



Coimbra Group contribution to the development of the next European Framework Programme for Research and Innovation, FP9

Preamble

The Coimbra Group is a network of thirty-nine research-intensive universities in nineteen European Union (EU) and four non-EU European countries. Each of our institutions has benefitted from EU Framework Programmes and their experiences have informed the substantive input we wish to provide to the preparations of the next European Framework Programme, FP9.

The Coimbra Group strongly supports a robust European Framework Programme for Research and Innovation (R&I). The Framework Programme is crucial for realising the European Research Area (ERA) and the Coimbra Group also expresses support for a renewal of the ERA process, as we move past 2020. It is essential for the EU to maintain and strengthen its position as an effective and competitive knowledge economy to tackle societal challenges in the next decades. Researchers and innovators are key actors in a knowledge economy and R&I should therefore be one of the key priorities in a modernised EU budget.

The Coimbra Group has listened carefully to the FP9 debate up to now, including the recent “Lab-Fab-App” report (or “Lamy Report” from the independent High-Level Group on maximising the impact of EU R&I Programmes, led by former WTO Director-General Pascal Lamy). There are some similarities and elements of common vision in the numerous statements coming from the Millennium Challenges, the sustainable development goals of the United Nations (UN), R&I as cornerstones to solving global challenges and safeguarding the planet, the Paris Climate Change Agreement, and EU R&I publications and reports. The Coimbra Group is in agreement with the following statements:

- Excellence must continue to be the fundamental and guiding principle to drive funding decisions across FP9.

- The three-pillar architecture has proven successful and should be maintained. Coherence between the pillars should be enhanced with a focus on covering the knowledge chain as a whole.
- Research (as the foundation for ground-breaking innovations) and Innovation should be conceived as a process and not as a product.
- International (intra and extra-European) cooperation should be enhanced in accordance with the overall strategic objectives and potential missions of the next Framework Programme; specific strategic areas should be identified in which European and international partners have particular common interests in solving the challenges facing society such as food safety, energy provision, health, ageing, migration, crisis of democracy, etc. In the same spirit, the cooperation conditions with the United Kingdom should be clarified, as well as its continued inclusion in European programmes.
- Coherence and streamlining of programmes and instruments should be continued in tandem with further simplification.

In this document, the Coimbra Group has chosen to concentrate its analysis on a specific number of areas: **Research, Innovation and Higher Education; Mission-oriented approach; Widening of Participation; Impact; Simplification**. This choice is guided by the profile of Coimbra Group members as key drivers of excellence in higher education, research and innovation cooperation, with a long track record of delivering innovative ideas. Furthermore, the Coimbra Group brings together members from all European regions; it has, therefore, a particular awareness of regional differences and the varying degrees of impact on the economic and financial instability of the different higher education and R&I systems.

Coimbra Group key recommendations

1. Research, Innovation and Higher Education: a similar approach

The very first action proposed by the Lamy Report crucially addresses the budget of the post-Horizon 2020 R&I Programme: a welcome doubling of the budget is called for, but numerous voices from the political world have already expressed doubts about the capacity and/or the political will to secure a budget at least equivalent to that of the current Horizon 2020 programme. The Coimbra Group calls for all actors in the field to remain mobilised to make certain that the FP9 budget meets the needs of the EU: a reduced budget would seriously damage the EU's chances to successfully respond to its main challenges. The budget is an investment in the future of Europe and should be acknowledged as such. The Coimbra Group calls for similarly strong commitment from National and European policymakers to secure the budget of the post-Erasmus+ programme.

The link between Research and Higher Education is at the core of the missions of Coimbra Group Universities, which have contributed to the development of European societies and identities over centuries. The Coimbra Group notes that the Lamy Report (action 3) calls for the modernisation of education and training systems. This proposal makes perfect sense and the Coimbra Group Universities are already very active in this field. *It has always been and it will continue to be our goal to further promote appropriate innovation in education, to support interdisciplinarity and to ensure research-led education.*

The Coimbra Group Universities are committed to training the next generation of Innovators: integrating R&I into education is a powerful means of securing the flow of new ideas and knowledge to and from research. Fostering robust links between research, innovation and education is important for the quality of the higher education and for graduate employability. Enabling students to connect with researchers helps them to build transferable competences that are valued by employers, including complex problem solving, critical enquiry, etc. Research itself can benefit from the fresh approaches and insights that students bring.

The Lamy Report also strongly emphasises the crucial role of Lifelong Learning; this is an equally central topic for Coimbra Group Universities. The Coimbra Group pointed out, in its 2017 position paper on the mid-term review of Horizon 2020¹, that impact statements should be strengthened in the field of Lifelong Learning as a fundamental building block of the integrative capacity of research. Knowledge exchange and transfer activities such as education, training and innovation activities for graduate and doctoral candidates have the potential to significantly raise the impact of publicly funded research and innovation projects.

In its position paper on the mid-term review of Horizon 2020, the Coimbra Group suggested that calls in the future Framework Programme should include the need to ensure at least a minimum of transfer of knowledge to students within the lifetime of the projects. Furthermore, the projects need to link to the students by e.g. letting students be part of the public engagement.

