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European University Association

From Vision to Action:
What **EUA** proposes for
the **Next Framework
Programme for Research
and Innovation (FP9)**

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From Vision to Action: What EUA proposes for the Next Framework Programme for Research and Innovation (FP9)

In November 2016, EUA identified three key thematic areas that will be of concern for universities post-2020: 1) providing long-term policies and funding instruments for research; 2) reinforcing collaboration and minimising discrepancies across the EU; 3) seeking a stronger alignment of policies for education, research and innovation.

In late 2017, as the interim evaluation of Horizon 2020 draws to a close and the debate on the next Framework Programme (FP9) is in full swing, EUA further defines its vision by providing a reflection on each thematic area and putting forward specific recommendations for the design of FP9 rules and participation criteria. This document builds on [EUA's member consultation on the Horizon 2020 mid-term review](#), the [campaign for "EU funding for universities"](#), and the Association's ongoing work on [Open Science](#) and [Smart Specialisation](#). It was prepared in consultation with EUA's Research Policy Working Group and the EUA Council.

The recommendations outlined here echo several of the ideas presented in the European Commission's report "LAB-FAB-APP Investing in the European Future We Want"¹ (also known as the "Lamy" report) and are fully in line with the recognition that research and innovation are at the core of Europe's future. Tackling the UN Sustainable Development Goals, consolidating the European Research Area and building a more competitive, prosperous and inclusive Europe requires a strong Framework Programme, capable of fully supporting and leveraging European research and innovation.

Area 1. Provide long-term policies and funding instruments for research

As stated in [EUA's vision on FP9](#), university-based fundamental and applied research generates and stimulates the whole bandwidth of innovation. A set of well-articulated policies and instruments is needed to create supporting and sustainable conditions for the development of research and the consequent spill-over effects on innovation and competitiveness. From the perspective of European universities, three elements are particularly relevant and should be fully embedded in FP9: i) funding instruments and their sustainability; ii) incentives fostering multidisciplinary and; iii) a more open scientific system, where knowledge is easily accessible. Supporting evidence and specific recommendations for these three sub-areas are presented below.

1.1 Funding instruments for research and innovation

EU-level funding for research and innovation based on grants and open competitive calls, as well as a strong emphasis on excellence, creates unparalleled added value and remains paramount to retaining scientific talent and boosting Europe's global competitiveness.

However, as demonstrated by the EUA member consultation on the Horizon 2020 mid-term review, EU spending on the Framework Programmes (FP) in the last decade has not kept up with demand from increasingly knowledge-dependent economies. Since FP6, funding growth has been almost twice as low as the growth in the number of proposals, and the FP funding commitment has never truly matched Europe's scientific capacity, or the scale of problems that need to be addressed. In this respect, the European Commission estimated that an additional EUR 62.4 billion would have been necessary to fund all high-quality proposals for 2014-2016.² There is increased recognition among stakeholders that, as EUA has been arguing, due to underfunding, the overall efficiency of the FP and the entire EU research funding landscape has significantly gone down. At present, the overall cost of applications, successful or not, could be estimated as the equivalent to between 30% and 50% of funding that countries receive from Horizon 2020. In other words, the full cost of participation in FP projects remains too high and often unaffordable for beneficiaries. In addition, most of the applications are submitted by publicly-funded organisations, meaning that national budgets bear the costs of unfunded applications.³

Furthermore, Europe is currently missing its 3% R&D expenditure target.⁴ The latest [EUA Public Funding Observatory data for 2017](#) also shows that funding to universities has been decreasing in 15 out of 28 higher education systems since 2008. The diverging funding trends further expand the gap between EU member states in terms of their capacity to deliver excellent research, innovation and education and, thus, undermine the European Research Area and the European Higher Education Area.⁵

EUA calls for grants to be the major funding mechanism for university-based research. Financial instruments or loan-based schemes are not adequate to enable and support fundamental research, collaborative or not, or the development of researchers, all of which are essential for the creation of new knowledge that drives innovation. Instead, these instruments are better suited for research focusing on products and services closer to market.

