

EU Research Trends - June 2016

This month you can read about Brexit and the potential consequences for European Science, Innovation Deals, The Three Os, Public private cyber security, Antimicrobial resistance and much more.

Trends

UK scientists face an uncertain future after Brexit

The UK's decision to leave the European Union has rattled the scientific community, amid fears that the British referendum could threaten funding for British research and collaboration across Europe.

In a referendum held Thursday 23 June, nearly 52 percent of British voters chose to leave the EU, while 48 percent voted to remain. The decision left financial markets reeling on Friday morning, and led Prime Minister David Cameron to announce that he will resign from his position in October. Brexit supporters have argued that the UK should leave the EU to free itself from regulations on its economy and immigration policies, while opponents have maintained that staying in the EU would be better for Britain's economy.

The British scientific community has overwhelmingly opposed Brexit. A *Nature* [poll](#) of nearly 2,000 scientists living in the UK conducted in March found that 83 percent supported remaining in the EU, while just 12 percent supported leaving the union. The main concern is about funding. The EU has budgeted an estimated 120 billion EUR to directly support research and innovation projects from 2014 to 2020, and Britain has been a major beneficiary. From 2007 to 2013, the UK contributed an estimated 5.4 billion EUR to EU research and development, according to the UK Office of National Statistics. During that period, it received 8.8 billion EUR in direct EU funding for research, development, and innovation. Brexit means UK researchers might lose access to that pool of money, including the Horizon 2020 programme. The UK is also a major player in international scientific research, accounting for a great part of the world's most highly cited articles. There are also concerns over restrictions on travel and immigration. More than a third of researchers at Cambridge are overseas nationals, and 23 percent are from other EU countries. Closing borders and implementing visa requirements could make it more difficult for British universities to attract talent, and more difficult for British researchers to participate in cross-border collaborations in Europe.

EU Research Commissioner Carlos Moedas attempted to quell the uncertainty, insisting on Tuesday 28 June that UK researchers remain eligible to apply for funding from the Horizon 2020 programme. "Until the end of the negotiations, UK remains a

member of the EU and therefore with all the rights and obligations, including in relation to research programmes like Horizon 2020,” Moedas said.

“From a legal point of view, the outcome of the referendum has not changed anything. The EU law continues to apply in full to the UK, and in the UK, until the moment it is no longer a Member State,” the Commissioner said.

Innovation Deals for a Circular Economy

The European Commission has launched a call for Expressions of Interest for the pilot phase of the Innovation Deals for a Circular Economy. Up to five Expressions of Interest will be selected and will become an Innovation Deal.

What is an Innovation Deal?

Speed holds the key to an innovative society. Innovation Deals will allow innovators to address legislative obstacles, shortening the time between moment of inspiration and market uptake. Innovation Deals take the form of voluntary cooperation between the EU, innovators, and national, regional and local authorities.

The main objective of an Innovation Deals is to get an in-depth understanding and clarification of how an EU rule or regulation applies. If a rule or regulation is confirmed as an obstacle to innovations that could bring wider societal benefits, the Deal will make it visible and feed into possible further action. The Deals will be an innovation in how the Commission works, helping to form a more modern and responsive administration in line with the Commission's [Better Regulation Agenda](#). The deadline to submit an expression of interest is 15 September 2016.

For more information about Innovation Deals, please follow this [link](#).

The Commission Communication "[Closing the loop - An EU action plan for the circular economy](#)" introduces the concept of innovation deals as *«a pilot approach to help innovators facing regulatory obstacles (e.g. ambiguous legal provisions), by setting up agreements with stakeholders and public authorities»*.

The Innovation Deals are also mentioned in the [Staff Working Document of the Better Regulations for innovation-driven investment at EU level](#).

The Innovation Deals are inspired by the "[Green Deal](#)" Programme of the Government of the Netherlands, where a large number of Green Deals are proving to be successful in supporting the national Green Growth policy by providing regulatory clarity for innovative solutions.

