

JOINT BERLIN POSITION PAPER ON THE FUTURE EU FRAMEWORK PROGRAM FOR RESEARCH AND INNOVATION (FP9)

February 2018

Introduction

Research and innovation are the foundation of European competitiveness. Since the two areas both build and depend on one another, they require not only a joint strategy, but funding policies that are interconnected. Research and innovation have long since become a Berlin hallmark – one that has growing visibility in the outside world and has, at the same time, become a strong pull factor.

Fundamental to success in research and innovation is targeted funding that also facilitates cross-border activity. In this context, the EU Framework Programs have become an essential funding instrument. In the 2007 – 2013 funding period, Berlin received grants of almost €585 million from the *7th EU Research Framework Program (FP7)* for participation in 1,500 projects. This trend has continued in the EU Framework Program for Research and Innovation *Horizon 2020 (H2020)*. Halfway through the funding period, applicants from Berlin have already been awarded around €355 million.

Berlin believes that in addition to the issues highlighted in the position paper¹ on the midterm evaluation of *H2020*, the following key themes are especially important if we are to continue charting a course for success and to combine our efforts to advance Europe as a scientific, academic, research, and innovation hub.

A summary of this position paper's recommendations can be found on page 7.

¹ <http://www.berlin.de/sen/wissenschaft/politik/internationales/>

Scientific excellence

The **scientific excellence** of the project proposals, augmented by the anticipated **benefit to society**, should be the **primary consideration in their evaluation**. Although other sociopolitical aspects, such as training the next generation of researchers, science communication, and public participation, are vital components of the framework program, they should not drive funding decisions, nor should they be binding for all projects. Rather, they should be included wherever they make sense and can be most useful. This would probably also help make EU funding more attractive to top researchers.

The desired concentration on scientifically relevant project content could be achieved by **introducing complementary measures** that would be implemented along the same lines as the European Research Council's *Proof-of-Concept* funding line. An alternative might be the **creation of clusters made up of a number of smaller collaborative projects** that receive additional funding to address sociopolitical aspects in a more focused – and therefore more effective – manner.

In the context of excellence, **the term *impact* should definitely be given a broader meaning** to include more than the technological advances made by a given project. Social issues are at the heart of many challenges facing Europe right now, and generating new knowledge is also one of Europe's assets. As a result, **social and academic *impact* should be put on a par with economic impact** when evaluating a project. We suggest using the term "benefit to society" instead. This term would be applicable to all of the framework program's thematic areas.

Collaborative research

Collaborative research is an integral part of the framework program. The joint cross-border research done by partners from the scientific, academic, business, and industrial sectors makes a considerable contribution to the strength of the European Research Area. We have noticed that the groups – which, under *FP7*, were balanced and on an equal footing in terms of their composition and their focus – are increasingly being dominated by partners from industry under *H2020*. As a result, the projects are no longer evenly weighted. However, in order to master the great challenges faced by society and to pave the way for innovation, all of the stakeholders must play an equal role.

Although the applicability of scientific findings is a significant factor and must be kept in mind, it is **not always** beneficial to concentrate **solely on a high technology readiness level (TRL)**. Collaborative research on all technology readiness levels facilitates greater diversity in the composition of consortia and, as a result, a broader spectrum in terms of content – from application-oriented basic research to innovation-oriented projects. Projects with lower TRLs lay the foundation for later innovations, while medium to high TRLs result in findings that are closer to application and exploitation.

Success rates

FP9 must address the high oversubscription of calls for proposals. Success rates of below 10% are unacceptable and threaten the appeal of the EU framework program. Under *H2020*, an average of only 11% of applications was able to be approved, although 44.7% of the applications received were classified as deserving of funding.² With an eye to preventing this waste of human and financial resources, we should strive for an **increase in success rates** that brings them back to the levels we saw under *FP7*. Consequently, we call on the EU to develop strategies to deal with this problem and to put them in place as soon as possible. These should include an **adequate budget** for all of the program lines; this budget should make it possible to approve all of the proposals considered exemplary and to reduce the number of projects that are rejected because of limited resources, despite being deemed deserving of funding.

