European University Association (EUA)

European universities in the European Research Area: Building on strengths

EUA 2014 ERA Progress Report

September 2014

INDEX

INTRODUCTION

The objective to sustain the dynamism and global competitiveness of Europe depends largely on its ability to increase substantially the number of highly trained people to increase Europe's knowledge-base. European universities, as key actors in education and training of researchers, play an essential role in strengthening the Union's scientific and technological bases. Achieving a well organised and effective European Research Area (ERA) is an objective to which all universities in Europe are committed. Although major progress has been made towards developing the ERA since its launch in 2000 some important challenges remain. In 2012, the European Commission Communication "A Reinforced European Research Area Partnership for Excellence and Growth" outlined five priority areas and nineteen sub-priorities to achieve lasting changes in Europe's research performance and effectiveness.[1]

EUA, together with other major pan-European stakeholder organisations (SHOs) in research and innovation signed Memoranda of Understanding (MoU) and Joint Statements with the European Commission in 2012 and 2013, committing to promote the ERA goals and encourage their respective memberships to carry out actions addressing them.[2] Specifically for EUA, the commitments included actions in the areas of: i) doctoral training, research careers and mobility; ii) university-industry collaboration and knowledge transfer; iii) research and innovation strategies for smart specialisation and cross-border cooperation; iv) open access to publications and data. For its part, the EC established a dedicated ERA Stakeholder Platform, which EUA joined, for the purpose of consulting with stakeholders on progress towards the completion of the ERA. EUA, through its contribution in the framework of this platform and through the project activities involving its large membership of 850 members across 47 countries, has achieved many concrete results in this endeavour. Earlier this year, EUA published a report with results from 2012 and 2013.[3]

The present report complements the former and documents EUA's additional most recent activities, structured around the five ERA priorities. Through facts, figures and main outcomes of our projects carried out at pan-European level, this report demonstrates clearly the commitment of universities in Europe to removing barriers and implementing policies that effectively contribute to achieving the ERA goals. The following ERA priority sections explain in some detail the related work of universities based on the outcomes of initiatives led and/or monitored by EUA. A series of main cross-cutting messages emerged from this work, which are presented in the final section.

EUA has viewed the signing of the MoUs and Joint Statement on the ERA as an important European partnership initiative in building trust between the European Commission and the major European stakeholder organisations. It has worked well to strengthen and give more structure to the voluntary cooperation already developed between stakeholder organisations. In this short time-span of just two years, a genuine partnership approach has shown to be both achievable and productive. EUA sees the partnership as a real backbone of the European innovation eco-system(s) and looks forward to continue and enhance cooperation in addressing the development and implementation of the European Research Area.

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[1] http://ec.europa.eu/euraxess/pdf/research_policies/era-communication_en.pdf

[2] EUA together with EARTO, LERU, Nordforsk, Science Europe, and CESAER signed respective MoUs/Joint Statements with the European Commission in 2012, with the objective to working in partnership towards the achievement of the ERA. On 13 December 2013, EUA together with the other stakeholder organisations reaffirmed their commitment to achieving the goals of the ERA through the signature of a Joint Declaration with the European Commission (http://ec.europa.eu/research/era/pdf/joint_declaration_2013.pdf).

[3] www.eua.be/Libraries/Publications_homepage_list/EUA_ERA_Publication_04_14_web.sflb.ashx

EUA Universities in the ERA PRIORITIES

EUA's membership – comprising around 850 members across 47 countries – has achieved major concrete results in moving forward the different priority areas contained within the July 2012 ERA Communication on "A Reinforced European Research Area Partnership for Excellence and Growth". EUA universities' achievements are summarised next, taking account of the provisional structure for the ERA Progress Report 2014 provided by the European Commission to SHOs.

Priority 1: More effective national research systems

1. Competitive funding through calls for proposals applying the core principles of international peer-review
2. Institutional funding based on institutional assessment

The importance of an adequate public funding mix for university activities: Public authorities, as the main source of funding for universities, have a special responsibility in ensuring that their higher education system is financially sustainable over the long term. This includes providing a stable regulatory and financial framework for universities to fulfil their missions. For research activities in particular, this means ensuring a certain level of institutional funding to guarantee research capacity. Competitive funding mechanisms need to take account of the sustainability of universities' research facilities and fund the related costs to maintain a competitive research base, in particular in times of constrained public budgets (see EUA Public Funding Observatory[4]). Public funders need to seek the right balance between different funding modalities and take into consideration the possible long-term impact of related changes on universities' activities. Examples include the introduction of funding formulae based on "performance" indicators, so-called "performance agreements" or wider-scale excellence schemes. In all cases, the sector should be involved in the design of these funding mechanisms in order to ensure the fitness for purpose of the selected criteria.

