

Horizon Europe: Aix-Marseille Université's proposals to harness the entire potential of universities

As ongoing discussions over the European Commission's proposal continue, Aix-Marseille Université (AMU) urges to shield Horizon Europe from political winds by giving Research and Innovation a long-term perspective that can only be achieved with an ambitious budget.

Europe's attractiveness is highly challenged by other world's major economic powers: Horizon Europe's aims are not only to address societal challenges or to achieve sustainable development goals, but also to prevent European Research and Innovation ecosystem from downgrading. One of the major challenges faced by Europe is to give our researchers and innovators a powerful set of opportunities so as to prevent them from looking for a more prosperous future outside Europe. Therefore, **AMU strongly supports the proposals of Rapporteurs Dan Nica and Christian Ehler to increase Horizon Europe's budget amounting to at least €120bn.**

Such an increase is crucial to further support collaborative research under the second pillar, which is the major asset of the framework programme. Indeed, there is no such an extensive programme supporting research collaboration and interdisciplinary elsewhere in the world. As a result, an increased budget should allow the funds allocated to collaborative projects under the second pillar to be increased by €10bn. This increase should primarily aim to ensure a better balance between clusters within the second pillar, particularly by increasing funding for Health projects and projects involving Social Sciences and Humanities.

Another €10bn increase should be oriented towards the third pillar so as to enable the European Innovation Council (EIC) to be a powerful lever for breakthrough innovation.

As ongoing negotiations lead to exerting even greater pressure to direct research, AMU notes that competitiveness of Research and Innovation is inconceivable without guaranteeing transparency of evaluation processes by means of stable rules for participation and

intangible selection criteria. This entails that 'excellence', 'impact' and 'implementation' - except for the ERC projects - should be the only criteria taken into consideration.

In a context of growing tensions over future EU budget, AMU warns EU co-legislators to reach as soon as possible an ambitious agreement on Horizon Europe and its funding. It is essential to protect Horizon Europe from the unprecedented uncertainty about Europe's future, thereby issuing a strong signal of support for researchers and innovators.

From basic research to entrepreneurship, AMU has set up a real value chain anchored within its territory that enhances Southern Europe's influence. AMU is therefore willing to contribute substantially to the ongoing discussions by emphasising on the following priorities.

The three pillars should remain complementary

The three pillars correspond to different objectives, which should not be confused. Furthermore, some parliamentary amendments reflect a temptation to assign additional political goals to European excellent research. For instance, that would be ignoring the key role of bottom-up research that allows notably future breakthrough innovations.

Pillar I 'Open Science'

AMU welcomes the proposal of the European Commission to enhance the budget dedicated to the first pillar to €25bn. Excellence research should remain a priority, as it has proven its major role in EU competitiveness.

We strongly support the idea that this pillar should remain focused on bottom-up research. Co-legislators should therefore refrain from adding political criteria that would not be in line with the objective of the first pillar, which is to support scientific excellence.

Pillar II 'Global Challenges and Industrial Competitiveness'

AMU calls for a second pillar that allows EU to harness the whole potential of collaborative research. We therefore support Rapporteur Ehler's amendments to include all technology maturity (TRLs) in collaborative projects, in particular lower TRLs (under 5).

Furthermore, we are surprised that the budget increase of the second pillar firstly benefits the cluster 'Food and Natural Resources' (€10bn). It must be stated that this cluster should not aim at compensating the reduced budget for Common Agricultural Policy while other clusters face an insufficient budget, such as the Health cluster. For the latter, we support increasing the budget for cluster 'Health' (currently €7,7bn) to reach an amount of at least €10bn. Indeed, several fields of health research require massive investments so as to deploy personalised medicine and health big data and to seize the opportunities of knowledge and growth provided by -omics technologies. Moreover, Health research has to confront growing challenges that need an increase of funding particularly the threats of infectious and emerging diseases, neurodegenerative diseases, chronic conditions, rare and multi-factorial diseases.

