and harmonized.

Global leadership through European research infrastructures

Access to high quality research infrastructures is essential to increase research quality and to secure European research competitiveness. The financial cost of a large-scale infrastructure, can be substantial, but the return in the form of attracting talent, enabling scientific breakthrough and building bridges between research communities is immense. However, today's support system fails to consider the whole landscape and life cycle of research infrastructures. The funding needs to increase in order to support the design and preparatory phases of new research infrastructures as well as to consolidate, operate and upgrade existing research infrastructures. Specifically, the need for reliable e-infrastructure and the demand for storage, calculation, and archiving of research data is growing. EOSC is an important part of the solution and support for this effort should continue.

Research infrastructure investments are costly and it is therefore important that these investments are strategic and well-coordinated in Europe with firm support in the user community, avoiding the need for duplication of facilities. Transnational access to European research infrastructures is an excellent example of efficient use of resources. It promotes collaborations and should be further encouraged. The



strategic advice provided by ESFRI (European Strategy Forum on Research Infrastructures) and E-IRG (e-Infrastructure Reflection Group) should continue to guide the Commission's research infrastructure investments. There is an R&D aspect of constructing and upgrading research infrastructures, since this often requires technical work that has never before been done, by experts that are scientist themselves. This aspect underpins the competitiveness and attractiveness of the research infrastructure and should be highlighted in investment strategies.

The personnel at the research infrastructures are a crucial component. Their excellence is a foundation for the excellence of the research infrastructure. Working in a research infrastructure should not impede or slow down career advancement. This is a shared responsibility of the commission, member states and associated countries. The Swedish Research Council proposes that resources are dedicated to training of research infrastructure staff and the user community so that the large research infrastructure projects can run smoothly, and a discussion on what should be the responsibility of member states, associated countries and the Commission. The Marie Curie Sklodowska Actions (MSCA) mobility programme has proved to be a productive and popular instrument, attracting the best talents worldwide and a clear European added value. The possibility of including a MSCA programme for research infrastructures should be explored as a way to attract young world-class technical and scientific talent to Europe.

If Europe is to take a global leadership in research, researchers need access to world leading research infrastructures with cutting edge technologies and the most knowledgeable technical staff and user support.

Ethics, security and research integrity – responsible internationalization in an unstable world

A fundamental responsibility of the research community is to formulate principles for research, define criteria for appropriate conduct in research, maximize the quality and reliability of research and appropriately respond to threats or violations of the requirements for the integrity of research. European Code of Research Integrity of All European Academics (ALLEA) is an important guidance in this area and a vital part of Horizon Europe.

Increased digitization brings new opportunities for research, for example by processing large amounts of data and/or through artificial intelligence and machine learning. The development means that there will be a need for new ways to integrate ethical issues relating to the handling of data throughout the entire research process, which demand a new type of dialogue within the research community. An inclusive ethical discussion within all parts of Horizon Europe is central to these new opportunities being used in a responsible manner.

These ethical questions sometimes cross paths with another emerging issue of increased global tensions and instability and the resurgence of protectionism. International collaborations are an important means to strengthen European research and address societal challenges in partnership. Therefore, even though the principle of “as open as possible, and as closed as necessary” should be pursued in the framework, it should be carefully applied. The pursuit of excellence and freedom of scientific research are important parts of Horizon Europe and research



should not be governed by geopolitics or considerations of strategic autonomy. Solutions should be sought to overcome the impasse over association of the United Kingdom and Switzerland to the framework programme, and outstanding researchers from like-minded but non-associated countries, should not be excluded from collaborations within the framework program (e.g. article 22.5). The work in the ERA framework on a European science diplomacy agenda would be helpful in directing the global approach and aligning EU efforts.

Where necessary, security concerns need to be addressed, for example regarding foreign interference. However, over-securitisation and extended black lists of nations should be avoided and a last resource. Rather than legislation, common values on ethics and open science should be governing international cooperation. Researchers should be given tools, guidance and support in their pursuit of a responsible internationalization, including how to participate and coordinate responsible international collaborative projects and how to select international partners wisely out of academic consideration.