

## Co-creative innovation must be core mission of universities

Liz Newmark 12 March 2019

European universities need to embrace change by continuing to forge alliances with innovative companies and independent research groups to use and develop their knowledge in cooperation with the outside world, experts agreed at the 8 March launch of the European University Association's new report *The Role of Universities in Regional Innovation Ecosystems*.

This analysed in-depth case studies of nine universities – Aalto University, Finland; Masaryk University, the Czech Republic; Sorbonne University, France; Eindhoven University of Technology, the Netherlands; Technical University of Munich, Germany; the University of Manchester, United Kingdom; University of Minho, Portugal; the University of Warsaw, Poland; and the Polytechnic University of Catalonia, Spain – in different regional contexts.

The study, it concluded, shows how universities and their partners in regional innovation systems can, should and do join forces “to build such bridges across institutional and disciplinary boundaries, look for new collaborative formats and spaces in order to address shared challenges, and shape their own changing roles in the process”.

It highlighted how universities have, as a result, been better able to embrace societal and technological developments including climate change, globalisation and digitalisation, while encouraging innovation across the board.

“We live in an age of radical transformations where traditional success factors are no longer valid,” said report author, Reichert Consulting's Dr Sybille Reichert. “We need new approaches and new business models.”

It was a generational change, she said, seen in today's ‘schools for climate’ marches. “Even for young researchers, the need to have impact in the wider world is visibly stronger than 10 or 20 years ago.”

### **‘Innovation happens in cooperation’**

Dr Thomas E Jørgensen, the European University Association (EUA) senior policy coordinator, told *University World News* before the launch meeting in Brussels: “The key is [that] innovation [in universities] now happens in cooperation [with business, government

agencies, public organisations and citizens] and not in closed, linear systems.

“The financial crisis has emphasised this. Many big companies with large in-house research departments have diminished. It is a bigger societal and scientific change which directly affects the way universities are working.”

This report, he said, demonstrates that success comes when universities and their partners let challenges, ideas and solutions be a common project from the beginning: “This can be done through student start-ups, project learning or by really long-term cooperation with industry.”

For Jørgensen, external stakeholders are therefore not “customers of knowledge, where the university transfers ideas to then be applied; it is much more about a common journey”. Innovation projects lead to common innovation cultures in “innovation spaces or hubs” where different actors collaborate – often in the universities themselves.

Closer integration between research, education and innovation is key, he continued. “In the past, we had the idea [right or not] that a brilliant researcher gets a result through basic research, which then gets refined and moves up the ‘technology readiness levels’ until it becomes a marketable product.”

This is behind many performance indicators for universities “where you are supposed to make patents and contract research, where you solve a specific problem”.

However, companies form “strategic partnerships” with universities at a much earlier stage now, Jørgensen said. “They are looking for the disruptive ideas from curiosity-driven research as much as for the incremental move to apply what we already know better.

“We have the whole movement of citizen science where citizens are an active part from early on” as well as “the move towards more project-based learning where students take part in innovation activities from an early point in their studies.”

Economics is important too, Jørgensen added. The study emphasises that strong and well-resourced universities with low student to staff ratios make a difference for everyone.

As negotiations continue on future European Union (EU) funded projects for the next EU’s 2021-27 medium-term financial plan, the EU can also help by supporting multilateral consortia that link local ecosystems, he said.

### **EU’s role in supporting innovation**

Fabienne Gautier, innovation ecosystems unit head at the European Commission Directorate-General for Research and Innovation, agreed: “The EU has a huge role to play through funding, regulation or support to innovation ecosystems,” working to stop innovation barriers at national, regional and EU levels.

“We don’t lack innovation. What we lack is bringing science to innovation and bringing innovation to the market, and ensuring we attract the investors.”

She noted the European Innovation Council (EIC) – a planned €10 billion (US\$11.3 billion) project for 2021-27 – charged with fast-tracking “disruptive and market-creating innovation”, as an efficient way to bring national, regional and EU partners together to achieve well-functioning innovation ecosystems.

She said a current **EIC pilot**, testing the concept, is already supporting top-class innovators, entrepreneurs, small companies and researchers, offering €2.7 billion in funding to 5,000 small and medium-sized enterprises (SMEs) and innovators for 2018-20 (using existing EU budgets).

From April, the EIC’s pilot Pathfinder programme, covering the emergence of ideas to pre-commercial phase, will be open to funding proposals from universities.

Technical University of Munich President Dr Wolfgang Herrmann said the EIC and the interdisciplinary innovation it promotes were essential: “We need to bring together engineering, social sciences and humanities into future design, as topics become more complex.” Training a new generation of data scientists “how to handle massive amounts of data and learn from them” was one of the greatest challenges, he said.

### **Multidisciplinarity is key**

Jean-François Buggenhout, head of the flagships unit at another European Commission directorate-general – DG CONNECT (communications networks, content and technology) – agreed multidisciplinarity was key.

“All skills are needed, not just traditional ones,” he said – and the right infrastructure – “with public and private investment to enable data exchange.” Also, universities need enough ‘virtual space’ in gigabytes to cope with what could reach two petabytes’ data.

The report emphasised myriad ways universities collaborate with society to provide innovative solutions to current challenges – such as ‘fablabs’ (digital fabrication laboratories) and knowledge exchange forums.

For Aalto University President Ilkka Niemelä, it highlighted the need to “go out of the box”, achieve a “co-creative spirit” and widen educational scope.

“We have an ageing population with extended work careers. The idea that we just educate young people is no longer valid.”

Today’s students must be able to perform in a wider range of disciplines than in the past, with a problem-solving, entrepreneurial mindset, he said. This builds on the current trend of “stackable module degrees combining working and studying”, available “regardless of where you live” because of technology.

So, at Aalto, “we have opened up our campus to companies and our cities, bringing our partners together” to work on projects like its Design Factory, promoting entrepreneurial thinking and world-leading start-up conference Slush (21-22 November 2019).

Other universities’ projects include Eindhoven’s innovation space and Barcelona’s CARNET (Cooperative Automotive Research Network) – where the city is a “living lab and funding agency” and university a “research hub and technology provider”. All initiatives aim to close the gap between academic research and industrial innovation.

As Aalborg University, Denmark’s Innovation Director Dorte Stigaard said in a video presentation: “We need to jump out of silos and co-create with our surroundings using problem-based learning models.” Students and SMEs meet at Aalborg’s advisory board, “so problems are dealt with together”.

Finally, report author Reichert said the importance of universities – traditionally concentrating on scientific research – as trusted, impartial “key connectors of the dots” in innovation projects is not new. “Some nineteenth century universities were founded by citizens and industry to be on the foreground of innovation and this is coming back with intensity.”

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