Übersicht ARQUUS Aktionsschienen

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Action Line 1 (Lead: Granada): Management
Main Objectives:
This Work Package describes the overall organization of the Arqus European University Alliance alongside the management of this first pilot project in order to work towards the major goals and fulfil the overall Vision and Mission of the Alliance (MS). The conception, goals and long-term strategy of Arqus thus clearly exceed the customary conception and management of a short-term project.

1.1 Arqus governance and coordination structures
1.2 Project (work plan) management
1.3 Financial management
1.4 Communication
1.5 Quality assurance
1.6 Risk and change management

Action Line 2 (Lead: Padua): Widening Access, Inclusion & Diversity
Main Objectives:
• Increasing inclusion (widening access and diversity) within universities
• Increasing the awareness of the local and regional environment about different forms of disparity, under-represented groups, diversity and inclusion
• Influencing inclusive policies on a regional and national level

Engagement with pre-university education pupils

2.1 Preventive early career education: shared models of preventive early career education through the training of experts and shared resources

Arqus recognizes the essential role played in early guidance and counselling in helping school children to make informed decisions about participating in higher education and choosing a career, and in the reduction and eradication of gender and other bias. Arqus partner universities will thus share best practice and existing models of interventions by universities and academics with primary and secondary school pupils, teachers and careers advisors. Career education aims at increasing primary school pupils’ knowledge of professional activities and role models, their self-determination, autonomous capacities to make a choice and soft-skills from very early stages. Arqus will share models of, and resources for, preventive early career education activities to be implemented locally by each university. An annual joint Alliance training event will be organized through the Arqus Academy for local experts, who will then share their expertise at local training events for university and school staff involved and for future primary and secondary school teachers and counsellors through the Arqus Faculties of Education. Arqus will ensure open access to shared resources and materials for use during the activities via the Learning Object Repository (7.6).

2.2 Children’s universities: sharing best practice and development of shared guidelines for outreach activities for primary and secondary schools

Children’s universities have been established around the world to introduce children to science and art at a young age, allowing them to be curious, and to develop their skills and problem solving, educating them to pursue new and original information, instead of simple repetition, and helping children to be able to grasp and understand science and its related disciplines. One of the most important common goals of children’s universities is that of inclusion and ensuring equal
opportunities from an early age. Arqus partners have both fully-fledged children’s universities (e.g. Vilnius and Bergen) and programmes for attracting young children to science (e.g. [https://educa.ugr.es/](https://educa.ugr.es/)). This activity aims to share best practice and resources for these outreach activities, linking them to preventive career guidance (2.1).

2.3 Women to STEM: attracting young women to STEM disciplines

Several partners already have initiatives up and running to address the issue of the low number of young women attracted to and entering STEM disciplines worldwide (e.g. “Quiero ser Ingeniera” in Granada or the Supernova Foundation in which Lyon participates). Through the Arqus Portal these initiatives will be shared with partners, and guidelines given for further local action (e.g. through action implemented under 2.1) and contemplated in the corresponding Arqus Charter (2.13). In training events and materials developed in Arqus in general, in particular for future primary and secondary education teachers (2.1, 2.10, LOR 7.6), careful attention will be devoted to gender-related issues, through awareness-raising and facilitating resources. Partners will all attempt to participate actively in regional, national and European campaigns involving leading women scientists and engineers as role models, such as the International Day of Women and Girls in Science (11th February).

Secondary/high school to university transition

2.4 Support networks for inclusion: sharing best practice in services offered to meet vulnerable high school students’ needs in their transition towards university

Building an inclusive university means providing all people (students and staff) with the same opportunities; it means paying attention to minorities of all kinds with special needs or vulnerabilities. Partners will share best practices in activities aimed at encouraging students’ access and providing adapted services for an inclusive context (health, banking, social security etc.). Arqus universities will aim to improve existing services and develop new ones thanks to the input provided by the partners. The main goal is to create a support network at different levels (within the universities themselves or in connection with high schools or the job market) to increase attention to vulnerabilities and to ensure the quality of the partners’ inclusive approach, where possible in collaboration with student associations. A common informational tool will collect and present all the services available within the whole consortium via the Arqus Portal. An annual staff training event for student services officers will help promote best practice within the Alliance.

Widening access – new transitions

2.5 Recognition of prior learning: shared guidelines for a credit recognition and transfer system for accredited professional and work experience. Recommendations for national authorities

The partners will set up a Task Force to build on experience and expertise particularly at the Université de Lyon to draw up and implement, where possible, guidelines on credit recognition and transfer for accredited professional and work experience, thus facilitating access of older students with work experience to university. The VAE (Validations des Acquis de l’Expérience) is a national system to facilitate the equivalence of professional experience with university credits. The guidelines will represent the adaptation of the French procedure to the other six university systems. As this is still an undeveloped field in most of the universities, and national or local regulations are an obstacle in some cases, partners will also develop recommendations for national authorities on how to progress in this area.
2.6 Enabling refugees: a shared policy for the academic recognition and admission process of refugees

Following the UN Sustainable Development Goals principle of “Leaving no one behind”, Arqus will develop inclusive strategies to dismantle barriers and strengthen opportunities for refugees and asylum seekers – both students and researchers – accessing the University. The aim is designing an Arqus Integrated Plan for refugees following the recommendations of the inHERE project, of the Universities of Sanctuary, and of the Council of Europe Qualifications Passport for Refugees, or other best practices at the partner universities, as reflected on the EUA map for refugee support programmes. Arqus aspires in this way to increase the number of asylum seekers and refugees able to continue their studies or academic careers, improving flexibility in admission procedures and efficiency in the assessment of qualifications. Arqus aspires to develop a flexible model which could also be adopted by other institutions outside the Alliance.

2.7 Rethinking college: shared models of alternative educational pathways for students with disabilities

Inspired by the US “Think College” (www.thinkcollege.net) programme, Arqus aims to study the feasibility of setting up joint frameworks for small-scale, experimental, innovative, inclusive, academic, social, and vocational non-degree certificate programmes at local level consisting of formal and informal learning activities for students with disabilities (including intellectual and cognitive impairment) seeking a college experience and career path, but unable as yet to join full degree programmes. The model will include academic (formal and informal), social and recreational activities as well as career counselling. These comprehensive personalized programmes will be designed to enable vulnerable students to participate as full members in the university community and to improve their autonomy, humanistic and civic education, employability and preparation for the world of work.

2.8 Seniors’ Universities: sharing of best practices and short-term mobility for seniors’ universities

As part of their contribution to inter-generational learning, some partner universities have developed models for seniors’ universities designed to meet the learning needs and interests of the over-50s (e.g. Aula Permanente de Formación Abierta, Granada). Arqus will collect best practices in activities for this target public, establish shared guidelines, and also explore opportunities for joint programmes using on-line resources, and short-term mobility programmes. A short-term annual event will be organized rotationally at an Arqus partner for a group of five seniors from each university. Activities will be linked to the theme chosen for the 7.1 challenge-based programme on European identity.

Inclusion and diversity at university
2.9 Inclusive peer tutoring: sharing best practices and staff development for heterogeneity-sensitive programmes, internships and staff

Peer tutoring is a form of support for vulnerable students (with disabilities or other kinds of specific educational needs) where both tutor and tutored undergo a rich learning experience, as peer-to-peer support activities aim at overcoming difficulties in the study of specific subjects, self-regulation, organization and adaptation difficulties within the university context. Service learning programmes of this kind help to ensure full participation in university life and satisfactory levels of academic success for all. Successful existing inclusive peer-tutoring programmes will be shared within the consortium, and staff training programmes (2.10) at the Arqus Academy will promote further development of similar initiatives at local level.
2.10 Staff development for the diverse and inclusive classroom

Through the Arqus Academy, an annual staff development course will be designed and implemented to help academic and administrative staff to understand the complexity of the diverse classroom and campus brought about by widening access policies. Expert tutors from different partner universities will develop joint programmes to be held on a rotational basis at a member university; participants will be expected to replicate the programmes at their home universities and departments on return.