As emphasised in the EUA member consultation on the Horizon 2020 mid-term review, long-term public funding is needed at the national and European levels to support incremental and disruptive innovation based on fundamental and applied research that enable higher Technology Readiness Levels (TRLs) research in industrial settings. In this spirit, a European Innovation Council (EIC), as a funding mechanism, should promote excellent, research-based innovation, including social and cultural

innovation. The EIC should also support the distinct capacity of universities as hubs for research, education and entrepreneurship, offering students and young researchers the opportunity to translate their ideas into innovative products, processes or services.

EUA recommendations for funding research and innovation under FP9

- Increase the budget of FP9 to sufficiently fund a significantly larger number of excellent, collaborative and multidisciplinary research and innovation projects (all top-rated proposals). This can be carried out through a strategic reallocation within the EU's Multiannual Financial Framework (MFF) with a view to ensure better synergies and complementarity of national and European funding mechanisms.⁶ Research and innovation are the first step in the pipeline of societal and economic growth and development. Allocating more funding to the budget of FP9 is thus a critical investment in Europe's future.
- Use grants instead of financial instruments and loan-based schemes to fund university-based research to ensure funding sustainability for R&I and equitable access to beneficiaries.
- Improve cost coverage for FP projects by retaining the current level of direct cost reimbursement (100%) and adequate indirect cost rates, as well as improving cost eligibility.
- Continue to simplify through a broader acceptance of institutional management and accounting practices, to improve the overall efficiency of the FP.
- Allocate more funding for collaborative research projects and frontier research (i.e., research at lower TRLs⁷), as this would propel stronger links between innovation, research and education. This should be supported by the ERC and collaborative FP programmes.
- Extend fast and flexible funding mechanisms for "proof of concept" ERC-type projects to other parts of the next FP to enable researchers to test new ideas and applications, which could, for instance, be supported through the future EIC.
- Promote fellowship programmes that support exchanges between high-level industry-based professionals and researchers in universities to plan and develop innovative projects, for example through the EIC.
- Promote funding schemes for EU-level entrepreneurship initiatives involving students and researchers in universities, for example through the EIC.

1.2 Incentives to intensify multidisciplinary

As advocated in the EUA member consultation on the Horizon 2020 mid-term review, long-term public funding at the national and European levels is key for incremental and disruptive innovation based on fundamental and applied research, as well as the full integration of Social Sciences and Humanities (SSH) disciplines.

Indeed, universities in Europe wholeheartedly welcome the integration of SSH, as well as the arts, into Horizon 2020 and embrace multidisciplinary research in general. However, the results of the interim evaluation of the programme indicate that their inclusion is unbalanced across Horizon 2020. Only 22% of the estimated total budget for SSH-flagged topics went to SSH partners. On the one hand, some disciplines, such as economics and sociology, are well represented. The participation of humanities and the arts is, on the other hand, low.⁸ Moreover, EUA data shows that SSH project partners often took on an auxiliary role in research projects.⁹

SSH expertise is crucial in addressing societal challenges involving energy, climate change, poverty, ageing societies, migration or extremism and a better inclusion of these disciplines will expand the understanding of impact and innovation beyond simplistic linear models. Furthermore, tackling the UN Sustainable Development Goals in the next FP requires innovative, multidisciplinary approaches that encompass not only deeper links between Science, Technology, Engineering and Mathematics (STEM) and SSH, but also increased exchanges between different disciplines within STEM and within SSH scientific areas.

EUA recommendations for intensifying multidisciplinary under FP9

- Provide clearer outlines of the general components of multidisciplinary in FP9 projects and describe requirements for multidisciplinary research in a user-friendly way. Applicant teams could, for example, address different SSH and STEM domains of the call topic in an integrated fashion, including economic, social and technological aspects, among others.
- Render SSH participation mainstream in the next FP to ensure that SSH experts are involved in all the phases of the process, including problem formulation, work programme drafting and topic design.
- Promote and support research based on bottom-up initiatives and open-themed calls for smaller, focused, multidisciplinary consortia.

