

DLR Position Paper

on the

public consultation on the past,
present and future of the
European Research & Innovation
Framework programmes 2014-
2027



Executive Summary and Key Messages

Research organisations are essential actors in the European innovation ecosystem as they support creating and better dispersing of excellent knowledge and technologies. Their efforts as well as the results of their activities allow Europe to develop cutting-edge solutions for existing challenges. With regard to the European R&I landscape, DLR considers Horizon 2020 and its successor, Horizon Europe, as the key European instrument to implement European visions and strategies. Especially in times of economic pressure and budgets cuts (e.g. due to external factors), DLR calls for increasing R&I investments for a brighter future, where success depends ever more on the production and conversion of knowledge into innovation. In this context, DLR takes the opportunity to underline that funding being dedicated to the European Research and Innovation framework programme should benefit R&I activities (through the entire value chain), but shall not be misappropriated by being diverted to other European instruments like the energy breakthrough program and others.

Key recommendations in a nutshell are as follows:

- The Framework Programme for Research and Innovation needs to fund and support the entire R&I chain from basic research, application-oriented research, technology demonstration and validation up to innovation, to ensure European Leadership and European Competitiveness in the world.
 - Increasing R&I investments is crucial for the future of Europe in times of high global competitiveness, where success depends ever more on the production and conversion of knowledge into innovation. Especially in times of economic pressure (e.g. due to external factors), it remains essential to continue to allocate sufficient money for R&I.
 - In order to ensure EU added value, the FP should be the key European instrument to implement European R&I Visions and strategies and to support cross-border cooperation to support the realisation of the European Research Area.
 - Collaborative Research and partnerships in particular between industry, research and academia are the key instrument to ensure a quick transfer from knowledge into application and thus innovation. This is the core added value of EU-wide cooperation.
 - The European innovation council adds value to the European R&I landscape as it tackles the upscaling of technologies and enables impact to a greater extend. However, the European Innovation Council shall be on top of a well-funded framework programme and shall not be in financial competition to funding for research.
 - As a golden rule, funding dedicated to the European Research and Innovation framework programme should benefit R&I activities (through the entire value chain), but shall not be misappropriated by being diverted to other European instruments or used as subsidy of private companies outside their R&I activities.
 - As Missions are addressing to a major part deployment and implementation and only to a very minor part real R&I, the framework programme can contribute to Missions defined and implemented on the overall EU level, like the current joined calls between Horizon Europe Partnerships and the Missions (involving all Mission related DGs). Therefore, missions are
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not applicable as a blue print for a research and innovation activities embedded within a framework programme. With missions being part of Horizon Europe, it is key to keep the well-balanced approach between the different TRL levels and topics. DLR strongly advises against using dedicated budget from the R&I programme to finance implementation as there are other dedicated tools on EU-level for this purpose, e.g. European Fund for Strategic Investment, Structural and Investment Funds, Connecting Europe Facility, Digital Europe and others.

- With regard to the type and structure of the calls in Horizon Europe, a shift away from joint research projects and instead towards individual funding measures (ERC; EIT) is noticeable. DLR is in favour of a fair balance between these two types and once again emphasizes the immense added value of cross-border cooperation and collaboration between researchers from industry, research organisations and academia in joint European projects.
 - Simplification efforts (such as the Lump Sum approach) are welcomed if researchers (and their institutions) can benefit from them. Shifting administrative burden from the accounting to the project preparation phase defeats the purpose of simplification. Furthermore, if measures like lump sums lead to less international cooperation within an EU project, due to higher uncertainties the approach is even counterproductive.
 - DLR welcomes any initiatives of the European Commission to better align programming and funding rules of the different EU-funds to allow for increased coherence and synergies. However, experience has shown that synergies can work between initiatives addressing similar topics. Synergies between programmes without any common content can hardly be realised.
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Setting the Scene

Europe is putting forth a great effort to improve and sustain the continent's robust growth and development, while creating a better quality of life. Europe's key funding programme for research and innovation, Horizon Europe, succeeded Horizon 2020 and is with €95.5 billion the most ambitious programme ever implemented. DLR applauds the European Commission as well as the European Parliament to invest substantial resources towards alleviating societal challenges facing its citizens: lack of skilled work force, industrial modernization, smart, sustainable and inclusive growths and particularly the twin transition achieving digitalisation and the EU Green Deal.