2.11 Fast tracks for gifted students

Inclusive policies for learning and teaching must in themselves be diverse in order to attend the road diversity of specific needs arising. It has been proven that, when not sufficiently intellectually stimulated, especially gifted students run a serious risk of dropping-out of their degree programmes. In order to address this phenomenon, Arqus will share best practice (e.g. the Galilean School at Padova) and explore the level of satisfaction of participating students and other stakeholders with existing programmes, with the intention of preventing drop-out and enhancing the learning experience of these students. Additionally, the partners will share diverse experience and expertise, particularly at the Universities of Padova (Galilean University) and Granada (Talent Incubator) to implement - where possible - similar practices, thus enriching the experience of gifted students at Arqus universities.

University to World of Work
2.12 Job market transition for inclusive universities. Shared Policy Approach

Universities not only aim at providing graduates with sound cultural and technical expertise and knowledge, but at developing their employability and helping them start their careers successfully. Transition from university to the job market can be a complex experience process for all graduates, and even more so for those with vulnerabilities. Partners will map best practices from different perspectives (students, alumni, employers...)• careers guidance programmes for groups with and without vulnerabilities• actions to raise awareness and inform companies about employment and practices with people with disabilities and other needs for inclusion• professional development good practices for students with and without vulnerabilities• support and monitoring services for the employment of graduates at risk of exclusion• public and private entities at regional level promoting inclusion in the working environment
A joint annual f2f staff training event will be organized for careers guidance officers to enhance existing practices and to detect areas for potential cooperation. In particular, in collaboration with WP5, officers will explore shared counselling for students wishing to commence a career in a partner region, with practical support (residence permits, accommodation, social security, professional associations, recognition of qualifications, etc.)

2.13 Common charters on Gender Equality, Inclusion and Sustainable Development Goals

Arqus believes that joint policy development in areas key to the Alliances core values is central to the advancement of true deep integration of partner universities. Although all partners have already developed internal policies or practices, Arqus believes that the sharing of a common policy and official commitment will have a stronger impact on the community at local, national and international level. Three specific Task Forces will be set up with representatives of all partner universities to carry out in-depth analysis of current commitments, initiatives and practices at all
the universities involved, in the areas of Gender Equality, Inclusion and Sustainable Development Goals.

**Action Line 3 (Lead: Vilnius): Student-Centred Frameworks for Quality Learning**

**Main Objectives:**
- Enabling staff and students via innovative teaching
- Fostering student-centred and research-based learning through joint and flexible curricula
- Enhancing the development of mobility and recognition

3.1 Pedagogical lab: Enabling cross-cutting staff collaboration – enabling staff through joint training on innovative/critical/disruptive pedagogies and other cross-cutting subjects

An overall open Pedagogical Lab will be created for student-centred and research-based learning. Through an open call, the partners will identify professionals from different disciplines who use innovative/critical/disruptive pedagogies including: cooperative learning, flipped-classroom, virtual and blended learning tools, service learning approach, inquiry- (research-) based learning and responsive evaluation. Each topic will be analysed in focus groups and workshops will be held to train and go into greater depth on these strategies. Specific focus will also be laid on training mentors to counsel students through flexible learning paths (mobility, internships, industrial placements, elective courses, virtual learning options, etc.). Material will be developed, tested in advising mobility windows students, adjusted and made available online on the open platform for ideas.

3.2 Arqus teaching excellence - Arqus teaching quality framework, awards for outstanding teachers and an innovation fund

In order to motivate teaching staff and their openness to new ideas Arqus teaching excellence will be developed and based on these main outputs:
- Arqus teaching quality framework as well as methodology and tools for teaching competence evaluation and recognition, in order to motivate teachers and enhance the appreciation of teaching quality.
- Arqus awards for outstanding teachers with certification badges will be designed with supervision from the Arqus Academy.
- setting-up innovation fund to foster implementation of new teaching strategies (building on local experience e.g. at Granada).

Students will play a crucial role in developing and testing the methodology, as well as in selection of the outstanding teachers.

3.3 Mobility windows - guidelines for credit accumulation and student progression, tested with 7 programmes with mobility windows

Credit accumulation and student progression guidelines to foster flexible curricula will be created and piloted in study programmes (STEM and social sciences, BA and MA levels) with mobility windows. The guidelines will also address how virtual mobility and other forms of internationalization at home may be incorporated seamlessly into student itineraries through initiatives such as the Global Windows in place in Graz.
Teacher-mentor methodology developed during the Pedagogical Lab (3.1) and other staff development initiatives (e.g. 4.5, 7.5) will be applied and tested while counselling students in programmes with mobility windows.

3.4 Arqus Twinning – strengthening subject-related collaboration of staff and students (teacher moving with a group of students to counterparts in another university).

Twinning is perceived as mobility of a team, consisting of a teacher and students, moving to another partner institution (in BA, MA, PhD) within the same subject area. Twinning will be piloted as short term-blended mobility schemes in Social Sciences & Humanities (SSH) and STEM disciplines, designed to enable these teams to create and carry out joint learning and teaching activities. This will connect them on grass-root level for future small-scale or larger joint projects offered by the Arqus Alliance.

3.5 Innovating in joint programme development – developing small-scale joint programmes in an innovative quick and easy way, leaving open entry points for other partners to join in at any time

Template agreements and procedures for innovating in joint programme development will be based on Joiman project (www.joiman.eu) recommendations, where four Arqus partners (Bergen, Graz, Leipzig, Vilnius) participated. The aim is to ensure quick and easy development of joint programmes (with at least two partners), leaving open entry points for other partners to join in at any time the future, based on knowledge and trust of the partner. Three interdisciplinary Master’s programmes with global dimension will be piloted, to test the established procedures. In order to optimize the use of Arqus Alliance funds, the specific selected programmes will be: European Studies, Translating & Interpreting, Global Cybersecurity. These selected fields are all heavily interdisciplinary in their approaches, and thus will ensure an overarching approach to act not only as pilot programmes for innovation, but also for WP2 and WP4, and will build in aspects leading to the fulfilment of other major goals such as inclusion, multilingualism, researcher development, entrepreneurship, European identity.

3.6 Arqus on the move – open Erasmus agreements between partners, shared course catalogue and training events for administrative staff

Arqus on the move will build on current Erasmus+ mobility between partners and focus on its enlargement and enhancement through:

- shared online course catalogues on the Arqus platform.
- open Erasmus mobility agreements within the consortia will be agreed on and signed to give students the opportunity to move freely within the Alliance for study and research purposes.
- joint administrative staff training events will be organized on the adoption and use of the European student card (once it is fully operational) and latest development in mobility management tools (OLA, Erasmus+ app, Pocket Campus etc.) for coordinators.

Besides joint training events, partners will share currently implemented activities (such as staff weeks) targeted towards administrative staff in order to boost exchange of best practices in various areas of university management and administration (e.g. finance, HR) within the Alliance.
3.7 Enhanced recognition of study periods abroad and qualifications - guidelines for automatic recognition of study modules and recommendations for recognition of qualifications for national authorities

Guidelines and agreement for automatic recognition of study modules to make recognition procedures more transparent will be developed and adopted by each university, in line with the recent European Council Recommendation. Clear recommendation for recognition of study periods from the countries not using ECTS will be incorporated. Partners will establish grading distribution tables according to the recommendations of the ECTS Users’ Guide, based on the agreed reference groups. The tables will be publicly available on the ECTS Users’ Guide, based on the agreed reference groups. The tables will be publicly available on the ECTUS Portal; the possibility of joining the Egracons system for those partners who do not already belong to it will be explored. Partners will prepare recommendations for the recognition of qualifications for national authorities to improve requirements and procedures in line with the Lisbon Recognition Convention and the European recognition manual for HEI.

3.8 Recognition of non-formal and informal learning - agreement on the common structure, methodology, and guidelines for recognition of non-formal and informal education for the purposes of credit accumulation

An agreement on the common structure, methodology, and guidelines for recognition of non-formal and informal education for the purposes of credit accumulation will be drawn up and implemented. Setting up and launching respective structures and procedures at universities allowing students to apply to any Arqus university for recognition of informal/non-formal learning.

Action Line 4 (Lead: Leipzig): Multilingual & Multicultural University

Main Objectives:
1. The partner universities aim to ensure that students and instructors have the language proficiency and cultural competence in the learning/teaching languages that they need for their studies and future professional activities.
2. The partner universities aim to ensure that subject-specific and language learning go hand in hand.
3. The partner universities aim to promote multilingualism and multiculturalism in university programmes, academic discourses and administration.
4. The universities are committed to using inclusive and non-discriminatory language.