- Develop programmes with a focus on challenges and opportunities bringing together multidisciplinary teams within and between SSH and STEM as equal partners that contribute to a sustainable future. Take into account the full potential of multidisciplinary research and its contribution to addressing sustainable development issues, such as clean energy, responsible consumption or peace, justice and strong institutions.
- Foster “disciplinary mobility” in the programmes, i.e. calls for personnel involving training in areas different from that of their expertise. For instance, a researcher doctorate in analytical chemistry could apply for a postdoctoral training in genetics to strengthen his or her scientific capabilities and improve his or her multidisciplinary expertise.
- Review the composition of present evaluation panels and include reviewers with multidisciplinary expertise. Consequently, new approaches should be developed to evaluate multidisciplinary projects and to capture their scientific and societal impact.

1.3 Moving towards Open Science

With Horizon 2020 and other policy initiatives, such as the European Open Science Cloud (EOSC), the European Commission has contributed to accelerating progress towards a more open and competitive scientific system. This has also been acknowledged and incentivised in the “Lamy” report.

Indeed, with the developments in Open Science, and particularly in Open Access (OA) enabled by rapid technological change, new ways of collaborating, producing, accessing, collecting, disseminating, and using research publications are constantly emerging. These trends call for changes in traditional publishing systems. A more efficient use of public research funds and swifter scientific progress could be achieved by opening access to research outcomes. Efforts should thus be made to move towards a system that shares knowledge as early as possible to favour a faster evolution and valorisation of scientific knowledge, in line with the principle outlined by the European Commission on Horizon 2020 of making data “as open as possible, as closed as necessary”.¹⁰ At the same time, it is evident that the advantages of Open Science have to be understood and taken up by researchers. Data from the EUA Open Access Survey 2016-2017 showed that researchers had a good or very good level of awareness on OA policies only in 31% of surveyed universities.¹¹ There is thus a need to provide more training and incentives for researchers who publish in Open Access. Current research assessment systems are primarily related to quantitative metrics, particularly journal impact factors. This situation needs to evolve to recognise a variety of approaches and activities in Open Science.

EUA recommendations for moving towards Open Science in FP9

- Introduce measures for a more competitive environment in the scientific publishing market with the main objective of decreasing prices.
- Include pan-European actions to connect all European databases and repositories coordinated by the European Commission, such as the proposed European Open Science Cloud (EOSC).
- Embed Open Science in all parts of the next FP by:
 - developing measures to support a more competitive environment in the scientific publishing market with the main objective of maximising the effectiveness and efficiency of the market;
 - strengthening policies that require researchers to deposit their outputs in existent European repositories and databases, and taking measures to reward and maximise compliance;
 - making expenses for research data management (e.g. making data Findable, Accessible, Interoperable, and Re-usable) eligible costs in FP9 projects; and, additionally, enabling costs to be covered beyond the original duration of the project;
 - supporting the involvement of citizens in projects and stimulating public engagement.
- Support the development of novel research assessment systems in the next FP, in dialogue with member states and stakeholders (e.g. pilot programmes). Open Access and Open Science research practices should be integrated in these systems.

Area 2. Reinforce collaboration and minimise discrepancies across the EU

Europe's research and innovation landscape is currently marked by a profound R&D investment gap. On the national level, R&D intensity in the EU varied from 3.26% in Sweden in 2015 to less than 1.00% in countries such as Bulgaria, Greece and Romania.¹² Similarly, the EUA Public Funding Observatory 2017 points to increasing disparities between the countries where funding for universities continuously grows (e.g. Sweden) and the countries that suffer from funding cuts (e.g. Lithuania).

Despite the structural changes implemented in previous EU programmes, this funding gap has an impact on the participation and use of resources in Horizon 2020, which is still associated with complex geographical imbalances. Indeed, excellent research actors in many areas of Europe continue to face intrinsic difficulties in participating in the programme.

