

## Statement on the review of modernisation of higher education systems in Europe

Leuven, 8<sup>th</sup> March 2016

Fifty leading European universities of science and technology from twenty-four countries united within the Conference of European Schools for Advanced Engineering Education and Research ([CESAER](#)) acknowledge the importance of the 2011 Agenda for the modernisation of Europe's higher education systems as a strategic EU-level policy agenda for the higher education sector. We herewith respond to key questions regarding the priorities for future cooperation in higher education at European level.

Our universities, schools and faculties are committed to high-level research-based engineering education, research at the front edge of knowledge, close co-operation with business, industry and the public sector towards innovation, continuous improvement in and integration of education, research and innovation in the knowledge triangle. Contributing to sustainable economic, societal and environmental development is high on our agenda. We are enhancing quality and relevance in learning and teaching through promoting mobility, better use of ICT and increased and improved links between our universities and employers from industry, business and the public sector and we have a record of accomplishment in driving regional innovation. In accordance with our basic values and guiding principles, we intrinsically ensure education and research activities within our institutions are mutually reinforcing.

### Main challenges

Europe is not only confronted with grand societal challenges and the urgent need to create more jobs and boost sustainable economic growth, but also with the socio-economic crisis that requires a response to the immediate needs of large numbers of refugees arriving in Europe. We thus identify the following main challenges faced by our institutions in improving their performance in various ways and reaching their full potential:

- With concern, we perceive a shift in political priorities away from the knowledge triangle and a growing threat to key achievements and fundamental values.
- Sub-optimal framework conditions and regulations for innovation in Europe and many of its regions has led to a lack of attractiveness for inventors, innovators and entrepreneurs.
- The shortage of eligible students and deficiencies in upper secondary education in Mathematics, Informatics, Natural Sciences and Technology (MINT) remain persistent challenges for our institutions. In particular, we do not attract sufficient numbers of female students, which detrimentally impacts gender equality in our institutions.
- Substantial higher education budget cuts in many member states constantly force us to make strategic choices and to do more with less. This particularly threatens our capacity to attract and retain the brightest talent and to invest in up-to-date research infrastructure and equipment.

## Priority areas

We thus recommend the following three priority areas in order to concentrate and enforce European higher education reform efforts.

### 1. Ensure conducive conditions for universities of science and technology

- Governments and the private sector should further strengthen the capacities of universities to act autonomously and take leading positions in regional and European innovation ecosystems. The freedom to teach and to undertake research, equal opportunities and targeted approaches to diversity are prerequisites for us to attract and maintain the brightest talents and ideas from all over the world. Core requirements include professional institutional management and qualified support services for education, research and innovation.
- National governments and the EU should ensure internationally competitive funding levels. Future investment in higher education, research and innovation is crucial and thus should be an ongoing priority, especially with regard to the EU instruments 2014-2020 and 2021-2028, and particularly in times of economic uncertainty.
- Further removal of barriers and the creation of an open and integrated Europe of knowledge, not only linking the European Higher Education and Research Areas (EHEA) and the European Research Area (ERA), but truly allowing for the free circulation of students, teachers, researchers, support staff and knowledge should become a high political priority again. Portability of grants and pension rights should be ensured. More and better incentives encouraging mobility should be provided.

### 2. Address higher education, research and innovation skills and human resources

- Europe should not only increase the number of qualified students and improve the qualifications in MINT in upper secondary education, but also genuinely promote the broader concept of Science, Technology, Engineering, Architecture, Arts and Mathematics (STEAM), not least with a view to solving the gender issues in these fields.
- Europe needs more and better researchers. It is important to acknowledge the research profession and to create attractive career paths - such as tenure tracks - on a wider scale. The implementation of the Code of Conduct for the recruitment of researchers and the European Charter for Researchers is essential in this respect. In career progression, universities should acknowledge teaching and research as well as activities in the area of the universities' third mission in a balanced way.
- Europe should better foster a culture of creativity, entrepreneurship and risk-taking and of openness in education to challenge young talent to excel, to contribute to the brand building of our institutions and to boost the attractiveness of innovation ecosystems.

