

ISE Response to the European Commission
Public Consultation on the past, present and
future of the European Research & Innovation
Framework programmes 2014-2027



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Executive Summary

This document is the Initiative for Science in Europe (ISE)'s response to the EC "3-in-1 public Consultation¹" announced in December 2022. We appreciate the complexity of putting in place Horizon Europe, and the efforts by the Commission, in particular of course the DG RTD, the Council and the European Parliament. Their efforts have led to a very positive overall improvement for the present Framework Programme.

We focus our discussion on the current framework programme Horizon Europe (HE) and identify future priorities for its strategic plan 2025-2027. Our perspective is that of researchers' communities that we represent. As one can expect, we feel that there is room for improvement on several aspects of HE. Above specific points, there is the overarching issue of the complexity of the Framework Programme and the inaccessibility of the language used by the Commission: researchers should not be asked to become versed in a technocratic lingo or require a translator.

We list below the main items that we discuss in the paper, with cross references to the details given in the main text. Several of our recommendations, along with some "messages for the Future", are relevant for the elaboration of the next framework programme FP10 (2028-2034).

1. *Shelter Pillar 1 actions, in particular ERC and MSCA, from any budget cuts.*
2. *Make **collaborative basic research** an intrinsic part of R&I Actions in Pillar 2 and add Research Actions to complete the R&I cycle of Horizon Europe.*
3. *Facilitate **interdisciplinary research** by removing unnecessary limitations and improving their assessment.*
4. *To live up to **Societal and Global Challenges**, the Clusters and Missions must be clarified, simplified and made more flexible; as mentioned above, there must give a bigger role to academic collaborative research.*
5. ***Widening Participation**: make the nine available instruments more visible, simpler to use, and more efficient; support excellence wherever it is.*
6. *Increase **trust, simplify and stabilise** the rules of participation for beneficiaries, improve the accessibility of Actions for researchers.*
7. ***Distinguish goals from pathways**: define the goals but leave choice of the routes to reach them free for the researchers to find solutions and ways to innovation.*

¹ Horizon Europe – interim evaluation (europa.eu)

8. The success of the ERA depends on a **higher engagement in research in most Member States**; the Commission must support the co-construction and partnerships steered by the ERAC and the ERA Forum for Transition.

9. **The consultation of Stakeholders** is crucial to the quality and impact of their engagement. More efforts must be deployed to improve it.

10. **Research Assessment and Open Science.** The EU's push for a reform of Research Assessment in the context of the transition to Open Science, and the choice of a voluntary coalition are very positive. To have a positive impact, the transition must be driven by the researchers themselves.

11. **Early Career Researchers.** The unsatisfactory situation of early career researchers in the EU must be amended to achieve the goal of making Europe the most advanced knowledge-based society. The Commission, in partnership with Member States, must make decisive progress in that direction.

12. An important pillar of Europe's soft power is **science diplomacy**: scientific influence, circulation of researchers, principles of academic freedom.

13. Protect **Academic freedom.** The growing **distrust towards science**, the increasing number of scientists who have been threatened, the attempts to restrict the freedom of research in the name of security or of ideological prejudice are a major threat to Science and to Researchers.

I. Introduction

This document is the Initiative for Science in Europe (ISE)'s response to the EC "3-in-1 public Consultation"² announced in December 2022. We discuss mostly the current framework programme as it has developed since 2021, identify future priorities of the Horizon Europe (HE) strategic plan (2025-2027), and launch some ideas ("messages for the future"). Several of our recommendations and messages are relevant for the elaboration of the next, tenth, framework programme (2028-2034) (FP10).

We are aware of the complex work that represents the development of a programme of the scale of Horizon Europe in a multinational entity like the European Union (EU) and we are very thankful to all the actors who have contributed, in particular our European institutions: the Commission, the Council and the European Parliament, as well as, of course, the DG-RTD. In this document, we present the perspective of those who do research and bring innovative ideas to yet improve HE and the European Research Area (ERA).

We address only a fairly limited number of those key issues for which we feel, as a platform for Learned Societies and Researchers Organisations, that we are legitimate in expressing our views.

We include in this paper an evaluation of the outcome of the recommendations we made in our 2021 paper on the implementation of Horizon Europe³, where we had made some concrete recommendations to improve its implementation.

In that document we observed that while the positive advancements of HE based on the lessons learnt from the precedent framework programme Horizon 2020 (H2020) made the overall structure of the new programme good and promising, **three main areas** needed some attention to further enhance its effectiveness and pan-European societal impact of HE:

- fostering interdisciplinary approaches within the programme;
- strengthening the R&I cycle in Pillar 2;
- increasing the efforts towards supporting EU-13 and to improve their R&I system.

We considered these strongly interconnected dimensions to be a crucial, requisite to build a stronger and fairer European Research Area.

In this response to the current "3-in-1 public Consultation", we note that still little progress has been made in these areas in HE. In section II, which is devoted to the implementation of HE, we discuss these three issues, along with three other points

- the role and budget of the ERC and MSCA actions in Pillar 1
- first considerations of global challenges and missions

² Horizon Europe – interim evaluation (europa.eu)

³ <https://initiative-se.eu/horizon-europe-2021/>

- the apparently purely technical, but crucial issue of the participation and implementation procedures aiming for increased trust and flexibility for beneficiaries.

In Section III, we look into R&I issues which are not directly related to the implementation of HE. We acknowledge that some major progress has been made on the following issues:

- Researchers' assessment in the context of Open science, with the creation of the Coalition for Advancing Research Assessment (CoARA).
- Researchers' involvement with the participation of stakeholders to the ERA Forum for Transition.
- The Council's recommendation to re-evaluate the share of public funds (1.25%) in order to reach the Lisbon goal of 3% of GDP for research. This underlines the crucial contribution of Member States to achieve the ERA goals.

Five further topics, whose importance has been dramatically increased by the Covid pandemic and Russia's war against Ukraine, are also discussed there:

- the need to address in a powerful way the difficult situation faced by early career researchers (precarity, short term contracts, constant pressure, mental health issues...);
- the importance of including learned societies in the EU's science advice mechanism;
- the increasing distrust towards science in our societies;
- the multifaceted threats to the independence of researchers;
- the consequences for research of the increased awareness of security and sovereignty issues.