Europe must raise its overall research and innovation capacity in a ubiquitous and even manner that is fully built on the principle of excellence. Concerted, multi-level approaches that help member states and the EU share responsibilities for elevating R&D efficiency and capacity across their territories are therefore highly necessary. The latest EUA Autonomy Scorecard analysis shows that supportive frameworks for higher education and research based on effective autonomy and governance reforms improve the overall capacity of universities to better fulfil their missions. Combined with sufficient investment in R&D, on both EU and national levels, such frameworks create a strong basis for minimising discrepancies across Europe and empowering less-performing regions.

EUA recommendations for widening participation in FP9

Based on the ideas presented in the EUA funding paper,¹³ the following measures should be taken in FP9 to widen participation for actors from various geographic areas without compromising excellence.

FP9

- Provide sufficient funding to ensure a wider engagement of excellent, collaborative and multidisciplinary teams from across Europe and increase the average country success rates.
- Continue to simplify rules for participation with a view to engage a wider range of beneficiaries with varied capacity for administrative and other support that need to be offered to FP projects.
- Further explore possibilities to mitigate the risk of evaluation biases, for instance, through the use of blind evaluation techniques for some calls, in order to ensure equitable access to the Framework Programme and the fair distribution of its resources.
- Provide supplementary funds for the engagement of emerging excellent scientists from less research-intensive member states in successful collaborative research teams leading FP9 projects.¹⁴ This may be achieved through the expansion of the existing instruments, such as Teaming & Twinning and ERA Chairs and the reinforcement of new initiatives such as the ERC Visiting Fellowship programme. Ensure that all instruments and initiatives offer competitive salaries sufficient to attract and retain world-class researchers.

Synergies between European Structural and Investment Funds (ESIF) post-2020 and FP9

- Base ESIF post-2020 on clear, efficient and simple rules aligned to the next FP on a strategic and practical level, assigning full priority to research and innovation. As proposed in [EUA's funding paper](#), consider the possibility of shifting or ring-fencing resources from/within ESIF or other EU programmes to fund more excellent FP9 proposals with participation from less represented countries or regions in the FP. Consider using ESIF funds to endow the seal of excellence with a budget to support top-ranked, geographically-balanced collaborative consortia in order to provide higher value for investment for member states and help reduce costs of unsuccessful research proposals that scored above the threshold.
- Allocate a greater share of ESIF post-2020 to capacity-building, career development and the mobility of researchers. EU actions for capacity-building should include direct funding through ESIF post-2020 and other incentives for the development of knowledge-based economies in regions with less R&I capacity. For instance, specific training support should be reinforced to assist researchers in less performing regions through various mentoring programmes, learning platforms and on-site tuition targeted at university administrative staff, particularly research service offices.

Area 3. Seek a stronger alignment of policies for education, research and innovation

Investing in stronger links between education and research will support the development of human talent which is the fundamental driver of innovation. Therefore, the importance of the human factor should be enhanced in the next generation of European programmes.

Universities have a unique institutional profile as they educate and supply highly-skilled graduates to all sectors of the economy and perform groundbreaking research promising or leading to disruptive innovation. They also increasingly engage in third-mission activities such as spin-offs, technology transfer or civic engagement. University spin-offs are an important tool in transforming fundamental scientific results into radical innovations and play an essential role in the evolution and renewal of the economy. In order to fully capitalise on these tangible and intangible assets that universities offer for the benefit of culture, society and the economy, it is necessary to increase the linkages between education, research and innovation in the next generation of EU funding programmes by locating universities at the centre of the knowledge triangle.

In order to do this, the following measures should be taken in FP9, specifically in terms of impact and education.

EUA recommendations for a stronger alignment of policies for education, research and innovation in FP9

Impact

- Broaden and clarify the concept of “impact”; other ways of capturing impact beyond purely numerical measures must be included in the assessment. Societal, cultural and long-term impacts must be taken into account. The impact of intersectoral mobility for researchers and institutions should also be considered (e.g. entrepreneurial potential).
- Consider the dissemination of research project results through high-level teaching activities as an important aspect of impact in the next FP; university education at all levels should also be included in the impact analysis. These measures could, moreover, provide an opportunity to translate research results into innovation and services as well as material for teaching.
- Move beyond the notion of TRLs to facilitate the integration and uptake of research, education and innovation stemming from the arts, SSH and STEM. New ways of assessing the innovation potential of research are needed; the current notion of TRLs, focusing on readiness for technological implementation, is not adequate to assess the potential for innovation and benefit for society of different research projects or outcomes. A more sophisticated set of indicators aimed at capturing the innovation possibilities and potential of research should be developed and become part of the impact analysis.

