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**Creating a European
Education, Research and
Innovation Union**

HRK German Rectors' Conference

The Voice of the Universities

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Resolution by the German Rectors' Conference (HRK) on the development of EU research and innovation funding on the occasion of the interim evaluation of Horizon 2020 and other EU funding programmes

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I. Introduction and summary

At present, the future of the European Union is being debated in a fundamental way in view of the refugee crisis as well as long-term sustained immigration pressure and the ongoing economic and structural crisis in parts of the EU. In this situation, simplistic solutions proposed in response to complex global and European developments seem to be gaining ground, strengthening centrifugal political forces in the EU. In the process, it is becoming clear that though the EU may have its origins in an economic union, economic measures alone – even when successful – cannot guarantee the cohesion of the European Union. Furthermore, as was recently demonstrated by the referendum on 23 June 2016 in Great Britain, the Union's geopolitical borders are not set in stone.

In this context, the European universities see themselves more clearly than ever as a stronghold of the European idea and of a global mind-set. Their mobile students and researchers are a vivid example of European unification. Through their knowledge-driven, applied and innovation-oriented research- and study programmes and research based on them – universities embody the knowledge triangle: education, research and innovation. They simultaneously transmit and further develop European cultural values and critical thinking. This makes them a crucial pillar of a dynamically developing European civil and knowledge society.

Therefore, with this statement the German Rectors' Conference (HRK) does not wish to restrict itself solely to proposals for improvements in

the existing Framework Programme for Research and Innovation.¹ Rather, in light of the nascent conceptualization of the 9th Framework Programme (2020 to 2027) currently underway, it is necessary to take account of the current situation while also contributing to an open discussion regarding an appropriate response to it. The HRK is of the conviction that the EU's aim should be to promote an educated as well as culturally diverse and economically creative Europe producing technological and social innovations that foster global development. In order to achieve this goal, a realignment of the Framework Programme for Research and Innovation is required that redefines European added value and strengthens European collaboration. Even more critical is an integrated overarching EU political approach aimed at strengthening and supporting European universities – one that recognizes their integrating role in the knowledge triangle of research, education and innovation as well as their contributions to cultural dialogue and European cohesion.

II. Strengthening European added value and European cooperation

In 2000, the Lisbon Strategy assigned all EU States the task of increasing national and regional spending on research and innovation to 3 per cent of GDP. Only strong national foundations shaped and backed by responsible EU Member states can produce the prerequisites required to prevail in European and global competition. In addition, the European Framework Programme for Research and Innovation offers a series of instruments that provide indisputable added value to European member states and citizens. They create European networks that cannot be replaced by national or multilateral activities. From the perspective of German universities, it is precisely these instruments that need to be reinforced in the future.

For example, the **instrument of European collaborative research** – in the form of small and medium-sized projects on all levels of the innovation cycle and at all technology readiness levels – contributes to the ability of European researchers from universities, other research institutions, business and industry to cooperate rapidly and flexibly across Europe on a level playing field. The shortening of time to grant and the simplification of administrative processes achieved by the EU Commission in Horizon 2020 make this instrument particularly attractive to both industry and research. It should receive a significantly larger share of the funding in the future.

In recent years, the **European Research Council (ERC)** has become a European "brand name" for excellence in basic and pioneering research. ERC grants are the European yardstick for global scientific excellence and tangibly promote regional competition in Europe – thereby

¹ See the statement issued by the Alliance of Science Organisations in Germany "On the Interim Evaluation of Horizon 2020", 13 July 2016, on which the HRK collaborated: <http://www.leopoldina.org/en/publications/detailview/publication/zur-zwischenevaluierung-von-horizon-2020-2016/>

strengthening Europe's competitiveness as a whole. This makes the ERC irreplaceable and justifies the demand to preserve its future funding at the very least at current levels.

The **Marie Skłodowska Curie Actions (MSCA)** is the action funding mobility and exchange of early career researchers in the EU. German universities particularly appreciate the International Training Networks (ITN) for doctoral candidates and postdocs, due to their successful integration of scientific excellence with European networking of early career researchers. Together with **Erasmus+** – the counterpart to Horizon 2020 MSCA in the field of study and professional training mobility – MSC Actions should receive increased funding, as they generate direct European added value for all member states.