II. Key Lessons learned from the implementation of HE

A. On Frontier Research and Excellence: European Research Council and Marie Skłodowska-Curie Actions (Pillar 1)

The case for Frontier Research, which produces both new knowledge and generates potentially useable knowledge and unexpected benefits to economic and social welfare (see the 2005 report⁴) has been made repeatedly. A recent example of the impact of this kind of research is that a majority of EU innovation grant winners in 2022 were ERC grantees⁵, who initially carried out bottom-up, curiosity driven research.

Only two programmes allow for such research: MSCA and the ERC. With different goals and criteria, they both help to drive up the levels of excellence and provide opportunities for the

⁴ https://erc.europa.eu/sites/default/files/publication/files/high-level_expert_group_report_full_report_2005_en.pdf

⁵ <https://erc.europa.eu/news/erc-funded-research-wins-most-new-eu-innovation-grants>

best projects, the best researchers and the best teams across the entire European research area. They promote excellence across the EU, and attract researchers from all over the world – hence showcase the role of science diplomacy in projecting the EU’s influence, and overall the EU’s soft power.

However, both are underfunded and, as a result, a significant number of submitted proposals which passed the threshold of excellence cannot be funded. Accordingly, it is recommended that during the remaining years of Horizon Europe, the Pillar 1 budget be shielded from any cut. In the next framework programme, however, the budget for those programmes should increase.

B. On the place of Academic Research: the importance of Collaborative Research

Nobody will question that research arising in the context of a collaboration between researchers doing basic research and companies, governmental non-academic agencies or civil society -- collaborative research -- is essential to the advancement of knowledge and the achievement of solutions. European-wide networking and cooperation in science and technology between public and private research teams is a guarantee of innovation and enhancement.

B1. Add Research Actions to complete the R&I Cycle in Pillar 2 of Horizon Europe

Pillar 2 has been designed to tackle global challenges, address the Sustainable Development Goals (SDG) as well as Europe’s competitiveness in technology. In its definition, it must “embrace challenges which are often complex and require interdisciplinary solutions and activities **from research** to innovation”.

However, there are multiple indications that the actual structure of Pillar 2 limits the big contribution that collaborative academic research can make towards achieving these worthy goals.

We urge the Commission to add Research Actions (RAs) in Pillar 2, to achieve a balanced participation of knowledge-driven and solution-oriented research in addition to demonstration and innovation actions. This will strengthen the effectiveness of the European innovation ecosystem by allowing a continuous flow between advancement of knowledge and technologies at different technology readiness levels (TRLs). At the same time, it will also address the needs of the industrial sector and private companies. To this end, ISE strongly recommends **including collaborative basic research as an intrinsic component of R&I actions** and occasional focus of Research Actions, particularly for funding that addresses Global Challenges.

The interest of collaborative research is indeed to rely on different expertise and know-how. It can take different forms such as partnership research, participatory action research, community-based research, collaborative research itself, national, international cooperation, etc. These forms of research converge in the interest of establishing collaborative links between different actors and forms of expertise in the service of a common goal according to strong, shared principles.

Collaborative (basic and applied) research in Pillar 2 would complement bottom-up research from Pillar 1 by putting the accent on fields of research which address technological and societal issues. The unique position of Pillar 2 to cover and thereby complete and strengthen the R&I cycle in a balanced way has the potential to become one of the strengths of the Horizon Europe programme – a step change compared to H2020 and HE to date.

In addition, bringing together academic research and company R&D opens the emergence of teams/consortia with sufficient critical size to achieve real impact on the whole R&I cycle.

This recommendation will have two additional positive impacts that we deem worth considering:

- It meets the needs of private companies by embedding programmatic basic research requirements in all clusters of Pillar 2. Designing programmes including basic and applied research will help meet the needs of private companies with limited in-house capacity for basic research. It will also motivate them to engage in exploratory research that lays the groundwork for further improved innovation activities.
- Indirectly, it facilitates widening participation. Supporting projects that encourage basic and applied research that includes participants from countries eligible to Widening funds (presently EU-15) and enable research groups across Europe to collaborate within the European Research and Innovation Programmes will advance economies across Europe, increase social stability, and help build a more inclusive and fairer Europe.

The Minamata Convention

Environmental concerns about the discharge of mercury into the environment led to the Minamata Convention of 2013 and the EU mercury regulation of 2017. One aim of these is to abandon mercury-added products, like dental amalgam. The development of new materials is a classic example of close cooperation between basic research e.g. developing new chemical protocols for such materials and applied research evaluating the necessary technical, biological and clinical characteristics. Such a cooperation is an integrated process in order to develop new materials in due time.

B2. Enhance the involvement of the Academic Sector in Public-Private Partnerships

Public-private partnerships (PPPs) have become an increasingly important instrument in the research landscape in Europe. Although the participation and share of PPPs in the overall research budgets of the respective Framework Programmes is generally limited by a Council Regulation, there are significant differences between the different sectoral areas. In aeronautics, for example, the respective PPPs consume more than 90% of the total aeronautics budget of the Union.

There is an inherent interest of the academic sector to be more involved in such partnerships, also in terms of governance. One possibility is direct participation as a private member and

also, for example, a voice and vote in the respective governing boards of the PPPs. The preparation group of European Partnership for Clean Aviation (EPCA) has taken the initiative to reserve a seat for the academic sector, as foreseen in the Single Basic Act to establish part of the PPPs. However, the share of the academic sector in the research programs resulting from in the first calls is nevertheless extremely disappointing. A random sample at selected academic members showed an estimated budget share in this partnership between 5% to 8%, which is significantly less than in previous programmes. Therefore, a more balanced share of the available funds is needed, and this is where the situation definitely needs to improve.

Based on testimonials, the diagnosis is in general also true for other sectors. The participation of academia is insufficient; this concerns not only the budgets but also the possibility to have a more pro-active role when defining research topics with higher TRLs. To summarise, the academic sector often feels like a "subcontractor" in these partnerships rather than an equal partner.

As we have pointed out with these two examples, the new, goal-oriented, ambitious approach to partnerships with industry, which is a key element of HE's Pillar 2, is in fact weakened by the obstacles to an adequate involvement of public research institutions. This is not a message that comes solely from the academic sector: many companies claim that fundamental research is needed to help them advance in understanding the problems they are confronted with, and thereby accelerate the pace towards solutions.

This leads to the risk of underachieving the goals of the EU policy objectives and missing out on the chances of identifying a breakthrough innovation.

