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## Public stakeholder consultation – interim evaluation of Horizon 2020

### Preface

*Horizon 2020 is the biggest European Union Research and Innovation programme and the largest in the world providing nearly €80 billion of funding available until the year 2020. Its main objectives are referred to inducement of breakthroughs and discoveries by transferring innovative ideas from the laboratory to the market. By offering funds for promoting the scientific and technological excellence, it aims at lifting the European Union's economic competitiveness and addressing the very important societal challenges.*

*The Horizon 2020 programme has just entered its 4<sup>th</sup> year and time for midterm evaluations has come. Eurodoc welcomes and supports the initiative of the European Commission in public stakeholder consultations and is willing to provide its contribution to this appraisal. We believe that Eurodoc opinions will bring to light early career researchers' concerns and priorities and will make a valuable input to the future discussions on the implementation of EU research and innovation funding.*

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*European Council of Doctoral Candidates and Junior Researchers is an international federation of 32 national organisations of PhD candidates, and more generally of young researchers from 32 countries of the European Union and the Council of Europe. Eurodoc was founded in Girona (Spain) on 02/02/02. Since 2005, Eurodoc has its seat in Brussels, Belgium.*

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The funding for innovation and research based on grants and open calls at the EU-level create added value and are key to retain promising early career researchers and to boost Europe's overall competitiveness. Nevertheless, the severely low success rates of Horizon 2020 calls, due to a lack of funding at both EU and national scales have harmful effects, limiting the early career researchers in their careers. These are, among others, high participation costs, wasted research ideas, and greatly reduced competitiveness of public investment.

This situation is caused by several independent flaws. Among them we can highlight the variations in law regulations concerning the settlements of grants from one country to another, the lack of continuous financial and career management, the low success ratio and the ranking based evaluation which rewards only ideas from the strongest scientific units, the settlement of grants which impacts mobility and prevents the creation of permanent positions.

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Furthermore, despite progress on simplification, Horizon 2020 projects require a tremendous administrative and financial commitment given accounting and reporting complexity, as well as insufficient coverage of indirect costs. Sustainability and capacity in retaining and attracting scientific talent is undermined by rigid and costly implementation, early career researchers are often seen as disposable workforce. Starting from the key principle of research matching criteria of excellence, multidisciplinary, and collaboration for the selection and support of research projects, there is to find ways to connect more researchers to funded research projects and strongly encourage and support the involvement of early stage researchers. Widening the base of excellence in research within the EU is necessary to ensure societal progress and well-being in the long-term. However, to achieve that, the implementation of regular systems of support for excellence of research should be applied, instead of only short-term financing based on grants. Funded projects should also ensure that the grants are used for creating research opportunities inside and outside academia.

The odds of a project being funded increases with a more senior member being head of the project, In a high performance environment, it is highly unlikely that the Universities back a H2020 funding proposal emanating from an early career researcher.

During the first two years of Horizon 2020, the current Framework Programme (FP) for Research and Innovation has attracted more applications, more actors and more proposals than ever before. Research funded through the FPs is among the best ways to obtain added value from public investment in Europe. While the FP programs becomes more attractive, Universities see national funding opportunities go down, but they tend to be less successful in their bids to Horizon 2020. Many research institutions are less successful with their proposals to Horizon 2020 than they were in the FP7 programme: almost 90% of all and nearly 75% of high-quality proposals remained unfunded.

This is a clear indication that collaborative science is being underfunded. This situation creates more competition than the system can sustain with the current levels of funding and thus greatly reduces the efficiency of public investment. The oversubscription for top-rated proposals affects the entire research and innovation: novel research ideas that could benefit in the long term remain unfunded. The low success rates are discouraging to academia, research institutes and industry alike. Institutions also accumulate multiple losses through a costly proposal development cycle, basic calculations show that between one third and half of the funding that countries receive from Horizon 2020 is the equivalent to the costs of the total number of applications. Finally, grant-based financing is less stable and implies the definition of a yearly strategy and planning, which in case of research is either biased or impossible as well as it jeopardizes early stage researchers' career.

**Europe would benefit from sufficient and sustainable funding levels for innovative research projects as they play a fundamental role in the integration of knowledge in Europe and in the implementation of the European Research Area.**

Calls for research proposals often mention a technology readiness level (TRL). Unfortunately, funding decisions are too often skewed towards projects with a higher TRL. A lack of funding of middle TRL research jeopardizes opportunities for the most innovative projects and leads to a risk-averse approach. This may eventually lead to an insufficient science base to support the high TRL research. More funding for lower TRL research is of utmost importance to fill the potential gap between low and high TRL research.

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Applied sciences serve the people more in this respect, however basic knowledge is the basis to any development in research, and brings also a value that should not be omitted.

**The connection between fundamental research and innovation needs to be strengthened, the projects granted should not focus only on short-term future technological applications.**

Some forms of innovation, e.g. innovation in social or human sciences, are not given enough importance in the calls, despite these being vital to innovation in society. Innovation can be provided by encouraging interdisciplinary research, too often considered as not cutting-edge research. There needs to be a clearer acknowledgement of the need for 'innovative research' and not just 'innovation as market exploitation'.

Furthermore, the level of funding for collaborative projects, eg "Societal Challenges" and "Industrial Leadership" pillars, is not sufficiently adjusted with expectations. Because of the high level of oversubscription, applicants sometimes promise unrealistic impacts in order to improve their chances of success, far beyond for the real life-time of a project.

**The focus on innovation should be reconsidered to be less technically oriented and to include human and social sciences.**

The previous and current EU Framework Programmes for Research and Innovation have made a major contribution to reach critical mass, reduce inconsistency, and boost innovation and cutting-edge research in Europe. However, the differences between the countries R&D-TO-GDP ratio are growing, hence a more general view on efforts and investment at the EU level are needed for building more integrated ERA.

The top performing participants in Horizon 2020 consists in universities and research institutions. from 12 countries in Europe, getting around 75% of the funding so far. These institutions often have a vast network that collaborates with similar units throughout the country and abroad. Due to this, they can boast the highest participation and funding levels in Horizon 2020.

The salaries of researchers working on Horizon 2020 projects are tied to basic salary levels in the country where they work. Researchers in poorer countries of the EU are paid less than they would if they worked on projects funded by their national government. This rule's negative impact seems to be affecting more the countries with lower Horizon 2020 participation levels.

**A system of quotas could be considered to reinforce support for under-achievers and countries which had a decline in public funding.**

**The salary rule should be removed or at least weakened to not create lower the inequalities between European countries.**

Eurodoc believes that open access to scientific publications is vital for the development of open-science and values the fact that open access to peer-reviewed scientific publications is mandatory in Horizon 2020.

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Horizon 2020 should introduce funding to develop new publishing paradigms and encouraging the exchange and sharing of ideas by strengthening the guidelines for openness of publications and data.

**However, given the discrepancy and great number of open science policies around Europe, the European Commission should take a more active role in aligning the different open access policies.**

**Also publications funded by H2020 and submitted should be made open access shortly after the date of publication.**



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