Simplification should be a guiding principle for public funding mechanisms: The overall objective should be to strike the right balance between accountability and institutional autonomy and thus keep procedures and reporting duties to what is necessary for transparency purposes in order not to create additional layers of bureaucracy taking up resources from universities. Simplification of rules will ensure that both financial and human resources are released for the primary objectives of excellent teaching and research. This should be underpinned by proportionate accountability measures as well as consistent rules and terminology across programmes.

This has been a constant point of attention of EUA's work in the field of funding, in particular in the European Universities Diversifying Income Streams (EUDIS)[5] and the Sharing Innovative Practices in University Modernisation (EUIMA)[6] projects, as well as in its current Designing Strategies for Efficient Funding of Higher Education in Europe (DEFINE)[7] project exploring strategies for efficient funding of higher education in Europe. Moreover, the upcoming 2nd EUA Funding Forum (October 2014) will

[4] www.eua.be/Libraries/Governance_Autonomy_Funding/June_2012_report_FINAL.sflb.ashx
[5] Project co-funded by the European Commission under the Lifelong Learning Programme; www.eua.be/eudis
[6] Project funded by the Seventh Framework Programme (FP7) through a Support Action within the 2009 Capacities - Science in Society Programme; www.eua.be/eua-projects/current-projects/euima.aspx
[7] Project co-funded by the European Commission under the Lifelong Learning Programme; www.eua.be/define

bring together higher education and research stakeholders to discuss funding models and the impact of EU funds on university management.

The importance of public funding to sustain long-term collaborative research: The FP7 EUIMA project (2010-2012) on "European Universities Implementing their Modernisation Agenda" pointed to the importance for universities of public funding to sustain long-term collaborative research. Universities considered that continued public funding is essential in all stages of the collaboration, from early stages of the development of ideas to late stages leading to potentially commercial prototypes and other research outputs. Public funding was also considered essential in order to provide structural elements, which are beyond the capacity of the individual partners, such as adequate infrastructure (e.g. equipment, buildings, large infrastructure), political/policy support and regional/national strategies.

The ERA 2012 Communication stressed also the importance of **research and innovation strategies for smart specialisation (RIS3)** to develop research capacity and reduce regional variation in research and innovation performance and help closing the innovation divide.

EUA and the Smart Specialisation Platform and DG REGIO convened a high-level conference on "Mobilising Europe's Universities for Smart Specialisation" in Brussels on 20 of June 2014 with the objective to raise awareness of the importance of universities' contribution in the definition and implementation of RIS3. This event was an important outcome of the joint EUA/JRC-S3 Seville workshop (21-22 February 2013), reported in the EUA 2013 MoU Report. The result of the high-level conference was a commitment from all sides to support universities in having a central role in the development and implementation of S3 as noted in the joint EUA/JRC Statement[8] issued after the event.

High-level consultation has been initiated by EUA to engage in the essential dialogue with DG REGIO on how the Seville Report[9] recommendations can be taken forward in the implementation of the European Regional Development Fund and European Social Fund funds given their new high priority focus on enhancing research and innovation activities for growth and jobs. Commissioner Johannes Hahn joined the EUA Council meeting in January 2014 to discuss the way forward to build on the Seville Report's recommendations.

EUA considers that universities should be fully recognised as a vital partner for regions in the design and implementation of successful RIS3. Universities can benefit from Structural Funds for research and innovation (R&I) activities if they reach agreement with regional authorities on priorities for the region. The core set of recommendations for action listed in the Seville Report (summarised in EUA's MoU 2013 Progress Report) remain highly relevant and require urgent take-up by the respective actors: the EU, regional partners and universities.

EUA asserts therefore that achieving more effective national systems will require greater complementarity and synergy with EU funding systems for improved efficiency and impact.

The importance of universities' autonomy to decide freely on financial issues, academic matters, organisational structures and staffing policies. EUA's Autonomy Scorecard study has shown that there are still wide divergences across Europe in terms of staffing autonomy, and that this does not

[8] http://s3platform.jrc.ec.europa.eu/documents/10157/412938/Joint%20Statement%20S3%20Universities.pdf
[9] www.eua.be/Libraries/Publication/EUA_Seville_Report_web.sflb.ashx

always make it easy, for example, to promote mobility or recruit staff from other countries.[10] Universities' autonomy to decide freely on issues related to human resources management is an important aspect for them to compete in a global higher education environment. More generally, autonomy is essential for universities to be successful in their research and teaching missions, and, thus, globally competitive. Universities need to be able to take their own decisions in relation to financial issues, academic matters, organisational structures and staffing policies so that they best align with their specific institutional missions and profiles.

