Position of the Helmholtz Association on the Structure of the Eighth Framework Programme of the European Union for Research and Technological Development (2014 – 2020)

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HELMHOLTZ
ASSOCIATION

The Helmholtz Association of German Research Centres with its 28,000 employees and an annual budget of 2.8 billion euros is Germany's largest research organisation and one of the largest in Europe. The Helmholtz Association participates in many European projects – often in a coordinating role – and benefits considerably from the established instruments of the Framework Programme of the European Union for Research and Technological Development. The instruments and actions of the Framework Programme contribute significantly towards supporting networking and collaboration between the scientists of the Helmholtz Association and researchers throughout Europe. They facilitate as well activities which cannot be realised at the national level or which provide added value in the form of collaborations at the European level.

The Helmholtz Association has attentively followed the evolution of the EU research framework programmes and supports the further development of an attractive and effective framework for excellent research at the European level. The Helmholtz Association offers the following opinion for consideration in the ongoing dialogue on the future of the European Research Area (ERA) and the Eighth Framework Programme of the European Union for Research and Technological Development (FP8), and will endeavour to make constructive contributions to this discussion in the months to come.

The next Framework Programme, which will commence in 2014, will be crucial to the further development of the ERA. In the following, the initial recommendations of the Helmholtz Association for FP8 are summarised:

1. **Continue collaborative research as the backbone of the research framework programme and an essential element to strengthen scientific cooperation in Europe**
2. **Provide adequate European funding for the construction, operation and scientific utilisation of large-scale research infrastructures**
3. **Support strategic research partnerships to seek solutions for the grand challenges facing society**
4. **Ensure continuity in the implementation of FP8**
5. **Improve user friendliness in order to increase the attractiveness of the research framework programme and ensure the participation of the best researchers in Europe**
6. **Ensure scientific and technological excellence as the principal criterion in the selection of research projects for funding**
7. **Strengthen international co-operation activities**

1. Continue collaborative research as the backbone of the research framework programme and an essential element to strengthen scientific cooperation in Europe

The funding of collaborative research projects in the EU framework programmes is a proven means to stimulate and reinforce cooperation amongst researchers from many different countries, regions and research funding systems – both within and outside Europe. Collaborative research is the most appropriate funding instrument at our disposal for reacting quickly and flexibly in the short to medium term to current or emerging issues in both science and industry. Furthermore, it facilitates the establishment of varying international partnerships without long negotiation procedures and according to a unified body of rules and procedures. European collaborative projects allow co-operations that are difficult (or impossible) to realise at the national level and permit flexible links amongst participating groups from all eligible countries. Collaborative research projects provide the foundation for a genuinely "lived" European research culture, since with the help of this instrument collaborations amongst both established researchers and junior scientists can be stimulated and consolidated over the long term.
Other instruments and initiatives such as the ERA-NETs, the Joint Technological Initiatives (JTIs) or the European Institute for Innovation and Technology (EIT) cannot replace this function within the overall funding system. Nor can the European Research Council (ERC) take over the strategic tasks of collaborative research because its funding schemes are thematically open and oriented towards individual researchers, rather than European or international consortia. Collaborative research at the European level thus fulfils a unique function in the European research funding system and must continue to be the backbone of FP8.

2. Provide adequate European funding for the construction, operation and scientific utilisation of large-scale research infrastructures

Many scientific disciplines require the deployment of large-scale, complex research infrastructures of European or international dimension. In addition to financing for construction, research infrastructures usually require considerable financial resources to cover operative costs, which in many cases exceed the construction costs by a significant amount over the life span of the infrastructure. Research infrastructures are not only used to carry out experiments and measurements; they also function as platforms for exchange amongst researchers and stimulate further developments in science and technology. For this reason, more financial resources for large-scale European research infrastructures should be made available in FP8, not only for design and construction, but also for operative costs and the expansion of scientific utilisation and access to facilities. Moreover, the duration of funding should be extended in order to facilitate effective management and an adequate time frame for planning and preparation.

3. Support strategic research partnerships to seek solutions for the grand challenges facing society

Research provides important contributions towards solutions for the formidable societal challenges of our times. Dealing with these complex issues in an effective and efficient way demands the active participation of all relevant European partners (European Union, Member States, industry, SMEs, research organisations, universities and other participants). To make this process more efficient, the European Commission should support strategic networking at the European level in these areas. If necessary or desired by the participants, the European Commission could act as a neutral moderator in this process, with the task of guaranteeing the benefits for Europe.