Compromised Chemicals

Materials and techniques for restoring oral tissues are presently largely based on so-called compromised chemicals such as mercury or bisphenol A. The urgently needed development of materials avoiding such chemicals is only possible in close cooperation between basic research (chemistry, biology) and applied (clinical) research. In addition, a partnership with industry, which actually produces and distributes such devices and material, is necessary at a very early stage of their development.

C. On the Interdisciplinary perspective: Confronting ideas and methodologies is source of creativity and inventions

To face the complexity of societal challenges, it is essential to have an interdisciplinary perspective. Understanding and solving systemic issues, questions, and problems can be achieved only through an approach that goes beyond disciplinary silos and combines and confronts ideas and methodologies from diverse research fields. Initial steps in this direction were taken in the previous framework programmes. Two successful examples from past framework programmes deserve to be mentioned here:

- H2020 had encouraged some multidisciplinary (and at times interdisciplinary) approaches, for instance through the SwafS (Science with and for Society) programme in H2020 (FP8).
- NEST (New emergent science and technology) in FP6, provided a means to anticipate scientific and technological opportunities and needs in new and emerging areas by supporting research cutting across or lying outside the thematic priority areas; the research executed through this programme was highly interdisciplinary and/or multidisciplinary and able to respond to unexpected major developments.

These programmes have delivered relevant results that have led to impactful advancements.

ISE argues for developing a work programme of HE where disciplinary, multidisciplinary, and interdisciplinary approaches coexist. To facilitate the uptake of interdisciplinary approaches, we recommend:

- enabling flexible budgets across intervention areas and across Clusters with no additional administrative burden, and create calls across different Clusters;
- adjusting the evaluation to better take into account interdisciplinarity and emerging fields in research projects submitted to all FP actions including MSCA and ERC;
- establishing mechanisms to ensure that social sciences and humanities (SSH) are not just an appendage to natural science disciplines but play integral and leading roles in projects;
- avoid lumping together all SHS disciplines but treat them as diverse and self-contained disciplines, similar to subjects such as genetics and nuclear physics;
- ensuring that the evaluation of interdisciplinary projects, especially those involving SSH disciplines, includes experts representing the range of expertise involved;
- adapting reward systems that recognise interdisciplinary research (see section III C);
- supporting research programmes for interdisciplinary education;

In brief, making it really possible to combine several disciplines in one same project. These issues should be addressed by CoARA.

European industrial competitiveness will benefit from the interdisciplinary perspective which is particularly important in HE Global Challenges of Pillar 2, established through the Clusters, but also in the Missions.

D. On tackling societal and global Challenges: Considerations about Clusters and the Missions

To face the complexity of societal and global challenges, it is essential to have recreated a balance between academic and business actors (see above).

Interestingly, while previous Framework Programmes were *activity-oriented*, H2020 and even more HE took an *impact-oriented* approach in utilising research and innovation, the EU wants tangible and exploitable results that offer solutions to societal and global Challenges. Different approaches are being tried, but the implementation reveals some weaknesses that need to be addressed quickly.

The structure of Horizon Europe lists a total of six Clusters which are divided into individual expected impacts around general themes. The "division" of the Clusters, into four strategic orientations, broken down into 30 expected impacts, then addressed by a series of specific actions published in the thematic work programs, raises questions.

The structure of Horizon Europe lists a total of five Missions. They are supposed to be a new way to bring concrete solutions to some of our greatest challenges. They have ambitious goals and are expected to deliver concrete results by 2030. However, it is observed that the dedicated budgets are not in line with the stated "Moonshot" ambitions. As an example, the Cancer Mission, which includes care, vaccinations, treatment and research, has a yearly budget of about 600 million €, while in 2021, the yearly worldwide spending was close to 180 billion €⁶, and the US government spent 5.95 billion €⁷. Can this level of spending yield more than incremental improvement?

In addition, if the idea of Missions is a priori appealing, their implementation is far from clear or even understood by the academic community as well as companies. To insure the success of the Mission experiment, it is important to better convey what their goals are and what they achieve. On top of that, many persons observe that an important part of the budget seems to go to non-scientific actors.

Another matter that is reported by our members is that there seem to be significant overlaps between Clusters and Missions, which adds to the concerns.

ISE advises to bridge activities between the Clusters where necessary. For example, better link the Health Cluster (1) with the Food, agriculture, biotechnology Cluster (6) to truly enable plant biologists, breeders, processors, nutritional scientist and health experts to be involved in interdisciplinary research and innovation to improve nutritional compounds in plants for the human diet, which are then further processed before being digested by humans. In addition, plant made pharmaceuticals can be co-developed for medical purposes.

To date joint calls enabling this R&I are non-existent and could be implemented by an 'alternating call' system under which the call is published and financed in one year under Cluster 1 and the next year under Cluster 6.

Obviously, these are preliminary observations about an ambitious plan, and they must be supported by a serious assessment.

E. On the Widening Participation: Reduce the gap between R&I environment in EU Member States and support Excellence wherever it is

Reducing the inequalities in research and innovation between Member States would clearly alleviate the political tensions between EU-12 and EU-15 countries⁸. Because of the link to

⁶ From Statista: <https://www.statista.com/statistics/696208/oncology-costs-worldwide>

⁷ <https://www.cancer.gov/research/annual-plan/2023-annual-plan-budget-proposal.pdf>

⁸ See Glossary.

education, it would also have a tremendous impact on giving hope to the young generation all over Europe, and, of course, especially in EU-15 countries. Much more than EU-15 countries are concerned, because the programme includes fourteen eligible Associated countries. As we see now with Russia's war against Ukraine, the political stability of the Continent is at stake. Therefore, it is a crucial goal, both in terms of simple equity, and political realism.

HE has significantly increased the budget for Widening Participation compared to H2020, going from €935 million to €2.95 billion. ISE fully supports this development. As written in the Report *European Commission's Communication 4-2-2022*⁹: "To avoid a development trap in the future, less developed regions will need to boost education and training, increase investments in research and innovation, and improve the quality of their institutions."

While HE should uphold the principles of excellence, cooperation, and impact, for a sustainable future of the EU's research ecosystem, it is necessary to find ways to reduce the gap between R&I environments in Member States. As the European Court of Auditors noted in their 2022 Special Report¹⁰, "the widening measures were well-designed to target many of the factors that have limited the participation of widening countries in successive framework programmes". They added: "The widening measures have benefitted a group of countries with uneven levels of performance in research and innovation and in the framework programme". With increased funding, the programme's impact will increase. However, until such a programme is no longer needed, the effort will have to be continued into the next FP.

