

**Position Paper on the Structure of the 8th EU Research Framework Programme
(2014-2020)**

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Key statements in brief

Our proposals to policy makers

1. With a view to further strengthening innovation-orientated industry and commerce in Europe, future frontier and basic research endeavours must receive the broad and topically unrestricted support they need to ensure continuous expansion of the knowledge base for innovation.
2. Research and innovation policies crafted in response to the grand societal challenges of our time should not be limited to the spheres of the natural and technological sciences. On the contrary, it is important that any such policies also appropriately acknowledge the vital roles of the social sciences and humanities. These disciplines should be anchored in the Framework Programme as cross-cutting sub-programmes.
3. The European Research Council (ERC) is widely regarded as a success story. To now further sharpen its profile, the ERC requires a significant increase in funding, in addition to efficient and autonomous governance structures.
4. The goal of creating one million new jobs in research as formulated in the EU Flagship Initiative "Innovation Union" will require an ambitious increase in financial support for the European programmes fostering doctoral training and research. In further shaping these programmes, any redundant overlapping needs to be eliminated. The new programmes should strictly comply with the "Salzburg II Recommendations" of the European University Association (EUA).
5. German universities and other stakeholders in the European science and industry communities have clearly voiced their support for the continuation of collaborative research such as the activities funded in the specific programme "Cooperation"- or at the very least - the creation of a similarly designed science support instrument as the core element of any such future funding programme. The possibility of forming smaller and medium sized projects and partner consortia that allow efficient coordination, in addition to strengthening scientific excellence as the basis for allocation criteria are further broadly recognized critical factors that ensure success. To achieve these goals, collaborative research efforts must remain receptive to a broad spectrum of subject matters. This also pertains to topics which are already being handled by public-private partnerships (PPPs), e.g. Joint Technology Initiatives (JTI), or projects involving joint programming.
6. The participation rules pertaining to all Joint Technology Initiatives and other PPPs must be framed in such a way that the costs accruing to the participating universities are fully covered and that fair rules are drafted with respect to intellectual property issues.
7. At least 30% of the budget earmarked for the structural funds and the 10% allocated for the common agricultural policy should be invested in R&D projects. The developing of regional "smart specialisation strategies" needs to be supported, so that regional innovation profiles can be brought into line with the guiding principles of a coherent European Research Area.

Contributions by German universities

8. German universities will seek to render their research and innovation potential even more transparent in order to further promote their partnerships with innovation-oriented industry, as well as to improve visibility vis-à-vis society at large. Concrete initiatives in this direction include active involvement, e.g. in the “European Platform of Universities engaged in Energy Research (EUA-EPUE)”, as well as the ongoing, HRK-sponsored national survey that examines the research foci of German universities; the HRK is also reviewing and indexing so-called “fringe subjects” that are in danger of being discontinued in Germany.

9. Faced with the realities of ongoing globalisation, German universities are developing their own competition strategies, and in doing so are advancing the European Higher Education Area. Examples of this strategic outreach are the HRK audit “Internationalisation of universities”, provision of dedicated support for the mobility of scientists in the form of “Welcome Centres” at the universities, as well as the HRK project “Mobility of scientists” that addresses the legal aspects related to residency and social insurance issues.

10. German universities are committed to further improving their cost-accountancy systems in order to increase the efficiency of cost management procedures.

Preamble

The European Treaties require the EU to bundle its efforts in research, technological development and astronautics in the context of a multi-annual framework programme. A midterm review of the ongoing 7th Research Framework Programme (2007-2013) was conducted by an independent expert commission in November 2010, upon completion of the first half of the programme. The conclusions of this review are currently under discussion as regards the second half of the programme. At the same time, the upcoming 8th Framework Programme is already being planned, which is expected to run from 2014 to 2020. The EU Commission will begin its public consultations in February 2011. The "Europe 2020" strategy, adopted on 17 June 2010, serves as the overriding strategic framework and sets ambitious goals in terms of European policy. The EU expects that policy initiatives in the field of research and particularly in the sphere of innovation that adhere to the overall concept of the "Innovation Union" will make a significant contribution.

It is against this backdrop that the Executive Board of the German Rectors' Conference (HRK) now presents its opinion on the upcoming Research Framework Programme. This paper is directed at both European (Council, Commission and Parliament), and German policy makers in the federal government and the *Länder*, as well as the universities and research organisations themselves. We not only present our proposals to policy makers, we also elucidate the self-commitment of the universities, which seek to constructively contribute to future European research policy. German universities play a central role in the knowledge triangle, i.e. research, education, and innovation. Their function as driving forces for innovation is also amply illustrated by the pertinent statistics provided in the appendix.