FP9 should continue to stimulate academics to teach about their projects: such activity, which goes back to the very concept of modern European universities, is a key aspect in the transfer of project results and as such should be recognised as an important mechanism of achieving impact. Furthermore, other stakeholders such as industry partners and public organisations should be more directly involved in the Higher Education system. The concept of Lifewide Learning (LWL) should also be acknowledged.

In its position paper on the mid-term review of Horizon 2020, the Coimbra Group previously pointed at the need for a stronger connection between FP9 and the Erasmus+ Programme: it was suggested that a

¹ <http://www.coimbra-group.eu/uploads/2017/CG%20Horizon%202020%20midterm%20review%2011Jan2017.pdf>

possibility to achieve this could be through funding for first cycle activities in the field of Science, Technology, Engineering and Mathematics (STEM).

It should further be explored whether the mobility activities within higher education as well as curriculum development and teacher exchange activities of the Erasmus+ programme could be embedded into research projects by linking them to the societal challenges/missions in FP9.

The Coimbra Group is supportive of the development of policy guidelines that remove current barriers to international cooperation, and lessons should be learned from current programmes (in particular from Erasmus+ with its Key Actions 107 in Mobility for Higher Education, see recent Coimbra Group position paper on Erasmus+²).

2. Mission-oriented approach: calling for genuine interdisciplinarity

Action 5 of the Lamy Report proposes to “adopt a mission-oriented, impact-focused approach to address global challenges” by defining a “limited number of large-scale research and innovation missions”.

What is required to achieve this mission is a human-centric technological approach and the associated rationale is based on a better and “by-design” integration of the Social Sciences and the Humanities (SSH). The Coimbra Group emphasises that SSH perspectives need to be included more explicitly in the framing of the challenges to be addressed, and 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. A very timely initiative could be the creation of a “Societal Readiness Level” (SRL) system, such as PESTEL or any equivalent that includes political, economic and social factors. In section 4 of this paper on “impact” a suggestion for a SRL system is described.

Further, SSH play an important role in developing and transforming new technologies into practical solutions for the benefit of citizens, thereby forming the bases for high impact. Integration of SSH aspects in project designs is an integral part of the excellence of a project and a substantial effort must be made to integrate SSH across programmes. In this context, the Coimbra Groups renews its call for more comprehensive inclusion of SSH experts in the formulation and evaluation of future calls.

At EU level, the mission-oriented approach may include some so-called ‘moon shots’ which ideally should assist in the implementation of the UN sustainable development goals. The time frame for the implementation of the goals is 2030 and hence FP9 is a very important vehicle to drive the underlying research necessary to attaining these goals.

² <http://www.coimbra-group.eu/uploads/2017/COIMBRA%20GROUP%20POSITION%20PAPER%20ON%20ERASMUS+%202024%20May.pdf>

3. Widening of Participation: a necessity to Europe's development

The Coimbra Group supports maximising the synergy between various EU funds (FP9, Structural Funds, Agricultural Funds) though the implementation should be “by-design” at programme level and not left for the project level to realise the synergy effort.

The Coimbra Group is not in favour of using the Framework Programme for R&I to solve policy challenges when there is already the possibility within the Structural Funds to prioritize their use for research and for capacity building. Where there are relevant country-specific recommendations connected with the Structural Funds, the related countries should be the ones endorsing the use of the next round of Structural Funds for capacity building.

National Research Systems need to show increased commitment to building a strong research base through infrastructural and research career development programmes, which will attract and harness talent and create a system with the absorptive capacity to benefit from knowledge transfer and expand an indigenous base of research excellence. Special attention should be devoted to avoiding an intra-Europe brain drain.

The Coimbra Group supports efforts to eliminate barriers which hamper participation of new excellent research teams by creating proper conditions and opportunities for the best players both at EU and national level and better align research and innovation instruments and agendas in Europe.

A number of existing instruments contain possibilities for improving aspects of the widening of participation. Widening instruments are an issue requiring knowledge and experience transfer to involve partners from less research-intensive countries and coherence of different mechanisms is necessary. COST actions as an instrument should be used to a greater extent and contribute to addressing the notion of “closed networks” by establishing networks with specific objectives to prepare consortia for proposals. An improvement of the important Teaming/Twinning mechanisms should also be considered, e.g. by adjusting some of the budget restrictions in the Twinning calls.

4. Impact: urgent need for a comprehensive definition

In its position paper on the mid-term review of Horizon 2020, the Coimbra Group recommended 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, the Coimbra Group expressed a wish 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 achieved in a project's lifetime, and therefore reflected in the TRL.

Furthermore, the Coimbra Group recommends that the European Commission finds a better balance of, and differentiates more clearly between, expected impact statements from small or large projects. It is necessary to ensure a balance between large-scale and smaller-scale cooperation projects, which could be more attractive and involve small Member States or cover niche, but important, areas and topics with potential to ensure widening of participation. 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 points of the research spectrum, 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.