For now, we make some observations and recommendations that could be implemented rapidly and would improve the efficiency of the programme.

1. The Widening funding opportunities are particularly complicated. They include **nine** different schemes, each of which is worthy, but has a small budget. In addition, understanding them fully requires many hours. Moreover, the sheer multiplicity of the schemes is detrimental to the visibility of the programme and even more to the prestige attached to obtaining one of the grants (compare: "I won an ERC starting grant", "I am an MCSA fellow" with "my team is in a Teaming action"). Moreover, it scatters the funding and, as the Auditors reported, although it is theoretically possible to get complementary funding from other sources, it can be very complicated¹¹. We suggest to **simplify** the schemes substantially and, alternatively, **to put in place mechanisms** to help researchers from Widening countries to participate in all HE pillars.

⁹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of The Regions on the 8th Cohesion Report: Cohesion in Europe towards 2050 (2022) <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52022DC0034&qid=1644393023846>

¹⁰ European Court of Auditors Special Report 15 (2022): [Measures to widen participation in Horizon 2020 were well designed but sustainable change will mostly depend on efforts by national authorities](#)

¹¹ European Court of Auditors Special Report 15 (2022) *Ibid.* Box 3, page 29

2. Efforts must be deployed to **improve Widening researchers' access to prestigious programmes**¹², like the ERC and MCSA. Although it is correct from an administrative point of view, it is quite revealing that those two programmes are not included in the dedicated website¹³, as if researchers from Widening countries were a priori not good enough of applying for ERC and MCSA grants. We suggest that the ERC's Scientific Council could consider introducing a mechanism within the ERC along the following lines: fund the first three class A ranked proposals submitted by researchers from Widening countries which are on the reserve list. This does not compromise scientific excellence since the projects had the class A evaluation.

3. Generally speaking, project funding for short periods of time (2 years or less) are problematic. This is particularly damaging for research projects led by researchers working in a suboptimal material environment, at an unstable stage of their careers, or with an interruption due to a maternity leave: by the time a lab has been set up, the new equipment has been received and is fully functional, the project is almost over. We recommend that the EU set a higher and more efficient standard: **project funding should be for periods of at least three years.**

4. Researchers from Widening countries tend to undervalue their own quality as researchers and lack self-confidence. **Communication and training efforts** must be deployed to empower those researchers and encourage them to apply.

5. Individuals and research groups in Widening countries should be empowered to apply to EU funding by supporting them in the submission process of EU proposals through the **development of support structures**, both at the national (NCP) and at the research institutions level (European project engineering support teams) must be considerably enhanced and widely developed. Adequate possibilities exist (through PSF or facilitating the use of Structural Funds) and need to be better known and used.

6. The European Universities Alliances initiative is likely to have a positive impact on the Widening participation agenda, since most of the alliances include universities from Widening countries, together with others whose strong tradition of research benefits from their ability to succeed in competitive calls. We suggest that the **support structures** for the preparation of project proposals could be **mutualised** to enhance the participation of researchers from universities in Widening countries in all HE pillars.

7. Provide incentives for both EU-12 and EU-15 to enhance integration of talent and infrastructures in mutually beneficial networks and consortia. We have to move from the inevitability of brain drain to a balanced circulation of people – **brain gain!** This will require shared efforts, national reforms and synergies between funding schemes. We recommend designing ways to encourage researchers from Widening countries to take leadership roles (as

¹² The MSCA Widening fellowships concept could be extended to other programmes.

¹³ https://rea.ec.europa.eu/funding-and-grants/horizon-europe-widening-participation-and-spreading-excellence_en

coordinators and work package leaders). Consortia should be rewarded with additional funding (e.g. 500,000€) when a good share of EU-15 institutions (e.g. 20%) are consortium members - this would be an incentive to have more research capacity towards the call objectives. In addition, we recommend fostering international links by enhancing collaborative R&I networks, for example, through joint proposal or specific networking events. Furthermore, we suggest that if the coordinator is from a EU-15 country, the maximum percentage addressed for coordination should be increased by 1 to 2% in order to encourage and establish coordination skills in EU-15.

8. Make collaborative basic research an intrinsic part and occasional focus of R&I Actions by adding Research Actions as a Pillar II instrument, allowing more research partners to contribute per project? This will enhance the chance for EU-15 countries to be included. This effect can be increased by including the need to have a minimal percentage (for example, 20%) of the partners from EU-15 countries. As this is a competition for all applying consortia, scientific excellence will be ensured.

9. Increase the support and funding to exchange networks for researchers, ideas and research results (COST Actions) marrying inclusiveness and excellence. These have proven to support the increase of successful spin-off projects submitted to the framework programme (37% success rate)^{14,15}. It is worth highlighting the impact of short research visits (COST STSMs¹⁶) particularly for early-career researchers (R1, R2) and the enabling conditions for those within COST Actions. Such types of exchanges could inspire other EU-funded instruments, for example through revised conditions in the MSCA COFUND actions.

F. On Rules for Participation and Implementation Procedures: Increase Trust in and Flexibility for Beneficiaries

The EC has already undertaken several regulatory measures to facilitate participation.

The basis for an efficient relationship between the EU and the beneficiaries of funds should be that researchers are *a priori* trustworthy. Are they not themselves tax payers and responsible citizens? *Ex post* controls and sanctions are needed to penalise abuses when they occur. By further increasing trust in beneficiaries, the administrative burden could be substantially reduced, and the impact of the projects increased. The regulatory framework must be able to support risk-taking, which is an intrinsic driver of innovative and high-level competitive research. This requires an appropriate definition of tolerable risk for research, acceptable for both budgetary authorities and research performing entities.