In its role as the policy voice of 264 German universities, the HRK is adopting a three-tiered approach to the upcoming Framework Programme, initially suggested by high ranking representatives of the EU Commission, and now also mentioned by the authors of the midterm review. This approach purposefully highlights the three drivers of the research and innovation agenda, i.e. 1: scientific community ("science for science"), 2. industry and commerce ("science for competitiveness"), 3: policy makers and civil society ("science for society"). Each of the three drivers will be assigned the agenda setting role in a separate programme line. The HRK believes that this model is a solid ground for discussion, but also maintains that the proposed names of the programme lines need to be revised. This applies in particular to the programme line "Science for Science", in which stakeholders in publicly supported research should assume leading roles in basic and frontier research endeavours. This designation suggests an *L'art pour l'art* approach, which as we illustrate below, simply does not reflect the nature of science-driven research. Instead, the HRK recommends that it be re-named "Science for the Knowledge Base".

In many areas, a *de facto* consensus is already taking shape between the spheres of politics, industry and the science community with respect to the framework conditions needed to ensure the success of the European research and related innovation funding scheme. Solely the scientific and technical excellence of the projects (quality of basic research as certified by independent peer review and possibly augmented with

competition aspects in application-oriented projects) should be taken into account when making funding decisions. The promotion of excellence should never be mixed with measures to promote cohesion, nor should stringent excellence standards ever be watered down in favour of attaining cohesion objectives.

Furthermore – with a view to promoting successful research activities – one common core objective is to simplify administrative procedures by encouraging the guiding principle of trust in preference to rigid control frameworks. All efforts initiated to simplify the framework programme must encompass a comprehensive package of measures ranging from technical-administrative improvements such as a uniform IT service platform ('participant portal') for the consortia, to adopting national accounting and management principles. The Competitiveness Council of the European Union has already outlined the necessary measures on the basis of groundwork realised by the EU Commission in its "Conclusions on raising the attractiveness of EU Research and Innovation Programmes: The Challenge of Simplification" (12 Oct. 2010). Successful European research and innovation policies undeniably require solutions to such complex issues, not only from the point of view of the universities, but also for innovative small and medium size companies in particular, as well as industry and commerce on the whole. Moreover, the formalities, procedures and processes associated with the upcoming Framework Programme must not only be clearly defined and formulated prior to the start of the programme, they also need to be uniformly applied across the boards.

1. Science for the knowledge base

Europe needs a stable knowledge base that it can pass on to coming generations and that can be further developed through continued research. The knowledge transfer inherent in the training of promising young scientists does not only drive the innovation-oriented industry and commerce, but also enriches European culture as a whole.

In particular – as stated in the May 2010 OECD innovation strategy “Getting a Head Start on Tomorrow” – public investment in basic research is laying the corner stone for the innovation of tomorrow. The study emphasises the significance of human capital as the source of innovation and the key to economic growth and social progress.

Results generated by universities in the context of their basic and applied research activities directly benefit both the publicly funded programme research of non university research organisations, as well as innovative companies. For both target groups, the universities are not only dependable research partners along the various steps of the entire added value chain, they also provide an excellent education for promising talent.

Basic university research that is free of political constraints plays an important role in safeguarding alternative research and innovation approaches, in cases where programme-based and industry-oriented research endeavours either prove to be failures, are rejected by society at large, or are not internationally competitive.

A European research and innovation policy that is committed to solving grand societal challenges must acknowledge the pivotal importance of the humanities and social sciences. Any one-sided, technology-centric approach to identifying solutions to the grand challenges facing society that relegates humanities and social science research to a supporting role in the area of technology assessments or acceptance studies is surely the wrong approach.

1.1 Proposals to policy makers

Strengthening the European Research Council (ERC)

Through its transparent and strictly excellence-oriented procedures, within a short period of time the European Research Council (ERC) has gained an outstanding Europe-wide and increasingly international reputation as a potent research funding organisation. The ERC's budget thus needs to be continuously increased, so that it can better compete on the global stage.

If we are to ensure the Council's long-term survival as a beacon of European science, it is very important that we continue to strengthen its organisational stability and political and administrative autonomy. German universities support an open discussion on the future structure of the ERC and within the framework of options provided by the European Treaties. The future legal form of the ERC needs to be based on an independent structure that is free from political influence.