Priority 2: Optimal transnational cooperation and competition

3. Implement joint research agendas
4. Mutual recognition of evaluations that conform to international peer-review standards
5. Openness of Member State/Associated Country (MS/AC) for international cooperation
6. Common funding principles to make national research programmes compatible, interoperable (cross-border) and simpler for researchers
7. Financial commitments for the construction and operation of European Strategy Forum on Research Infrastructures (ESFRI), national, regional research infrastructures of pan-European interest
8. Access to research infrastructures of pan-European interest

On international cooperation in doctoral education and training

EUA has been actively monitoring developments regarding global collaborations in doctoral education through the Erasmus Mundus project on "Cooperation on Doctoral Education between Africa, Asia, Latin America and Europe" (CODOC; 2010-2012) project.[11] This work continued through another Erasmus Mundus project on "Framework for the Internationalisation of Doctoral Education" (FRINDOC),[12] which brings universities from five continents together to discuss the institutional implications of transnational cooperation in doctoral education. The FRINDOC project identifies good practices on the institutional management of internationalisation and will produce a statement disseminating these practices, which will be presented at a conference at the Imperial College London, in September 2015.

On international research agreements

During 2013, in parallel to the EUA MoU Questionnaire to universities, EUA conducted a survey on doctoral training, research careers and mobility addressed to National Rectors' Conferences (NRCs). Twenty-one NRCs submitted their responses, representing 62% of EUA's NRCs. Regarding international cooperation, 85% of the NRCs indicated the existence of international research collaborations at national level. Results also showed that EU countries partner with other EU countries, Associated Countries and third countries on an equal basis (point validated by 90% of the respondent NRCs) (Figure 1). In particular, regarding bilateral agreements with third countries, NRCs

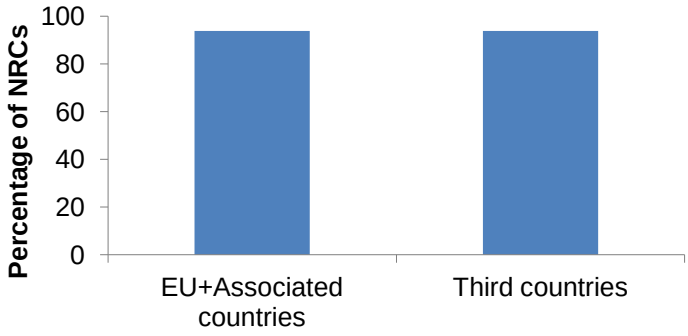
[10] Based on its Autonomy Scorecard study (November 2011), EUA has developed an interactive online tool which enables users to compare university autonomy in 29 higher education systems. The University Autonomy Tool (www.university-autonomy.eu) provides detailed information on organisational, financial, staffing and academic autonomy and ranks countries according to the level of autonomy they have in each of these dimensions. For more detailed information please see the "University Autonomy in Europe II. The Scorecard" report:
www.eua.be/Libraries/Publications_homepage_list/University_Autonomy_in_Europe_II_-_The_Scorecard.sflb.ashx.

[11] Jørgensen, Thomas (2012). *CODOC – Cooperation on Doctoral Education Between Africa, Asia, Latin America and Europe*. Published by EUA; Project funded by the Erasmus Mundus Programme of the European Commission.

[12] Project funded by the Erasmus Mundus Programme of the European Commission; www.eua.be/frindoc

indicated the existence of agreements with the United States of America, Canada, Japan, China, Brazil, and Russia. Other countries, such as India or South Africa were also mentioned although less frequently.

Figure 1. Countries/regions involved in the bilateral agreements for international research collaboration at the national level



Through its Council for Doctoral Education (CDE), EUA is actively promoting best practices of university participation in international agreements to foster peer-learning and synergies across these international activities.

On research infrastructures

EUA contributed to the drafting of the "Charter for Access to Research Infrastructures" within the framework of the MoU Doers Group on Research Infrastructures. EUA's main views, developed by the EUA Research Policy Working Group, and which were taken into account in the text of the charter, can be summarised as follows:

- Research infrastructure development and access are important matters for our university membership and many universities host and run research infrastructure facilities. EUA also has an interest in ESFRI's work in the context of the ERA policy framework, together with other European stakeholder organisations, being undertaken through the MoU signed with the European Commission, DG Research and Innovation, concerning ERA implementation and policy development.
- The relationship between research infrastructures and research training and education is of particular importance in doctoral education. This implies granting access to researchers that may not have extensive records on research performed (and thus are not able to show excellent research records for access through merit-based criteria), yet they may be conducting excellent cutting-edge research. The "Charter for Access to Research Infrastructures" should frame the criteria in a way that ensures access for early-stage researchers.
- A charter should aim at providing guidelines and recommendations to be applied to research infrastructures; a regulatory document with legally binding effects should be avoided due to the specific characteristics of each infrastructure and the existence of regulations at national level.
- A charter should try to achieve a proper link between European-level policy and practice. Specifically, EUA would like to see that the policy indications in the charter reflect the practice undertaken in European research infrastructures, taking into account both good practices and constraints that research infrastructures may face in different European countries.

EUA looks forward to the next steps towards the finalisation of the charter and to promote its effective implementation.