Action 11 in the Lamy Report looks to enhance the branding of EU R&I by improved communication of its results and impacts. Impact statements should equally be strengthened in the field of Lifelong Learning as a fundamental building block of the integrative capacity of R&I: the Coimbra Group strongly supports calls for a stronger connection between post-Horizon 2020 and post-Erasmus+ programmes where societal aspects of fundamental research and innovation should be better promoted with specific calls related to scientific communication with society.

The Coimbra Group proposes that the European Commission brings together a group of professionals, academics and administrators from across the EU together to seek to broaden and define the types of impact that might be regarded as worthwhile in FP9 and recognised in the evaluation criteria. One aspect could be to work with impact on a portfolio of projects instead of individual projects, another could be to look at Societal Readiness Level.

Societal Readiness Level (SRL, defined according to the Innovation Fund Denmark³) is a way of assessing the level of societal adaptation readiness of, for instance, a particular social project, a technology, a product, a process, an intervention, or an innovation (whether social or technical). If the societal readiness for the social or technical solution is expected to be low, suggestions for a realistic transition towards societal adaptation are required. Naturally, the lower the societal adaptation, the better the plan for transition must be.

SRL 1 is the lowest and SRL 9 is the highest level:

SRL 1: identifying problem and identifying societal readiness

SRL 2: formulation of problem, proposed solution(s) and potential impact, expected societal readiness; identifying relevant stakeholders for the project.

SRL 3: initial testing of proposed solution(s) together with relevant stakeholders

SRL 4: problem validated through pilot testing in relevant environment to substantiate proposed impact and societal readiness

³ https://innovationsfonden.dk/sites/default/files/societal_readiness_levels_-_srl.pdf

SRL 5: *proposed solution(s) validated, now by relevant stakeholders in the area*

SRL 6: *solution(s) demonstrated in relevant environment and in co-operation with relevant stakeholders to gain initial feedback on potential impact*

SRL 7: *refinement of project and/or solution and, if needed, retesting in relevant environment with relevant stakeholders*

SRL 8: *proposed solution(s) as well as a plan for societal adaptation complete and qualified*

SRL 9: *actual project solution(s) proven in relevant environment*

5. Simplification: should not be opposed to National and Regional policies

Actions 7 and 9 of the Lamy Report are complementary as they suggest a simplification process with a “better alignment of national programmes [...] with the EU programme”. This initiative must be considered with great caution, as it may prove counterproductive if it leads to an impoverishment of funding opportunities for fields of research that are not prioritised today, but which could become crucial tomorrow (cf. the refugee crisis that emerged during the Erasmus+ and Horizon 2020 programmes and necessitated adjustments, although unfortunately insufficient). Policymakers should ensure that there is sufficient funding within the full research spectrum at both national and EU levels, and that national investment is also made in the development of human capital and in infrastructure. These are the conditions to finally achieving the realisation of the ERA. Too many Member States have moved away from funding fundamental research during the recent economic downturn, and it is now time to redress this imbalance to secure the required knowledge base necessary to feed the “innovation pipeline”. Again, a narrowing of the funding band width might “jeopardise future developments and will create missed opportunities both for academia and for industry”, as already stated in the Coimbra Group policy paper on Horizon 2020.

Moreover, from a purely political viewpoint, it must be recognized that some Member States need to address their own national priorities. Considerable efforts have been made amongst regional stakeholders to foster regional innovation by a thorough identification of regional strengths, which have resulted in specific Research and Innovation Smart Specialisation Strategies (RIS3): the simplification process should thus not lead to an impoverishment of the diversity of the R&I ecosystem. The Coimbra Group Universities have been key players in this link between regional stakeholders and are committed to maintaining this crucial role: this will be possible only if the next Framework Programme allows for this multi-scale funding approach.

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

to participation in some of these initiatives. A better balance is needed to ensure that potential applicants from Member States and Associated Countries are not excluded from participating in these actions by an unacceptable development of a two-tier Europe where some countries have programme accessibility not afforded by others.

Additional points of concern:

There are a number of areas in which the Coimbra Group wishes to express/repeat concerns:

- Action 2 in the Lamy Report proposes to boost innovative ideas via the creation of a **European Innovation Council (EIC)**. We must recall, as in the recent Coimbra Group policy paper on H2020, that “the consequence of insufficiently low TRL research may, in the long term, [will] lead to [...] the creation of a new ‘valley of death’ at the start of the innovation pipeline”.
- **Evaluation criteria** should broadly use the same terms of reference across the Framework Programme and no new general sub-criteria should be introduced.
- **Infrastructure**: there should be an increased synergy between the European Strategy Forum on Research Infrastructure and the research infrastructure part in the Framework Programme.
- **Defence Research**: the Framework Programme should remain civilian in nature, and any future defence research programme should be separated from the R&I Framework Programme and a budget for defence research should not be at the expense of FP9.

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-nine 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 the different higher education and research systems. The Coimbra Group members strongly emphasise the importance of 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 to 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.

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

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