Promising young scientists

The flagship initiative "Innovation Union" anticipates an increased demand for talented young scientists. The EU provides both direct and indirect support for young scientists during their doctoral years. Direct support for a structured doctoral phase, as it exists today in the Initial Training Networks (ITN) of the Marie Curie Programme and in the "Joint Doctorates" of the Erasmus Mundus Programme, needs to be further developed in the upcoming Framework Programme. This also applies to the potential European graduate schools programme, currently the subject of discussions by the Directorate General for Research. Only then will we be able to satisfy this increasing demand for scientists and to improve the unacceptably low success rates of the ITN. The objectives of European programmes to promote doctoral candidates should be better coordinated with each other, thereby eliminating any overlapping in their funding profiles. In addition to the need for geographical mobility, intersectoral mobility also needs to remain a core element of all doctoral support programmes. This pertains not only to industry, but to the public sector and civil society as well.

Most doctoral candidates receiving European support are trained in project teams in the context of collaborative research activities by industry and science – and increasingly – in the project teams of ERC-sponsored scientists. The variety of pathways to a doctoral degree corresponds to the many future work areas of doctorate holders in science, in industry and in society at large. All paths leading to a doctorate must thus reflect this diversity and be improved continuously. The recently adopted "Salzburg II Recommendations" of the European University Association (EUA) were drawn up and coordinated on the basis of consensus among the European university sector and European graduate schools. These recommendations should thus serve as the model for joint European doctoral phase standards in the European Research Area, as planned by the EU Commission.

Humanities and social sciences

Support for the humanities and social sciences in the upcoming framework programme should be anchored as a cross-cutting task in the form of an independent sub-programme with an adequate budget.

Research infrastructures

The building and operating of research infrastructures that are accessible to users around the world will play an important role in shaping the structures of the European Research Area. The EU should not only support openness and promote stronger cooperation between its own members and with other science institutions in the context of its ESFRI road map process, it should also provide financial support to encourage the openness of research infrastructures vis-à-vis European and international stakeholders. The guiding principle of 'open access' must be applied to the publishing policies of research infrastructures. Cohesion policy considerations should not be the determining factor when

deciding which institutions are to receive support, inasmuch as it is quality criteria and scientific priority setting that need to take precedence.

1.2 Contributions by the universities

The universities will openly react to the demands of society and industry. In doing so, however, they will not relinquish their public mission, nor will they give up their own established academic values. Universities will continue to build and to broaden their own partnerships with innovation-oriented industry and commerce along the individual steps of the value-added chain.

Ensuring transparent research and innovation potential

The universities will make their research and innovation potential more transparent to the outside world in order to achieve more visibility for their role as cooperation partners for industry. German universities have initiated the first steps at the European level (participants in the "European Platform of Universities engaged in Energy Research – EUA/EPUE"), and at the national level as well (ongoing HRK survey on the research priorities of its member universities). Furthermore, the HRK has initiated tracking and mapping procedures for so-called "fringe subjects" (academic programmes and research areas offered at a few universities only, and involving only a few scientists), an approach that also gives visibility to the broad spectrum of services offered by the universities. The universities will continue to react positively to the growing demands for interdisciplinary cooperation (national and international) on the one hand, and cooperation with non-university research organisations on the other. This trend is already in full swing and has gained further impetus in Germany through the successful Excellence Initiative.

Implementing internationalisation and mobility strategies

To further bolster their own competitiveness, the German universities are tackling the challenge of globalisation head-on. They actively define and implement their own dedicated internationalisation strategies. The HRK audit "Internationalisation of Universities" supports the German universities in identifying and further developing their own specific international profiles. This audit offers the universities an independent, systematic consultancy service conducted by internationally experienced experts, the only programme of its kind in Europe.

In order to better promote internationalisation, stronger institutionalised partnerships with other European universities need to be encouraged to complement the many existing personal relationships. This approach will also encourage extended periods of mobility during the doctoral phase and subsequent stages of a science career. The German universities are actively promoting mobility among scientists, for instance by organising "Welcome Centres" and helping young scientists to pursue more transparent career pathways. With its "Mobility of Scientists" project, the HRK is supporting initiatives that seek to overcome the mobility hurdles faced by scientists such as legal residency issues and social insurance rights.