AMU also favours an increase of budget dedicated to collaborative projects with respect to Social Sciences and Humanities (SSH) as

stated in the introduction of this paper. Moreover, the cluster "Inclusive and Secure Society" should be redesigned so as to allow more numerous SSH-oriented projects to be funded. To this end, AMU proposes that the area of intervention dedicated to cybersecurity to be integrated into the third cluster "Digital and Industry", which is more relevant in terms of research fields and industries concerned. In the same spirit, the second cluster should be renamed "Inclusive, Reflective and Secure Society".

To summarise, we urge the legislators to ensure a better balance in financial efforts devoted to each cluster.

Pillar III 'Open Innovation'

AMU welcomes the creation of the European Innovation Council (EIC). It is an important opportunity to scale up innovation through supporting risk-taking. We therefore call for a doubling of its budget that is too low in the Commission's proposal (€10bn) to provide enough support to breakthrough innovation on the European scale, as stated in the introduction.

AMU welcomes the EIC's ambition focused on breakthrough innovation, since, firstly, incremental innovation is most often funded by the firms themselves. Secondly, incremental innovation is already supported by national arrangements in most of the Member States. Thirdly, it ensures complementarity with existing instruments, particularly Member-States' funding. In that respect, Horizon Europe should primarily finance innovations that are not supported by current instruments.

To enable the EIC to be a strong lever for breakthrough innovation, AMU calls to provide bottom-up driven instruments, which do not set out rules that focus on specific institutions or projects a priori. In addition to tools targeted on specific priorities, it is important to provide instruments that do not presuppose what will be the future innovations, but rather to allow any kind of institutions to share both their scientific and industrial skills, thus enabling future innovations to emerge.

In addition, we support the amendments that consolidate the funding of innovation projects of low TRLs. Indeed, to foster a scaling-up, Horizon Europe should support basic research and bottom-up calls, which play a major role in future breakthrough innovations. To this end, AMU proposes to support ecosystems that bring together academia and companies.



A clarified strategic planning process

AMU welcomes the strategic planning process as a major tool involving stakeholders during the entire programming period (2021-2027), provided that the rules are laid down in a transparent manner and in a way that allows all research and innovation actors to participate in order to reflect their diversity.

Universities have a major role to play in this process, as they are the only actors that cover all the activities supported by Horizon Europe: training, research and innovation. They can also provide a territorial anchorage to European projects within the regions where they are located. As such, they should be considered as a crucible for knowledge transfer. Therefore, AMU proposes giving universities a central role in this process as well as in designing future Annual Work Programmes, thus enabling them to gather

different types of stakeholders in their territory. As the most important university in its region, AMU will play its part in this process.

With regard to innovation, AMU is in favour of simplifying the dedicated instruments comprised in pillar III 'Open Innovation', so as to avoid discouraging potential innovators to participate. In this regard, although the role of EIT is different from that of EIC, the tasks of EIT should be integrated in the EIC's missions by extending the latter. Such a reform requires streamlining so as to avoid complexity of the current EIT instruments. Thus, this integration could provide simplification and visibility through setting up a real one-stop-shop for European innovators.

'Open Science': The European Open Science Cloud (EOSC) should provide appropriate means to improve openness

AMU supports the principle of Open science throughout the framework programme.

However, we note that the Commission's proposal remains unclear. Assuming that the Commission has stated that compulsory standards regarding Open science will be included in all the calls for proposals, there is an urgent need to enable researchers and research institutions to be ready to take into account this important shift, when these standards will come into force.

For that reason, the European Commission should provide accurate information on future requirements regarding the Open science strategy, in order to allow universities to implement their strategy in line with the future legal framework.

Moreover, such a change requires universities to get prepared from now onwards in order to bring in all relevant actors: students who are future researchers and innovators, PhD students, researchers and staff. We therefore call for an appropriate support – both financial and technical – from the European Commission to anticipate consequences on university ranking and economic impact.

