ERA POLICY BRIEF

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Arqus Research & Innovation Project

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European Research Area (ERA) Policy Brief

SCOPE OF THE POLICY BRIEF

In this policy brief, the European Universities pilot Alliances report on the progress made through cooperation in selected R&I areas and provide a first set of recommendations to the European Commission for further policy development.

Policy background:

In order to strengthen strategic partnerships across the EU amongst higher education institutions, the European Commission targets the emergence of "European Universities" by 2024 by funding alliances from across Europe. The ambitious mandate aims to trigger systemic, structural and sustainable institutionalised cooperation between higher education institutions. As a complement to the Erasmus+ action geared towards supporting higher education cooperation models, Horizon 2020 support is dedicated to contributing to the research and innovation dimension of the alliances between European universities, in line with their shared, integrated, long-term joint strategy and in synergy with their education dimension.

This initiative is one of the flagships of the European strategy for universities that aims at supporting and enabling universities to adapt to changing conditions, to thrive and to take a leading role in the recovery of Europe, and in making our society greener, more inclusive and more digital. The adoption of this strategy was accompanied by a Commission proposal for a Council recommendation on building bridges for effective European higher education cooperation.

In parallel, the European Research Area Policy Agenda sets out 20 voluntary actions for the period 2022-2024, including several of which are relevant for universities.

FEEDBACK ON PROGRESS

1. Please describe the **challenges** your Alliance encountered regarding cooperation between universities in the field of R&I in relation to the institutional change areas (transformation modules) foreseen.

2. Please describe how you tackled or intend to **tackle these challenges**. Based on your project's experience so far (and if applicable), briefly outline case(s) that you consider as **good practice** and of interest to other universities or to policy-makers.

3. Please describe the **tangible progress** that individual partners as well as the Alliance as a whole have made in terms of introducing changes in their entities as a result of this project. Please elaborate on whether the inclusive and integrated cooperation approach of your alliance helps accelerate institutional change of all partners (e.g., through sharing of practices from institutions with strong expertise or infrastructure in specific areas to institutions without).

![arqus European University Alliance logo]

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Challenges found, transformational modules affected by them and strategies to overcome each challenge (*responding to points 1 and 2 above*)**:**

The European Universities Initiative is in itself a huge challenge to universities involved, to each alliance as a complex eco-system and the university systems in which all are embedded, including the European Higher Education Area and the European Research Area. It is of course also an enormous opportunity, and it is steadfastly in this spirit that Arqus has designed and implemented its major work plans since 2018.

One important challenge is the high level of expectation which has arisen around this initiative, which however is underfunded and has had to be deployed during one of the greatest crises experienced in Europe and in the world in our century, the Covid-19 pandemic. We are particularly pleased to report that in general terms, Arqus has risen to these challenges and found pragmatic responses and solutions, as we will discuss in more detail below. It cannot be forgotten, however, that deep systemic change is a long-term goal and that we are only at the beginning of this important and productive journey.

Challenge 1: The project-based approach which has arisen from the way in which the initiative has been launched and funded. This has led to difficulty in raising awareness of the fact that the Arqus Alliance is not "just another project" but a long-term initiative of the partner universities, which means that there is a commitment at the highest governance level of each university which engages and benefits all members of the university communities. It was a challenge to implement "ownership" in the various groups at some universities, in particular among academics and scientists who are used to work and cooperate on their own initiative, and not as requested or wished from above. This was a challenge in transformational modules (TMs) 1, 2 and 7[1].

Strategies that have been and are being used to overcome the challenge:

- Increased involvement of high-level governance in decision-making (in Arqus R&I and in the Alliance governance in general).
- Specific initiatives to increase the spirit of "ownership" at all levels of the research community within each university.
- Anchoring the Arqus Alliance in the strategic and management plans of the individual universities.
- Consider the Alliance as the priority instrument for the internationalisation of the institutions.
- Focusing certain aspects of the communication strategy within the institution, within the alliance and beyond.
- Using Quality Assurance instruments to gather information on its evolution.
- Testing innovative formats that promote the building of an Arqus research community, while respecting the essentially bottom-up nature of research collaboration. We would like to highlight this as a good practice. In spite of some initial reluctance, the hybrid format between classical scientific event and networking opportunity we used in four large workshops in WP1 (Building an Arqus Research Community) received very positive feedback and there is a considerable number of possible future joint projects arising from them.