In addition, the **two-stage application procedure** should be retained in the next framework program. However, it should be noted that a two-stage application procedure makes sense only if the first stage requires significantly less detail than the second. That is currently not the case – although the application is shorter and an itemized budget is not required, at the moment applicants must devote a lot of time (and, as a result, financial resources) to working out all of the details of the project's structure, implementation, and allocation of tasks and the budget within the consortium in order to submit an application that has a chance of being approved. In appropriate calls for proposals, we recommend limiting the first stage to an even simpler, roughly 5-page short application that would, at this point, be evaluated only on its excellence. Because of the shorter applications, less time would be needed for the evaluation phase – leaving more time for the second stage and the drafting of the complete application. In addition, in view of the financial and human resources involved, it would be beneficial if the success rate in the second stage were closer to the 42% achieved by the *ERC*.

Another solution that could help increase success rates would be a reduction in average project size. Funding **smaller collaborative projects** (≤ 10 project partners) would enable the realization of many more projects than in the past, giving more institutions the chance to take part in the framework program. Furthermore, calls for proposals with **more clearly defined themes** should be issued more often. This would seem to be especially crucial with regard to the *missions* that have been proposed. As a result, when *missions* are introduced, care must be taken to formulate the themes clearly and not too broadly.

Finally, **lowering the percentage of funding for industry** (with the exception of SMEs) could help to increase success rates. Reducing funding for partners from industry would not only curb windfall effects, but would also result in many more projects being funded by the framework program overall.

² *Midterm Evaluation Horizon 2020*

Innovation

An integrated approach should be taken to innovation if we are to develop sustainable solutions to meeting future challenges and boost Europe's competitiveness internationally. A **broad understanding of innovation** (cf. *OECD Innovation Strategy - 2015*³) should be the basis of every European funding decision. Only this will move Europe forward as a whole and allow those who generate new ideas and those who develop these ideas further to be truly innovative. Because both basic and applied research are essential to the innovation cycle, we cannot afford to neglect these vital components of the value chain. Consequently, we call on the EU to strengthen these elements again in the new framework program and to widen its focus on product and service innovations to include social, cultural, and environmental aspects⁴ and, not least, regulatory aspects, such as recommendations for a more effective legislative framework. This integrated approach offers the chance to bring science, academia, business, and society together and to create a platform that will generate innovative European solutions for upcoming challenges. As a result, it would be extremely detrimental if a *European Innovation Council (EIC)* pillar were to fund only business. The **necessary dovetailing of business and science** – for instance, in *startup* funding and in imparting entrepreneurial skills – can only be achieved by close cooperation between companies and research institutions.

Under the umbrella of the *European Institute of Innovation and Technology (EIT)*, the *Knowledge and Innovation Communities (KICs)* bring education, research, and innovation together to confront the social challenges facing Europe. In the interest of streamlining its substantial administrative structure, we suggest that current and future *KICs* be put entirely under the aegis of the new framework program. Likewise, it would be advantageous if the *KICs* already in operation were opened up, thereby enabling all of the relevant European stakeholders to take part. It is also vital that the *KICs* should stress the importance of a partnership of equals within their triangle of education, research, and innovation.

Grants vs. loans

We oppose expanding the financing mechanism to include more loans to fund projects. Loans not only exclude many publicly financed institutions in Europe from participating in calls for proposals, but are also an obstacle to meeting medium-term *impact* expectations. Innovations that have a sustainable impact (such as new technologies to reduce CO₂ emissions) generally need several years for market entry and until they generate significant earnings. However, quick and, in some cases, large profits are essential if a loan is to be paid back. As a result, **grant-based funding must remain a core element of the framework program at 99% of the funds to be awarded.**

³ OECD - Directorate for Science, Technology and Innovation. <http://www.oecd.org/sti/innovation-imperative.htm>

⁴ Europäische Kommission: Innovation. <https://ec.europa.eu/programmes/horizon2020/en/area/innovation>

The SME instrument and the EIC

The creation of the *EIC* offers a unique opportunity to improve the European funding landscape for innovation and to supplement the various national funding landscapes by pooling the existing innovation-related measures. We recommend that the *EIC* concentrate on **bringing research and innovation – and, as a result, science, academia, and business** – together.

