



## Coimbra Group contribution on the mid-term review of Horizon 2020

### Preamble

Horizon 2020 has made significant contributions to European research, innovation, growth and job creation. The commitment of the EU to support excellent research, addressing the societal challenges and supporting innovation through funding of research is laudable. Horizon 2020 has been and should continue to be an investment in the future of Europe and not an expense. The Coimbra Group supports the opportunities provided by the three-pillar approach of Horizon 2020, and we acknowledge the simplification processes achieved in Horizon 2020, including the faster turnaround time to contract, the single cost model for reimbursement of cost and the improvements made through the Participant Portal. Horizon 2020 has provided significantly added value which could not have been achieved through national activities alone. Consequently, the most important contribution the EU can make would be to boost investments in research and innovation in order to ensure sustainable growth for Europe.

On the occasion of the mid-term review of the Horizon 2020 framework programme, the Coimbra Group wishes to take stock of the first two work programmes of Horizon 2020, taking into account the previous recommendations issued in 2013 and 2015 in our position papers<sup>1</sup>. In particular, with members of our pan-European network being universities of high-level multidisciplinary research, special attention will be paid to the representation of all disciplines in projects financed by the Horizon 2020 programme. The present Coimbra Group contribution will focus on 9 areas of recommendation.

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<sup>1</sup> Coimbra Group Position Paper on Horizon 2020 (2013) <http://www.coimbra-group.eu/uploads/2013/Coimbra%20Group%20position%20on%20Horizon%202020-Final-22Feb2013.pdf>  
Monitoring the Horizon 2020 Application and Evaluation Process (2015) <http://www.coimbra-group.eu/uploads/2015/Monitoring%20H2020%20CG.pdf>

## Key recommendations

### 1. Excellent research

The strong focus on excellence in Horizon 2020 is key to the success of the framework programme. This focus must be maintained and excellence must continue to be the governing principle in the next phases of Horizon 2020. In addition, for future EU framework programme investment in fundamental research it is imperative that a continuous flow of new knowledge required to develop innovative products and services is ensured in the long term. Industry is calling for a new knowledge base where scientific breakthroughs are seen as the ultimate precondition for innovation, growth and job creation.

In particular, the European Research Council (ERC) and the Marie Skłodowska-Curie Actions (MSCA) programmes have placed Europe on the map as never before and are unique opportunities in some Member States without national equivalent funding schemes. These programmes have proved that investments in ambitious high-risk/high-gain frontier research pay off. An independent qualitative evaluation<sup>2</sup> concluded that bottom-up research funded by the ERC has major impact, not only in purely scientific terms, but also as significant contributions to the economy and society at large. Furthermore, systematic mobility of researchers has been greatly enhanced by these programmes which have had a significant impact on researcher careers.

However, a gap is emerging between the fundamental research funded in particular by the ERC and the MSCA, and the later stage innovation funded in Societal Challenges and Industrial Leadership.

While several topics in Societal Challenges and Industrial Leadership address activities at Technology Readiness Levels (TRL) 6-7, relatively few topics address the lower TRLs (2-5). While this high TRL focus allows for new players in Horizon 2020, and allows for more demand-driven approaches, it also implies a risk that the promotion of collaborative research in lower TRLs, which could lay the ground for the development of new solutions to societal challenges, is not sufficiently prioritised. The consequence of insufficiently low TRL research may, in the long term, lead to a growing deficit of fundamental science to support high TRL research, thus risking the creation of a new ‘valley of death’ at the start of the innovation pipeline. Further, this might jeopardize future developments and will create missed opportunities both for academia and for industry.

In its 2013 paper the Coimbra Group expressed a wish “to see a clear commitment throughout Horizon 2020 to open, long-term research questions, methodologies and an openness towards the

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<sup>2</sup> Qualitative Evaluation of completed projects funded by the European Research Council  
[https://erc.europa.eu/sites/default/files/document/file/Qualitative\\_Evaluation\\_of\\_completed\\_projects\\_funded\\_by\\_the\\_ERC.pdf](https://erc.europa.eu/sites/default/files/document/file/Qualitative_Evaluation_of_completed_projects_funded_by_the_ERC.pdf)

(often unpredictable and serendipitous) dynamics of the research...”: we note that this commitment has not been sufficiently addressed in the first half of Horizon 2020. In particular, more attention and funding should be provided to collaborative fundamental research.

