Position Paper of Helmholtz Association of German Research Centres on the Communication of the European Commission „From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation“ COM (2011) 48

May 2011

HELMHOLTZ ASSOCIATION

The Helmholtz Association of German Research Centres with its 31.000 employees and an annual budget of 3.3 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.

Preamble

The „Europe 2020“ Strategy and the Flagship Initiative „Innovation Union“ represent the concerted response of the European Union to the financial and economic crisis. Research and innovation as the motor of economic competitiveness, employment and well-being in Europe play a crucial role in this strategy.

The Helmholtz Association of German Research Centres supports the aims of the Europe 2020 strategy and the Innovation Union and welcomes the discussion on the future framework for European research and innovation which was initiated with the publication of the Green Paper „From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation Funding“ on 9 February 2011.

The following considerations relate to the questions in the Green Paper which the Helmholtz Association believes to be most urgent. As one of the largest European research organisations, the Helmholtz Association offers the following recommendations as part of the public consultation on the future of European research and innovation funding programmes and as a contribution to the ongoing discussion on the Financial Perspectives 2014-2020 and the future of the European Research Area (ERA).

The key recommendations of the Helmholtz Association in its first position paper of February 2010 on Framework Programme 8 remain valid.[1] However, the proposals in this first paper must now be updated in the context of the Europe 2020 Strategy and the Flagship Initiative „Innovation Union”.

The following recommendations are based on the following understanding of the terms „innovation“ and „innovation chain“:

In a strictly economical sense, innovation is understood to be the creation of value from knowledge, whereby new, commercially exploitable products, procedures and services are developed for the benefit of economy and society. This strict, market-oriented understanding of innovation needs to be expanded to include finding solutions for Europe´s Grand Challenges and sustaining societal well-being as well as long-term economical growth.

Research is the source of innovation and therefore indispensable to the innovation chain. The different phases of the innovation chain – from basic and applied research through the phase of development and testing to the transfer of a new product, procedure or service – ultimately create added value for specific groups or society in general that transcends a purely market orientation.

(Q1, Q2, Q14)

Research and innovation chain:

1 Position Paper of Helmholtz Association to the 8th EU Framework Programme (2014-2020), www.helmholtz.de/bruessel

The Helmholtz Association sees a need for action in the following areas and offers the following recommendations:

1. The Helmholtz Association urges the European Commission and the Member States to provide adequate financial resources for Research and Innovation in line with the ambitious aims of the Europe 2020 Strategy and the Innovation Union.

2. The Common Strategic Framework for Research and Innovation (CSFRI) should encompass the entire innovation chain, from basic research to applications, and the instruments and modalities by which this is implemented should correspond to the respective stages of the innovation chain.

3. The Helmholtz Association supports the Commission´s objective of aligning research and innovation more closely to EU policies. The European Commission should rely on the experience and competence of DG Research and Innovation in order to create the best possible framework for European research and innovation in close cooperation with the other DGs concerned.

4. The Helmholtz Association welcomes the stronger focus of EU programmes on the societal challenges. The formulation and implementation of European aims and strategies to meet them should rely closely on the active participation of and coordination with all relevant stakeholders.

5. Developing and implementing strategies to meet the grand societal challenges and support the different phases of the innovation chain requires the concerted efforts and expertise of all necessary stakeholders. Collaborative research is the most appropriate instrument to achieve these goals and should therefore continue to be the backbone of all EU programmes.

6. Strategic partnerships bringing together European research organisations and institutes can accelerate efforts to find solutions for the grand societal challenges and should therefore be supported.

7. Research infrastructures should receive substantially more funding on a scale commensurate with their enormous significance for the research and innovation capacities of the ERA. The European Union and the Member States are urged to develop new financial concepts coordinated at the regional, national and European levels to ensure more effective and stable funding of investment and running costs for research infrastructures providing significant transnational access.

8. The administrative rules and procedures of the funding programmes of the CSFRI should be drastically simplified in order to increase their attractiveness for potential beneficiaries and to encourage the participation of Europe´s best researchers.

1. The Helmholtz Association urges the European Commission and the Member States to provide adequate financial resources for Research and Innovation in line with the ambitious aims of the Europe 2020 Strategy and the Innovation Union.

The Europe 2020 Strategy sets forth ambitious goals for stimulating intelligent, sustainable and cohesive growth. The Common Strategic Framework for Research and Innovation (CSFRI) is proposed as the principal instrument to consolidate EU funding programmes to achieve these goals.
In principle, the Helmholtz Association welcomes this new, integrated approach towards more effective coordination of European goals and activities in research and innovation.
If research and innovation are to fulfil their role as the driving force underlying European economic competitiveness and societal well-being, appropriate financial resources commensurate to these ambitious goals are essential. The EU resources for the CSFRI should therefore be substantially increased.

The European Research Council (ERC), collaborative research, the individual fellowships and measures for structured doctoral training in the Marie Curie programme as well as initiatives to enable the continued development and expanded use of European research infrastructures must receive substantially more resources in the next funding period.