Member states are called upon to increase expenditure on universities. The European Cohesion Policy **structural funds** should also be used to this end. It would be conceivable to add lump-sums and easily manageable funding to already approved collaborative research projects that include excellent early career researchers from member states with less developed research and innovation systems.

We call for:

1) In the future, European added value should again be the core of the Framework Programme for Research and Innovation. EU funding should concentrate on goals that are not achievable on a national level, and which create supplementary incentives for member states to increase their national investments in research and innovation. European funds need to be continually and consistently increased for this purpose.

2) As a rapid and flexible instrument for science-business-cooperation, European collaborative research in small and medium-sized projects should be strengthened.

III. Correctly assessing quality and effectively implementing good ideas

The success and exemplary reputation of the European Framework Programme for Research and Innovation are based on its emphasis on the principle of excellence adopted by the EU Commission as its key criterion for funding approval in Horizon 2020.

German universities are among the best in the world at attracting third-party funding from business. They work closely with industry and actively exchange with and transfer knowledge to society.² They are staffed by excellent researchers in theoretically-driven as well as applied research. HRK is of the opinion that any economic and social **impact** (understood as the direct usability and practicability of research results) is the outcome of scientific and technological excellence. Impact, therefore, should not be treated as an additional criterion alongside

² <https://www.timeshighereducation.com/world-university-rankings/funding-for-innovation-ranking-2016>: Table: Average industry income per academic by country

scientific excellence for funding approval. Academics are certainly not unaccustomed to giving consideration to economic and social impact when applying for funding; they should be encouraged to present these aspects of their research seriously and rigorously. However, it does not make sense to specify economic impact – e.g. forecasts of economic impact in the form of business plans – as an additional funding selection criterion alongside excellence. Such impacts cannot be credibly reviewed at the application stage. Moreover, attempting to do so is fundamentally contrary to inquiry without foregone conclusions – the very essence of cutting edge research.

In other words, the idea of a constant linear developmental process or a foreseeable innovation pipeline does not reflect the reality of research and innovation. Major technological breakthroughs and the majority of disruptive innovations do not appear in research project impact forecasts – precisely because breakthroughs and possible applications cannot be anticipated in advance. The generation of new knowledge with respect to science, innovation and societal development is, by definition, at best foreseeable to a limited extent. Also for that reason, as a “public good,” research is a public responsibility and is therefore rightfully publically funded. Therefore, public research funding cannot and should not be replaced by credit-based financial support, which requires projectable results and profits to repay credit with interest. For these reasons, German universities repudiate EU moves to substitute public funding with credit easing measures.

In short: The excellence principle – and with it quality – must remain the core of research funding proposal evaluation. Additional funds for a proof of concept or other forms of implementation could be made available as a follow-up to successful research projects that also open up new application avenues.

We call for:

3) The consistent application of the principle of scientific excellence as the decisive selection criterion for funding in Horizon 2020 and in future European Framework Programmes for Research and Innovation should be retained and strengthened.

4) German universities repudiate any moves toward replacing public research funding with credits or credit easing measures.

5) Horizon 2020 should use additional funding to enable researchers to validate their research results and e.g. to develop prototypes.

IV. Expanding the structure and strategic orientation of European research funding

Structurally speaking, funding available under Horizon 2020 is formally divided into funds for theoretically- and basic research oriented research organisations (Pillar 1) and for business, the latter broken down into large companies and SMEs (Pillar 2). In addition, politically-driven

outcome oriented approaches aimed at solving societal challenges are funded (Pillar 3). However, a closer look at the structure reveals a series of problem areas that reduce the effectiveness of Horizon 2020.