Competence frameworks: The European approach to teach and learn 21st century skills

On 10 June 2016, the Commission adopted a new and comprehensive Skills Agenda for Europe. The aim is to ensure that people develop a broad set of skills from early on in life and to make the most of Europe's human capital, which will ultimately boost employability, competitiveness and growth in Europe. Critical thinking, entrepreneurship, problem solving or digital competences are just some of the competences enshrined by the New Skills Agenda. These skills emerge today as key to allow people to develop good-quality jobs and fulfil their potential as confident, active citizens. But how can these new skills and competences be described and acquired? Education and employment authorities as well as companies and citizens from EU Member States can access specific tools to improve and streamline such skills as well as to open up further towards education. As documented in several recent JRC studies, open education is becoming increasingly important in Europe but is also facing a number of challenges.

More information

For more information on the European Skills Agenda, please follow this [link](#). Follow this [link](#) for more information on the JRC.

The Three Os: Open Innovation, Open Science and Open to the World

In the recognition that the way that science works is fundamentally changing and that an equally important transformation is taking place in how companies and societies innovate, the Commissioner Carlos Moedas has set three goals for EU research and innovation policy: Open Innovation, Open Science and Open to the World. These three goals were first discussed by Commissioner Moedas in June 2015, showing how research and innovation contribute across the political priorities of the European Commission. These goals do not represent a new policy initiative or funding programme as such, but a way to reinforce existing programmes such as Horizon 2020, and reinvigorate existing policies such as the European Research Area.

A new book published brings together some of the key conceptual insights behind the "Three Os" and highlights actions that are already taking place or are being prepared. It is hoped that the ideas and initiatives described in the book will stimulate anyone interested in European research and innovation.

For more information, please follow this [link](#) where you can also download the book.

Open Digital Science - Final study report

Open Digital Science (ODS) and Open Science describe new and open practices in science, research and innovation that make extensive use of digital technologies. The use of digital technologies facilitates openness regarding data, methods, results,

actors or publications with an emphasis on scalability of the approach in terms of data, access or computation.

The impact of Open Science practices is most evident in scientific publication (Open Access). A new generation of researchers uses digital tools in practically all steps of the scientific workflow, from research funding to critical discourse. This has led to concepts such as Citizen Science, Open Innovation, Open Methodology and Open Notebook Science, for which good practice examples are described. New ways of assessing scientific merit (altmetrics) and of funding (e.g. crowd sourcing) are also emerging. Six futuristic scenarios developed in this study depict potential impact of new open science practices. The study concludes with a set of indicators to measure open science implementation and to create an Open Science Observatory. Read the full report [here](#).

5 million EUR in Horizon Prizes to help create clean engines

The European Commission has launched two Horizon prizes to identify breakthrough ideas that could drastically reduce air pollution caused by transport.

A 3.5 million EUR [Horizon Prize for the Cleanest Engine of the Future](#) and a 1.5 million EUR [Horizon Prize for the Engine Retrofit for Clean Air](#), funded by the EU's research programme Horizon 2020, will be awarded to the individuals or teams with the most effective solutions to the defined challenges.

Applications are open until 12 September 2017 for the Horizon Prize for the Engine Retrofit for Clean air, and until 20 August 2019 for Horizon Prize for the Cleanest Engine of the Future. Applicants from all fields, whether they are established researchers or innovative newcomers, are encouraged to apply for these prizes. Applicants have total freedom in the approach they take to deliver the breakthrough solution. The rules of contest of both prizes are available online at the dedicated [Horizon Prizes website](#).

For more information, please follow this [link](#).

Public private cyber security partnership in pipeline

The European Commission is gearing up to launch a public private partnership to strengthen digital security in Europe. This cooperation is expected to be presented over the next few weeks and will be signed by the European Commission and representatives from the industry on 5 July 2016 in Strasbourg. This initiative is one of 16 digital market strategy initiatives. The objective is to strengthen European strategic autonomy in the context of the digital security industry and put an end to the current fragmentation in this area. The Commission is expected to earmark hundreds of millions of euro as part of the Horizon 2020 programme and the industry is expected to make a commitment on the same scale. According to European