¹⁴ See benefits here [What do we fund? - COST](#)

¹⁵ [Final Impact Assessment confirms the relevance of COST in the European research landscape - COST](#)

¹⁶ Short-term Scientific Missions (STSM) is one of the most praised networking tools in COST Actions, see [Action Networking Tools | COST](#)

ISE advises to retain the following basic principles for appropriate and effectual Rules for Research:

1. *Stability.* A balance must be found between simplification and stability. Steadiness of the legal and financial framework, as well as clearly defined and self-explanatory terminology, is crucial. Rules should be stable and remain valid beyond a single framework programme to ensure continuity and guarantee quality implementation. A continuity of the rules' structure with the definitions from one framework programme to the next would allow the beneficiaries to know them well, gain confidence and be able to guarantee compliance with them, and it would be just as much easier for the EC and executive and other agencies officers.
2. *Simplification.* A simplification of the rules should not induce a supplementary effort by the beneficiaries to learn new, marginally simpler, rules but should yield a real reduction of the difficulty to abide by them. A good example is that of lump sums. The introduction of lump sums in HE for collaborative research projects and the ERC, which is intended to make the management of the project simpler, could well result in a higher workload for applicants and coordinators during the proposal preparation phase, as ultimately cost calculations and related work packages have to be structured in much more detail than before. In the case of networks, coordinators applying for a lump sum project would rely on network partners they already know and trust, rather than bringing newcomers into the project. ISE suggests that beneficiaries are given the options to choose between lump sum and actual cost-based funding when submitting the proposal. Another possible simplification could be changing the frequency of Time sheets, but it must be tested beforehand.
3. *Flexibility.* Allowing beneficiaries to shift funds within one project (currently limited to 10%) as long as the goals are achieved or even more could be achieved:
 - shifting their own funds without limit (between Work Packages and between categories),
 - shifting funds between partners up to 20% based on approval by the project coordinator.

The continuing complexity of participation rules and changes in the structure and organisation of framework programmes have seen the rise of consulting companies. Many do a high-quality job, it is not this aspect that ISE disputes. However, the use of a consulting firm by those who can afford it creates a distortion in the competition of candidates and does bias the evaluation and selection of projects. In addition, some experts have observed for many years that sometimes a project will be selected because it is very well prepared (with the help of a consultancy), while another is rejected because it is less well presented (with no consultancy help), while its ideas are more promising and ground-breaking than those of the winner. This is of course not always the case, in many situations the consultancy firm will precisely allow excellent candidates to increase the chances to be selected and will teach them how to write a proposal. To sum up, ISE thinks that these observations give rise to various questions which deserve a reflection on the role of consulting firms. It goes without saying that if one day

simplification were achieved at least for part of the framework programme, the call for consultants would perhaps allow for a targeted and fair use of their services.

III. Key issues about the ERA

A. On strengthening the European Research Area: the role of Members states

We have to admit that building the ERA will be an endless evolutionary process that will never be closed. There are still large differences between Members States, and the likely enlargement of the EU, in whatever form it takes, will pose some new challenges.

On a more fundamental level, climate change, and other major civilisation mutations, will have an impact on research of a completely different level of magnitude.

Because of the structure of the EU, and the centrality of culture, education, research and innovation in the European ideal, the Commission must play a strong role in the construction of the ERA by the Members States, which is steered by the Concilium's European Research Area and Innovation Committee (ERAC) and the ERA Forum for Transition. The ERAC can only be efficient if the Member States are involved at the highest level. We press for a strong involvement of the people, especially the research community in the ERA Forum. ISE is committed to contributing to this process. At a more global level, the involvement of society, students, and the European Parliament are necessary.

Most of the funding for research in the EU comes from Member States. They are essential to reach the Lisbon goal of 3% of GDP for research and development¹⁷. In November of 2021, the Council of the European Union updated the 3% goal, by increasing the public share to 1.25%. Only few Member States reach the 3% level, and none spend 1.25% of public funds¹⁸.

The issue is not only financial: the success of the European framework programmes, and even more so, the success of the European Research Area overall, hinge on Members States. It is known that there is a good correlation between what Members States invest, and the funding that they get from the European Union. Member States cannot unload their responsibility on the EU.

Especially in the difficult economic situation, reaching either of these goals will be difficult. We hope that the EU can play a decisive role in pushing Member States to invest more in Research and Higher Education.

¹⁷ See https://ec.europa.eu/invest-in-research/action/history_en.htm for an overview of the Lisbon strategy 3% Lisbon goal.

¹⁸ See [COUNCIL RECOMMENDATION on a Pact for Research and Innovation in Europe](#).

B. On Stakeholders' Involvement: the ERA Forum and EC Consultation processes

The recent inclusion of stakeholder organisations in the new ERA Forum for transition is a very good step forward which we fully support by having a representative in the Forum (whom we chose, as well as his alternate, to be active researchers). Since the Forum started operating with stakeholders only a few months ago and is still finding its ways, it is too early to make an assessment of its role.

The Forum does not in itself exhaust the consultation process. To date the Commission consults scientists mainly directly or through Member States, whereas other stakeholders, such as NGOs and farmers, for example (or other professionals), are consulted both, directly/through Member States and through their European level organisations (for which a category exists). An identified category for academic associations should be added in future to truly reflect their status. Furthermore, the “number of employees” is, for such organisations, a very poor indicator of their representativity: an association with 1-5 employees could well represent tens of thousands researchers, giving them a perspective that National Academies don't have by definition.

We strongly recommend consulting scientists through their European associations, (Initiative for Science in Europe and its sectorial European member organisations, academic associations such as the Coimbra Group or the League of European Research Universities). This will add to individual expertise a broader, well balanced, reflection from the entire science community from this discipline.

This is crucial for identifying strategies and funding priorities, but equally important for High-Level Advisory Groups, Stakeholder Groups and governance structures for European Innovation Partnerships (EIPs) and Public-Private Partnerships (PPPs). A role for academic associations in the Science Advice Mechanism would also be beneficial.

Learned societies are confronted with a dangerous challenge. Although their role has become more important, and should continue to increase, their financial stability is being threatened:

- the movement toward Open Science, especially Open Publishing, which we all approve, tends to reduce income from publications in a substantial way. While the main publishing companies keep a very high level of profits, their academic partners, which do most of the work, along of course with the authors themselves, see their income dwindle;
- the Covid crisis had triggered a reduction of participation in conferences; this may be welcome in terms of the carbon impact but must be mitigated to insure the continuity of in person scientific exchanges. In addition, the collateral damage of having a reduced income for the academic organisers is damaging.

C. On Research Assessment and Open Science

Research assessment reform continues to proceed at pace with the establishment of the Coalition for Advancing Research Assessment (CoARA). ISE and its member organisations made a significant contribution to this effort, with several researcher representatives

participating in the core drafting group of the Agreement on Reforming Research Assessment, and ISE Open Science Task Force coordinator Toma Susi being elected on the first CoARA Steering Board. The focus of the task force and the report was on Open Science, though this is only one – albeit important – aspect of the reforms.