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[1] See H2020 Work Programme 2018-20 - 16 Science with and for Society - h2020-wp1820-swfs_en-1, page 98: "[…](1) developing a common research and innovation agenda and action plan; (2) strengthening human capital, enabling balanced brain circulation and gender balance; (3) sharing research infrastructures and other resources; (4) reinforcing cooperation with non-academic actors, esp. academia-business cooperation; (5) mainstreaming of comprehensive Open Science practices; (6) involvement of citizens, civil society and public/cities authorities in research and innovation; (7) exploring joint structures across the European Universities on technical activities common to all 'European Universities', facilitating collaboration in activities, obstacles, and solutions that could be common to all alliances, as well as clustering activities to share best practices on research and innovation".

Challenge 2: Differences among partners in relation to: interpretation of concepts (depending on national context, cultural factors, etc), starting situations in relation to certain practices, use of technological platforms to communicate and work collaboratively, degree of development of networks with various stakeholders, procedures for publication of internal calls. These differences were a challenge in relation to TMs 3, 4 and 5[2]. It is important to note that since face-to-face meetings have become possible again, many of the difficulties in communicating the impact of these differences have been alleviated, and all those involved have noted considerable progress in mutual knowledge, understanding and trust.

Strategies that have been and are being used to overcome the challenge:
- Institutional exchange and mutual learning. Developing guiding documents based on best practices.
- Developing shared understanding of concepts and surveying baselines at each institution.
- Adapting processes to accommodate different realities.
- Search for open-source IT platforms that have the same degree of performance as the various ones currently used by the different universities or that can allow to bridge the differences.

Challenge 3: Need for further development of capacities and for availability of resources, if outcomes of the work are to have a sustainable impact. This was identified as a challenge for the future of outcomes of WP6 Stakeholder Engagement (which finalised its work at the end of June 2022) and is related to transformational module 6. Nevertheless, it is relevant for the outcomes of all WPs and therefore to all transformational modules and is related to Challenge 1 above and the need to distance ourselves from a project-based approach.

Strategy recommended to overcome this challenge:
- Securing institutional support for the development of the necessary capacities and making resources available with a long-term perspective.

Tangible progress in terms of changes both at the level of the Alliance and of the individual entities (*responding to point 3 above*).

As we are at the mid-term point of Arqus Research and Innovation, it is early days to talk about profound institutional changes as a result of this project. Nevertheless, we can say that we have set the foundations for tangible changes in each of the Transformation modules. From our perspective, the "integrated and inclusive collaboration approach" between universities is not only the driver of those long-term changes but also the objective in itself of our work as an Alliance. We like to see the quest for institutional change in terms of a "transformation process". In the process that leads to institutional change in each of the universities, the first step is getting to know the situation at each of the universities (mutual knowledge). This includes learning about and fully comprehending each other's national contexts, research cultures, administrative frameworks, resources, strengths and also limitations to then, in a further step, be able to set common goals, both for the Alliance and the individual institutions.

In this first step of the transformation process, significant progress has been made in relation to the following Transformational Modules (TM): in TM1, through the development of a first Joint Research Action Plan, which is now in the phase of dissemination and roll-out; in TM2, firstly with the holding of four large researcher networking workshops on the two focus areas of the project (Artificial Intelligence and Climate Change) which have led to promising ideas on joint/collaborative research projects among Arqus researchers (highlighted above as a good practice due to their innovative format) and secondly, with the elaboration of two documents on alternative research assessment approaches (a best practices document and a discussion paper) which take stock of the situation at the Arqus universities, compare it with the desired objectives (taking into account international developments and the impulse of the EC in this area) and give some leads