One solution could be, as suggested by EARMA, to develop a new two-phased project activity instrument for collaborative projects in pillar 3 with phase 1 aligned with projects covering a spectrum of lower to mid-range TRL. Phase 2 funding could be applied to move appropriate projects from phase 1 along the value chain and into the higher TRL level, similar to the Fast Track to the Innovation scheme, but more directly linked to the Phase 1 project, like the ERC Proof of Concept scheme. This would have implications for the evaluation process and in particular for impact (see Impact section below).

## **2. Geographical spread and widening participation**

Collaboration between EU13 and EU15 countries has proved to be a challenge and the Coimbra Group is aware of a potential new divide between universities in Western Europe and those in economically less strong European countries in terms of access to project funding and participation in large-scale research networks.

There are still significant differences in the research and innovation capacities between EU Member States, which are very important to address in order to achieve the objectives of the European Research Area (ERA). New and better approaches to capture the excellence of research regardless of geography need to be developed. The Coimbra Group believes that the concept of ‘Excellence’ should prevail in the Horizon 2020 evaluation process. However, it is vital to have instruments to assist the development of excellence in all Member States. This calls for adjustments, including a stronger interaction with the Structural Funds, especially if these could be used more flexibly than is currently the case, e.g. in favour of the Seal of Excellence projects from Horizon 2020. An improvement of the Teaming/Twinning mechanisms should also be considered, e.g. by adjusting some of the budget restrictions in the Twinning calls. The strengthening of corresponding science, technology and innovation funding within the Structural Funds is also encouraged. National Research Systems need to be better aligned to build a strong research base through infrastructural and research career development programmes which could be used to attract and harness talent and create a system which has the absorptive capacity to benefit from knowledge transfer as well as to expand an indigenous base of research excellence.

Furthermore, the unbalanced participation in joint programming initiatives (e.g. ERA-Cofund, JPI and EJP) need to be reconsidered, especially where national funding and support is required. Smaller Member States (MS) and Associated Countries (AC) can only allocate funding and administrative

resources for participation in some of these initiatives. Hence, there is a need to strike a better balance to ensure that potential applicants from some MS and AC are not excluded from participating in these Horizon 2020 actions, otherwise leading to the unacceptable development of a two-tier Europe where some countries have programme accessibility not afforded to others. This type of inequality would not contribute to the proper implementation of the ERA targets nor indeed to the “3 Os” concept (Open innovation, Open Science, Open to the World).

The Coimbra Group recommends that efforts to spread excellence across Europe are significantly increased. This could be achieved via the optimization of Structural Funds and a more flexible approach to the use of salary levels to make Horizon 2020 involvement financially more attractive to countries and institutions where salary levels are not internationally competitive. We recommend the introduction of salary levels similar to those in MSCA for low-income countries for the reimbursement of personnel costs.

### **3. Evaluation and selection of projects**

The high standards and procedures for evaluation are hallmarks of the framework programmes. It is therefore fundamental to further improve and embed these procedures throughout Horizon 2020 and in the next framework programme to maintain the confidence of researchers in the evaluation process. Criticism of the evaluation process of Horizon 2020 proposals has been quoted and was confirmed at a recent meeting of the Coimbra Group Working Group of Research Support Officers, including the European Commission’s representative and evaluators. This has shed light on flaws and/or practises that do not comply with the expected excellence of such a high-level and ambitious programme.

The Coimbra Group recommends the following initiatives to be taken (partly also suggested in the 2015 paper):

- Evaluation Summary Reports (ESR) should provide consistently detailed comments. Currently, successful proposals receive more feedback than unsuccessful ones; this should be changed to encourage higher-level quality proposals in the future.
- Feedback should be provided to those successfully through to stage 2 before the second stage application is submitted. Feedback should be available to the reviewers acting at stage 2 application to ensure that there is consistency of approach and follow-up.
- All evaluation processes should include a consensus meeting in the form of a physical (or at least through video conference) meeting.