4.1 Arqus Charter of Language Policy: a joint policy document on the role of language and the promotion of multilingualism in Higher Education

Partner universities will develop a joint vision of language and cultural challenges found in academia, employment and society, and devise a strategy to tackle these. The joint language charter will build on the existing official language policies in the Alliance (Bergen, Granada), and guide the development of the partner institutions’ individual language policies.
4.2 Symposium on language policy: a symposium on language policy with participants from the consortium and beyond

A symposium of participants from the partner universities and potentially also external experts will be organized to provide a forum for the partner universities to discuss the Arqus Charter of Language Policy, to present it to a wider audience, to discuss diverse local conditions for language policy and to present policy approaches, and to disseminate results. An Open Access conference volume will be published.

4.3 Joint strategy for staff development: defining standards for multilingual and cross-cultural competence for academic and administrative staff

As in general throughout the Arqus Alliance activities, the Alliance identifies an urgent need for staff development (training) in order to be prepared for the requirements of an increasingly internationalized Higher Education work environment. Not only foreign language competence is needed in order to provide high quality learning and teaching, whatever the language of instruction, but also cross-cultural competence to deal with international students and fellow staff. Measures for staff development will address both academic and administrative staff (e.g. student services, the international office, the library, the IT department). The joint strategy for staff development will aim at enabling any staff member to communicate effectively and appropriately in an international Higher Education environment. Standards and courses will be agreed on by the member universities and then implemented through 4.5 below and the Arqus Academy.

4.4 Arqus certificates of language and cross-cultural competence: agreement on automatic recognition of existing certificates at partner universities and setting up joint and automatically recognized certificates, through the Arqus Academy, to document achievements in language and cross-cultural competence for students and staff, based on the Council of Europe’s Common European Framework for Languages

In order to guarantee high quality learning and teaching in an international Higher Education environment, the partner universities have identified the need to implement shared standards for assessing and recognizing the language and cross-cultural competence of their staff and students. Arqus aims to ensure full recognition of existing language and other certificates at partner universities (in compliance with CEFL standards) and to set up a joint Arqus Certificate of Multilingual and Cross-Cultural Competence, through the Arqus Academy, as a means to recognize and document competences acquired at continuous professional development workshops for all purposes at partner universities and, where possible, beyond. Preference is given to an e-portfolio approach, in line with the European Language Passport. The existence of this new Arqus Certificate will also serve to raise awareness of the need to develop sound multilingual and cross-cultural competence among staff members and students (also as a strategic goal of each university and the university Alliance as a whole).

4.5 Workshop series in language and cross-cultural competence: a joint workshop series for staff at partner universities in order to increase their language and cross-cultural competence and to ensure inclusive and gender appropriate language

Based on the conclusions of 4.3, partners will develop and implement a blended workshop series for both language and cross-cultural competence. The multilingual workshop series will address
issues such as Multilingual Communication, Cultural Awareness in the Classroom and outside, Advising for Language Learning, inclusive language, and adopt a case study approach. It will be particularly of use to teaching staff working in English as a means of instruction (EMI) or the use of other non-native languages of instruction in line with the multilingual approach Arqus has adopted. The University of Padova has leading European experts in the field of staff development for the international and multicultural classroom and will contribute this expertise to the workshop series.

To foster mobility and integration, participants will be required to take elements from at least one of the other partner universities, whether in f2f, blended or virtual format. Certification will be provided by the Arqus Academy. Arqus will fund at least one f2f course per year for two participants per university during this Work Plan, and aims to reach a minimum of 200 participants in total for the f2f, blended and/or virtual editions.

4.6 Sharing language and cross-cultural preparatory courses for academic mobility: sharing existing and new courses tailored to the demands of academic mobility; certifying respective competences attained

Language continues to be one of the major barriers to learning mobility. Partners have thus agreed to share best practice in language preparation already existing at all institutions in compliance with ECHE requirements (including analysis of OLS results and subsequent policy conclusions). They have further agreed to share existing f2f, blended and virtual courses and resources, in particular with regard to the Alliance’s seven working languages. Where possible, new opportunities will be set up for students and staff building on the Alliance’s complementarity. Similarly, current best practice in cultural preparation for mobility, as developed in previous European projects by partners (e.g. Temcu, Cultural Preparation Course for North African Students Coming to Europe) will be shared and where possible new on-line opportunities will be offered through the Arqus Academy. Existing cooperation in the provision of physical mobility for summer/winter language courses, such as that existing between Leipzig and Granada, will be extended to other partners where possible. All opportunities will be announced on the Arqus Portal and funded where possible. The aim is to have at least one course offered per partner for a during the Work Plan (5 days f2f for 3 participants per university).

4.7 Volunteer language and culture programme: establishing a service learning programme for language teaching assistantships of mobile Arqus students at local host schools

In accordance with core values of promoting widening access (WP2) and of service learning, Arqus will establish a service learning initiative for a language and culture-related volunteer programme, through mobile Arqus students acting as language assistants at schools, in adult education classes or in language and cultural programmes or events. This is aimed at fostering mutual appreciation of languages and cultures. The partner universities will provide pedagogical guidance through the Arqus Academy for the language volunteers and a system for recognition in credits of this informal service learning will be contemplated in the general Arqus guidelines (3.8).

4.8 Exchange of language assistants for partner universities: postgraduate students or ESRs from partner universities on long-term mobility in the field of language and culture

It is widely recognized that direct contact with native speakers is instrumental in enhancing language learning. In line also with the Arqus policy of promoting internationalization at home, the
partner universities will, where possible, make use of the potential offered by their language complementarity to exchange postgraduate students and ESRs who will take on the role of language assistants for a period of one to three years at a partner institution. Contract costs will be covered, where possible, by the receiving university. This long-term mobility will also promote research links amongst the universities participating, facilitating e.g. co-tutelle opportunities in the language disciplines (and beyond).

4.9 Online terminological data base for terms in Higher Education: building online terminological resources in all languages of the partners in order to facilitate effective multilingual communication

As recognized by all major international organizations and networks, terminological consistency is the basis for strong and efficient communication. Based on the state-of-the-art bilingual terminology management tool UGRTerm developed by terminologists at the University of Granada (www.ugrterm.ugr.es), Arqus will examine the feasibility of upscaling the contents and functionality of the data base to include other Arqus partners’ languages.

4.10 Joint Arqus Translating and Interpreting Programmes: building on existing joint standards to enhance student and staff mobility and to establish joint Master’s programmes

Six of our seven partners offer study programmes for professional Translator and Interpreter Education, and traditional student and staff mobility agreements have been in existence between them for many years. Two of them (Leipzig and Granada) contributed actively to the Expert Group for the development of the European Master’s in Translation initiative of the Directorate-General for Translation at the European Commission (https://ec.europa.eu/info/resourcespartners/european-masters-translation-emt_en). Partners will analyse the feasibility of setting up joint Master’s programmes (3.5) in this “interdiscipline”, building on the common standards developed by the EMT project and considered a seal of excellence in the profession; the existence of these commonly accepted standards facilitates the development and recognition of joint programmes; similarly the language complementarity of the Alliance offers an ideal opportunity to enhance the offer of study programmes in the field at both undergraduate and postgraduate level. Not all universities can offer all language combinations on these highly professionalized programmes, so innovative use of student and staff mobility agreements to recognize language combinations not on offer at the home university allows a much wider offer of learning opportunities.

Similarly, Translating and Interpreting is a heavily interdisciplinary area at the cutting edge of digital humanities, where language and technology are applied to all areas of human knowledge (translation is necessary for all areas of human activity in a globalized society). For these reasons, Arqus has identified Translating and Interpreting as a field well prepared for pilot initiatives (3.5).