Education

- Linking education, research and innovation through an alignment of the next Framework Programme and the successor of Erasmus+ should be explored. Pan-European networks could also be set up in the successor of Erasmus+ between a limited number of higher education institutions (4-6) based on a joint multi-annual strategy of its membership institutions.
- While keeping the main focus on research, introduce into EU grant agreements the possibility of linking research to education and sharing research results with students. Researchers funded through Marie Skłodowska-Curie Actions (MSCA) and the ERC, for example, should be permitted to engage in high-level teaching activities and to include these activities in their time sheets.
- Consider introducing a funding stream within the MSCA instrument for doctoral schools, in order to enhance the capacity of universities in the education and training of the next generation of researchers.

- Allow programmes devoted to doctoral education to include the possibility of extension. The standard three-year duration for doctoral studies is often too short if involving interdisciplinary, international activities and teaching. The extension should be used either to allow for the completion of the research project or to enhance links with industry and SMEs or to better exploit the research results. This could be applied in areas such as the Innovative Training Networks of the MSCA. This would be beneficial in the long term to create more sustainable effects among multiple cohorts of doctoral candidates and to foster enduring links between universities, industry and SMEs.

Concluding remarks

European universities have a long tradition of leading innovation in all scientific areas, are a promoter of European values and play a crucial role in developing a more prosperous Europe. If Europe wishes to lead innovation globally, strong and ambitious investment in education, research and education is needed.¹⁵

At a time of profound change in Europe, FP9 will be an essential instrument in realising Europe's aspirations and in further developing and consolidating a competitive European Research Area – truly integrating European research, promoting excellence, building capacity and facilitating mobility. On their part, EUA and European universities look forward to continuing the dialogue with European decision-makers on the design and implementation of the next Framework Programme.

The present position builds on EUA's previous publications on Horizon 2020, FP9 and OA:

- [EUA vision for the next EU framework programme for research and innovation](#) (2016)
- [EUA member consultation: A contribution to the Horizon 2020 mid-term review](#) (2016)
- EUA position paper: [Ambitious funding for excellent research in Europe post-2020](#) (2017)
- Joint declaration: [New momentum for the European Research Area](#) with CESAER, LERU and Science Europe (2017)
- [EUA's response](#) to the "Lab-Fab-Apps" report by the High-level group on maximising the impact of EU research and innovation programmes (2017)
- EUA position paper: [Towards Full Open Access in 2020: Aims and recommendations for university leaders and National Rectors' Conferences](#) (2017)
- EUA position paper: [Towards Open Access to Research Data: Aims and recommendations for university leaders and National Rectors' Conferences on RDM and TDM](#) (2017)
- [EUA Statement on Open Science to EU Institutions and National Governments](#) (2017)