Commission figures, the global market in cyber security related products was worth around US 65.9 billion USD in 2013 (with the European market accounting for 17 % of this) and is expected to reach a figure of around 80-120 billion USD in 2018. The European market is currently dominated by a small group of global providers competing with a larger number of smaller European providers mainly at national and regional levels. In this context, the Commission is seeking to present a cyber security package. The package is likely to be based on a general communication and decision establishing a public-private partnership as a flagship measure for the initiative. The Communication will support European cooperation, particularly by way of a European certificate system. The partnership will be open to all interested and eligible parties: businesses (including SMEs), universities, research bodies, including foreign companies with research and innovation facilities based in the EU. This initiative completes the public private partnerships that have already been set up as part of Horizon 2020, particularly those on photonics, robotics, high-performance calculations, advanced 5G networks for the Internet and factories of the future. For more information, please follow this [link](#).

Does mobility boost early scientific careers?

The forthcoming [Annual Ceremony](#) of the [Graduate Campus for junior researchers](#) at the University of Zurich, Switzerland, in October 2016, will be focused on researchers' mobility. "It is still a taboo to question the importance of mobility in science and we want to change that," says event organiser Birte Lembke-Ibold. In reality, the need for mobility may not be as high as previously, as it is not as tricky as before for young researchers to have international exposure. "Young people gain international experiences in the course of pupil or student exchange programs today," Lembke-Ibold adds, "and there are many opportunities to gain international experiences at their home universities."

Read the full interview with Birte Lembke-Ibold in EuroScientist [here](#).

The EU Joint Research Centre and the US-based International Food Policy Research Institute (IFPRI) join efforts on food security and nutrition for vulnerable communities

The JRC and IFPRI have signed a collaborative research arrangement on building up the resilience of vulnerable and poor populations, and improving the livelihood of smallholder farmers in developing countries. The cooperation will also include the analysis of agriculture-related subsidies and policy implications. The JRC and the IFPRI will work together on the development of innovative and cost-effective approaches and will explore possible research projects to improve the analysis of food security, nutrition, and resilience of smallholder farmers.

The cooperation reflects the JRC's activities to address the challenges to ensure global food availability, including support to the mainly prevalent small-scale mixed crop/livestock farming systems and facilitating access to innovation for farmers. You can read more [here](#).

Upgraded research facilities to support nuclear safety and security in the EU and beyond

On 8 June 2016, Tibor Navracsics, Commissioner for Education, Culture, Youth and Sport and responsible for the Joint Research Centre, along with Günther Oettinger, Commissioner for Digital Economy and Society took part in the ground-breaking ceremony of a new laboratory building at the JRC site in Karlsruhe, Germany.

In view of the considerable evolution of radio-protection and security regulations over the last 50 years, the JRC in Karlsruhe is renovating and upgrading its infrastructure to improve further the safety and security of its installations and ensure that it remains a state-of-the-art facility.

For more than 50 years, the JRC has been providing scientific support to the European Commission in order to fulfil obligations set up by the EURATOM Treaty in the areas of nuclear research, training and education. The JRC Karlsruhe site plays a key role in the making of EU policies on nuclear waste management and the safety of nuclear installations, as well as nuclear safeguards and security. It provides the expertise and access to the necessary special handling facilities for the study of the actinide elements and radioactive waste treatment and disposal, as well as for the advancement of science in general. Another key role is in the study and production of radionuclides for medical applications, such as the treatment of cancer.

The JRC has developed a Training Centre for Nuclear Safeguards and Security as well as training programmes for nuclear fuel cycle, decommissioning and waste management, radiation effects in materials and basic science. These activities are in line with the objectives of the New Skills Agenda, one of the top priority initiatives of the Commission, which aims at promoting skills development, including the mutual recognition of qualifications, and supports vocational training and higher education. For more information, please follow this [link](#).