German universities see their potential field of activities in all three Horizon 2020 Pillars; co-operation with business and society, technology transfer and funding of spin-offs and start-ups all belong to their *raison d'être*. A large proportion of successful German start-ups can be traced back to university spin-offs. However, to date the innovation potential of universities is under-explored and under-exploited – for two main reasons: First, the second Pillar (“**Industrial Leadership**”) has concentrated too heavily on existing industries. Secondly, disruptive innovations focused on creating new markets can best be developed in trust-based collaborations – projects, networks and clusters – between universities and businesses on equal footing. However, universities often find themselves in the role of “junior partner” precisely in Pillar 2.

The lengthy, inconsistent and only partly transparent processes for designing European funding programmes (**programming process**) is also problematic for German universities. Universities are doubtful that the established process is still appropriate in a global economy which is developing ever more dynamically, with ever shorter innovation cycles. At present, the expertise and thematic foci of universities can only be integrated into this process – and hence into funding programmes – to a limited extent. Therefore, building on already established Horizon 2020 practices, HRK proposes that future calls should be limited to thematic guidelines.³ It should be left to researchers from academia and industry representatives to decide which priorities they would set within the context of these thematic guidelines, and how they would describe the potential economic and/or social effects in their application. The European Research Council (ERC) has demonstrated that reviewers are capable of recognising and selecting the best projects in open calls. Moreover, the few genuinely open-themed funding lines in Horizon 2020, such as Future and Emerging Technologies (FET-Open), are the most oversubscribed because there are too few funding options of this kind in Europe.

EU research funding should concentrate on collaborative projects and other forms of fixed-term collaborations that have been successful in a competitive process. New scientific findings and innovations need **free competition between different approaches and ideas**. Increasingly, however, EU funding policy is focusing on large and long-term collaborations that aim at bringing all relevant stakeholders under one umbrella – under which they are supposed to reach an agreement on a joint research agenda. It would be detrimental to Europe if such platforms safeguarded the status quo like a cartel, instead of promoting new ideas that could challenge established scientific theories or

³ In future there should be a discussion on formulating indicators which prove the necessary leeway for researchers in the framework of thematically oriented research.

business models. Consideration should therefore be given to whether, e.g., the European Institute of Innovation and Technology (EIT), the FET Flagships, the Joint Technology Initiatives (JTI) and Contractual Public-Private Partnerships (cPPP) actually promote fruitful competition and whether funding can still be accessed by excellent players outside institutionalised networks.

It is certainly appropriate that the European Union invests a significant portion of the Horizon 2020 budget to addressing the so-called major **societal challenges**. However, despite the initial description of European and global political situation contained in the introduction and summary, the challenges formulated in Horizon 2020 concentrate too strongly on the further development of technological solutions. To date, **social sciences** and the **humanities** appear to be viewed essentially as auxiliary – “supporting” – disciplines that are supposed to design business models or promote social acceptance of new technologies. This does not do them justice. When defining societal challenges in the future, greater account should therefore be taken of the perspectives and analytical strengths of social sciences and the humanities than in the past. Particularly in the area of migration, Europe will only be able to provide long-term solutions if the problems in migrants’ countries and regions of origin are also addressed. The sustainable development goals formulated by the United Nations (Sustainable Development Goals 2030) represent globally agreed priority goals that go significantly beyond the societal challenges formulated thus far for Horizon 2020. Despite the welcome increase in the EU budget for migration research from 2017 onwards initiated by the EU-Commission, the fact remains that the so-called societal challenge “Europe in a changing world: Inclusive, innovative and reflective societies” is far from adequately equipped to deal with the enormous challenges the EU faces.

Furthermore, it should be noted that the goal of the European Framework Programme defined in the Lisbon Treaty – to promote the European Research Area – has to date not led to a coordinated and transparent range of related funding measures from the EU. Instead, the Framework Programme has continuously added various new instruments over the years. A large number of funding lines deal with overlapping topics in very different structures and forms of cooperation. Only a limited number of experts are in the position to gauge the opportunities of Horizon 2020 in its diversity. Only very few institutions (not including universities, as a general rule) have the resources to integrate their excellent scientists into the networks of the various platforms. Irrespective of their outcomes, the multitude of different funding forms should therefore be reviewed and reduced.

We call for:

6) The programming processes for EU funding should be restructured in favour of funding for open topic calls.