**Action Line 5 (Lead: Lyon): Entrepreneurial University & Regional Engagement**

**Main Objectives:**
- Stimulating entrepreneurial mind-set and creativity
- Reinforcing regional engagement
- Building on complementary strengths and cross-sectoral collaborations
5.1 Roadmap for Entrepreneurial University: transforming governance and approach to entrepreneurship at Arqus universities

The first action endeavours to make governance friendly to entrepreneurship through the use of the HEInnovate evaluation tool, which will be used to evaluate and benchmark the innovative and entrepreneurial attitude at each university. By using this tool (already well known to and/or applied by some partners: Vilnius, Granada, Lyon...), we adhere to this proposal of entrepreneurial universities defined by the European Commission (DG Education and Culture) and the OECD LEED Forum. Internal Arqus reviews of the outcome of the evaluation and the subsequent recommendation of actions will lead to the implementation of new strategies and actions to make university governance policy and approach more entrepreneurial, which in turn will allow the fostering of the other actions of this Work Package. These policies and change in approach will contribute to increasing the entrepreneurship level of each university and to building a joint strategy based on a common vision and shared values of entrepreneurial university, seeking to ensure inter-university cross-disciplinary cooperation across various levels of institutions, leveraging complementary strengths of members of the Alliance. These policies could also influence national and European level HE policies on entrepreneurship and regional engagement. An example would be the creation of a European “entrepreneur-student” status; this already exists in France (also in Morocco, Lebanon and some areas of Belgium) and allows budding young entrepreneurs to receive training and support while thinking about the creation of a company. This learning-by-doing programme also allows the student to obtain ECTS credits at the end of the programme.

5.2 Arqus Entrepreneurship Community: establishing a network of staff and mentors across Arqus, piloted by the Entrepreneurship Board

The actions of this Work Package will be developed and implemented by the members of the Arqus Entrepreneurship Community, a network of professors, staff members and external mentors from across Arqus, with a core Entrepreneurship Board. This Board consisting of two members from each partner institution will also act as an advisory body for each university’s governing team on these subjects. In addition to regular on-line meetings to work together, this community of experts will meet once a year, during a summer school, to create and adapt the common itinerary course modules and other educational content, as well as exchange best practices and engage with local external consultants, regional actors and entrepreneurs. These experts (in pairs) will also visit partner universities in rotation throughout the year, in order to disseminate the various content developed to other staff members.

5.3 Common Course Itinerary: a three-level accessible and customizable entrepreneurship course (building awareness, practical tools and knowhow, and building real entrepreneurial ventures)

The common course will be a set of modules jointly developed by the Arqus Entrepreneurship Community and hosted on the Learning Object Repository (7.6), under the coordination of the Arqus Academy. The WP5 team will receive guidance while developing the course from the WP3 team focusing on the development of joint and flexible curricula. The common course can be studied, adapted and tailored to personal needs, pace of learning and maturation level of the project of each student of the Alliance wishing to improve their entrepreneurial competences. It will be also available to graduates and researchers developing a project at an academic incubator. The contents will be available at any moment and regardless of the geographical location of the learner.
during the time that will take to fulfil their project. The course will also be available as a free elective, credited where possible, and the content will be guided and assessed with the Entrecomp tool, a reference at the EU level. The common course programme development will start at the beginning of year 2 and will be nourished by all the experiences and mutual knowledge of the partners gained through the other actions in year 1 of the funding period. This development will be based on 4 main axes:

- Defining of the nature of the resources made available and the on-line learning method.
- Creating similar (homogeneous) teaching plans for workshops to be carried out in each establishment.
- With the Arqus Academy and the Quality Learning Board, defining a model for structuring the course content, the common validation method to be adopted and the management tool for controlling the courses. The Entrecomp skills assessment, a reference at the European Union level, will be used to define a target of progression which the individualized courses will have fulfil.
- Defining the skills assessment method, which will use the Entrecomp tool as a reference. Through the Arqus Academy, ensuring that this programme is recognized at each university, regardless of the mobility and customized course followed by the students.

Knowledge acquired on the common course is tested and reinforced by participation in challenges and/or concrete realization of the students’ entrepreneurial projects defined below (5.3.1-2 and 3). The community will work with local governance, the Quality Learning Board and the Arqus Academy to introduce ECTS credits for following this course and ensure its inclusion in the Diploma Supplement.

5.3.1 Engaged Community Challenge: a European SDG-based challenge, using the resources to build awareness on entrepreneurship

The first level of course modules will focus on resources to build awareness on entrepreneurship. These modules will be especially pertinent for participants since they will learn to practise entrepreneurial thinking, look for appropriate resources and develop the ability to persuade. In this challenge, a citizen, civil society group or company will present a societal problem to teams made up of students from at least three different Arqus universities who will collaborate to offer innovative solutions through an entrepreneurial approach. This challenge will be developed in coordination with WP7’s Collaboratory challenge-based programme for Engaged European Citizens to ensure synergies in methodologies used, and a stronger multiplier effect for the two complementary activities (7.1). These teams of students will also be encouraged and judged by their ability to approach diverse but pertinent regional researchers, associations, companies to help them develop and support their proposed solutions. Academic staff from all universities will also be available to guide them in their quest for solutions. An open innovation approach will be implemented to allow ideas to emerge through the work of young innovators across the Alliance using digital platforms for exchanges. The challenge will also allow a deeper interaction and engagement between the teams of students and the regional organizations and companies proposing problems they wish to see tackled by today’s youth.
5.3.2 Virtual Company Creation Contest: an open-source contest to encourage participants already open to entrepreneurship to implement practical tools and knowhow

The second level of course modules focus on enhancing knowledge by presenting practical tools and knowhow. These modules are targeted at students participating in the Virtual Company Creation Contest. This opensource challenge model will be adapted and implemented by each partner university, which will organize the contest internally, and have academic staff to mentor the teams. During the challenge, interdisciplinary teams will work together to develop a virtual company, by implementing the knowledge they have received through the common course modules on the framework of setting up a company. Across Arqus, all the students will have a same competence learning target which will be defined using the Entrecomp EU framework. Each university will select its best teams who will then pitch in a common European final judged by a European jury which will be comprised of academic experts but also regional industrial partners in order to show them the wealth of ideas available amongst the students.

5.3.3 International Soft Landing for Young Entrepreneurs (ISLYE): a programme designed to host young entrepreneurs at partner academic incubators

The third level of course modules focuses on taking ideas and building them into real entrepreneurial ventures. These modules will be useful to students participating in the ISLYE (International Soft Landing for Young Entrepreneurs) programme. In this programme, young entrepreneurs will be hosted by partner university incubators depending on local smart specializations relevant to the entrepreneur’s venture. In addition to providing work space and support, the partner incubator will plan a personalized schedule for the incoming entrepreneurs, in order for them to discover European business opportunities. This personalized schedule will be built around interactions with interesting and relevant contacts from the local economic sector, using the Arqus socioeconomic network (5.6), in order to give the entrepreneurs access to building new commercial, strategic partnerships and developing international networks for business expansions. Thanks to the ISLYE action, young entrepreneurs will be able to find and access specific resources (based on regional smart specialisation strategies) that they could not have access to locally, thus enriching their project.

In addition to connecting to the Arqus socio-economic network, the soft-landing approach contributes to: a critical look at their own entrepreneurial process by analyzing it from a different cultural point of view; overcoming cultural challenges, getting a better understanding of foreign political, regulatory, tax, environmental and labour systems. This type of mobility reduces psychological barriers and thus prompts entrepreneurs to think of their project at a European level. Since each university will host partner students, this will reinforce mobility at the heart of the Arqus Alliance and help reduce costs. Furthermore, thanks to this action, the partner incubators directly share/exchange their best practices to improve their respective incubating programmes, thanks also to the concrete feedback given by the young entrepreneurs following their experience. And in the future, this Arqus ISLYE network will serve as a core network for a wider global one connecting international academic partners’ incubators to this action.
5.4 From Brain Drain to Brain Gain: developing unexploited technologies into ventures with PhD graduates and attracting alumni back to Europe to participate in these enterprises

The Arqus Entrepreneurship Community, through the Arqus Academy, will also set up modules and content designed for PhD graduates that will allow them to adopt an entrepreneurial approach. Throughout Arqus partner universities, there are unexploited technologies waiting to be validated and developed into business ventures. This action will be conducted in close collaboration with local technology transfer organizations who will be in charge of identifying such potential dormant technologies. They will then coordinate with the Arqus Entrepreneurship Community and the PhD Employment Support team (6.8.2) in order to identify Arqus PhD graduates who would be perfectly suited to take these ventures. These PhD graduates will be trained in entrepreneurial thinking. After this initial phase of technology testing and finding a technical project leader, this action will also target another issue Europe faces today: intraEurope, but also global, brain drain. Once high-potential projects are sufficient developed, a European dimension will be added in order to promote brain circulation and attract back to Arqus countries or Europe in general, alumni talent that has moved abroad, out of the EU. These alumni will be given an opportunity to come back to Europe in order to join the future Arqus ventures’ management teams. This will be done by internationally sourcing through job announcements on digital platforms, including the Arqus Portal. Thus, this one action will be dealing with two important issues today: developing innovative unexploited technologies and promoting brain circulation through PhD graduates.

