STOA Newsletter

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European Parliament

SCIENCE AND TECHNOLOGY OPTIONS ASSESSMENT

INSIDE THIS ISSUE

News | MEPs to welcome scientists again in 2016

STOA will host, on 8 November 2016, the second 'Science meets Parliaments' event, in cooperation with the European Commission's Joint Research Centre (JRC). This annual event aims at promoting evidence-based policy-making and enables open and direct communication between MEPs and scientists, so that they can better understand each other's needs and the challenges they face.

This year's event will also see the launch of the 5th round of STOA's MEP-Scientist Pairing Scheme, led by the First STOA Vice-Chair Eva Kaili. Last year, the event brought together over 150 participants, including 31 MEP-Scientist pairs, to discuss pressing issues facing policy-makers and scientists, such as the circular economy, resource efficiency, Digital Single Market and Industry 4.0.

As in previous rounds of the Pairing Scheme organised by STOA, the scientists were given the opportunity to better understand the work of the EP by shadowing MEPs in their daily parliamentary activities. Some MEPs followed-up with visits to see their paired scientists at work. These exchanges are essential for the two sides to find out how they can profit from each other's knowledge and experience and establish lasting links to mutual benefit.

Visit | STOA in Washington D.C. and Silicon Valley

A delegation of five members of the STOA Panel led by Paul Rübig, STOA Chair, and Eva Kaili, First STOA Vice-Chair, visited Washington, D.C., and Silicon Valley from 16 to 20 May 2016. The other delegation members were Danuta Jazłowiecka, Momchil Nekov and Claudia Schmidt.

In Washington, D.C., the delegation held meetings with the Chair of the Senate Subcommittee on Europe and Regional Security Cooperation, the Director and staff of the Congressional Research Service (CRS), the Assistant Secretary of International Affairs at the Department of Energy and the CEO of the American Association for the Advancement of Science (AAAS), as well as the US Comptroller General and high-ranking staff of the Government Accountability Office (GAO). It also attended a lunchtime debate at the Atlantic Council.

In Silicon Valley, the delegation visited a selection of academic institutions, global high-tech companies and startup accelerators, including Google, the US-Polish Trade Council, the Product Realization Lab and the Nanoscale Prototyping Laboratory at Stanford University, the German Accelerator and Intel. It also attended a lunchtime discussion on blockchain technologies at Stanford and a dinner debate organised by Allied for Startups in San Francisco.

The visit gave Members the opportunity to establish links with instrumental actors of the US S&T policy-making community, in view of exchanging best practices, planning collaborations or attending future conferences, as well as to learn about the strategic thinking of major corporations, but also about the efforts of European companies to enter the US and global markets and the linking of fundamental research to applications and uptake by industry.

Study | Ethics of robots and artificial intelligence

Cyber-physical systems (CPS) are technical systems of networked computers, robots and artificial intelligence that interact with the physical world. In order to support the MEPs in their anticipation of possible future concerns regarding developments in CPS, robotics and artificial intelligence, a foresight study entitled 'Ethical aspects of CPS' has been carried out for the STOA Panel.

The starting point of the study was the recognition that we live in a technological culture, where technology and science are deeply integrated in the structures of our society, having a direct impact on areas such as communication and mobility, but also on less obvious aspects of our lives, such as norms, values and identity. CPS are designed, in general, to make our lives 'easier'. However, technologies may have unintended and unwanted impacts. Thus, autonomous cars promise greater safety of drivers and pedestrians. But, who is to be held responsible for possible damages and security failures when your child is driven to school alone?

As an introduction to this topic, a short video clip presents the main trends and possible impacts of CPS. Further, a policy briefing summarising the study outcomes is available in order to help the parliamentary committees in preparing their feedback to the draft report on civil law rules in connection with robotics and artificial intelligence, drawn up by Mady Delvaux, MEP and STOA Panel member.

The study was conducted in parallel with the work of the Working Group on legal questions related to the development of Robotics of the EP's Committee on Legal Affairs (JURI), to provide evidence for the Working Group's examination of future needs for civil law rules in connection with robotics and artificial intelligence.

Event | How tiny things can change our lives

A STOA workshop, chaired by STOA Chair Paul Rübig on 6 April 2016, examined key advances in quantum technologies and looked into upcoming research challenges.

The EU has invested €500 million in quantum technologies research in the last two decades

Over the past 15 years the EU has supported research in quantum technologies. Many devices in our everyday lives are already based on quantum physics. Quantum technologies provide new methods of computation algorithms and can create enhanced simulation capabilities, but also form the basis for producing incredibly sensitive and accurate clocks and sensors. They can also pave the way for more secure communications through potentially 'unbreakable' cryptography.

Opening the event, Henk Kamp, Dutch Minister for Economic Affairs, explained that quantum technologies could help solve some of the key issues Europe faces today. Professor Alain Aspect, from the Institut d'Optique Graduate School (France), outlined in a keynote speech that we are now in the middle of the second quantum revolution, one which holds many promises for the future, such as revolutions in information and processing, and the deployment of new technologies.