In addition, the objectives and programmes of the Cohesion Funds should be aligned more closely with the different phases of the innovation chain in order to reinforce the research and innovation potential in all Member States. The European Commission and the Member States are encouraged to use the Cohesion Funds more strategically to achieve this goal.

(Q1, Q2, Q8, Q11)

2. The CSFRI should encompass the entire innovation chain, from basic research to applications, and the instruments and modalities by which this is implemented should correspond adequately to the respective stages of the innovation chain.

Only by continually strengthening the entire European research and innovation ecosystem as well as attracting the best researchers for European projects can the European Union successfully compete with other technologically advanced countries. Scientific and technological excellence must therefore continue to be the principal criterion in EU funding. Ultimately, all Member States will profit from this approach.

To become fully effective, the CSFRI must address both research and innovation as essential phases of the innovation chain. Basic research is the source of break-through innovations, provides necessary impulses for incremental innovation and thus comprises the initial step in the overall innovation chain. Each phase is distinguished by specific goals, actors, activities and time frames. These differences must be taken into account in the corresponding EU funding programmes, instruments and framework conditions, which must be appropriate to each phase of the innovation chain and allow for seamless connectivity from one phase to the next.

(Q1, Q2, Q9, Q14)

3. The Helmholtz Association supports the Commission´s objective of aligning research and innovation more closely to EU policies. The European Commission should rely on the experience and competence of DG Research and Innovation in order to create the best possible framework for European research and innovation in close cooperation with the other DGs concerned.

The EU framework programme for research should continue to be the central instrument of EU research funding. For more than 30 years, the framework programmes have provided the only true common platform and common source of funding in Europe by means of which researchers from all Member States and Associated Countries can participate on an equal footing under the same, uniform funding conditions. The EU framework programme thus makes an essential contribution towards the realisation of the ERA.

(Q1, Q2, Q9)

4. The Helmholtz Association welcomes the stronger focus of EU programmes on the societal challenges. The formulation of European aims and strategies to meet them should rely closely on the active participation of and close coordination with all relevant stakeholders.

Meeting the grand societal challenges necessitates the formulation of complex scientific and technological questions, which can only be investigated efficiently through the concerted efforts of many actors throughout Europe. A corresponding long-term perspective and the mobilisation of a wide range of skills and expertise are necessary to find adequate solutions. The design of EU funding programmes to meet these challenges must include clear, specific strategic goals and objectives and an adequate time frame (top down). Specific actions should be implemented through appropriate funding instruments that take into account the entire scope of the innovation chain including all relevant stakeholders (research organisations, universities, industry, SMEs, Member States, European Commission and other relevant stakeholders). More effective coordination between the EU and the national programmes of the Member States can lead to improved efficiency and more synergies between the different funding levels.

At the same time, it is important to continue to foster excellence and competition amongst nationally active participants. Increased coordination between EU and national funding programmes should in no way lead to a decrease in financial resources or to the disappearance of certain research themes at the European or the national level, since both levels are essential to the effectiveness of the entire European science system. A healthy balance between fair competition and cooperation according to the principle of scientific and technological excellence is essential to ensure the competitiveness of the EU worldwide and to improve quality of life for European citizens.

(Q3, Q9, Q10,Q13)

5. Developing and implementing strategies to meet the grand societal challenges and support the different phases of the innovation chain requires the concerted efforts and expertise of all necessary stakeholders. Collaborative research is the most appropriate instrument to achieve these goals and should therefore continue to be the backbone of all EU programmes.

By bringing together many different competencies in a flexible way, European collaborative research has enormous potential to contribute solutions to the global societal challenges. Through collaborative research projects of different dimensions, depending on the question addressed, consortia with the appropriate partners can be quickly formed and a wide variety of research themes addressed rapidly and efficiently according to a uniform set of rules. Collaborative research also makes it possible to address the entire scope of the innovation chain, from basic research through applications-oriented research to validation and demonstration projects.

Previous experiences with other instruments and initiatives like the ERA-Nets, Joint Technology Initiatives (JTIs) or the European Institute of Innovation and Technology (EIT) have shown that these cannot perform the same function as collaborative research projects in the overall European funding system. Nor can the European Research Council (ERC) completely meet the need for projects in basic research because it is oriented towards thematically open projects that fund individual principal investigators. Therefore, collaborative research projects must remain the backbone of the next EU research framework programme.

(Q3, Q5, Q9,Q10, Q11, Q13)

6. Strategic partnerships bringing together European research organisations and institutes can accelerate efforts to find solutions for the grand societal challenges and should therefore be supported.

Research organisations and institutes play a major role in formulating and implementing strategic research agendas for a wide variety of relevant scientific and technological questions. They help to elaborate international standards, collaborate with research partners in many different countries and sectors and build and operate research infrastructures that are essential for the international research community. Thus, they represent a crucial link between the EU, the Member States and many other actors and stakeholders in the global European science system. More synergies with a greater concentration of research capacities could be achieved if European research organisations and institutes were better integrated in the formulation of research agendas and programmes (bottom up) and had more opportunities to coordinate their activities more closely (e.g. through coordination actions or the proposed "Joint Research Initiatives").

The EU should therefore provide more support for coordination activities for strategic alliances of research organisations and institutes in areas of crucial importance for research and industry.