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[2] ibidem

on possible changes at our individual institutions. TM3 is covered in the E+ funded part of the Alliance (AL6, devoted to Research Support and Early-Stage Researchers), mainly through creation of a shared database for the use of research infrastructures and the creation of a Research Support Officer Network; in relation to TM4, the foundations for the work on "Re-thinking transfer" from an innovative and co-creation perspective are being set. Firstly, by discussing and clarifying various interpretations of concepts and secondly, by gathering information on partners' practices and expectations in relation to transfer practices, training needs in transfer skills and situations and perspectives in terms of setting up co-creation labs for transfer. As regards TM5, a shared understanding of the Open Science "cosmos" has been developed, also taking stock and visualising the base-line of OS practices at the various Arqus universities, which will serve as foundation for the development (in the second half of the project) of recommendations on the development of Open Science. In relation to TM7, the cooperation in joint structures (at governance, management and working level) is showing tangible progress in terms of growing awareness of and, most importantly, engagement with the long-term, profound and systemic change pathway which the Arqus universities have initiated by taking part in the Alliance.

The most advanced tangible progress has been achieved in relation to TM6, because the WP that has the strongest relation with it (WP6 Stakeholder Engagement) has been completed in June 2022. At the level of the Alliance, Recommendations on Open Research Agenda Setting have been issued which will hopefully feed into the institutional practice of the Arqus universities. The Recommendations are publicly available on the Arqus website from 30th June 2022 (https://www.arqus-alliance.eu/sites/default/files/2022-07/D6.3_Recommendations-on-Open-Research-Agenda-Setting.pdf - *this link will change at the time of publishing the new Arqus website*) and will be subject to targeted dissemination within the Arqus universities. At the level of individual institutions, through the seven pilot workshops held one at each Arqus university with the aim of testing the tools gathered in the Toolbox for Open Research Agenda Setting, research groups have gained insights and capacity on how to involve stakeholders in research agenda setting. This can potentially contribute to the development of citizen and societal engagement in research.

Each of the processes initiated in this first half of the project is the foundation for a long-term institutional transformation, in relation to which we will see significant progress after completing the second half of the project. As mentioned above in the section on challenges and strategies to overcome them, the long-term sustainability and impact of the tangible results in terms of each of the TMs will depend on continued institutional support.

POLICY RECOMMENDATIONS

In this section, the European Universities pilot Alliances make recommendations in relation to the following policy topics.

1. **Policy topic 1: facilitating transnational cooperation**

● Knowing that the Commission proposed a [Council recommendation to facilitate transnational collaboration between universities](), which action should be prioritised to address the challenges you encountered as an Alliance in sharing capacities, infrastructures, resources or staff in R&I?

The Arqus Alliance identifies two priorities here:
- first and foremost, a sustainable and holistic support to European University Alliances that allows them to work across all their missions, **including research,** as detailed by the 41 Alliances in their **"Call for sustainable and holistic support to European University Alliances: Joint statement of all 41 European University Alliances on the need for long-term sustainable funding that allows**

Alliances to work across all their missions" (See Annex). In this call, the 41 Alliances ask the Member States, the ERA Forum, WIDERA Programme Committee, NCPs and national ministries to:

- o Commit to ERA Action 13 of the ERA Policy Agenda.
- o Launch a competitive Horizon Europe call in 2023 for the continuation of the existing SwafS project, in order to maintain momentum, enhanced ambition and continuity with the Erasmus+ funding instrument for the European Universities Alliances.
- o Set up a co-creation task force including the 41 alliances, European policy-makers and Member States' representatives to explore long term sustainable support for European Universities Alliances.

- secondly, the development of a dedicated IT management platform which would allow exchange of information and collaborative work of European Universities, both within Alliances and between Alliances, for instance for the management of European Joint degrees, for collaborative work, for joint platforms for the sharing of research infrastructure, etc. In Arqus we have found that one of the main obstacles to our common work is the multiplicity of IT tools used by the different partners, differences of approach to the use of open-source or commercial tools, and the ensuing difficulty identifying a solution to meet all requirements, including especially data protection regulations.

2. Policy topic 2: strengthening careers

● Is there a need to develop a model tenure-track system at European level to contribute to solving precariousness of early career researchers? If you believe so, how do you think it should be structured?