Key aspect for the achievement of these goals is the continued investment in research and innovation activities covering the entire value chain from Technology Readiness Levels (TRL) 1 up to 8-9. This starts from the support of novel ideas that emanate from basic research, continues via applied research with technology development, technology validation, and system demonstration and goes up to the final development of innovative products, which can then be successfully deployed.

DLR is and has been one of the major participants to the European framework programmes. Its portfolio covers activities in all parts and pillars of the Framework Programme (FP), i.e.

- European Research Council (ERC),
- Marie-Sklodowska-Curie Actions (MSCA),
- Research Infrastructures
- Cluster Civil Security for Society,
- Cluster Digital, Industry and Space,
- Cluster Climate, Energy, and Mobility, and
- European Innovation Council (EIC)

The main motivation for DLR to participate in European FP is to collaborate with European and international partners to broaden and deepen DLR research activities over the entire span of Technology Readiness Levels (TRL). Furthermore, the international cooperation dimension of the programme is seen as key to achieving a critical mass to tackle grand societal challenges, to secure Europe's global competitiveness and to foster multicultural education. Supporting only national or even regional programmes will not add sufficient value to this superordinate importance. Cross-border collaboration in research in Europe is essential to get access to and combine knowledge of European partners in order to ameliorate the results (and their exploitation) and avoid harmful fragmentation as well as duplication. Consistent with the spirit of both framework programmes Horizon 2020 and Horizon Europe, DLR strives for interdisciplinary cooperation, e.g. between academia and the private sector to deliver innovation while acknowledging the particular role of research organisations.

Investing in research and innovation is essential if Europe wants to move forward, realising its goal to become a true knowledge-based economy and to keep track of global developments. The EU

should continue to set the right example by dedicating a considerable part of the budget and efforts to the European Research and Innovation framework programmes in order to address societal needs and maintain European leadership.

On the Intervention Modes and Types of Action

Past and current framework programmes have created successfully the technological basis for a competitive and sustainable European industry by providing continuous support along the entire research and innovation value chain. As the world is facing enormous challenges, from climate change, epidemics and, most recently, threats to our security and European values, Europe needs to team up in order to properly address them. In DLR's view, European partnerships are the unique instrument to significantly contribute to the global challenges and EU priorities. Partnerships such as Clean Aviation, Clean Hydrogen, Europe's Rail and others create a valuable ecosystem of trust and collaboration where a long-term vision that is both agreed on and committed to by the respective private sectors can be implemented. This is the basis to ensure a quick transfer from knowledge to application and thus innovation and impact. It is crucial to visibly increase the impact generated by European R&I investments and to directly showcase it to the European citizens. Partnerships are amongst the main instruments to showcase and to demonstrate this impact and the solutions derived can ultimately deliver on the ambitious goals.

DLR underlines the significance of collaborative research and partnerships, in particular between industry, research organisations and academia as they are the key instruments to realise the European research and innovation chain.

Recommendation:

Collaborative research and partnerships, in particular between industry, research organisations and academia should be maintained and strengthened as key instruments of European Framework programs to ensure a quick transfer from knowledge to application, to allow innovation and create European added value.

With the aim to better comprehend the impact of European research and innovation programmes on European citizens' daily lives, the European Commission introduced the concept of missions as a new instrument in Horizon Europe. Having bold and inspirational headlines, missions strive to mobilise and activate public and private actors to engage with citizens in order to boost societal uptake of new solutions and approaches. In general, DLR welcomes missions as a substantial instrument to increase the impact and visibility of European research and innovation. DLR sees that missions can grasp the public imagination and nurture a spirit of European collaboration amongst different disciplines, stakeholders and sectors. With regard to the first years of missions being part of the Horizon Europe Framework Programme, DLR, however, raises massive concerns on the set-up and their implementation. With missions addressing to a major part deployment

and implementation activities and only to a very minor part real R&I, the framework programme and its calls for proposals can contribute to Missions' success. However, the current successful set-up of impact-driven bottom-up calls across clusters and destinations allowing synergies is not replaceable by bold missions as both approaches top-down and bottom-up are needed.