Paolo Bianco, from Airbus, highlighted the opportunities quantum technologies bring to industry, notably in relation to new materials, quantum sensors and navigation. Quantum technology will be a game changer for computational power, secure internet and energy savings, noted Professor Leo Kouwenhoven, from QuTech.

The panelists agreed that time is essential and Europe needs to act now in order to benefit from these technologies. Cora Van Nieuwenhuizen, MEP and STOA Panel member, urged politicians to keep a close eye on developments, which would help them to understand and support the process. First STOA Vice-Chair Eva Kaili concluded that comprehensive European synergy in quantum research and innovation was needed for genuine advancement in the field.

Event | Adapting to the changing world through science, technology and innovation

The Science and Technology in Society (STS) *forum*, established in 2003, is a platform for high-level discussions on new challenges and opportunities arising from modern S&T developments and how to use them to solve the problems facing humankind. Since the early days of the STS *forum*, STOA delegations have attended its annual meetings in Japan. On 4 May 2016 STOA welcomed the STS *forum* representatives in the EP. STOA Chair Paul Rübig hosted the conference.

The event aimed at strengthening the cooperation between the STS *forum* and the EU, in the face of the common challenges confronting our societies and the capacity of S&T and innovation to provide answers for successfully tackling them. The programme featured many distinguished political, industrial and academic leaders, including: Koji Omi, STS *forum* Founder and Chairman, Henrik Wegener, Chair of the European Commission's (EC's) Science Advice Mechanism High-Level Group, Ismail Serageldin, Director of the Library of Alexandria, Jean-Pierre Bourguignon, President of the European Research Council, Martin Kern, Interim Director of the European Institute of Innovation & Technology (EIT), Kay Swinburne, MEP and STOA Panel member, and representatives of the Japanese government and industry, and of European industry and the EC's DG RTD.

In his statement, Mr Rübig said: "EU-Japan relations have developed steadily over the past two decades. Japan is a global leader in S&T and is in many ways one of Europe's closest partners on the international arena. Strengthened EU-Japan cooperation in research and innovation could increase the impact of research, promote growth and innovation, and strengthen the capacity to tackle societal challenges and support competitiveness on the global arena."

Event | How to better manage waste in Europe?

Dissemination of good practices and learning from each other across sectors and countries is key for reaching the targets set for 2030

On 15 June 2016 STOA hosted a workshop to examine where we stand with waste management in Europe and the ways for going forward in the transition to a Circular Economy. It was chaired by Eva Kaili, First STOA Vice Chair.

Some sectors actively seek practices supporting the creation of value from waste. For example, participants learnt that high recovery rates (90%) in the Belgian construction and demolition sector were achieved through R&D, innovation and demonstration projects, creation of standards to ensure high quality of recyclates, a 'whole chain management' concept starting from demolition, and the creation of a legal framework driving the re-use of recyclates.

According to the Dutch experience, the following can support value creation from bio-waste: differentiation in waste treatment accounting (i.e. listing not only treatment of waste, but also expected product categories), preservation of the chemical functional complexity of molecules present in waste, creating roadmaps, R&D programmes and scaling-up assessments.

It emerged that a mix of push and pull measures is necessary to achieve the 2030 waste management targets. The speakers called for effective at-source waste segregation and limiting landfilling for all waste types, not only municipal, which accounts for a small share of total waste. Other measures include introducing a cap on residual waste, and EU-wide objectives and targets on specific waste types and streams, exchanging best practices and best available techniques, and creation of a market for secondary raw materials. Recycling and incineration can work hand in hand if residual waste is incinerated instead of landfilled.

STOA (Science and Technology Options Assessment), as an integral part of the European Parliament's structure, has the task to carry out expert, independent assessments of the impact of new technologies and identify long-term, strategic policy options useful to the Parliament's committees in their policy-making role.

STOA Panel

The STOA Panel is composed of 24 MEPs, including the EP Vice-President responsible for STOA and 23 MEPs appointed by eight parliamentary committees. With the input of committees and individual Members, the STOA Panel, on the recommendation of its Bureau, decides on projects and other activities in this field. Each STOA project is overseen by one or more Panel members.

STOA Panel

The STOA Panel includes Members from the following committees:
Industry, Research and Energy (ITRE): six Members
Agriculture and Rural Development (AGRI): three Members
Employment and Social Affairs (EMPL): three Members
Environment, Public Health & Food Safety (ENVI): three Members
Internal Market and Consumer Protection (IMCO): three Members
Transport and Tourism (TRAN): three Members
Culture and Education (CULT): one Member
Legal Affairs (JURI): one Member

STOA Bureau

The STOA Bureau is comprised of four Members:
Mairead McGuinness, EP Vice-President responsible for STOA
Paul Rübig, STOA Chair
Eva Kaili, 1st STOA Vice-Chair
Evžen Tošenovský, 2nd STOA Vice-Chair.

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