The main problem causing precariousness of early career researchers in academia is the low number of permanent positions available. This forces young researchers seeking an academic career to move from one temporary position to another until, after a number of years, either they finally get a permanent position or they quit their research career within academia. Since the number of tenure track positions should be closely related to the number of permanent positions it is not clear whether the development of a tenure track system would actually ease the early researchers' careers. If tenure track positions are offered at younger ages than the present permanent positions, this system will expel researchers from their careers earlier, reducing the number of temporary positions a young researcher takes before deciding to turn their interest in other directions. It would, thus, clarify the expectations of a future research career and reduce the number of young researchers with temporary positions.

The selection of professors is crucial to develop the university's policy in the framework of their autonomy. In this sense, if a model of tenure track system is developed at European level, the universities and research institutes should always have full responsibility for the candidate selection process. This includes both: the selection procedure and the decision-making. It is, thus, very difficult to set a homogeneous European tenure track system without breaking the universities' autonomy.

Of course, it is also pertinent to follow the issue of avoiding precariousness in research careers beyond academia.

● In light of the [policy process on the reform of assessment](#) of research and institutions, what are your recommendations on how to address academic/researcher career assessment?

The universities participating in the Arqus Alliance recognize the importance and need of tackling a reform on research assessment, both at the individual and institutional levels. The traditional research assessment method based on bibliographic parameters such as number of published articles and impact factor of the journals where the articles are published leaves aside many important aspects of research. The move towards new forms of research such as Open Science and the need for increased synergies between teaching and

research, have made the shortcomings of traditional research assessment methods more apparent. For this reason, the Arqus Alliance included in its R&I proposal a work package devoted to study and make some proposals on this topic. The work package (WP3) started working at the beginning of 2021 analysing the position of the members of the Alliance and the steps, if any, taken by individual universities to go beyond traditional methods. It was found that different actions had been taken. An incomplete list of actions include:

- Considering other outcomes of research activity such as patents and the creation of spin-off companies
- Taking into account the international collaborations of individuals as well as of university departments
- Dissemination of science

Out of respect for this joint policy development process, the Arqus Alliance is not yet at this time in a position to issue joint recommendations. These will follow the completion of the corresponding WP at the end of 2022.

3. Policy topic 3: digital transition

● What are the specific needs of the Alliances to accelerate their digital transition in the R&I dimension, and how can this be addressed at the EU level?

- Alliances need open and public digital infrastructures, tools and services to intensify their collaboration in research fast and in an efficient way. This particularly refers to research data, which is a crucial basis for excellent research in the present and in the future.
- Alliances should and can play a key role in pilot applications and should receive relevant funding to develop pilot open solutions that will subsequently be made available to all.
- In enabling alliances to conduct efficient research together and across institutions, they need flexible building blocks for shared data spaces and data ecosystems. Fully-fledged universities need funding to create the infrastructural conditions for discipline-specific data ecosystems, but above all they need generic infrastructures that are available for disciplines and research areas that do not yet practice data-intensive research.

● In particular, do you see a need for *additional* dedicated e-infrastructures for data storage and management that are distributed and interoperable? Please take into account progress regarding the development of the federated e-infrastructure for research outputs (EOSC, see ERA Policy Agenda), and the implementation of a digital platform for cooperation in higher education (see the European strategy for universities).

- We see a high demand from the alliances for additional dedicated e-infrastructures for data storage and management that are distributed and interoperable, beyond the current EOSC efforts.
- The governance of the Open Science Cloud (EOSC) is very complex, while tangible pilot services are lacking. Especially for the alliances, it is important that data services for visualisation and analytics and for long-term preservation are available for joint research. Since the alliances unite different scientific cultures, they can be the starting point in terms of funding policy to develop pilot services that have high usability and acceptance.

4. Policy topic 4: access to excellence

● What is your advice on how to accelerate access to excellence in science and in value creation for all participants for higher education institutions across the entire ERA, through the European Universities Initiative?

There are several actions that can be implemented for all European higher education institutions in general. However, emphasising and/or dedicating special lines to the European University alliances is strongly recommended because, due to their general collaboration, they would become a driving force for the whole ERA system. Here we propose:

- **Financing a programme to promote mobility of research teams between universities**. These teams should include at least a PhD student as well as his/her thesis advisors. Facilitating mobility of research teams instead of individuals will result in a closer collaboration between the visiting and hosts teams that will be more stable in time and produce better results.