Lastly, the general rule for Open Access should be accompanied by exceptions for limited cases and purposes with regard to industrial property. In any case, these exceptions should be systematically justified in order to prevent the Open Science strategy from being ineffective.



International cooperation should be promoted on the basis of strategic considerations

The European Commission's proposal gives high priority to international cooperation, to widen EU's influence worldwide. AMU shares the overall objective of openness to the world. However, we call for a renewed and balanced framework with regard to association agreements. This means that association agreements should be negotiated according to EU's strategic priorities, as well as Member States' industrial, social and economic interests.

To this end, it is obvious that industrial countries should be differentiated from emerging and developing countries, when it comes to negotiation over future association agreements.

Thus, in addition to cooperation with industrial third countries, AMU supports a strategic approach to priority areas that could lead to Mediterranean- and African-focused association agreements, given the stakes involved in the exponential increase of the number of students and researchers from this neighbouring continent over the next decades.

Strategic relations built from now on towards the Mediterranean area and beyond with African emerging and developing countries are crucial to Europe's competitiveness in the long run.

Horizon Europe participation in the 'European Universities' initiative

The 'European Universities' initiative is an unprecedented political opportunity at European level to link higher education, research and innovation thanks to a comprehensive initiative of direct involvement for the European youth and citizen.

The Commissions' proposal establishing Horizon Europe plans to contribute to this initiative by fostering Open science and entrepreneurship. However, the place of Research remains vague in these transnational alliances built by universities.

AMU calls for greater integration of Research within this major initiative with a significant funding of Horizon Europe, as this would enable European Universities projects to be truly competitive at global level and more attractive to overseas students and staff. We regret that the current draft budget (only €400 million for Open Science, Entrepreneurship and European Universities) does not reflect the stated political ambition on this initiative.

In line with Marie Skłodowska-Curie Actions and the European Research Area policy, it could also go further:

- By articulating education, research and innovation to draw on the specific asset of universities, thus enabling them to define a strategy for transferring knowledge on a larger scale.
- By increasing EU support for cross-border PhD and Post-Doc programmes for training and careers through the European Universities and by developing integrated Training and Exchange programmes (such as COFUND initiatives in Marie Skłodowska-Curie Actions)
- By supporting shared facilities between the institutions participating in the alliance.
- By fostering collaborative research projects in order to tackle global challenges amongst these alliances so as to develop ad-hoc research collaboration as seeds of integration.



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Aix-Marseille Université

Aix-Marseille Université is a French comprehensive university founded on the 1 January 2012 by merging of the three previously existing universities in Aix-en-Provence and Marseille. As a Research-intensive university, AMU conducts its research activities in the site of Aix-Marseille with the largest French research institutions (CNRS, CEA, IFSTTAR, INSERM, INRA and IRD). AMU is one of the three first French universities granted as Excellence Initiative in 2016 under the French "Investing for the future" programme (PIA).



Key figures

78 000 students of which **10 000** international students

8 000 staff

119 research units

6 areas of Education and Research :

- Arts, Literature, Languages and Humanities
- Law and political
- Sciences
- Economics and Business management
- Health
- Science and Technology
- Interdisciplinary areas (University Technology Institute, Teacher training Institute)

International rankings

AMU has ranked

114th in the 2018 Academic Ranking of World Universities (ARWU)

1st university of the Northern Shore of the Mediterranean

Within the **TOP 100** Innovative universities (Thomson-Reuters)

Participation in Horizon 2020 (end of October 2018)

66 projects financed for a total amount of **more than €39,2 million**

3rd French university in terms of number of participations

30 ERC grants in Aix-Marseille

Contact

EU Representation Office (Brussels):

karl.stoeckel@univ-amu.fr
+32 (0) 476 61 37 11

Research and Technology Transfer Department (Marseille):

celine.damon@univ-amu.fr
+33 (0)6 98 87 72 76



www.univ-amu.fr



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