5.5 European Interns for SMEs: a common platform for sharing internship opportunities at start-ups and SME partners of the alliance to reinforce socioeconomic engagement

The European interns for SMEs programme aims to allow mobility of Arqus students with different skills and profiles towards start-ups and small and medium companies in partner regions offering internships on innovative projects and ventures. These offers will be published on a common opportunities page on the Arqus Portal to facilitate dissemination of the information, and build on the strong network of local SMEs each partner university works with. Arqus students selected to become interns will be provided with training in order to prepare them for their international mobility. They will be able to apply knowledge acquired from the entrepreneurship course in real-life situations, thus learning by doing and gaining work-based experience. Furthermore, they will be doing so in an international context allowing them to have a work experience abroad as well as learning to work in different cultural environments. The skills acquired through this action will be essential for improving students’ employability for today’s fast-changing labour market. For the SMEs, this action will allow them to add an international dimension to their approach to business through these Arqus interns. Through the local Entrepreneurship Community, the interns and the SME leaders will be invited to participate actively in local socio-economic and cultural events to reinforce regional engagement.

5.6 Arqus socio-economic network: connecting socio-economic partners (chambers of commerce, economic clusters...) through the Arqus Alliance to reinforce the exchange of entrepreneurial initiatives and innovation with each partner

The Arqus socio-economic network will help the universities to anchor their positions as key actors in the socio-economic regional ecosystems. Arqus will allow networking of industrial networks and companies throughout the Alliance by inviting them to participate in the various events that will be proposed on common important themes around entrepreneurship and innovation. The academic
network that will be established through Arqus will be leveraged and extended to socio-economic and cultural communities in order to create long-term sustainable regional links on all fronts. This will also reinforce the very nature of the relations between Arqus partner institutions.

**Action Line 6 (Lead: Graz): Research Support & Early Stage Researcher Development**

**Main Objectives:**
- Sharing best practice in research management and support
- Studying the feasibility of sharing resources
- Promoting joint doctoral initiatives and promoting shared opportunities

6.1 **ClusterMap: in-depth analysis of the status quo of research connections within the cluster (alliance)**

While mobility numbers at BA and MA level are mapped out at our universities and a broad overview on research focus areas and overlaps has been gathered while working on this application, a full picture of exchanges on Doctoral/researcher level is still missing. A comprehensive and comprehensible map of all common activities (common publications, common research projects and ongoing staff exchange activities) and local areas of strengths will be developed. This map will enable a solid analysis of open potential and allow the development of new strategies. Furthermore, it will boost the efficiency of many of the other activities described below.

6.2 **Openness: establishing a task force to enhance Open Science and Citizen Science**

A task force on Open Science consisting of at least one expert from each partner institution but also interested researchers and stakeholders will be established. In regular meetings (at least twice per year for 2 days in person at varying hosts and regular online meetings) a sustainable strategy on how to deal with open science issues will be developed. This will include, but not necessarily be limited to:
- Open Access in the perspective of the introduction to Plan S (an open access initiative strongly supported by the EU and several national funding organizations)
- Open Data according to "FAIR Data Principles" in line with the new General Data Protection Regulation Common strategy for the participation in the European Open Science Cloud (EOSC)
- Publication of data derived from cooperation projects with partners from industry or strong IP issues
- Possibilities for Citizen Science projects

The results will be summed up in a position paper that will be presented at the Annual Conference in the final year of the project to researchers, the public and stakeholders (decision-makers, open science movements and funding agencies).
6.3 Target Impact: installing a Council of Impact Experts and establishing Common Research Laboratories

A council of impact experts consisting of vice presidents or vice rectors and support staff from partner universities will be installed. For the University of Graz for example the installation of Impact Coordinators, who can also support this council, is envisaged for the two recently established Profile Shaping Areas. The council will analyze the partner institutions to identify existing strengths and research areas with the potential to have an impact on issues of societal interest as outlined by the respective regional Smart Specialisation Strategies, the EU and other international organizations (such as the UN sustainable development goals and various other policy declarations). Starting from there, strategies will be developed on how research groups of members of Arqus can join forces to work on pressing topics. One possibility to achieve this will be the installation of Arqus Associated Laboratories (AALs), following the successful model of European Associated Laboratories (EALs) initiated by the CNRS in France. The idea of EALs is to implement common research activities (based on the concept of a virtual lab) between one research laboratory in France and another from another EU country for a duration between 4 and 8 years. Currently no similar initiative involving several EU countries exists. A task force will be established to create at least one AAL. Furthermore, this task force will also have the mission to create at least one transversal (multidisciplinary) European Research Network (ERN) in a research field that interests at least three Arqus partners. Interest has already been expressed in possible cooperation in the priority field of Artificial Intelligence (Granada, Vilnius). Furthermore, this council will:

- support working groups by giving them feedback on impact for outreach activities and establishing proposals;
- assist policymakers to identify topics of pressing importance for society;
- analyze the potential of Arqus to tackle challenges and tasks set up by national and European policymakers (e.g. the envisaged missions for Horizon Europe or the strategy on artificial intelligence);
- answer counselling requests from the EU or national agencies;
- identify and approach potential further associated partner organizations to enhance worldwide collaboration.

6.4 Research Focus Forum: internal networking and public outreach events

Each partner organizes at least one event linked to one of its research focus areas and possibly also to the smart specialization strategy of its region and invites experts from Arqus institutions. The core activities of these events will consist of internal networking meetings where thematically related working groups from Arqus present their ongoing research and established methodologies. This will give researchers the possibility to identify overlaps of interest, options for collaborations and knowledge about existing infrastructures. The participation of local research support staff will complement concrete project ideas with matching funding strategies and connect to other EU funding opportunities (targeting especially the application for the bottom-up funding schemes of RISE and ITN within the MSCAs and COST actions). If concrete project ideas for common applications for research funding develop, there will be Arqus follow-up funding for further consortium meetings plus external support (such as companies for formatting and proof reading).

Linked to these events, a public outreach day will be organized where researchers present their work and its impact on society addressing a nonacademic audience. The whole event is presented
via live screenings at the partner institutions and, where feasible also in other regions (following the model of the University of Graz which organizes public screenings of science-to-public lectures in an outreach activity called the “Montagsakademie”, thus reaching a very broad and diverse audience also in smaller villages). The outreach presentations will also be kept openly available for download on the Arqus website and also other distribution channels from the partner institutions such as their YouTube channel and other social media platforms, such as Twitter. Where possible this can be done in synergy with a Researcher’s Night or similar events of the hosting institution. We will also encourage the organization of a subsequent summer/winter school for the training of ESRs.

6.5 Exchange Educates: short term exchange programmes for postgraduate students, ESRs, senior researchers or professors

Based on the common research focus areas identified in the ClusterMap the Arqus mobility programme “Travelling Educates” will be established.

ESRs
Application for mobility funding (e.g. via the Erasmus+ programme, which is of course not limited to Arqus institutions, or individual funding options at partner universities) will be promoted extensively among research-oriented Master students and ESRs. By participating in the programme, these two groups will have the opportunity to apply for short term (two to four weeks) or medium term (three months) research stays at an Arqus partner institution. The provision of the mobility grant will depend on the usefulness of the stay for the master or doctoral thesis in terms of: training in new research methods, use of specific research resources (e.g. archives, laboratories), establishing or continuing joint research projects, etc. The mobility grants will also be linked to the MentoringES programme hence providing opportunities for intensifying the cooperation between doctoral candidates and their mentors. It is also possible to use this mobility programme for initiating collaboration with a possible second doctoral supervisor from one of the partner universities. The establishment of such international teams of doctoral supervisors will also intensify and sustain already existing research networks within Arqus. Members of these Arqus thesis committees will receive funding for travelling to the respective partner institution for thesis defences/vivas.

Senior Researchers
Senior researchers will have the opportunity to apply for short term stays (two to four weeks) at a partner institution to provide new input to the research field by lectures or on-site research collaborations. Partner institutions will offer at least two of these positions per year. The senior researchers will commit to offering at least one open lecture presenting their work to students and colleagues during their stay and, where applicable, holding a half-day seminar for PhD students in a PhD school. Where eligible, such activities could be funded by Erasmus+ Teacher and Staff Mobility or regional funding possibilities, such as those available for the Région Auvergne Rhône-Alpes.