Recommendation:

Rather, instead of using missions as a blue print for research and innovation activities embedded within a framework programme, they should be set as goals for the European society R&I results can feed to.

Recommendation:

With regard to the set-up of missions, DLR strongly advises against using dedicated budget from the R&I programme to finance implementation of missions as there are other dedicated tools on EU-level for this purpose, e.g. European Fund for Strategic Investment, Structural and Investment Funds (ESIF), Connecting Europe Facility (CEF) and others.

In line with the ambition to create impact and to properly respond to the societal challenges, synergies are key to create more impact and EU added value. Even though the current legislation of the different EU Funds, such the Framework Programme for Research and Innovation, Erasmus+, ESIF or CEF allow for synergetic application, reality is that the different funds hardly correspond. The different funds need to have their own purpose and goal, but should be perfectly aligned with one another, to allow for synergies wherever possible.

Successful examples like CEF transport funding for the SESAR deployment manager complementing the SESAR Joint Undertaking towards higher TRL show that synergies between programmes and initiatives addressing similar topics can be realised. This holds true for the EU Space Programme taking over technologies developed under Horizon Europe Space and for some elements of the ERDF programme benefitting from technologies developed under the aviation and / or space topics in Horizon Europe. Synergies between programmes without any common content can hardly be realised.

Recommendation:

Content related programming and funding rules of the different EU-funds should be better aligned to allow for increased coherence and synergies.

On the implementation of the programme/projects and procedures

Following the latest ECA annual reports, European Commission sees a need to – amongst others – reduce the error rate in the R&I Framework Programmes. With this in mind, the concept of lump sums was introduced as one essential key measure to offer simplification to researchers and their institutions. DLR welcomes any kind of simplification efforts if researchers can truly benefit from them. Having regard to the first experiences of lump-sum projects within Horizon Europe, however,

the idea of simplification took a back seat as administrative burden was mainly shifted from the phase of accounting (after the project's lifetime) towards the phase of proposal preparation. Furthermore, potential side effects, as they were called in the beginning, such as higher financial risks, fewer newcomers and others turned out to become major issues. The reduction in the number of institutions per work package or the increased planning effort in advance are just a few examples how simplification is defeated. By creating a system, in which the financial risk needs to be collectively covered, the building of trusted relationships among partners and especially the integration of not well-established institutions has been obstructed. Furthermore, if measures like lump sums lead to less international cooperation within an EU project, the approach is even counterproductive.

Recommendation:

DLR calls for a thorough review of the lump sum approach as assumed minor effects turn out to massively oppose overarching goals such as openness to newcomers and cross-border collaboration within projects.

With regard to the definition and the implementation of the calls, DLR witnesses a severe decrease in success rates of eligible full proposals in Horizon 2020. In order to improve the quality of their proposals, researchers spend significant time on writing them, calculating project months and optimizing their proposal, especially for lump sum proposals. However, cases increased in which projects with an evaluation score of 14 or even higher being rejected. Beyond all doubt, the interest amongst researchers to submit proposals to European programmes is a positive sign. However, the issue of oversubscription can be properly addressed by narrowing down the scope of calls and focusing on relevant expected impacts. In case a call includes multiple topics and pathways to be followed, it should be made explicit to which extent they are essential, complementary and / or alternative. If partial coverage is to be reflected in lower scoring, relevant criteria should also be made explicit to evaluators and proposers. This approach would allow researchers to efficiently channel their resources and relevant criteria should also be made explicit to evaluators and proposers.

Recommendation:

DLR calls for more focused work programmes to reduce oversubscription. In addition, it will allow to identify experts with the appropriate education and experience for a high quality and overall accepted evaluation process, which should be based on clearly communicated criteria.

DLR at a glance

DLR is the Federal Republic of Germany's research centre for aeronautics and space. We conduct research and development activities in the fields of aeronautics, space, energy, transport, security and digitalisation. The German Space Agency at DLR plans and implements the national space programme on behalf of the federal government. Two DLR project management agencies oversee funding programmes and support knowledge transfer.

Climate, mobility and technology are changing globally. DLR uses the expertise of its 55 research institutes and facilities to develop solutions to these challenges. Our 10,000 employees share a mission – to explore Earth and space and develop technologies for a sustainable future. In doing so, DLR contributes to strengthening Germany's position as a prime location for research and industry.

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