Within the applications-oriented fields the European Technology Platforms (ETP) have proved their value. In the ETPs, all stakeholders agree on a European research strategy and a roadmap for funding and implementing it, based on the individual responsibility of the participants. The Advisory Council for Aeronautics Research in Europe (ACARE) is one successful example of this approach. Funding provided by the different funding organisations for the research activities outlined in the strategic research agendas should be based on the principle of subsidiarity and the degree of innovation or market relevance.

Almost half of the publicly funded research activities in Europe are carried out by research organisations and institutes. No systematic support is presently available for these important research partners at the European level. In FP8 the EU should therefore support these research institutions in their efforts to coordinate their activities in order to reinforce this integration process and make it more efficient. In this context, it is important to consider that research organisations are financed in different ways and have different missions and structures that comprise many other research areas besides technologically oriented fields and themes. Nevertheless, the orientation towards long-term research and national or sectoral research problems and tasks are what connects them, particularly research aimed at finding solutions for the grand challenges of our society.

We therefore propose that the EU provide resources for the establishment and support of "European Strategic Research Alliances" in order to accelerate the integration and coordination of research activities carried out by nationally funded research organisations in Europe. Through the European Strategic Research Alliances working on the basis of voluntary participation, individual responsibility and variable geometry, research organisations and institutes could jointly define research strategies and achieve the critical mass necessary to implement selected research tasks

more effectively and efficiently. The Member States, the EU, industry, the universities and other relevant participants should be appropriately integrated into the process of planning and systematically carrying out these research tasks.

The establishment and work of the European Strategic Research Alliances should be supported financially by the EU. This means providing funding for coordination measures so that the partners in the Alliances can coordinate their research activities or for collaborative projects implementing the strategic research agendas.

Examples of strategic research alliances are the Association of European Research Establishments in Aeronautics (EREA), which has been in existence for 15 years, and the European Energy Research Alliance (EERA) established in 2008.

4. Ensure continuity in the implementation of FP8 – evolution, not revolution

Previous European Research Framework Programmes have succeeded in creating a solid foundation for successful and cross-border collaboration amongst researchers, covering the entire innovation chain. Concepts and instruments that have proven of value should therefore be retained and, where necessary, continuously optimised in FP8. In the view of the Helmholtz Association, there is however considerable potential for improving the efficiency of large-scale initiatives such as the JTIs, PPPs and joint undertakings. Before new measures comparable to these instruments are introduced, the lessons learnt from their implementation in FP7 should however be carefully analysed.

An incremental, evolutionary development of the framework programme and its instruments corresponds better to the rhythm of research and development in new branches of knowledge or technologies, from the formulation of initial concepts up to their transfer into the market. Throughout this process, it is essential to take different time frames into account. For example, the investigation of newly emerging issues or aspects can best be stimulated through short-to-medium-term funding that is granted competitively. This funding approach works best for research dealing with specific, discrete aspects comprising a larger research question or theme and is thus, so to speak, discontinuous, with a short-term horizon. In contrast, complex issues (e.g. the grand societal challenges) require a funding approach that allows for a comprehensive, continuous and systematic investigation of all the issues relating to a scientific question over a longer time horizon.

5. Improve user friendliness in order to increase the attractiveness of the framework programme and ensure the participation of the best researchers in Europe

The attractiveness and success of the European framework programmes depend to a large extent on an efficient and appropriate regulatory and administrative framework for grant recipients. Despite efforts to simplify the framework programmes in the past, in terms of time and resources the administrative burden in European research projects remains quite high and is becoming increasingly confusing and unclear for the user community owing to the growing number of different funding instruments.

We therefore need a significant, lasting reduction in the level of administrative complexity. The different financial and administrative rules and regulations that must be followed for each specific funding programme and instrument all contribute towards increasing the administrative outlay of time, effort and cost. This has even greater adverse affects for grant recipients who participate in various EU programmes or calls for proposals. The potential benefits of special provisions that deviate from the Rules of Participation of the Framework Programme (as in the case of the JTIs) must be carefully weighed against the negative consequences that they bring about for the administration and management of EU projects. As regards the settlement of costs, grant recipients should as a general rule be allowed to use the standard principles and methods of accounting and management used for nationally funded research projects. At the same time, procedures and instruments intended to alleviate the administrative burden, such as methodology certificates, must be available to a broad spectrum of participants in EU projects.