Examples of strategic partnerships of research organisations and institutes that work successfully according to this complementary approach are EREA (Association of European Research Establishments in Aeronautics, www.erea.org) and EERA (European Energy Research Alliance, www.eera-set.eu). This approach (in which the partners formulate objectives and strategies together and implement them according to their specific roles, capabilities and responsibilities) should be expanded to other relevant thematic areas such as health and climate change.

(Q9, Q10, Q11, Q13)

7. Research infrastructures should receive substantially more support on a scale commensurate to their enormous significance for the research and innovation capacities of the ERA. The European Union and the Member States are urged to develop new financial concepts coordinated at the regional, national and European levels to ensure more effective and stable funding of construction and running costs for research infrastructures providing significant transnational access.

Research infrastructures (RI) play a key role in ensuring the performance and innovation capabilities of European research and technological development. The use of RI is essential to generate new knowledge in many areas of research and technological development. They serve as platforms for carrying out experiments and measurements and developing scientific collaborations, as well as providing excellent opportunities for training the next generation of highly qualified researchers.

Industry also profits from RI both directly (through facilities like wind tunnels, neutron sources or lasers or synchrotron radiation, biomedical research platforms, networks for data storage or high-performance supercomputing) and indirectly (e.g. through the development of new detectors and instruments that can provide new services for industry).
Since many RI are truly European facilities in the sense that they offer transnational access to researchers from all over Europe, the high operating costs incurred through more intensive transnational activities should not remain the sole responsibility of regional and national funding. Rather, new concepts for financing RI that are coordinated at the regional, national and EU levels and include long-term, stable financial resources for RI that provide substantial transnational access should be formulated for the next funding period.

Improved integration of Members States previously unable to make full use of RI could be achieved through cofinancing of projects by the EU for researchers from these countries. The Cohesion Funds should also be used more extensively for the use and development of RI. In addition, more effective integration of the various components of the CSFRI might be achieved through the reimbursement of costs for access to RI necessary to carry out project activities in other programme areas like collaborative research projects, the ERC, Marie Curie actions or SME activities.
To maintain the competitiveness of European RI worldwide, technological upgrades and new instrumentation at the European level should be funded independently of specific project activities. Coordination activities aimed at using European RI more efficiently should also receive more support. Substantial efforts should be made to realise the ESFRI projects, as proposed in the Innovation Union.

(Q3, Q22, Q25)

8. The administrative rules and procedures of the CSFRI funding programmes should be drastically simplified in order to increase their attractiveness for potential beneficiaries and to encourage the participation of Europe´s best researchers.

The attractiveness of the EU funding programmes for research and innovation – and thus their effectiveness and ultimate success – depend on efficient and appropriate administrative and legal framework conditions. The European Commission has attempted to deal with this problem, but the measures taken during Framework Programme 7 do not go far enough.

In the future, the administrative framework conditions in all EU funding programmes should be radically simplified in order to substantially reduce administrative complexity and accelerate administrative processes. Following the guiding principles of transparency, stability and consistent application of rules, procedures and controls such that users are able to grasp their underlying rationale, the aim should be an appropriate balance between necessary controls on how public funds are spent, on the one hand, and the risks of over-reimbursing funds and the financial and administrative costs of those control measures, on the other hand.

The general acceptance of national accounting, management and control practices over all EU funding programmes would be a significant step towards eliminating unnecessary duplication of administrative procedures and result in more efficient, user-friendly administration of EU projects and initiatives.

Both existing instruments and concepts for new funding instruments should be critically analysed with regard to their appropriateness and potential for achieving targeted goals. Generally, funding instruments should be designed to achieve specific scientific and technological aims and objectives in an optimal manner, rather than the other way around, i.e. forcing scientific and technological questions to fit the instruments. Funding instruments should in general be based on uniform framework conditions and cover real costs. Instruments that have proved their usefulness should be retained in the interest of continuity. Those that have not proved useful in the past should either be optimised or discontinued. Large-scale, complex instruments and administrative structures like the Joint Technology Initiatives (JTIs) and other forms of public-private partnerships as well as the Knowledge and Innovation Communities (KICs) of the European Institute of Innovation and Technology (EIT) should be used and implemented only where appropriate and after thorough preparation.

(Q1, Q2, Q6)

BRIEF PORTRAIT OF THE HELMHOLTZ ASSOCIATION

In the Helmholtz Association, 17 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 2009)

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
- GSI Helmholtz Centre for Heavy Ion Research
- Helmholtz Centre Potsdam GFZ, German Research Centre for Geosciences
- Helmholtz Centre for Environmental Research – UFZ
- Helmholtz Centre for Infection Research
- Helmholtz-Zentrum Berlin für Materialien und Energie
- Helmholtz-Zentrum Dresden-Rossendorf (HZDR)
- Helmholtz-Zentrum Geesthacht Centre for Materials and Coastal Research
- 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:

Dr. Susan Kentner
Helmholtz Association Brussels Office
Rue du Trône, 98
B-1050 Brüssel
susan.kentner@helmholtz.de
www.helmholtz.de