- **Strengthen the ERC programme**. ERC has been a clear success in the last years. In general, projects financed by ERC have achieved interesting results and have been very well known at the international level. It would be very interesting to find ways to link the ERC programme with the European Universities Initiative, by incentivising collaborative research teams, or again (see below) by establishing a parallel but similar mechanism outside the ERC itself.

- **Financing salary complements to distinguished researchers/professors**. Most of the European universities, being public entities, have strong restrictions in the maximum salary that can be paid to professors. This limitation strongly reduces the possibilities of attracting first class researchers to European universities. They very often prefer to go to work to the USA where they can receive a better salary. Salary complements would avoid the limitations universities have and, thus, would make European universities more attractive.

- **Establishing shared positions among universities participating in an alliance.** This action line could be strongly linked to the previous one. Shared positions open the possibility to create larger and stronger research groups led by a single person. Certainly, this is a long-term goal since creating such positions will require important changes in many aspects of the national regulations.

5. **Policy topic 5: increasing global competitiveness**

● Europe's relative weight at a global level when it comes to research-intensive universities is shrinking. In light of this, a European Excellence Initiative will be established to improve global competitiveness of Europe's universities, in synergy with the European Universities Initiative of Erasmus+. In your view, what would be key elements of such an Initiative? Secondly, could you envisage that such an initiative specifically targets EU objectives such as the Green Deal or European Missions?

Europe has been constantly losing its scientific, innovative and development leader position in favour of the USA and dynamically developing Asia countries. There are several factors of this situation, like sticking to classical academia traditions, lack of institutional solutions facilitating and encouraging R&D projects with business partners, poor policies for commercialization of research results, to mention only a few. Additionally, Europe is a stronghold of liberty and democracy which qualifies it as an example for other systems in a world which is threatened by regimes which do not comply with these standards. However, European systems of higher education have to learn from other models in a global dialogue. It will take time to change the situation. Keeping time scale in mind we suggest following actions to be taken into consideration in EU policy:

- **Increasing financial and institutional incentives for R&D-oriented scholars, despite their academic position**. In order to promote scientific competitiveness, we need to provide an R&D- friendly environment by securing e. g. small but sufficient funds for research purposes accessible with short, administratively easy procedures (see Switzerland) – indeed for management by PIs, not

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administration. We should also aim to strengthen research career paths (without or with very limited teaching). This corresponds to actions 4, 7 and 15 of ERA.

- **Promoting and boosting public-private R&D cooperation, by providing economic benefits for such cooperation**. In order to increase competitiveness and public respect for European science we need to make it applicable as well as commercially and socially useful. Promoting public-private R&D cooperation seems the best way in order to achieve this goal. Universities should become substantial and natural partners for local and global companies for expertise and for the development of new, innovative products and solutions. We need to secure environments encouraging the asking of specialised questions and the carrying out of research and experiments without high risk in terms of revenue. This point meets actions 7, 10, 11, 12, and 17.

- **Inventive and aggregate information on research projects over EU universities (global EU database),** in order to have global insight on EU research for better policy setting, and to enable easier cooperation in R&D and R&I. Such a tool could have an impact on boosting international, interinstitutional and interdisciplinary cooperation, meeting actions 2, 6, and 8.

- **Detecting and indicating innovation impacting institutions and individuals and securing them institutional support to introduce mentoring, spreading of approaches and ideas**. This can be secured, among others, by EOCS (action 1.) The aim is to build trans-institutional networks of research excellence securing career paths for young researchers, but also distribution of research on big, cooperative research projects. This solution meets actions 4, 10, and 15.

- **Increase research partnerships by promoting transnational research teams** – by avoiding restrictive funding policies, i.e., including free purchasing of research-related equipment and services and avoiding transborder funding obstacles. The goal can be reached by further developing financial tools promoting or requiring international research teams building up or keeping in running. Which meets actions 15 and 16.

6. Other recommendations

Encouraging EU member states to support the alliances by long-term national programmes.

This policy brief reflects only the author's view and the European Commission/REA is not responsible for any use that may be made of the information it contains.

Annex:

Call for sustainable and holistic support to European University Alliances