The costs incurred through risk avoidance, which are not only financial in nature, should not be disproportionate. There should be consensus among all institutions involved (Parliament, Council, Commission and Court of Auditors) that a rules- and process-based approach aiming to control every detail in the administration of EU research funds is neither efficient nor appropriate. The primary goal should be the successful and efficient execution of research projects according to agreed-upon tasks, carried out by the best scientists. The potential misconduct of individuals (whether it be deliberate or due to lack of knowledge of the complex administrative guidelines) must not be allowed to lead to a paralysis of the entire system.

6. Ensure scientific and technological excellence as the principal criterion in the selection of research projects for funding

To acquire the best researchers for European projects and further strengthen European research, scientific and technological excellence must be the principal criterion in granting EU research funds. Cohesion goals must not be allowed to dilute this principle, as only through research and innovation of the highest quality can Europe's global competitiveness be increased. All EU Member States can profit from this approach.

The establishment of the ERC represents a significant step in this direction. The high quality of the research projects funded thus far by the ERC shows that the ERC provides a good platform for promoting excellent research in open, European-wide competition. To ensure that the ERC can fulfil this task even better in the future, the following improvements are suggested:

- Adjustment of the funding rules to correspond more closely to the way research is actually conducted (e.g. with respect to the requirement for time sheets and the minimal time commitment required for established researchers)
- Stronger consideration of applications-orientated pioneer research
- Increased transparency for procedures such as the selection of reviewers, appointment of the Scientific Council and other committees as well as the strategic orientation of the ERC
- Acceleration of the procedures for proposal evaluations and contract preparation
- Creation of a new instrument for small consortia, as they are particularly necessary for the interdisciplinary research that is one of the express objectives of the ERC

7. Strengthen international co-operation activities

The collaboration with partners from both industrialised and developing countries (the so-called Third Countries) has long been a goal of the EU framework programmes. This long-term development must be sustained. The participation of research institutions from Third Countries facilitates the integration of competent researchers in collaborative research projects and provides solutions for challenges of relevance to Europe, ultimately reinforcing the European Research Area. Scientific projects in collaboration with specific Third Countries which deal with fundamental challenges or which lead to novel technologies should be strategically implemented through variable structures in order to achieve clearly defined goals.

BRIEF PORTRAIT OF THE HELMHOLTZ ASSOCIATION

In the Helmholtz Association, 16 German research centres have joined forces to share their resources in strategically oriented programmes to investigate complex questions of societal, scientific and technological relevance.

They concentrate on six major research areas: energy; earth and environment; health; key technologies; structure of matter; and aeronautics, space and transport. The scientists work closely together across the centres on these issues.

The Helmholtz Association provides the necessary resources, a framework for long-term planning, a high concentration of scientific competence and an outstanding scientific infrastructure with major projects, some of which are unique worldwide.

The research objectives of the Helmholtz Association are set by the funding bodies after discussions with the Helmholtz centres and the Helmholtz Senate and Assembly of Members. Within this framework, the scientists of the Helmholtz centres determine the themes of their research through strategic programmes in the six research areas across centres.

(Source: “Strategy of the Helmholtz Association,” Berlin 2007)

www.helmholtz.de

Helmholtz Centres

- Alfred Wegener Institute for Polar und Marine Research
- Deutsches Elektronen-Synchrotron DESY
- German Cancer Research Center
- Deutsches Zentrum für Luft- und Raumfahrt
- Deutsches Zentrum für Neurodegenerative Erkrankungen
- Forschungszentrum Jülich
- GKSS Research Centre Geesthacht
- GSI Helmholtz Centre for Heavy Ion Research
- Helmholtz Centre for Environmental Research – UFZ
- Helmholtz Centre for Infection Research
- Helmholtz Centre Potsdam GFZ, German Research Centre for Geosciences
- Helmholtz-Zentrum Berlin für Materialien und Energie
- Helmholtz Zentrum München, German Research Center for Environmental Health
- Karlsruhe Institute of Technology
- Max Delbrueck Center for Molecular Medicine (MDC) Berlin-Buch
- Max Planck Institute for Plasma Physics (associated member)

This paper presents a consensus of the views
of the Helmholtz Association and its centres.

Please direct further questions and comments to:

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