Research Training Lifelong
Professionals and alumni who seek to increase their knowledge and enhance their research skills will have the opportunity to apply for short term stays (two to four weeks) at a partner institution to benefit from a research-based professional development and training programme.
6.6 European Research Equipment Pool - EuREP: platform to foster the common use of high-level infrastructure

In many branches of science modern research infrastructures are the basis and backbone of research. As high-level equipment is expensive and for researchers access to infrastructure is more important than possession, many European universities develop core facilities to provide equipment to their researchers. Shared use of resources can ensure effective capacity utilisation for universities and increase the accessible pool of equipment for researchers. On a university level this is state-of-the-art or will be implemented in the near future. But why limit the equipment pool to within university borders? The advantages of core facilities grow with the size of the network – the more institutions and researchers are involved, the higher the cost efficiency on an institutional level and the bigger the available pool of infrastructure for the researchers. The EU recognized this year ago, as shown by the then FP7 pillar “capacities” (which was about shared use of very big infrastructure). The Arqus network will establish a database of available infrastructure in member institutions. Furthermore, templates for bilateral user agreements will be developed and provided. The goal is not to include all infrastructure, but rather those items with an insufficient degree of capacity utilisation and a value that justifies the administrative costs. An on-line platform to manage this is planned, and once it is functional it could gradually be expanded to strategic partners on a global level.

6.7 Research Environment: exchange of support staff and best practices in research support

We will organize two-day meetings of research support and other administrative staff on a rotational basis at member institutions. Where possible, this will be linked to the annual conference. By exchanging best practice examples and developing innovative structures and services, the most effective and supportive conditions for researchers and research shall be achieved. In addition, the implementation of the actions will be monitored and further actions within Arqus developed. In that way, the sustainability of the cooperation will be ensured far beyond the ending of the funding period.

6.8 MentorES: common mentoring boards for ESRs

Monitoring the progress of doctoral candidates and supporting PostDocs entering employment are highly important tasks for Arqus. Hence, there will be a three-pronged mentoring and support programme for the different career phases of ESRs. Activities of the mentoring programme will be interlinked with the Research Focus Forum events in order to achieve synergies. On the basis of the ClusterMap (6.1.), the mentoring programme will identify the networking and cooperation potential between the universities’ research focus areas and will, accordingly, establish common mentoring boards.

6.8.1 PreDocs Mentoring

The research focus areas of the participating universities nominate two experienced doctoral supervisors who will be available for the respective (subject-specific) mentoring board. Doctoral candidates who pursue research projects related to the research focus areas can – with a recommendation of their doctoral supervisor – apply for the mentoring programme. In their application, the doctoral candidates choose one international mentor out of the members of the subject-specific mentoring board. The Research Board will check the application and will also have
the final decision on who will get the opportunity to attend the programme. Depending on the research focus areas different platforms (workshops, guest lectures, etc.) will be available for establishing communication channels (in addition to Skype and email) between mentors and doctoral candidates. There will also be one annual meeting, e.g. at the Summer/Winter School, where mentors and doctoral candidates meet in person. All participants of the mentoring programme, doctoral candidates and mentors, will be informed of the guidelines and aims of the programme and will fill in a mid-term evaluation form (after 1.5 years) which will be used to further enhance the quality of the mentoring for the final 1.5 years.

6.8.2 PhD Employment Support

**PhD@Companies**
A scheme will be created to enable PhD candidates and companies to learn more about each other. It will enable companies to benefit from the skills of PhD students in one-off, short-term projects by assigning them an expert task. The task must not exceed 32 hours/year and will be carried out alongside their thesis. The PhD candidate's contribution should be labour-intensive and could be as diverse as providing expertise, monitoring, training or giving advice, etc. The Arqus Entrepreneurship Community will provide content specifically designed for PhD graduates in order to establish close collaborations with local technology transfer organizations. (cf. 5.4.)

**PhD@Projects**
This measure aims at helping PhD students to transform their innovative ideas into projects. A new hands-on training programme will be developed for this purpose. Over three months, participants will work as part of multidisciplinary teams (max. four people) on projects to develop their innovative ideas, such as a new product or service or a social and environmental innovation project. A final competition will take place every year to award prizes to the best projects. This action will be closely coordinated with WP5 in order to ensure synergies.

**Programme for Careers outside Academia**
PhD graduates who are looking for employment will have the opportunity to apply for customized support. A specifically developed six-month programme will provide support for finding sustainable employment outside academia. The programme will be led by career experts who will provide customized advice according to the qualification profile of each individual with the help of a referral system.

**Job Info Platform**
Arqus will also provide a website dedicated to doctoral candidates and PhD graduates who may, or may not, intend to continue a career in academic research. The site will post opportunities on offer in the Arqus network. It will provide information about employment for PhD graduates and industries known for innovation and research. It will also provide information about job market specificities in each region and useful resources for finding employment and the respective ways of accessing employment in each region.

6.8.3 PostDocs Coaching

In the framework of the Research Focus Forum events and based on the common research foci identified in the aforementioned Cluster Map, two highranking researchers from the participating universities (and if applicable from industrial partners) form subject-specific coaching boards. Per
board, the research focus areas of each participating institution can nominate up to two PostDocs. The PostDocs will establish contact with two international researchers functioning as coaches by presenting a one-page CV and track record including a short paragraph on personal career visions and goals. The coaches will provide them with in-depth advice on how to achieve these goals. Different from the PreDoc schemes, the PostDocs and their two mentors will – due to the usually limited time of PostDoc positions – meet only once at one specifically designed event within the Research Focus Forum. All participants of the mentoring programme, PostDocs and mentors, will be informed of the guidelines and aims of the programme and will fill in an evaluation form after the coaching session.

6.9 In-depth Skills Programme: summer/winter schools on transferable skills and fostering an exchange of participation at summer/winter schools and other training activities offered by one of the partners

Summer/Winter Schools on Transferable Skills
Based on the Researcher Development Framework by VITAE and the large institutional experience of the Arqus universities in the field, summer/winter schools on academic transferable skills for Early Stage Researchers will be offered. These schools will last four days and will offer a structured and applicable educational programme. Each partner university will organize one such summer / winter school by using a template developed specifically for this project (building on the TransDoc project coordinated by the Coimbra Group). In this template, the strategic vision of the Arqus In-depth Skills Programme will be defined as providing ESRs with a set of decisive academic skills for successful research careers. Highly qualified international trainers will be invited to teach the respective course modules on research integrity and good scientific practice, strategic career planning via publishing / conferencing / teaching, the digital academic, as well as academic outreach and research communication. Further, a specific focus will be put on open science, citizen science, and global outreach (establishment of global research networks). Doctoral candidates participating in the MentorES will be granted a place in a summer school at the institution of their choice in order to provide them with the opportunity to meet their mentors in person.

Courses and Retreats
Beyond the organization of specific Arqus summer / winter schools, appropriate transferable skills offers (courses and retreats) for PreDocs and PostDocs (on career and application strategies, lateral leadership, presentation and communication skills, project management, developing research proposals, etc.) at Arqus members will be opened to other members of the Alliance. By offering such activities, a wider number of participants will benefit from short-term mobilities within the consortium.

6.10 PhDStructure/s: exchanging best practice examples and implementing common elements for top-notch structured doctoral education

Coordinated action in the field of PhD training allows for a very efficient combination of teaching with research. While there are undoubtedly patterns of convergence among European universities in this regard, supported by transnational PhD programmes such as MSCA Joint Doctorates (previously EMJDs) and by a growing reflection about best practices and intensified learning processes across institutions, there remains a lot to do to achieve a fully integrated type of PhD training that profits from the strengths of a series of participating research universities. Based on the Salzburg Principles and Salzburg II Recommendations and initiatives and publications by the EUA CDE, Arqus will establish a set of actions to promote and achieve such convergence:
1. It will identify a number of thematic fields of societal relevance that are in the focus of research at all participating universities and initiate regular meetings of academics working in these fields to explore whether the creation of an Arqus wide Graduate School is possible and would be attractive for international applicants from both within and outside Europe.