2. Research and innovation for competitiveness

With the European Technology Platforms (ETPs) and various ongoing forms of public-private partnerships (PPPs), the European Union has opened the door for jointly defined and implemented Strategic Research Agendas (SRA) and under the aegis of industry's leadership.

From the universities' point of view, their involvement in such far-reaching PPPs, e.g. JTIs, has not only been positive. Industry and science agree that, beyond these large-scale forms of cooperation, it should also be possible to conduct small and medium-sized projects that are less expensive to coordinate and more reasonable in terms of the time and effort required.

2.1 Proposals to policy makers

Preserving collaborative research instruments

In addition to large public-private partnerships in high-technology fields, previously deployed collaborative research instruments need to be continued in the upcoming Framework Programme. They are presently bundled in a dedicated programme entitled "Cooperation", these programmes have developed and have proven successful over the years. The collaborative research approach must remain the core element of the Framework Programme.

These support instruments need to be preserved and made more user-friendly via the planned simplification initiatives. The goal is to enable universities and industry – small and medium-sized companies in particular – to participate flexibly and in a straight-forward manner, and to be able to react rapidly to new challenges and needs.

Bottom-up approach to research agenda-setting

Based on experience with public-private partnerships – the Joint Technology Initiatives (JTI) in particular – policy makers need to ensure that topics and funding are not selected on the basis of insider agreements and that further collaborative projects can be carried out within the same spectrum of research fields, in which PPPs have already been established.

The necessity of focusing on certain fields of technology should not result in a rejection of openness to other topics. In its announcement "A Digital Agenda for Europe" (26 Aug. 2010), the European Commission stressed the necessity of not shying away from investing in high-risk research projects and basic interdisciplinary research endeavours. More open and proactively structured calls for collaborative research would thus be helpful in order to facilitate the emergence of Europe-wide research networks in novel and interdisciplinary research areas. The funding line "Future and Emerging Technologies" (FET Open) in the field of information and communication technology represents a promising approach in this regard.

Uniform rules for participation

It is also important to prevent PPPs from formulating participation rules that diverge from those of the research framework programme, causing further fragmentation of the European Research Area. Such practices have a particularly negative impact on European researchers and related supporting administrative instruments; they also contradict the goal of simplification that has been widely called for. To avoid a proliferation of conflicting legal frameworks for applicants, PPPs should be implemented on the basis of the same participation rules as those that apply for the Research Framework Programme.

Ensuring full compensation for project-related expenses

An equal footing between industry and science in terms of cooperation as proposed by the EUA's "Responsible Partnering Initiative" requires that university expenses are suitably remunerated. However, this is not the case for the JTI's "Innovative Medicine" and "Fuel Cells" for instance, which requires interested universities to co-finance their participation with public funding. This may also be in contradiction to the spirit of the EU aid framework, which forbids any distortion of competition in the favour of industry on the part of publicly sponsored research facilities.

Protecting university intellectual property

Rules for participation pertaining to PPPs and collaborative projects must ensure that any access to, or any utilisation of jointly created intellectual property is left to be worked out fairly between the concerned parties. The universities must be guaranteed legal certainties that intellectual property created through publicly financed research can never be transferred free of charge to private sector consortium partners.

2.2 Contributions by the universities

Ongoing improvements in university cost accounting systems

The universities are committed to further improving their cost accounting procedures. In doing so they are also complying with EU aid regulations. This is a long-term process, which due to the specific profiles of the universities and different legal frameworks in the 16 German Länder, can only be achieved at various paces.

The universities thus welcome the conclusions of the Competition Council of 12 Oct. 2010, in which the EU Commission is called on to maintain different support rates and calculation models for indirect costs depending on the kind of funding recipient (e.g. universities, research organisations, industry, and small and medium-sized companies). Universities and other research organisations seeking to move in the direction of full-cost accounting should continue to receive support. There is an increasing understanding of the complexity of the cost accounting issues inherent in the university sector. The German universities are actively participating in the EU-sponsored project EUIMA of the European University Association (EUA), which addresses full cost accounting issues.

3. Complex research and innovation projects in the context of European Coordination

German universities welcome the increasing efforts by the EU Commission over the past few years in particular, to more closely network the national research promotion activities between the member states. The universities recognise that policy makers want them to focus their research funding policies more clearly on finding solutions to the grand challenges as defined by governments and society, e.g. climate issues, energy, digital society and health.