Priority 3: An open labour market for researchers
9. Open, transparent and merit-based recruitment of researchers
10. Researchers' careers
11. Cross-border access to and portability of national grants
12. Support structured innovative doctoral training programmes
13. Support mobility between private and public sector

On the key issue of university-business research collaboration and related human resources policies, the EUIMA project sought evidence of the efforts of universities to develop professional profiles for researchers and research managers, which are crucial for developing and taking forward collaborative research activities. The outcomes of the project workshops and case studies showed that collaborative research experience is being progressively taken into account in assessing the achievements for the career development of university staff, i.e. researchers and research managers. Both professional profiles need to be nurtured by universities and their external partners; their skills and training needs should be identified and developed.

Collaborative research activities were also seen as an essential asset for tailoring education to the evolving needs of the job market, maximising the employability of graduates and creating and sustaining academic, technical and support staff positions. The importance of collaborative research activities for increasing the employability of doctorate holders was confirmed also during the Regional Workshops conducted under the EUA project on "Promoting Collaborative Doctoral Education for Enhanced Career Opportunities" (DOC-CAREERS II).[13] The project case studies showed that virtually all stakeholders agreed that doctorate holders graduating from collaborative schemes are more employable in the business sector than doctorate holders graduating from traditional programmes. The ability to be "bilingual", bridging the academic and industry sectors, and the development of transferable skills, were identified as the main reasons accounting for the enhanced employability perspectives of doctorate holders in the business sector.

On the ERA priority of an open labour market for researchers, and particularly the need to develop and implement structured programmes to increase mobility between industry and academia, EUA has conducted extensive work on the doctoral level. The recent findings of the DOC-CAREERS II project look uniquely at how universities work with their regional partners in doctoral education across Europe. The regional focus of this project allowed EUA to identify examples of university collaboration with local SMEs, large research and development (R&D) enterprises, RTD performers and NGOs from a variety of industrial sectors. The main conclusions of DOC-CAREERS II, which remain highly relevant to the ERA policy implementation regarding university-business/enterprise collaboration at the doctoral level, may be summarised as follows:

- There is no "one-size fits all" model for collaborative doctoral training. Instead, the workshops and case studies have shown a variety of successful models, emerging from both top-down and bottom-up levels. The key factor seems to be the involvement of all hierarchical levels and, particularly, the support of top management levels, both in universities and in companies.
- Building and maintaining trustful relationships among all stakeholders is essential to ensure the success of the collaborative doctoral scheme. Understanding each partner's needs and

[13] Project funded by the Seventh Framework Programme (FP7) through a Support Action within the 2008 People Work Programme; www.eua.be/eua-work-and-policy-area/research-and-innovation/doctoral-education/doc-careers-ii.aspx

objectives, establishing clear and realistic expectations and ensuring regular contact between the parties is vital to build trust and to develop long-term university-business partnerships.

- Planning the activities of the doctoral theses and ensuring that they all make sense within the framework of the doctoral research project well in advance is a determining factor in the quality and functioning of the partnership. Involving all stakeholders in the different life-cycle stages of the scheme is also needed to ensure the success of the scheme.
- Additionally, although the academic supervisor is ultimately responsible for ensuring the doctoral research project is of appropriate academic quality to earn a doctoral degree, the industrial supervisor is an integral part of the collaborative scheme. Participants in the workshops and case studies agreed that the company supervisor should have a doctoral degree him/herself or, alternatively, should be aware of what doctoral research entails. Academic and industrial supervisors could also benefit from "peer-to-peer" training for tutoring doctoral candidates involved in collaborative schemes.
- Specifically, to overcome some reluctance on the part of academics and companies to engage in collaborative doctoral schemes, "peer-to-peer" activities from company to company and from university to university could be used to change stereotypes and to develop more positive expectations of university-industry collaboration, with a view to bringing more partners into university-business collaborations.

The above findings have been fed into the dialogue with the European Commission to design the Marie Curie Industrial Doctorate programme.

On the ERA policy of removing barriers to researchers' mobility, training and attractive careers, (including the need for member states to play a role in supporting the setting up and running of structured innovative doctoral training programmes applying the Principles for Innovative Doctoral Training), EUA's CDE has been a strong advocate and promoter of doctoral education and training reforms through its "Salzburg Principles"(2005)[14] and the "Salzburg II Recommendations" (2010).[15] EUA-CDE's work has been acknowledged by the European Commission as the inspiration for its own "Principles for Innovative Doctoral Training". EUA's further work on doctoral education and training has yielded a number of important outcomes, which may be summarised as follows:

- EUA-CDE has continuously been facilitating the sharing of good practices in institutional policies. The EUA MoU survey results in 2013 confirmed that universities in Europe are committed to developing and implementing institutional strategies and policies to enhance the quality of doctoral education in Europe. Moreover, in January 2014, EUA-CDE members met in Izmir, Turkey, to discuss how to manage the outcomes of doctoral education. These events contributed considerably to creating a common European understanding of the key issues in the training of researchers.[16]
- In autumn 2013, EUA-CDE published the Doctoral Education Bulletin on recruitment and admission to doctoral education. Case studies from Romania and Denmark illustrated the implementation of institutional procedures for transparent, merit-based admissions.
- EUA has also been monitoring global developments in doctoral education. The CODOC project (2010-2012) identified three major global trends: 1) the steep rise in the number of graduations; 2) the emergence of a global reflection on the role of doctorates in a knowledge-based society; and 3) an increased importance of university collaboration across continents. The EUA-CDE Annual Meeting on "Doctoral Education: Thinking globally, acting

[14] *Salzburg II Principles* (2005); www.eua.be/eua/jsp/en/upload/Salzburg_Conclusions.1108990538850.pdf
[15] *Salzburg II Recommendations. European Universities' achievements since 2005 in implementing Salzburg Principles on Doctoral Education* (2010). Published by EUA; www.eua.be/Libraries/Publications_homepage_list/Salzburg_II_Recommendations.sflb.ashx
[16] www.eua.be/cde/meetings-and-events/past-events.aspx

locally", held in Liverpool in June 2014, presented such institutional practices, and gave also perspectives on doctoral education from around the globe.[17]

- An important issue in doctoral education and training is the implementation of quality assurance procedures. The Lifelong Learning Programme project on "Accountable Research Environments for Doctoral Education" (ARDE; 2010-2013)[18] looked at the implementation of quality assurance policies in European doctoral education such as transparency and accountability.
- On all continents, the number of doctoral graduations has risen sharply in recent years in order to meet the demands of expanding higher education sectors, capacity-building efforts in universities and increasingly knowledge-dependent private and public sectors. By delivering more and better graduates and supporting new skills development needed in the changing economy, universities play a distinctive role in tackling societal challenges.
- Universities are additionally becoming more globally oriented. Research-intensive institutions in some countries are building networks of alliances, joint programmes and branch campuses, increasingly detaching themselves from national systems and priorities and engaging in a global competition for talent and resources. The present situation entails both great possibilities and great risks. In order to address these challenges and risks, the recent EUA-CDE Second Global Strategic Forum on Doctoral Education agreed that the following principles[19] should underpin the work of the global research community:
    1) A high quality of research is the key to a thriving global research community and essential for doctoral education. Universities must ensure that they are developing their research capacity through investments in their own capabilities, infrastructure, collaborations and pooling of capacity in order to attain the critical mass of research necessary for providing doctoral education.
    2) Research will only be truly global if inclusion and access are considered priorities. Universities should engage in a wide range of collaborations with different partners in an effort to ensure the broadest possible participation of doctoral candidates from institutions in different parts of the world.
    3) In order to ensure research quality, inclusion and access, universities must engage in collaborations for common development concerned with both global and local needs. Such collaborations should consist of and include a strong engagement from all partners, including institutional leadership in the individual institutions and local end-users of research results.
    4) Collaborations require a common understanding of fundamental principles such as research ethics, quality in the provision of research training and good institutional governance. Such collaborations would be greatly facilitated by common practices and coordination by stakeholders concerned with the quality and funding of doctoral education.

EUA considers that while research clearly is a driving force in higher education, the development of the ERA should go hand in hand with that of the European Higher Education Area. Europe should see universities as unique institutions that combine strong research and teaching missions.

The 2012 ERA communication stressed that insufficient academia-business mobility was one of the obstacles standing in the way of a genuine European research labour market.

[17] www.eua.be/eua-cde-liverpool.aspx

[18] See Byrne, Joanne, Jørgensen, Thomas, and Loukkola, Tia (2013). *Quality Assurance in Doctoral Education.* Published by EUA; project funded by the Lifelong Learning Programme of the European Commission.

[19] Statement and the programme of the Second EUA-CDE Global Strategic Forum on Doctoral Education (2013): www.eua.be/cde/meetings-and-events/2nd-eua-cde-global-strategic-forum-on-doc-ed.aspx

EUA through the EUIMA project has aimed at identifying the necessary requirements and adjustments that universities need to make in terms of human resource profiles (researchers, research managers, etc.) to take forward and support the development of collaborative research and increase the attractiveness of university careers, both in research and in managing the partnership (EUIMA-Collaborative Research). On supporting mobility between the private and public sector, the main conclusions from the EUIMA-Collaborative Research project may be summarised as follows:

- Public support is an essential component of collaborative research. It includes, obviously, funding, but also proper legislation for encouraging, or at least not hindering, the development of university-business partnerships. Incentives for university scientists involved in collaborative processes are one of the measures to stimulate collaborative research. Legal frameworks that support both universities and businesses in preserving their interests while fostering collaboration are also crucial.
- Successful collaborations were possible only because of trust-building and a deep understanding of the regional industry dynamics and local/regional/national legal issues.
- It was clear that the regions fostering their competitiveness through innovation from research and development (R&D) do value collaborative research (and doctoral programmes for new skills and creativity). These regions establish policies that support research collaborations, commit resources through local/regional public programmes and encourage the participation of local SMEs. These regions also encourage applications for funding from European and worldwide competitive calls and push for mobilising private funding.
- The input given by universities involved in collaborative research initiatives showed that making compatible universities' core mission of excellence in academic research and successful long-term collaborative research activities is possible. To achieve a good degree of compatibility between the university and its external partners, focused institutional leadership and the provision of appropriate support structures and services is crucial. This fosters a research environment that encourages researchers to engage in collaborative research and recognises and rewards its success in their future career development.

Additionally, the EUIMA project results addressed the transparency and appropriateness of measurement tools for the assessment of university-based research collaboration processes reflecting the diversity of university missions. It was found that, in addition to the traditional collaborative research assessment indicators already in use, a new set of assessment indicators is emerging based on the quality of the collaborative processes in the partnership. Assessment criteria in long-term collaborative initiatives evolve throughout the initiative, as the goals or form of cooperation change over time. Hence, assessment tools are dynamic. Their specific targets or degree of achievement may also be different depending on the partners' objectives and degree of maturity of the collaborative research initiative. (A series of publications reflecting these findings will be published later this year.)

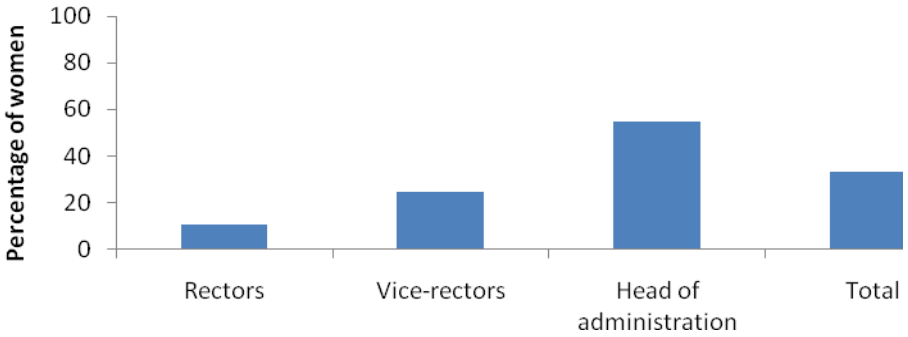
Priority 4: Gender equality and gender mainstreaming in research

14. Foster cultural and institutional change on gender
15. Gender balance in decision making process

The ERA 2012 Communication highlighted that European research still suffers from a considerable loss, and inefficient use, of highly skilled women, and that integration of a gender dimension into the design, evaluation and implementation of research is also still too limited. EUA has started analysing data on the gender composition of university management. EUA examined in 2014 the percentage of women amongst the 4 254 university managers that are part of EUA's membership. As shown in Figure 2, the overall proportion of female university managers and leaders was 33%. The proportion

of female heads of international, research, communication and quality assurance offices was 55%. By contrast, only 11% of the rectors were women. Thus, although the percentage of female rectors has risen considerably from around 6% in 2008, the absolute number remains low. Additional analysis revealed also that the number of female rectors was geographically uneven across Europe, so that some countries had a proportion of female rectors similar to that of full professors, whereas in other countries, there were very few, if any, female rectors. On the other hand, more women were seen further down the ranks, with a reasonable gender balance below the level of vice-rector. In short, the analysis showed that the overall number of women in high academic-level positions remains low. EUA is continuing this set of analysis in 2014.

Figure 2. Percentage of women in university leadership positions (EUA database N=4254)



Note. EUA's database comprised 733 rectors, 1 944 vice-rectors and 1 577 heads of international, research, communication and quality assurance offices, for a total of 4 254 university managers.

Priority 5: Optimal circulation, access to and transfer of scientific knowledge including via digital ERA

16. Open access for publications and data resulting from publicly funded research
17. Open innovation (OI) and knowledge transfer (KT) between public and private sectors
18. Harmonise policies for public e-infrastructures and associated digital research services
19. Uptake of federated electronic identities

On Open Access to research publications

EUA has identified several main issues for universities at European level related to open access to research publications: (a) the variety of open access business models and need for a fair redistribution of costs; (b) the requirement for self-archiving of publications in institutional/shared repositories;[20] (c) the quality assessment and peer-review in open access (with emphasis on the issues of journals' impact factor and existence, or lack of, incentives towards open access for researchers); (d) the generation of data on open access to assess its progress and impact in the advancement of research; (e) the implications for target groups (researchers, institutions, policy makers, funders, teaching staff, funders, etc.); and (f) the need to take into account all costs involved in publication of research outcomes, from the peer-review process to the final publication.