Endnotes

- 1 European Commission, “LAB – FAB – APP: Investing in the European future we want. Report of the independent High Level Group on maximising the impact of EU research & innovation programmes” (2017): https://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/hlg_2017_report.pdf
- 2 European Commission, Commission staff working document “In-depth evaluation of Horizon 2020” (2017), p. 61: [http://ec.europa.eu/research/evaluations/pdf/archive/h2020_evaluations/swd\(2017\)220-in-depth-interim_evaluation-h2020.pdf](http://ec.europa.eu/research/evaluations/pdf/archive/h2020_evaluations/swd(2017)220-in-depth-interim_evaluation-h2020.pdf)
- 3 EUA, “EUA’s review: EFSI and Horizon 2020: efficiency and opportunity cost” (2017): <http://www.eua.be/Libraries/publications-homepage-list/efsi-and-horizon-2020-efficiency-and-opportunity-cost---an-eua-review.pdf?sfvrsn=8> and European Commission, Commission staff working document “In-depth interim evaluation of Horizon 2020” (2017), p. 60: [https://ec.europa.eu/research/evaluations/pdf/archive/h2020_evaluations/swd\(2017\)220-in-depth-interim_evaluation-h2020.pdf#view=fit&pagemode=none](https://ec.europa.eu/research/evaluations/pdf/archive/h2020_evaluations/swd(2017)220-in-depth-interim_evaluation-h2020.pdf#view=fit&pagemode=none)
- 4 European Commission, “Investing in research: an action plan for Europe” (2003): http://ec.europa.eu/invest-in-research/pdf/download_en/investing_en.pdf
- 5 To address the issues of underfunded excellent research, EUA proposed several funding scenarios for the future in its position paper “Ambitious funding for excellent research in Europe post-2020” (2017): <http://www.eua.be/Libraries/publications-homepage-list/ambitious-funding-needed-to-back-excellent-research-ideas-in-europe-post-2020>
- 6 This proposal is further detailed in EUA’s paper “Ambitious funding for excellent research in Europe post-2020” (2017): <http://www.eua.be/Libraries/publications-homepage-list/ambitious-funding-needed-to-back-excellent-research-ideas-in-europe-post-2020>
- 7 TRLs are indicators of the maturity level of particular technologies. They provide an overview of technology status. There are nine TRLs for Horizon 2020: TRL 1 being the lowest and TRL 9 the highest. Cf. e.g. European Commission, “Horizon 2020 Work Programme 2016-2017: General Annexes” (2017), p. 29: http://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2016-2017/annexes/h2020-wp1617-annex-ga_en.pdf
- 8 Cf. EUA, “EUA member consultation 2016: A contribution to the Horizon 2020 mid-term review” (2016), p. 20: <http://eua.be/Libraries/publications-homepage-list/eua-membership-consultation-2016-a-contribution-to-the-horizon-2020-mid-term-review.pdf>; and European Commission, Commission staff working document “In-depth interim evaluation of Horizon 2020” (2017), p. 138f: [http://ec.europa.eu/research/evaluations/pdf/archive/h2020_evaluations/swd\(2017\)220-in-depth-interim_evaluation-h2020.pdf](http://ec.europa.eu/research/evaluations/pdf/archive/h2020_evaluations/swd(2017)220-in-depth-interim_evaluation-h2020.pdf)
- 9 *Ibid.*

- 10 Cf. European Commission, “H2020 Programme. Guidelines on FAIR data management in Horizon 2020” (2016): http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf
- 11 The first results of EUA’s 2016/17 survey on Open Access are available at: <https://www.slideshare.net/EurUniversityAssociation/eua-questionnaire-on-open-access-201617-survey-results/1>
- 12 Eurostat data on R&D expenditure extracted in February 2017: http://ec.europa.eu/eurostat/statistics-explained/index.php/R_%26_D_expenditure
- 13 EUA, “Ambitious funding for excellent research in Europe post-2020” (2017): <http://www.eua.be/Libraries/publications-homepage-list/ambitious-funding-needed-to-back-excellent-research-ideas-in-europe-post-2020>
- 14 This measure could be modelled on a similar option which was already a part of FP6.
- 15 EUA, “State of the Union: Ambitions need to be backed by boosting research and education” (2017): http://www.eua.be/Libraries/publications-homepage-list/web_soteu-statement

The European University Association (EUA) is the representative organisation of universities and national rectors' conferences in 47 European countries. EUA plays a crucial role in the Bologna Process and in influencing EU policies on higher education, research and innovation. Thanks to its interaction with a range of other European and international organisations EUA ensures that the independent voice of European universities is heard wherever decisions are being taken that will impact their activities.

The Association provides a unique expertise in higher education and research as well as a forum for exchange of ideas and good practice among universities. The results of EUA's work are made available to members and stakeholders through conferences, seminars, website and publications.



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