- The procedures of the experts' selection should be fundamentally improved. A suggestion could be to use the ERC evaluation format (or part of it) and introduce rotating standing panels. Whilst this may not be possible for all members of the panel (e.g. those coming from industry may not be able to provide this level of time commitment), a certain percentage could be chosen in this way. This approach would also lend itself to ensuring that evaluators, who state they have a given expertise, actually do. Hence, stringent ex-post quality control of the selected experts should take place. Low quality reviews should be discarded, and alternative experts should be sought. At present, the Coimbra Group understands that no such verification has been undertaken in respect of evaluators.
- More attention should be devoted to the selection of evaluators of cross-disciplinary projects, as experience has shown that evaluation expertise is still predominantly discipline-based and that many evaluators find it difficult to assess projects of a cross-disciplinary nature adequately. Another suggestion could be to better define interdisciplinary criteria to assist disciplinary experts.
- The European Commission should standardise the information that evaluators receive beforehand and offer standardized training sessions for new evaluators. Cross-references between different evaluations should be ensured.

The Coimbra Group also recommends that the problem of low success rates is addressed and we suggest, as in the 2015 position paper, that call texts include more details of strategic rationale for topic inclusion to allow applicants to more closely address the expected impact. We also call for a wider use of two-stage submissions with a significantly higher (25-50%) success rate in the second phase.

#### **4. Impact**

In general, impact statements in topic descriptions have improved. However, very different types of instruments (e.g. CSA and RIA) sometimes have the same type of impact statements, but obviously the expected impact will depend on the choice of instrument.

Therefore, the Coimbra Group recommends that the European Commission provides clearer guidance on the expected impacts, as this could lead to more appropriate consortia developments and better applications and outcomes.

Moreover, as already addressed in the Excellent research section above, we would like to see Research Actions for projects focusing on lower TRLs, as a separate instrument next to RIA (for medium TRL) and IA (for high TRL). The expected impact statements for the different instruments should be realistically achievable in a project's lifetime, and therefore reflected in the TRL.

Further, the Coimbra Group recommends that the European Commission finds a better balance of and differentiates more clearly between expected impact statements regarding small or large projects. It is indeed not realistic to expect a given project to deliver a very broad range of impacts as articulated in some of the previous calls.

As there should be support and investment at all TRL levels, it is necessary to adopt a broader approach to the assessment of impact which acknowledges the strong interaction between frontier research and its contributions to the economy and society at large.

## 5. Integration of Social Sciences and Humanities

As recognized by the European Commission<sup>3</sup>, the integration of the Social Sciences and Humanities (SSH) is *needed to generate new knowledge, support evidence-based policymaking, develop key competences and produce interdisciplinary solutions to both societal and technological issues.*

The embedding agenda for SSH was intended to be at the heart of Horizon 2020, especially in pillar 3, and this ground-breaking innovative approach was, at the time, welcomed by the Coimbra Group. Although some progress has been made towards the integration of SSH into all societal challenges, this has considerably lagged behind expectations and many opportunities for better integration across the challenges and calls and a greater role for SSH have not been realised. The lack of progress in embedding and strengthening the SSH perspectives from work programme to work programme has been disappointing and important opportunities to address societal challenges in a more comprehensive way have already been lost.

Furthermore, budgets for the SSH specific Challenge 6 have so far been entirely inadequate, with large proportions being allocated to overarching instruments and not specific to SSH issues and challenges. The success rates for this challenge have been in the region of 2-3% and, thus, considerably lower than the already low success rates across Horizon 2020. Initially, the programme saw a considerable success in mobilising and engaging the SSH community to become involved in its calls, but the programme is now in very real danger of becoming a victim of its own mobilisation success, and the low success rates have become a major demotivating factor for researchers and their institutions.