- Offering, assessing and sharing best practice for alternative career options within and outside our institutions is crucial. Equipping graduates and researchers with transferable skills - such as innovation and knowledge management, data stewardship, management of doctoral schools, open education and continuing education, international cooperation, and human resource development – will enable them to apply knowledge in interdisciplinary ‘real world’ situations. Universities should therefore work closely with business, industry and the public sector in order to raise the employment and employability of university graduates and researchers outside academia, particularly also in small and medium enterprises.
- The Principles of Innovative Doctoral Training should be reviewed and their application at bachelor and master levels should be promoted, not least within the context of doctoral schools.

### **3. Promote openness in education and training as well as research and innovation**

- Governments should enable universities to play their role in continuing education and training, not least through more flexible learning paths, and universities need to enlarge their continuing education and training capabilities and capacities.
- We emphasise the need for spreading excellence and widening participation in education and training as well as research and innovation and encourage the European institutions to apply the concept of ‘seal of excellence’ for education projects above the quality-line, but below the funding line to get funded under the European Structural and Investment Funds (ESIF).
- Universities and governments should better facilitate cooperation across disciplinary, departmental, institutional and national borders enabling our students, teachers and researchers to solve the grand challenges at the global level. We all need to better utilise the scientific and technological potential of international partner countries and to join forces with European and international partners in order to ensure critical mass in international competition.
- ICT as an important facilitator to widen access to higher education should be strongly supported and applied. Universities should be enabled to develop all aspects of blended learning.

### **European added value**

Long-term experience and practice in collaborative research and education are competitive advantages of European higher education, research and innovation policies and programmes, which promote the completion of ERA and EHEA and their mutual enforcement. Based on the results of independent *ex ante* and *ex post* evaluations as well as regular reviews, we recommend that the EU should further strengthen and adjust its programmes to newly emerging needs and priorities while carefully balancing continuity and re-orientation.

We believe in a multi-level and multi-actor approach involving higher education institutions, regional, national and European governments and institutions, industry, business and the public sector in order to tackle societal and global challenges together, and ensure focus on the priorities identified.

However, the added value of the European level lies beyond simply the sharing of best practice and learning from each other. Member States should remove further remaining barriers and commit to regularly monitoring and assessing the implementation of the EHEA, ERA and the Europe of Knowledge. There is an evident need for further aligning higher education, research, policies and programmes as well as corresponding legal and regulatory frameworks at the regional, national, European and global levels.

### **Our commitment to cooperate and contribute**

As key stakeholders in European higher education research and innovation, we are committed towards working together with the European Commission, Member States and the European Parliament as well as with other stakeholders and institutions. We are prepared, committed and highly motivated to offer our expertise, to provide constructive input and feedback, to share examples of best practice and to cooperate.

For more information and enquiries, please contact the CESAER Office at *Kasteelpark Arenberg 1* in B-3001 *Leuven* or at [info@cesaer.org](mailto:info@cesaer.org).

The Conference of European Schools for Advanced Engineering Education and Research ([CESAER](http://www.cesaer.org)) is a non-profit international association of [fifty leading European universities](#) of science and technology and engineering schools/faculties at comprehensive universities and university colleges from 24 countries. We stand for scientific excellence in engineering education and research, and the promotion of innovation through close cooperation with industry in order to ensure the application of cutting-edge knowledge in industry, public services and society. CESAER maintains and promotes the highest quality standards. CESAER's mission is to:

- serve as a close network and platform for mutual learning of universities of technology;
- contribute proactively to European developments by conducting a permanent dialogue with and influencing European institutions and stakeholders;
- inspire reflections and policy decisions of stakeholders at European and national level;
- foster public understanding of the role of engineering in societal and economic development considering the principles of sustainable development.