Because of its *bottom-up* approach, we believe the *SME (small and medium-sized enterprises) instrument* is an especially important support measure for highly innovative small and medium-sized enterprises, particularly when it comes to internationalization. It augments and facilitates cooperation structures between companies and, in well-founded cases, also includes research institutions, universities, and larger companies as subcontractors in technology fields with significant growth potential.

The demand for the *SME instrument*, and especially for individual funding, is very high in Berlin, particularly in the case of Berlin's highly innovative young *high-tech SMEs*. The high participation demonstrates this instrument's particular appeal to the target group that is pressing ahead with market-oriented innovation projects (TRL 6 and higher), usually as independent entrepreneurs, is trying out new business models, and has the potential to achieve quantum leap innovations. **As a result, we are in favor of SME instrument applicants continuing to have the choice of submitting an individual or a group application.**

Research and education

Close cooperation between research, business, and education is fundamental to a resilient and open society. The innovation landscape in Germany – and especially in Berlin – benefits enormously from these interrelationships, and it explicitly promotes collaboration. This is evident in, among other things, Berlin's productive participation in the *KICs*, which are guided by the idea of bringing different sectors together and generating innovative and creative momentum.

Diversity and independent, complementary partners are a European recipe for success. Europe's "unity through diversity" will be compromised, however, if alignment becomes so sweeping that individual manifestations are no longer permissible. The unconditional recognition of university degrees is the right step forward for the European Higher Education Area, which is intended to complement the European Research Area. However, the harmonization of curricula and inclusion of aspects typical of traditional vocational training seem to contravene the diversity idea. The kind of scholarly education practiced in Germany and envisioned by Humboldt is holistic and intended to train scholars and scientists, not technicians. If we are to meet the challenges of the future, we should be consistent in continuing this approach. We are critical of the fact that the current discussion on the European level assigns less significance to education as such and is geared more towards

the labor market. **Skills and vocational training cannot be equated with higher education; rather, they complement it.** This should be kept in mind when designing the next framework program and especially the *Marie Skłodowska-Curie Actions*.

Europe as a center of science and learning will remain successful and competitive internationally only if we continue to support ideas, give researchers **the scope they need for trial and error**, and make it possible for knowledge to be refined, put into practice, and introduced to the market. This applies **not only to young and highly innovative startups, but should be realized equally for universities and research institutions.**

Recommendations

The key messages of this position paper are listed under the individual themes as follows:

- We believe scientific excellence should continue to be the primary criterion for funding, augmented by the anticipated benefit to society.
- We propose introducing regular, open calls for proposals for ancillary measures for current and already completed projects to the Framework Program for Research and Innovation. These ancillary measures could cover the following areas:
 - a) PoC: *Proof-of-Concept (PoC)* applications should be able to be submitted for all project types, not just ERC projects.
 - b) Outreach: Complementary measures for additional outreach activities, involvement of stakeholders, introduce citizen science and data management.
 - c) Training: Introduce complementary measures for additional training activities.
- We support small collaborative projects with low technology readiness levels (TRLs) and a focus on producing scientific findings.
- We believe that *impact* und *innovation* should be broadly defined and that social, academic, and economic aspects should be integrated into that definition.
- We advocate raising success rates by increasing the overall budget and revising the two-stage application procedure in order to maintain the program's appeal and conserve the resources of the institutions submitting applications.
- We advocate funding smaller consortia (≤ 10 project partners) that could, if necessary, be formed by bringing together project teams with a similar focus after the application phase; these could engage in an exchange and/or initiate joint activities (formation of *clusters*).
- We recommend issuing calls for proposals with clearly defined themes.
- We call for lowering the percentage of funding for partners from industry (except SMEs).
- 99% of the projects should continue to be funded by grants and not by loans.
- We recommend that the EIC bring together and fund research and innovation and thereby science, academia, and business.
- We endorse continuing the *SME* instrument in its present form (with the option to submit single or group applications – that is, no limitations on individual projects by *SMEs*).
- We believe that traditional vocational training and university education should not be viewed as elements of the Framework Program for Research and Innovation, but should be funded in the programs more suited to this support.
- We advocate flexibility, room to maneuver, and the possibility of trial and error both for young *startups* and for universities and research institutions.

Undersigned by

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