The position of ISE on assessment reform and its recommendations are laid down in the report “Centrality of researchers in reforming research assessment”¹⁹. Overall, we welcomed the urgency shown by the European Commission and other actors to drive much-needed changes, but cautioned that a too narrow focus on Open Science may risk neglecting the quality of research in favour of how it is performed. This is why ISE feels it is crucial for researchers to drive the transition to Open Science, and this is an aspect that bears close monitoring when moving towards implementation of the reforms.

An important focus of practical work in the coming years will be the CoARA Working Groups, which will bring together different stakeholders to work on various aspects of the needed reforms, and to enable mutual learning and research on research. The first Working Groups will be launched in late Spring 2023, with an anticipated 10 being introduced in the first year. The Commission and all other signatories of the Agreement are strongly encouraged to participate in this work, with potential topics including peer review and the role of indicators, and the question of how we ensure research quality and excellence in the reformed assessment system.

D. On supporting researchers’ careers: the Manifesto for early career researchers

In September 2022, ISE has released a [Manifesto to support early career researchers](#)²⁰ which has been signed already by a significant number of organisations and individuals. It was motivated by the Covid pandemic and other crises that we have been experiencing for the last years. But research careers have been problematic for a long time. The Manifesto gave rise to discussions on the advisability of finally setting up the necessary framework for an ambitious European policy in terms of careers for researchers. The aim is to open the prospect of a new partnership with Member States, public and private stakeholders, and leverage funding to combat the risk of a decline in excellent scientific research across the European Research Area.

As said in the Manifesto, there is a wide consensus throughout Europe about the need to further attract and retain a wide community of researchers from EU countries and beyond, capture a diversity of talents and create synergies, who can cooperate to advance human knowledge while respecting EU values of peace, valorisation of diversity and democracy. Indeed, research is the basis upon which present and future generations will be able to conduct the major transitions our societies are embarked on. This is crucial if we wish to safeguard Europe’s wellbeing, competitiveness, and peace.

¹⁹ [Centrality of researchers in reforming research assessment](#), ISE Report (2022)

²⁰ We give preference to speak of “early career” researchers instead of “young” and avoid using biological age as reference to take into account the diversity of paths that lead to research professions.

The stakes are critical, we must be ambitious in the goal and set the frame as soon as possible to create the conditions to treat this subject with the seriousness it deserves. ISE proposes working in two phases, and as of 2023.

We consider a preparatory phase to be necessary. This should be processes through four actions: **a) include ambitions for research careers in the second part of the Strategic Plan of Horizon Europe** the issues and needs concerning researchers' careers and the prospect of a dedicated programme and budget; **b) conduct of an analysis of the situation**, after the pandemic and during a war taking place on our continent, to achieve a first level of solid knowledge of the evolution in recent years of early career researchers' intentions to choose research as a possible career path and which should however pave the way for an Observatory; **c) put in place a high level joint EC-employing research entities task force** composed of EC DG RTD and DG EAC Director-generals and Presidents and CEOs of representative Universities (or European University Alliances), RP/TOs and Companies, covering main fields of science and technology, maximum 12 people; **d) prepare a roadmap**, set a clear goal, describe the rationale, set the specific objectives, set the milestones, and a tight timeline to get there.

This preparatory phase should be followed by a concrete implementation phase through a Roadmap to be launched as from now with clear milestones and a tight calendar, which are indispensable to accelerate the process:

1. Define a **“European Framework for Research Careers”** with definitions of “Appropriate career paths of researchers in Europe”.
2. Put in place the **“European Research & Innovation Careers Observatory”** to monitor jobs, working conditions, mobility of skilled workforce in research and innovation, including institutional data on research career paths, disaggregated by gender and other characteristics that can lead to discrimination: a stepwise process.
3. **Promote but monitor the existing “Human Resources Strategy for Researchers”**, pushing research institutions to appropriate research career paths (including creation of HR jobs specialising in the professional and enlightened follow-up of scientific and associated careers, with specific education and long-life trainings for HR services).
4. Launch a **pilot project/initiative in 2023** to imagine a co-investment mechanism for 2025-2027 for incentivising research institutions to foster appropriate career paths for researchers.
5. Anticipate a **new dedicated programme**, building on the pilot outcomes and lessons learned, with a significant own budget, in 10th Framework Programme (2028-2035), involving Member states engagement and stakeholders' commitment, to complement the ERC and MSCA, without any risk of jeopardising these successful programmes.

There are high expectations in the European research communities since Action 4 was introduced in the ERA Policy Agenda promising to “Promote attractive research careers, talent circulation and mobility”²¹ as well as the most recently announced “Partnership for research

²¹ [European research area Policy Agenda \(europa.eu\)](https://european-research-area.eu/)

careers” idea of Commissioner Mariya Gabriel. ISE invites the EC and Member States to put in place a transparent, inclusive co-construction process to discuss the need to address working conditions of researchers, including attractive salaries and pension rights (particularly early career researchers) with the goal to achieve sustainable career paths in the spirit of the Council Conclusions of May 2021²².

ISE urges avoidance of a “one size fits all” approach but on the contrary emphasises respecting diversity and building on national organisations’ experience and specificities in order to preserve the richness of the education and training systems that are a source of creativity, excellence and innovation envied all over the world.

ISE thinks this endeavour should cover both public and private sectors as the career cycle can go through academia, companies and other research making organisations. Moreover, researchers develop partnerships with a large plurality of national and international research actors in both public and private sectors. This must be taken into consideration.

Finally, we consider it is necessary to study how the European Charter for Researchers and the Code of Conduct²³ for the recruitment of researchers has impacted those organisations which signed it since 2005 and how they engaged with it in putting into place the Human Resources Strategy for Researchers (HRS4R), and what impact this has had on the participation in the FPs. This would allow for taking stock and seeing what could be further developed.

E. Threats against science, scientists and the freedom of research

In the last decades, we have seen a shift from fairly high levels of approval of scientific progress to more nuanced, sometimes critical or even oppositional perspective. This has first led to increased efforts to reach out to explain science and the scientific method. A different philosophy of the science and society relationship, less vertical, has gained ground, whereby citizens are seen as partners, rather than solely the ones to whom knowledgeable scientists explain how things are. The contribution of non-professional researchers is valued, through formats such as “Citizen science”. The expressions have changed from “Outreach” to “Science for and with Society”, “Public Engagement with Science”. All of these evolutions are welcome.