2. It will establish a council for PhD education (consisting of academics and administrative staff) to identify best practices in the education of PhD candidates from all the participating universities and from recent research on factors influencing successful PhD education (including results from European projects such as Graduate Sprit) and will submit to the rectorates/presidencies of Arqus member universities a report suggesting further integration of structures and content of PhD training at central and at faculty level.

6.11 Arqus PhD: an initiative to connect existing PhD education programmes

As a first step towards a possible Arqus Graduate School, the council for PhD education (cf 6.10) will develop a strategy for connecting existing PhD programmes via

a. joint initiatives for summer schools,

b. the development of material to be used in research seminars for PhD education

c. workshops addressing innovative methodologies and theories to be applied in PhD programmes at various universities

d. an exchange programme for up to 20 PhD candidates and up to 15 staff members per year visiting already existing PhD programmes at other Arqus universities to explore possibilities of cross-institutional research themes

It will use the expertise of the PhD Employment Support (cf 6.8.2) to host a series of events (together with representatives of companies and regional stakeholders) on how to integrate excellent early stage researchers into the labour market – academic and non-academic – with the aim of comparing the situation in various parts of Europe in this regard and of initiating a learning process among the PhD candidates and the staff members involved about best practices in addressing the fundamental question of how to make the scholarly experience and excellence gained during PhD training most profitable to society.

After two years the Council for PhD education of the Arqus Alliance will submit a report on the current situation and propose an action plan for the future to achieve integrated PhD training in the form of an Arqus Graduate School across the consortium.

6.12 PostDoc Pursuit: fostering long-term research stays

PhDs in the final phase of their doctoral studies, as well as early stage PostDocs who want to pursue an academic career and wish to go abroad, will be invited by potential host institutions (from the Arqus group) to participate in a two-day training workshop to apply for a Marie-Sklodowska-Curie-Individual-Fellowship (an individual fellowship financing a research stay for PostDocs moving to another country) or an ERC starting grant. The host institution will cover the costs for these workshops, while Arqus will cover the travel costs.
Action Line 7 (Lead: Bergen): Engaged European Citizens

Main Objectives:

- Developing and disseminating novel models of active European citizenship whereby students engage with contemporary global thematic challenges and work together across national borders to address them
- Developing and piloting a process for cultivating Arqus knowledge-creating teams to engage with thematic challenges
- Strengthening students’ transferable skills through education and capacity-building
- Developing, piloting and disseminating innovative models for multidisciplinary, student-led education across the Alliance and beyond

7.1 Arqus Collaboratory challenge-based learning programme: a multimodal programme of activities to pilot a range of challenge-based learning opportunities.

The Arqus Alliance challenge-based learning programme will be run annually to equip 42 students from across partner universities with the skills and knowledge to address complex global challenges and to engage critically with notions of active European citizenship. The programme will combine expertise in research and teaching from across the Alliance with two innovative initiatives: the Major questions in research and society module currently taught at the Centre for the Study of the Sciences and the Humanities (CSSH) (UiB), and the Collaboratory initiative for student-led learning (UiB):

Major questions in research and society is a training course which brings together students and researchers from different disciplinary backgrounds and academic cultures to critically engage with complex challenges characterised by high risks, high stakes, high degrees of systems uncertainties and ethical and political dilemmas. Each course addresses one societal challenge, with its concomitant uncertainties, complexities, and dilemmas.

Teaching will be performed by a mixture of invited researchers from different fields and disciplinary backgrounds from across the Alliance and academic staff from CSSH. The former group of teachers will provide a diversity of substantial perspectives on the issues, while the latter group will provide broader interdisciplinary and critical perspectives; facilitate cross-disciplinary conversation between teachers and oversee the active learning components of the course (formative assessment; exercises and discussion groups). For students, challenges function as a common frame of reference, enabling communication and learning across disciplinary boundaries.

The Collaboratory is a project developed in response to the complexity and interconnectedness of today’s social, economic and environmental challenges, which call for radical innovation in research, education and governance. In all three of these areas, new types of knowledge, tools and experiences are required in order to make meaningful sense of, and operate within, a world undergoing rapid transformation. Meeting these challenges, the Collaboratory’s ambition is to bring students, researchers and practitioners together via novel, interdisciplinary and problem-oriented forms of education, research and outreach activities.

Building on the success of the above initiatives and incorporating similar approaches and experiences at other Arqus partner institutions, this challenge-based learning programme will empower students across the Alliance to work both reflexively and practically with shared societal
challenges, thereby a) contributing to the development of active models of European citizenship via independent student engagement in challenge-based activities and b) facilitating critical engagement with notions of European citizenship and reflexivity around the process of learning/researching together.

The programme will bring together 7 multi-disciplinary groups (each containing 6 students and one academic mentor) – one from each partner university. These groups will comprise a knowledge creating team which will engage in a series of lectures, seminars and challenge-based activities, culminating in a project which will be assessed at the end of the programme term.

The programme will consist of:

- A kick-off event at the Arqus Winter School (activity 7.2) where the knowledge creating team come together for the first time
- A series of guided learning sessions involving academics from Arqus partner institutions run from the hosting institution. During the first year, this will include a session based on the Jean Monnet course “European Union Institutions, Politics and Policies, currently run in English as an undergraduate exchange course module at the Dept. of Comparative Politics, UiB
- The course sessions will be based on a blended learning approach facilitated by video conferences and other digital tools. Each session will consist of (a) an interdisciplinary panel discussion with researchers from Arqus institutions; (b) dialogue within and between the student groups; (c) introduction of tools and development of skills for interdisciplinary collaboration and challenge-based innovation; and (d) Home Hub student groups presenting, giving feedback and discussing the progress of their innovation projects. The course sessions will be planned in detail by students together with researchers, allowing students to influence the questions they wish to explore and also reflect on their own learning process
- Home Hubs: in between learning sessions, national multi-disciplinary groups of 6 students will meet with an appointed academic mentor to develop discrete challenge-based projects which feed into learning sessions.

Projects will be assessed via a final report consisting of a reflection paper, where students discuss their challenge-based projects in the light of theory, which will be peer-reviewed by students from other teams, and assessed by tutors at Home Hubs with second marking from a tutor at another Alliance institution. The Quality Learning Board (WP3) and the Arqus Academy (WP1) will be referenced in order to introduce 10 ECTS credits for following this course and ensure its inclusion in the Diploma Supplement.

Activities undertaken during the challenge-based course will feed into the development of the student-led forum (activity 7.4) where the results of challenge-based activities will be presented. Dissemination beyond the academy will take place via targeted use of social media; hosting of idea cafés in cities across the Alliance, via podcasts and targeted engagement with local schools. Training in communication and dissemination (activity 7.3) will facilitate civic engagement.

Results from this activity will also feed into the train-the-trainer workshop on student-led teaching (activity 7.5) where observations from both teachers and students will be used to inform future methodological development. They will be carefully coordinated with other Arqus activities, in
particular, WP5’s Common Course Itinerary and Engaged Community Challenge (5.3) to ensure complementarity. The projects will draw on partnerships with local societal actors, and students will work on a local challenge which connects to the overall course theme. Each group will be mentored by local researchers as well as societal partners.

It is envisaged that the Collaboratory Programme and Winter School will rotate annually across Arqus institutions after the pilot phase. The train-the-trainer workshop and MOOC will facilitate the transfer of knowledge across institutions (activity 7.5). Academics leading national Home Hubs will also be empowered to build and deliver Collaboratory programme courses at a local level, so that the development and scale-up of student-led, challenge-based inquiry continues beyond the funding period. Experiences from the pilot programme and scale-up period can be disseminated beyond the Alliance by academic staff and students in conference presentations and via academic networks.

7.2 Arqus Collaboratory Winter School: annual kick-off event for the Arqus Collaboratory programme

Each year, a Winter School will be hosted for 42 students and 10 academics from across the Alliance. Each winter school will be hosted by a different partner and take the annual thematic topic chosen for 7.1 as its focus. The first winter school will be hosted at UiB, and will take the Role of the Academy in Informing Engaged European Citizenship as its inaugural thematic topic. Seven interdisciplinary teams of six students from each Arqus institution will come together face to face to attend the Winter School, which will be planned as early as possible in the academic year and constitute the collective “kick-off” for the entire Collaboratory programme. During this two-day event, students will:

- Build networks and teams: the winter school will be used as a forum to address the annual thematic topic, around which one knowledge-creating team, comprising the seven partner university teams, will be formed
- Contribute to the Arqus Collaboratory challenge-based learning programme (activity 7.1) with:
  a. A one-day workshop on the annual thematic challenge; course methodology and upcoming activities
  b. A facilitated forum on engaged European citizenship: discussion and reflection on how student-led engagement with urgent social challenges might inform new models of active European citizenship
- A half-day communication and dissemination workshop (as part of activity 7.3)

Students and staff attending will continue the work initiated during the winter school at Home Hubs of local students led by an academic mentor. Home Hubs will act to ground the Collaboratory project locally and sustainably, laying the foundation for local course provision and student-led engagement.