[20] Building on the recommendations issued by the EUA working group on Open Access (March 2008): www.eua.be/Libraries/Research/Recommendations_Open_Access_adopted_by_the_EUA_Council_on_26th_of_March_2008_final_1.sflb.ashx.

EUA has also been monitoring national developments in open access to research publications, particularly regarding the implementation of Horizon 2020's open access requirements through dialogue with the EUA NRCs. In the transition towards open access to research publications, it is crucial that the overall publication costs for universities do not increase. International cooperation in the field of open access at the university level could be an important tool in raising awareness (in particular with public authorities) to discuss the associated costs that could be potentially integrated into research grants in the future.

As the next step to build upon common principles for open access that are now well-developed within the scientific community and agreed by all the ERA SHOs, EUA together with other SHOs is preparing the ground for high-level talks with major publishing houses to explore doable business models that reflect the impact of digital technological developments on the process of producing scientific publishing, as well as operational conditions for open access that meet universities' needs.

On knowledge transfer between the private and public sector:
EUA's recent work on collaborative research in the context of the above-mentioned projects has indicated the following trends concerning knowledge transfer:

- Comprehensive agreements between all the stakeholders should be established before the start of university-business research collaborations. These should include the rights and obligations of each party, general rules for the collaboration, financial provisions and intellectual property ownership and rights. Intellectual property rights should be negotiated from the outset, with a view to striking an appropriate balance of interests in relation to publication and potential commercial application of the research results.
- The role, structure and organisation of intermediary bodies supporting collaborative research (Technology Transfer Offices (TTOs), Knowledge Transfer Offices (KTOs), Knowledge Exploitation Offices (KEOs), etc.) evolve alongside the institutional commitment to collaborative research activity. In the case of well-established knowledge transfer strategies, many universities have strong mission statements linking their research objectives to the economic regional development. The most effective regional systems have developed a strong coordination between university, local authorities and industry, but the development of a clear and effective university mission statement is seen as key catalysing factor.
- Therefore, the development and efficiency of knowledge and technology transfer activity as a whole is shown to be linked to: i) the internal university "research culture" and its ability to converse with companies; ii) the external technical innovation culture, and its level of confidence in research structures as well as its capacity to invest; and iii) the level of development of the regional knowledge exchange "ecosystem".

On Personal Data Protection

EUA statement on the proposal for a general Data Protection Regulation (April 2014)

European universities engaged in research that requires the use of personal data will be affected by the proposed Data Protection Regulation. Therefore, on 24 April 2014 EUA published a statement on the proposal for a general Data Protection Regulation,[21] highlighting the potential threat to research posed by the European Parliament LIBE Committee amendments and the need to ensure that the Commission's original provisions for research purposes were maintained as the Regulation moved through the legislative process. The EUA statement has been targeted and actively disseminated to key representatives in the European Institutions and EU member states.

[21] www.eua.be/Libraries/Press/Press_Statement_DPR.sflb.ashx

EUA's main views on the proposal for the general Data Protection Regulation may be summarised as follows:

- The extent of the use of personal data, including sophisticated arrangements to assure confidentiality (referred to as pseudo-confidentiality), is growing rapidly. The Commission's initial proposal was welcomed because it was drafted to meet the needs of scientific research, and had proportionate mechanisms for protecting individuals' privacy in health and medical research while insuring that large European investments were not put at risk (e.g. in bio-banks, cohort studies).
- The harmonisation of national regulations as proposed by the Commission is seen as a positive development, provided that the necessary exceptions guaranteeing the conduct of scientific research are in place, and that best practice in existing national legislations which regulate the collection and use of personal data in research remain. Examples include existing data protection laws regulating the specific activity of ethical committees that can make contextually informed judgements on the justification for access to data to carry out specific research.
- The LIBE amendments alter dramatically the ability to conduct medical and health research, and may unintentionally threaten European scientific advancements in these areas. Moreover, medical practice and developments in personalised medicine may also be at risk. The precise legal impact of the proposed amendments for research across Europe is still uncertain, but unintended consequences may be quite dramatic. It is anticipated that "at worst health research involving personal data would be illegal; at best it would be largely unworkable", as indicated in the joint statement from non-commercial research organisations and academics on the general Data Protection Regulation and led by the Wellcome Trust.

EUA believes in the need to balance the protection of individual data and its availability for the purposes of scientific research. The emergence of complex research issues such as those requiring the use of large personal data sets, require new interdisciplinary approaches and skills. It is therefore important that doctoral education, career development and researchers' exchange and scientific cooperation in areas such as those tackling global societal challenges are not negatively impacted by the final adoption of a data protection regulation that fails to take fully into account the needs of Europe's researchers. Hence, EUA's view is that the future Data Protection Regulation must preserve the access to and use of data for scientific research, the ultimate purpose of which is to benefit both individuals and society at large.