3.1. Proposals to policy makers

Social Sciences and Humanities financing as a cross-cutting task

We have already pointed out the significance of research activities in the social sciences and humanities in terms of finding solutions to the grand challenges we face today. The necessity of ensuring adequate budgets for these cross-cutting tasks in the context of coordinated large-scale European projects is obvious. Wide-reaching societal challenges, e.g. in the fields of health and energy, cannot be successfully addressed on the basis of technology alone, they also require preventive and complementary policy decisions. The existing broad spectrum of research capabilities of the social sciences and humanities represents a valuable asset in this respect.

Coordination

Long-term cooperation schemes between science and industry in large-scale projects, such as those often called for by both civil society and policy makers, must follow the model of "Coordination in individual responsibility". European research strategies need to be elaborated by the Member States, the EU, science and industry, as well as the users themselves. Such coordination solutions should be implemented by the responsible actors (government, science, industry) at the various political levels (EU, national, regional) by applying the concept of variable geometry and in compliance with the principle of subsidiarity.

These different levels of accountability need to be intelligently coordinated in the contexts of the European Strategy 2020 and projected Innovation Union; such coordination also needs to take other policy areas into account such as cohesion and agricultural policies.

Realignment of EU cohesion policies

A realignment of EU cohesion policies in the context of "Europe Strategy 2020" must allow the regions to determine more freely how they elect to drive their specific regional profile in the direction of innovation-oriented economic policies and in the context of a "Smart Specialisation" strategy. The co-financing of investments in knowledge base acquisition must also be possible e.g. in the context of university academic and research tasks. German universities thus support the recommendations of the second report of the European Research Area Boards (ERAB), issued on 20 Oct. 2010. This stipulates that at

least 30% of Structural Fund allocations (and 10% of the Common Agricultural Policy budget), be invested in R&D and innovation projects. In addition, it should be possible to access the European Social Funds to a greater extent in order to fund education programmes at universities. A policy of this kind would help to build capacities in support of the catch-up process, particularly in those regions that have not yet attained the average European Union development level.

Synergies between the Framework Programme, the Structural Funds, and the research programmes of the Member States and their regions must be exploited in a more beneficial manner. Given the complexity of co-financing schemes within the Structural Funds themselves, a policy that promotes their simplification is as important here, as it is for the future Research Framework Programme.

3.2. Contributions by the universities

The universities will continue to intensify their mapping of university research foci as described above, which will serve to render their key research performance aspects more transparent for policy makers and for society at large – at the European, national and regional levels.

Appendix: The German Universities in Numbers

Number of member universities in the German Rectors' Conference (HRK)	264 (<i>>96% of all students</i>)
Number of students	2.2 million (<i>winter term 2010/11</i>) ¹
Percentage of international students	11.5% (<i>winter term 2009/10</i>) ²
Staff positions in research and development (full-time equivalent)	106,712 in 2008 ³
Expenditures for science, research and development	11.1 billion EUR in 2008 ³
Scope of external funding for research	4.9 billion EUR in 2008 (<i>corresponding to 133,020 EUR per professor</i>) ³
Proportion of external funding in overall expenditures	14.9% in 2008 ⁴
Proportion of external funding from private sector	24.8% in 2008 ³
Proportion of external funding from EU	8.9% in 2008 ³

As demonstrated in the German Innovation Survey of 2008, 37 % of innovatively active industrial firms and 30 % of innovatively active service enterprises work together with the science community in the context of innovation projects. In Germany, the universities are clearly the dominant partners in cooperation schemes between science and industry. Around three quarters of all firms involved in science collaborations have chosen universities as their partners, while only around one quarter sought cooperation with non-university research partners.⁵

In 2007, university research in Germany received 14.2 % of its funding in the form of external funding from private firms. In comparison with the OECD average of 6.6%, German universities not only hold a top position within the EU, but also internationally.⁶

¹ Federal Statistical Office, Dispatch (24 Nov. 10)

² Federal Statistical Office: "Education and Culture. University Students" (28 Sep. 2010)

³ Federal Statistical Office: "Education and Culture. Monetary University Statistical Data" (24 Sep. 2010)

⁴ Federal Statistical Office: "Education and Culture. University Finances" (30 Apr. 2010)

⁵ Studies on the German innovation system No 11-2010, Commissioned by the Expert Commission Research und Innovation (EFI), (Oct. 2009)

⁶ Expert Report 2010 on Research, Innovation and Technological Performance of Germany, Expert Commission for Research and Innovation (EFI) (03 Mar. 2010)