The Coimbra Group already expressed in its 2013 paper a serious concern regarding the lack of contributions from SSH in the calls associated to societal challenges stating that “all these challenges have to be addressed not only at the level of technology, but crucially at that of attitudes and

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<sup>3</sup>Social Sciences Social Sciences and Humanities Integration and Communication  
<https://ec.europa.eu/research/social-sciences/index.cfm?pg=policies&policyname=integration>

motivations. Tackling each of them [...] depends entirely on investigating underlying social, cultural and behavioural dimensions". The Coimbra Group strongly urges that the SSH embedding agenda is pursued more intensely and more systematically; otherwise crucial perspectives for addressing pressing societal challenges will continue to be missing. Furthermore, the budgets for a future Challenge 6 must be substantially increased.

The Coimbra Group wishes to repeat that SSH perspectives need to be included more explicitly in the formulation of calls, and the concept of impact should be adjusted to be appropriate to the kind of contributions that SSH could and should make. Furthermore, evaluation panels need to reflect adequate expertise across multiple SSH disciplines. One way to address this would be to make it an evaluation criterion for all SSH flagged topics to address SSH issues properly in the proposal and also demonstrate this in the structure of the consortia. Failure to do so should automatically be scored as two major shortcomings.

The Coimbra Group also recommends that the European Commission benefit from Project Officers trained in SSH integration to support and foster research environments where different disciplines work together to achieve the expected results and impacts.

## **6. Efficiency and use of resources**

Simplification of Horizon 2020 has been high on the agenda, and much has been achieved (e.g. the present simplified cost model, which works and should be kept; the financial reporting is easier for Horizon 2020 than for previous Framework Programmes), but there is still room for improvement. The original idea of the simplification process was to move towards trust-based cooperation, something which seems to have been forgotten.

On this issue, the Coimbra Group recommends the following practices that could easily be validated by institutional auditors:

- Follow the principle that participants should use their national accounting practices for EU projects like they do for all other externally funded projects;
- Allow internal invoicing procedures to be used for shared research infrastructures, laboratory tests or similar services;
- Acknowledge that defining the full potential use of research infrastructures is not a meaningful exercise for universities or research institutions when calculating an hourly rate. The result of this effort is out of proportion with respect to the work involved in doing so;
- Re-introduce lump sums in the Horizon 2020 cost model as an effective simplification for both beneficiaries from developing countries and project coordinators.

## 7. Coherence of different instruments

Simplification should focus on reducing the number of instruments. The current Framework Programme for Research and Innovation offers a variety of funding opportunities for innovation, but in a diversified and fragmented structure.

Bringing together current innovation schemes in a more transparent and consolidated structure would ensure stronger internal coherence and allow for stronger interaction between e.g. Horizon 2020 partnership programmes and joint programming initiatives as well as other Horizon 2020 funding schemes. Additionally, there are research opportunities afforded by other General Directions (DGs), which, however, often suffer from terms and conditions that include aspects which universities are not generally insured to comply with. To allow for greater synergy across the European Commission's DGs, the legal architecture needs to be re-examined and brought into line with Horizon 2020 (and its successor, FP9).

Regarding the external coherence (between Horizon 2020 and other EU programmes), the Coimbra Group acknowledges that the European Commission has taken steps to explore synergies between Horizon 2020 and the Structural Funds. Yet we recommend that the European Commission further explores this possibility, e.g. that the same rules of management of funding apply to both Horizon 2020 and the Structural Funds (or for a fixed part of the Structural Funds dedicated to R&I).

Intensive synergies between Horizon 2020 and the European Regional Development Fund (ERDF) could provide a major step to decrease inequalities without making concessions to research excellence. In practice, such synergies rarely occur, in large part due to administrative hurdles due to e.g. different accounting principles in the two programmes, unclear guidelines on how to combine the two, etc. Synergies should be fostered: the European Commission should devote more attention to sharing its guidelines with policymakers and good practices with potential applicants. The introduction of a 'Seal of Excellence' in the SME Instrument is a promising development, and the Coimbra Group calls on the European Commission to broaden its purview to all parts of Horizon 2020.