EUA CONTRIBUTION TO ERA PROGRESS: MAIN MESSAGES

1. **The importance of an adequate public funding mix for university activities.** National and regional authorities, as the main providers of funds to universities, have a special responsibility in ensuring that their higher education system is financially sustainable over the long term. For research activities in particular, this means ensuring a certain level of institutional funding to guarantee research capacity. Competitive funding mechanisms (both national and European) need to take account of the sustainability of universities' research facilities and fund the related costs to maintain a competitive research base. Therefore, EUA emphasises that achieving more effective national systems will require greater complementarity and synergy with EU funding systems for improved efficiency and impact.

2. **The role of universities in the design and implementation of successful Research and Innovation Strategies for Smart Specialisation (RIS3) needs to be fully recognised**. Universities are working towards strengthening partnerships with their regional authorities to draft and implement R&I strategies combining funds which include effective synergies with Structural Funds. A core set of recommendations to taking forward these partnerships, developed jointly by EUA and the JRC/IPTS,[22] remain highly relevant and require urgent take-up by the respective partners: the EU, regional partners and universities.

3. **Research infrastructure development and fair access for doctoral candidates should be facilitated**. Universities own and/or host many research infrastructures which need strong investments for maintenance and update to remain scientifically competitive. A "Charter for Access to Research Infrastructures" which is currently being developed should aim at providing guidelines and recommendations while respecting the specific characteristics of each infrastructure and existing regulations. The charter should frame criteria for fair access for early-stage researchers to ensure the development of the next generation of researchers.

4. **The open labour market for researchers' careers particularly with respect to university-business collaboration and mobility requires careful nurturing.** There is no "one-size fits all" model but a variety of successful models, emerging from both top-down and bottom-up approaches. The key factors are building trust and mutual understanding and, particularly, the support from top management levels, both in universities and in companies. Focused institutional leadership and the provision of appropriate support structures and services (from public and private sources) are crucial. These foster a research environment that encourages researchers to engage in collaborative research and which recognises and rewards its success in their future career development.

5. **On open access to research publications, it is crucial that the transition to open access does not increase overall publication costs.** International cooperation in the field of open access at the university level could be an important tool in raising awareness (in particular at the level of public authorities) to discuss the costs associated with open access, which could be potentially integrated into research grants in the future. High-level talks with major publishing houses to explore doable business models that reflect the impact of digital technological developments on the process of producing scientific publications, as well as operational conditions for open access that meet universities' needs, should be a priority and the European Commission should engage in this process with EUA and other stakeholders.

6. **Enhanced development and efficiency of knowledge and technology transfer activity** is crucially linked to: i) the internal university "research culture" and its ability to converse with companies; ii) the external technical innovation culture, and its level of confidence in research structures as well as its capacity to invest; and iii) the level of development of the regional knowledge exchange "ecosystem". New measurement tools for the assessment of university-based research collaboration and knowledge transfer processes reflecting the diversity of university missions are emerging from EUA's project work, and will be fed into the ERA policy debate later this year.

7. **EUA recognises the need to balance the protection of individual data and its availability for the purposes of scientific research.** The emergence of complex research issues, such as those requiring the use of large personal data sets, requires new interdisciplinary approaches and skills. EUA's view is that the future Data Protection Regulation must preserve the access to and use of

[22] http://s3platform.jrc.ec.europa.eu/documents/10157/412938/Joint%20Statement%20S3%20Universities.pdf

data for scientific research, the ultimate purpose of which is to benefit both individuals and society at large.

Surely European universities contribute in many other ways to the ERA goals than those reported here. Importantly, they educate and train students at the Master and doctoral levels, providing innovative research and training environments that help foster Europe's scientific and technological bases. Over the years, EUA has been coordinating extensive dialogue between universities and particularly with the university leadership at institutional and national levels, i.e. university rectors and national rectors' conferences. On the role and contribution of universities to the ERA, two clear cross-cutting principles emerged from the dialogue, which can be seen as essential requirements for universities to continue and enhance the quality of universities in the ERA:

- The development of the European Research Area (ERA) has to go hand in hand with that of the European Higher Education Area (EHEA). Universities are institutions that uniquely combine strong research and teaching missions to educate and train students and researchers. This characteristic, crucial for the prosperity of our society, needs to be cherished and, consequently, universities need to be provided with resources and policy frameworks that facilitate their work.

- The right balance of autonomy and accountability is essential for universities to be successful and competitive in the global higher education and research environment. Autonomy in areas such as academic matters, financial issues, organisational structures and staff policies enable universities to move forward in playing their full role in the ERA. Finding the right balance between autonomy and accountability is crucial. EUA supports, therefore, the EU Flagship Initiative "Innovation Union" of the Europe 2020 Strategy for Smart, Sustainable and Inclusive Growth (2010),[23] which emphasises the need for European universities to be freed from over-regulation and micro-management in return for full accountability.

[23] http://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication_en.pdf