But in the last few years, notably in conjunction with the development of social media and the rise, even in democratic countries, of populist authoritarian regimes, there has been a very dangerous transition to a radical rejection of science and of the scientific method, including really “fake news” and accusations of scientific evidence as being fake. During the apex of the Covid crisis, but not only then, some researchers were physically threatened and have had to be placed under police protection.

²² Council Conclusions (adopted on 28/05/2021) on "Deepening the European Research Area: Providing researchers with attractive and sustainable careers and working conditions and making brain circulation a reality" [st09138-en21.pdf \(europa.eu\)](#)

²³ [Charter & Code for Researchers | EURAXESS \(europa.eu\)](#)

When scientific research led to well-founded views that were contrary to the political ideas of the leaders in some countries, there have been attempts, sometime successful, to defund the concerned researchers and stop their research.

In many more countries, there is a trend to invoke the protection of the country's sovereignty against foreign interference and unwanted technology transfer to limit research, sometimes by limiting the exchange of ideas, the circulation of scientists etc. Without being overly naïve, it is important to remember that the purpose of academic research is to be open, and that its results are published in accessible journals. The advantages of ideas circulation outweigh the risks.

ISE fully endorses the statement by Christian Ehler, STOA Chair of the European Parliament: *"We cannot take academic freedom for granted, we need to fight to preserve it in Europe and the world."*²⁴

Although the EU's research instruments are not involved in all of these threats, we call on the EU to include openness in its basic principles, and to defend academic independence in EU countries and all over the world.

IV. Conclusions and main recommendations for HE

To conclude, ISE recognizes and is grateful for the efforts made by the EC in setting up HE. Nevertheless, we believe that certain subjects deserve the establishment of a co-creation process like the one that led to CoARA. Mutual trust and collective effort are the only way to move forward in a context of growing crisis and mistrust.

ISE, as a collective of its member organisations, makes some recommendations which would be of simple and feasible application, within the framework of the regulations of HE, and which could greatly contribute to its success.

Recommendation 1. Simplify the System and Language

The DG RTD together with the other DGs should make a very significant effort towards a simplification and harmonisation of its lexicon and structuration of its programmes, so that a researcher with no expertise in Horizon Europe can easily identify appropriate funding schemes.

Put yourself into the shoes of a researcher who is looking for programmes and funding schemes responding to their needs. They should find answers independently to the programmes and budget lines of a FP structure. A very substantial, yet underestimated, obstacle to the participation of European researchers to the instruments available in Horizon Europe is their complexity, and the wealth of the lexicon, including acronyms, names of programmes etc., which, from one framework programme to the next one, can well have

²⁴ [European Parliament STOA Panel on Academic Freedom](#)

changed. To name a few: research and innovation action, coordination and support action, funding mechanism, mission, cluster, ...

The language of the Commission

A researcher from a Widening country looking into funding opportunities will easily reach a dedicated [web page](#) containing links to **nine** instruments under the heading “funding opportunities” - where none of the names is transparent for unknowledgeable, yet excellent researcher. Should she or he click the mysterious entry “pathways to synergies”, they would be confronted with the task of interpreting: “The scheme will unlock synergies of Horizon projects with funds under the cohesion policy in Widening countries. It provides support for additional efforts required for setting up the interfaces between two different funding systems.” One easily understands how discouraging such an internet surfing experience could be.

[Details in section [IIF](#)]

Recommendation 2. Trust in beneficiaries’ implementation capacities and accountability

ISE calls the EC to increase trust in beneficiaries which would allow for better adaptability to research project needs and faster and improved achievement of the project objectives.

ISE demands to give more flexibility to beneficiaries in shifting funds in one project as long as the goals are achieved or even more could be achieved.

ISE suggests that beneficiaries are given the options to choose between lump sum and actual cost-based funding when submitting the proposal.

ISE considers that the role of consulting firms needs reflection to allow for a targeted and fair use of their services.

[Details in section [IIF](#)]

Recommendation 3. Protect the Pillar 1 budget, in particular MSCA and ERC, from any budget cut

Two programmes, MSCA and ERC, with different but complementary objectives and criteria, specially **contribute to raising the levels of excellence in Europe**.

Both are currently the only programmes that allow to carry out bottom-up, curiosity driven, ground-breaking research at the frontier of knowledge, both produce new knowledge **and generate potentially useable knowledge and unexpected benefits to economic and social welfare**.

[Details in sections [IIA](#) and [IIB](#)]

Recommendation 4. Improve the Involvement of the Academic sector in Collaborative Actions

The Research and Innovation cycle in Pillar 2 of HE must be designed to achieve a balanced involvement of basic and applied research in addition to demonstration and innovation actions, so as to strengthen the effectiveness of the European innovation ecosystem by allowing a continuous flow between advancement of knowledge and development of technologies at different TRLs, hence well addressing the needs of the industrial sector and private companies.

Include collaborative basic research as an intrinsic component of R&I Actions and occasional focus as Research Actions (RA), particularly for funding that addresses Global Challenges. Add Research Actions in Pillar 2 to help overcome the gap of collaborative basic research and complete the research and innovation cycle.

Reduce obstacles to an adequate involvement of public research institutions in the PPP. There is an inherent interest of the academic sector to be more involved in such partnerships, also in terms of governance.

[Details in sections [IIA](#) and [IIB](#)]

Recommendation 5. Foster Interdisciplinarity

- Allow for the combining of several disciplines in one same project.
- Enable flexible budgets across intervention areas and across Clusters with no additional administrative burden, and create calls across different Clusters.
- Adjust the evaluation to better consider interdisciplinarity and emerging fields in research projects submitted to all FP actions including MSCA and ERC (this issue is part of the goals of CoARA).
- Adapt reward systems in order to properly recognise interdisciplinary research (see section III C).

[Details in sections [IIIC](#)]

Recommendation 6. Enhance the Widening Participation actions

ISE considers the equitable and fair participation of researchers across Europe to be a **major issue for the unity of the EU** and its neighbours. It is nevertheless essential to stick to the principle of excellence that governs the FPs. Talent and outstanding potential candidates exist all over Europe. We advocate:

- Simplifying the schemes and putting in place mechanisms to help researchers from Widening countries to participate in all HE pillars.
- Increasing the periods of project funding up to at least three years.
- Deploying communication, training efforts and support structures to empower researchers and encourage them to apply. Build coordination capacities through a small incentivising top-up percentage. Create incentives to include partners from EU-15 countries in consortia when they bring added value.