## 8. Open to the world

Commissioner Carlos Moedas stressed the importance of Openness to the world at the 'A new start for Europe: Opening up to an ERA of Innovation' Conference<sup>4</sup>: *Europe should be a global leader in science, and this should translate into a leading voice in global debates. To remain relevant and competitive, we need to engage more in science diplomacy and global scientific collaboration. It is*

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<sup>4</sup>SPEECH/15/5243 "Open Innovation, Open Science, Open to the World"  
[http://europa.eu/rapid/press-release\\_SPEECH-15-5243\\_en.html](http://europa.eu/rapid/press-release_SPEECH-15-5243_en.html)



*not sufficient to only support collaborative projects; we need to enable partnerships between regions and countries.*

The Coimbra Group agrees with this definition of openness and would like to support it as a policy guideline for future development.

One way to deliver the best results to Europe is to provide access to the best research from around the world. However, there are still too many barriers to international cooperation within Horizon 2020, as evidenced by the drop in international participation from non-associated countries. There is a need to develop acceptable terms and conditions to facilitate the participation of third country partners in Horizon 2020. The Coimbra Group recommends that the European Commission aims to achieve this in the next Framework Programme (FP9), if not possible before the end of Horizon 2020, for example by developing a standard contract with global acceptance through the Global Research Council.

For the remainder of Horizon 2020, the Coimbra Group calls upon the European Commission to increase its efforts to create S&T agreements with third countries that are not automatically eligible for funding in Horizon 2020, and to continue its efforts to establish Co-funding mechanisms with third countries to make it easier for researchers from those countries to participate.<sup>5</sup>

## **9. Education and research hand in hand**

Resonating with Commissioner Carlos Moedas “3 Os” concept, the integrative values of the European Union must be more widely supported, by strengthening the link between Research and Education. In its present state, Horizon 2020 does propose a limited number of actions in this direction, but this should be strongly reinforced.

The link between Research and Education is at the core of Coimbra Group Universities, which have contributed to the build-up of European societies and identities over centuries. The Coimbra Group is therefore particularly concerned by developments in this field and suggests the following measures:

- Calls should include the need to ensure a minimum of transfer of knowledge to students within the lifetime of the projects. This would also result in a stronger impact, including the training of young researchers. In the same spirit, MSCA should receive increased funding to foster professional training mobility and exchange of young researchers (current over-subscription and low success rates are demotivating);

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<sup>5</sup> A good example is the Co-funding Mechanism (CFM) launched by the Chinese Government and the EU in 2015.

- Impact statements should be strengthened in the field of lifelong learning as a fundamental building block of the integrative capacity of research;
- A stronger connection should be made between Horizon 2020 and the Erasmus+ Programme, e.g. through funding for first cycle activities in the field of Sciences, Technology, Engineering and Mathematics (STEM);
- The societal aspects of fundamental research, in particular in STEM, should be better promoted with specific calls related to scientific communication to Society.

## **Final remarks**

As in its previous position papers, the Coimbra Group expresses the hope that the present key recommendations, containing both high-level comments and detailed practical suggestions, will be useful to the European Commission and reiterates our willingness to engage in further discussion with the European Commission on these aspects.

### **Coimbra Group references**

*Coimbra Group position paper on Horizon 2020 (2013)*

<http://www.coimbra-group.eu/uploads/2013/Coimbra%20Group%20position%20on%20Horizon%202020-Final-22Feb2013.pdf>

*Monitoring the Horizon 2020 Application and Evaluation Process (2015)*

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## **The Coimbra Group**

The Coimbra Group is a European university network, which, since 1985, has promoted higher education and research cooperation. The Coimbra Group consists of thirty-eight comprehensive, long-established research universities from across Europe. It comprises key institutions for promoting staff and student mobility and fostering international mobility of doctoral candidates and early-stage researchers. It brings together members from all European regions. It has, therefore, a particular awareness of regional differences and the varying impact of economic and financial instability on different higher education and research systems. The Coimbra Group members put a strong emphasis on fundamental and blue-sky research and see the Humanities and Social Sciences as equal and integral parts not only of their teaching and research portfolio, but also of their

contribution to society and economic development. Moreover, the Coimbra Group and its member universities have a long-standing tradition of global collaboration with institutions of research and higher education in other world regions. The Coimbra Group offers its contribution on the midterm review of Horizon 2020 proposal from the specific vantage point of these characteristics.

<http://www.coimbra-group.eu>

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