7.3 Arqus communication and dissemination learning programme: a blended learning programme in communication and dissemination skills

The Arqus Collaboratory programme will be complemented with a blended learning programme in communication and dissemination skills, designed and coordinated, in the first year of offering, at
Media City Bergen. Students will learn how to produce a range of digital deliverables including digital posters, podcasts and video casts. The course will enable students to develop a production plan; script a story; record (using mobile phone and/or microphones) videos and receive training in a variety of editing processes. As well as acquiring technical communication skills, students will learn about manuscript development and the presentation of research stories to different audiences.

A half-day workshop in communication and dissemination held during the Arqus Winter School (activity 7.2) will be supplemented by the provision of online resources and a digital forum on the open source Learning Object Repository (activity 7.6) accessed via the Arqus portal (WP1) where students can share and discuss their work and receive feedback from peers and staff. Students will use the skills they develop through this programme to present the result of their work at a digital poster competition during the student-led forum (activity 7.4).

Communication staff from across the Alliance will be invited to the Winter School to participate in the half-day communication and dissemination workshop, and to meet together at the Learning Lab to pool resources and develop a shared protocol for student training which can form the basis of a communication and dissemination course which could be trained at each institution both during successive Winter Schools as they rotate across the Alliance and locally in between hosted Alliance events.

7.4 Arqus annual student-led forum: an annual student-led forum on engaged European citizenship in times of uncertainty

An annual student-led forum on engaged European citizenship in times of uncertainty will be organised and opened to students and academics from across the Arqus Alliance and beyond. The forum will be held in conjunction with the rotating Arqus Annual Conference, so that both staff and students attending the conference can also attend the forum. The forum will act as a venue for students to:

- Disseminate results of their Collaboratory challenge-based learning projects to an international group of academic staff and students
- Present and discuss independent research projects, including course papers, master’s theses and field course reports
- Engage with leading European academics on issues of European citizenship; active engagement with urgent social challenges and the role of the academy in facilitating and informing engaged European citizenship
- Network with students from across the Arqus Alliance and beyond
- Participate in a digital poster competition: students from the Knowledge-Creating Team will have the opportunity to share the results of their challenge-based learning projects (activity 7.1) using newly acquired digital communication skills (activity 7.3)

Drawing on local experience at the Collaboratory and Centre for Climate and Energy Transformation (UiB), the Arqus student-led forum will be planned by a team of students from Arqus universities, supported by a team of academic mentors from across the Alliance. Arqus students will be invited to co-create the forum by participating as volunteers in committees focusing on different aspects of conference planning, e.g., a scientific committee, a team focusing on PR and social media and a group working on social activities. By participating in organizing the forum, students will develop
their organizational, pedagogical and research skills as well as transferable skills (see learning outcomes for activity 7.4, below).

A forum secretariat consisting of students and mentors at the University of Bergen will coordinate the annual student-led forum logistics together with the local organizing team at each respective host university of the Arqus Conference.

7.5.1 Train-the-trainer workshops and MOOC on challenge-based learning: staff development on innovative student-led methodologies for challenge-based learning.

This activity, organized and certified through the Arqus Alliance, aims to disseminate innovative student-led methodologies for challenge-based learning developed and piloted in year two within activities 7.1-7.4 and 5.3. It responds to the Arqus step-by-step approach to building future cooperation through intensive staff development activities, and will be closely coordinated through the Arqus Alliance with the Pedagogical Laboratory (activity 3.1) and other staff development activities.

Student-led learning methodologies aim to create transformative partnerships between students, researchers and society in order to deal with the complexity and urgency of 21st century challenges. The workshop will be relevant for educators from all disciplines and career stages, and will be developed initially for educators in Arqus universities.

The one-day workshop, hosted on a rotating basis at Arqus partner universities following the inaugural edition at UiB, will also be available via SPOC on the Innovative Learning Repository available via the Arqus Portal (activity 7.6).

Participants will:

- Discuss the role of knowledge, science and transdisciplinary collaboration in the context of European citizenship and global challenges, and how this affects higher education. A key focus will be how to create, organise and facilitate interdisciplinary courses and how to engage students in partnerships that deal with concrete problems faced by society
- Learn practical methods to engage students as partners in higher education through pedagogies that facilitate active learning as well as student-led models for higher education. This includes methods to actively involve students in lectures through e.g. blended learning; how to design forms of assessment and assignments that enable active learning and the development of transferable skills; and how to involve students in the design of higher education through student-led education
- Learn practical methods for involving students as partners in research. By engaging and contributing to concrete research projects, students gain a substantial understanding of the research process from how to frame research problems on to methods, analysis and dissemination of findings. Participants will explore how to engage students as partners in research projects as part of their Bachelor's and Masters' level education.
- The workshop will be co-designed by all Arqus partners and draw especially on the expertise of UiB Collaboratory; the Centre for the Study of the Sciences and the Humanities, UiB and BioCeed: a pioneering Centre of Excellence in Biology Education with a strong focus on research-led teaching.
Once piloted, it will be made available to Higher Education Institutions globally, via a series of MOOCs.

7.5.2 MOOC: Mental borders, physical borders and the shaping of modern European identity

A series of MOOCs will be developed and delivered by scholars from across the Arqus Alliance and informed by results of the first Arqus Alliance Knowledge-Creating Team. The MOOCs will explore the evolution of concepts of Europe and European-ness from several geographical and cultural vantage points (aligning with the geographical location of Alliance institutions), charting their historical development.

Since the early descriptions in the Greek chronicles, the foundational myths of Europe as cultural and civilizational entity have been reshaped throughout medieval, modern, colonial and contemporary history. This emphasis on the Greco-Roman legacy and later the Christian tradition, have obscured the intricate multicultural realities of the European mosaic, excluding minorities who were, and continue to be, an important part of our societies. The mental borders demarcating European-ness inform discourses around typical European and non-European cultures which have deeply influenced the socio-politics of inclusion and exclusion within and across European countries, leading to advances in policies and attitudes promoting and valuing cultural diversity as well as to the recent resurgence in populist and far-right activity documented in many countries across Europe and beyond.

By exploring the power-dynamics inherent in asserting and defending hegemonic cultural notions of European identity from different geographical perspectives, this series of MOOCs seeks to inform contemporary debate on diversity, and contribute to developing inclusive European identities which are truly open to the world. MOOCs will be disseminated via the Arqus Portal and form the basis of a series of idea cafés on the regional development of European identity held at partner towns and cities across Europe, with an emphasis on engaging with local communities, civil associations and neighbourhood networks.

7.6 Arqus Learning Object Repository: an on-line library to store, share and publish innovative learning resources

A Learning Object Repository (LOR) is a means for useful collaboration within and across disciplines and learning communities. It is an online library where you can store, share and publish learning resources. The Arqus Alliance aims to go beyond existing digital cooperation models amongst Higher Education Institutions, building on multifunctional knowledge sharing technology to enable staff and students across organizations to freely access knowledge and resources wherever and whenever they require it - across institutions and national borders. Using a Learning Object Repository, the creation of digital knowledge objects can take place between different universities cooperating in Arqus Alliance and other academic partners.

Arqus will harness LOR technology to create smaller teams and (initially) restricted groups, with the aim of publishing for the wider community (globally) when it is completed. This can be done through the Arqus Portal and by building on the technology currently used at partner universities. Plans are currently being developed, for example, in Norway to build a national LOR. UiB are actively involved in this project and will feed all relevant knowledge into the development of the Arqus LOR.
Action Line 8 (Lead: Granada & Bergen): Dissemination & Sustainability

8.1 Dissemination Strategy
8.1.1 Target audiences
8.1.2 Objectives
8.1.3 Actions and instruments
8.1.4 Achievement and impact measurement
8.2 Sustainability Plan