7) The design of these instruments – in particular in Industrial Leadership and Societal Challenges – should provide stronger support for creative and productive “out of the box” thinking by re-searchers in academia and enterprises.

8) In future, more consideration should be given to the perspectives and analytical strengths of the humanities and social sciences when defining the societal challenges. Significantly more research funding should be made available for the political challenges that endanger the development of the European Union.

9) Aligning the societal challenges in Horizon 2020 with the United Nations’ sustainable development goals (UN-SDG 2030) should, if feasible, occur as early as the 2018-2020 work programme.

10) In future there should be fewer, better coordinated, instruments instead of additional new funding lines in EU research funding.

V. Conclusions: Towards a European Education, Research and Innovation Union

European universities play a pivotal role in the knowledge economy of the future that the EU aims to create through the strategy of the Innovation Union and the Framework Programme for Research and Innovation. They educate the economic, political and cultural elite of the EU – not to mention also the majority of the technical experts – who are to implement the EU’s innovation policy goals. Beyond this, universities are also “treasure chests” of European culture, making major contributions to the political cohesion of the European community of nations and societies. This function is often forgotten in the innovation debate, but it has become more important than ever in the current crisis.

In fact, universities – many of them leading global institutions - embody the knowledge triangle. Their significance is far from appropriately reflected to date in the practically non-existent, erratic, policies of the EU toward them. This is in part an expression of the different lines of responsibility for research, education, innovation and culture within the member states, between the member states and the EU, and within the EU itself. The Lisbon Treaty has given the European Commission special powers and tasks vis-à-vis structuring of the European Research Area and the Common Market. It has a considerable budget for the funding of research and innovation. However, the Commission has not been granted any authority in the area of education. Above all, however, the emphasis placed by the Commission on economic issues has contributed to a political vocabulary that avoids the term “universities”. EU universities are confronted with modernisation theories that largely reduce their responsibilities to supporting business creation and providing training for an extensive list of employment skills that move in and out of focus, depending on the political and economic situation.

Recently, however, two studies undertaken on behalf of Commission President Juncker and the Directorate-General for Research have shifted the focus, emphasising the significance of universities for Europe's future.⁴ In particular, in his study, Robert Madelin – in his capacity as former Director-General of the EU Commission – proposed an initiative by the President of the EU Commission emphasizing the importance of universities as “research hubs” for the entire innovation eco-system. He states that EU will only succeed politically to provide the required strengthening of and support to universities, if the EU-Commission assumes a leading role as moderator and coach for a long-term initiative that can only be successful if grounded in a political balance of interests within the framework of the EU's subsidiarity concept. According to Madelin, standardisation and regulation cannot be the focus of such an initiative. Rather, he claims, the Commission must prove its ability to successfully implement cross-policy projects that simultaneously involve and affect a range of decision-making levels – the EU, the member states and often the regions, e.g. in Germany, the Federal states.⁵

German universities believe that this approach constitutes a fruitful impetus for a much-needed discussion in Europe about how the innovation system can be further developed via a holistic view of the role of universities in the knowledge triangle and in culture. Institutional and constitutional aspects must not impede this long-term and holistic perspective, nor lead to political fragmentation of this crucial European institution. The role, effectiveness and potential of universities extend far beyond “growth and jobs”, making a sustained contribution to social cohesion in Europe.

Europe is searching for new goals. The creation of a European Education, Research and Innovation Union – grounded in strong universities and forming the basis for a vigorous, innovative and culturally diverse Europe – could and should be one of these goals.

⁴ Robert Madelin and David Ringrose (ed.), Opportunity Now: Europe's Mission to Innovate, July 2016; http://www.ewi-viaanderen.be/sites/default/files/europes_mission_to_innovate.pdf; The Knowledge Future: Intelligent Policy Choices for Europe 2015, Report of an expert group on Foresight on Key Long-term Transformations of European systems: Research, Innovation and Higher Education (KT 2050), Brussels 2015: https://ec.europa.eu/research/foresight/pdf/knowledge_future_2050.pdf

⁵ Robert Madelin and David Ringrose (ed.), *ibid.*, p. 85-89