- Helping empower individuals and research groups to apply to EU funding by developing support structures (through adequate use of PSF or Structural Funds) or through the mutualisation of support services through the Universities Alliances.
- Enhancing the support and funding to exchange networks for researchers, ideas and research results (COST Actions) marrying inclusiveness and excellence as they have proven to support the increase of successful spin-off projects submitted to the FPs.

[Details in sections [IIE](#)]

Recommendation 7. Enhance researchers' careers through HE

Include research careers in the second part of the Strategic Plan of Horizon Europe: issues and needs of concerning researchers, with the prospect of a dedicated programme and budget.

Conduct of an analysis of the situation, after the pandemic and during a war, to achieve a first level of solid knowledge of the evolution in recent years of early career researchers and their intentions to choose research as a possible career path. This should pave the way for a “Research & Innovation Careers Observatory”.

Put in place a high-level joint EC-employing research entities task force composed of EC DG RTD and DG EAC Director-generals and Presidents and CEOs of representative Universities (or European University Alliances), RP/TOs and Companies, covering main fields of science and technology with the mission to help set the fundamentals for the “European Framework for Research Careers” and in order to bring about the commitment of employers

Launch a pilot project/initiative in 2023 to imagine a coordinated investment mechanism between the EC and Member States and to prospect a new programme dedicated to incentivising research institutions to foster appropriate career paths for researchers and adequate budget.

[Details in Section [IIID](#)]

V. Messages for the Future of European Science

Recent crises have underlined two major challenges for the EU:

- its capacity to act sovereignly in the world arena; this has several components: security, military, energy, industrial, innovation aspects, *etc.*

- its capacity to project itself in an evolving multipolar world, with respect to its major competitors, China and the USA, as well as many other smaller countries.

On one hand, these challenges have an impact on research, on the other hand, research can help address these challenges.

Message for the future 1: Threats against science, researchers and academic freedom

Recent years have seen increasing threats, including physical threats against science and researchers, based on underground campaign in social media, fake news *etc.* On another

dimension, there have been limitations to the freedom of research, either because research goes against the views of the government, or in the name of security issues. One must keep a balance between the risks which might follow from collaborating with researchers (notably doctoral and post-doctoral researchers) in other countries, and the reward stemming from these collaborations. All too often, a lack of understanding of the open character of academic research leads to establishing detrimental barriers slowing or even preventing worthy projects to flourish. We call on the European Union **to protect, by legal means, the Academic freedom of researchers.**

[Details in section [IIIE](#)]

Message for the future 2: Science diplomacy

Science diplomacy is a crucial component of soft power. The capacity to attract talented researchers from all over the world has a huge potential impact by

- improving the quality of research performed in the EU
- establishing links with the countries of origin of these researchers which will be useful for decades to come, whether these researchers go back to their home country or they stay in Europe, whether they stay in academic research, join companies, work for governments or in international organisations.

[Details in Section [IIA](#)]

Message for the future 3: Distinguish the goals and the pathway

Policy makers should **define the goals but leave choice of the pathways** to reach them open to the stakeholders, in order to encourage innovation, flexibility, and evidence-based confirmations. In this way pathways can compete as they are neither preferred nor excluded and combining the advantages of different approaches can be encouraged. Through this approach, policy makers will be able to mobilise the European research community and all interested actors in research and innovation to achieve the targets set out in the EU Green Deal and in the UN Sustainable Development Goals.

[Details in Section [IIF](#)]

Message for the future 4: Consult European academic associations

To date the EC consults scientists mainly directly or through Member States, often bypassing national and European level organisations. We strongly recommend consulting scientists in addition through their European academic associations (i.e. ISE and its members, EASSH, etc). This will add to individual expertise a broader, well balanced, reflection from the entire science community from a given discipline.

This is crucial for identifying strategies and funding priorities, but equally important for High-Level Advisory Groups, Stakeholder Groups and governance structures for European Innovation Partnerships (EIPs) and Public-Private Partnerships (PPPs).

[Details in Section [IIIB](#)]

Message for the future 5: Set up a programme dedicated to a researchers' careers in Framework Programme 10

Define an **attractive, flexible European Framework for Research Careers** in Europe to guarantee adequate framework conditions for research careers, including work-life balance, employability and access to social protection for all and fair pension rights, essential for creating conditions to retain and attract talents to Europe facilitating interoperability, comparability, career breaks and geographical, intersectoral and interdisciplinary mobility of researchers.

Put in place a **European Research & Innovation Careers Observatory** to monitor research career paths and provide factual data allowing for evidence-based decisions.

Anticipate a **new dedicated programme** with a significant own budget, in 10th Framework Programme (2028-2035), involving Member states engagement and stakeholders' commitment.

[Details in Section [IIID](#)]

Glossary

- COST** European Cooperation in Science and Technology
- DG** Directorate-General
- EC** European Commission
- ERA** European Research Area
- ERC** European Research Council
- ERDF** European Regional Development Fund
- ESIF** European Structural and Investment Funds
- EU-15** The Member States who can benefit from the Widening Participation measures; this includes “EU-13”, the 13 countries who joined the European Union on and after 1 May 2004 (Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia) plus Portugal and Greece. In addition, the outermost regions of France and Spain are included.
- EU-12** Member States in the European Union prior to 2004 and who still belong to the EU, minus Greece and Portugal, who are part of EU-15. They do not benefit from Widening Participation funds, except the outermost regions of France and Spain.
- EU-27** The EU Member States from the European Union in 2023
- FP** Framework Programme
- FP6** Sixth Framework Programme
- FP10** Tenth Framework Programme, Horizon Europe
- H2020** Horizon 2020
- HE** Horizon Europe
- ISE** Initiative for Science in Europe
- LERU** The League of European Research Universities
- MSCA** Marie Skłodowska-Curie Actions
- NEST** New and Emerging Science and Technology
- NCP** National Contact Points
- PPP** Public-Private Partnership
- R&I** Research and Innovation
- SSH** Social Sciences and Humanities
- STOA** Science and Technology Options Assessment Panel
- SwafS** Science with and for Society
- TRL** Technology Readiness Level

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ABOUT ISE

The Initiative for Science in Europe (ISE) is an independent platform of 16 European Learned Societies and Research Organizations operating within different disciplines and across sectors. ISE supports all fields of research at a European level, involves researchers in the design and implementation of European science policies, and advocates strong independent scientific advice in European policy making.

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