Antimicrobial resistance

Antimicrobial resistance (AMR) poses a major risk to human health and with an estimated 25.000 deaths in the EU each year as well as costs to the health systems of approximately 1.5 billion EUR caused by resisted diseases AMR remains high on the EU agenda. The interface between veterinary medicines and human medicines looks to hold the solution for addressing this challenge and on the Council meeting on 17th June, it was agreed that the EU is to continue its ambitious work on AMR and that a new so-called One Health Network where Member States will be able to coordinate

and inform about their national AMR action plans will be established. This network will also be instrumental in sharpening the future EU actions in the fight against AMR as the current EU action plan (2011-2016) is to be succeeded by further EU action. In the recognition that the solution to the AMR challenge lies in the interface of not only veterinary and human medicines but also of a multitude of stakeholders, DG SANTE has launched an NGO award for showcasing successful NGO efforts in the combat against AMR.

You can read more about the award [here](#).

Read more about the existing action plan [here](#).

For more information on the Council conclusions on the next steps under a One Health approach to combat antimicrobial resistance, please follow this [link](#).

EUROGIA2020 Call 07: Get your best ideas funded

EUROGIA2020, the EUREKA Cluster for low carbon energy technologies, launched its latest call in June 2016. Each call has two-step project submission process, through which project proposals are assessed and receive recommendations from EUROGIA Technical Committee. Proposals successfully completing the two-step process receive EUROGIA label and finally seek for public funds in EUREKA Member and Associated Countries.

EUROGIA2020 has an excellent track record of promoting transnational low carbon energy technology projects. The next cut-off dates are September 16 and November 18 2016.

For more information, please follow this [link](#).

Events

European Innovation Council Call for Ideas: what was said, and where we could go from here, 13 July 2016

From 16 February to 29 April 2016, the European Commission's Directorate-General for Research and Innovation ran a call for ideas to gather stakeholders' views on disruptive, market-creating innovation, gaps in the current innovation support landscape, and the potential remit of a European Innovation Council (EIC). A total of 1022 replies and 183 supporting documents and position papers were received. You can now participate in a workshop on 13 July to discuss the results of the call for ideas, a summary of which will be published in June 2016, and potential changes to be introduced in Horizon 2020. Your input will help to shape potential Commission initiatives to further boost innovation in Europe.

Further information

[Registration](#)

[Draft agenda](#)

Triple-Helix Conference on Biobased Economy, 19-20 July 2016

The “Triple-Helix Conference on Biobased Economy” is one of the major events of the FP7 funded Danube-INCO.NET project. Its main objective is to support the university-business-government cooperation (triple-helix model) to enhance the establishment and development of biobased economy partnerships in the target countries, tackling societal challenges in the field of food security, sustainable agriculture and forestry, water research, biobased economy and bioenergy.

The conference will include a plenary round table and three parallel sessions (on food, materials and environmental technologies and energy) during the first day, while a brokerage event to facilitate matchmaking between researchers, industry and government will be organised in the morning of day 2. Back to back with the conference, the Danube-INCO.NET 4th Clustering Workshop will be held, aiming at the formation of new macro-regional partnerships towards the development of biobased economy, with particular focus on linking challenge-oriented research, innovation networks, industry and government.

Further information

For more information and agenda, please follow this [link](#).

You can register for the event [here](#).

Young Scientists Conference 2016

As part of the plan to promote excellent science and engage also young scientists, DG Research and Innovation is again on 15th to 20th September 2018 organising the 28th conference the [European Union Contest for Young Scientists](#).

A full list of the country organisers can be found [here](#).

ICT Proposers' day 26-27 September 2016

ICT Proposers' day is a networking event promoting European ICT Research & Innovation and focusing on the Horizon 2020 Work Programme for 2016-17.

Registration is now open for this event.

Read more [here](#).

Workshop: 'Cross-cutting Key Enabling Technologies for Health', 13-14 September 2016

The combination of various technologies in groups, commonly known as “Key Enabling Technologies (KETs)”, is deemed to be of highest benefit to innovation fields in health. What is the European Commission doing today to accelerate the development and make use of these advanced technologies and integrated systems, enabling new

solutions for health? What shall it do in the future? What role can Horizon 2020 play? What are the opportunities for researchers and other actors in the field? These and other questions will be discussed at the two-day workshop in Oudergem, Brussels 13-14 September 2016.

For more information and registration, please follow this [link](#).

Comments or questions should be directed to [Rikke Edsjö](#).