STOA Newsletter

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European Parliament

SCIENCE AND TECHNOLOGY OPTIONS ASSESSMENT

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Study | Turning waste into a resource

The recently published STOA study on waste management and circular economy focuses on the current policy landscape and technologies for five sectors: municipal, food and packaging waste, bio-waste, and critical raw materials.

Around two-thirds of EU Member States have reduced their levels of municipal waste generation per person over the last decade. However, Member States with higher GDP produce significantly more waste per capita than those with lower GDP, and many Member States still landfill or incinerate a large share of their municipal waste. There is large potential for scaling-up waste prevention. For instance, household food waste accounts for around 11% of municipal waste and as such is a key area for policy action to promote prevention.

Waste from electrical and electronic equipment, which contains precious metals and critical raw materials, is one of the fastest growing waste streams in the EU. As such, it is key for expanding circular economy principles focused on value recovery. Recycling has so far concentrated on specific materials, including metals, in what is known as a material-centric approach. Future efforts may use a product-centric approach focused on the specific components of a product and ways to separate and recover them. Finally, an economy which prioritises repair, re-use, remanufacturing and recycling of materials is more labour-intensive than one based on a disposal philosophy, leading to increased job opportunities in the former, also for disadvantaged workers.

Visit | STOA at the STS *forum*

The 14th Annual Meeting of the STS (Science and Technology in Society) *forum*, held in Kyoto, Japan, from 1 to 3 October 2017 was attended by some 1400 delegates from nearly 80 countries, regions and international organisations. The Prime Minister of Japan, Shinzo Abe, opened the forum. Participants included Chief Executive Officers (CEOs), Chief Technology Officers (CTOs) and heads of research of prominent global companies, heads of scientific foundations, young business and academic leaders, and 15 Nobel laureates.

Paul Rübig chairing the 'New Transportation and Mobility Systems' session

Apart from the plenary sessions, 30 concurrent sessions took place over two days. First STOA Vice Chair Paul Rübig chaired the session on 'New Transportation and Mobility Systems' and was also a speaker in the 8th EU-Japan Science Policy Forum on 'Evidence Based STI Policy' on 30 September 2017, the day before the main event. He also took part in a number of trilateral and bilateral meetings. The participation enabled STOA to enhance and renew contacts with a wide range of personalities from the science and technology network worldwide.

The STS *forum* Statement recalls that international cooperation in science and technology, between different scientific communities and countries, is essential for development and that, in order to produce beneficial cross-border solutions, science diplomacy ought to include the active participation of researchers, engineers and business leaders. It also stresses that, to enhance open innovation, collaboration between academia, business and government is required.

Event | New technologies and regional policy

This STOA workshop gathered speakers from four European institutions, national and regional governments, and experts in the field, to explain how European investments in Information and Communication Technologies (ICT) and science and technology parks can foster local economies and create innovation and growth. The event aimed at contributing to the debate on the next cohesion policy framework.

Ramón Luis Valcárcel Siso, EP Vice-President, with Mikel Irujo Amezaga (left) and Antonio Longo (right)

Ramón Luis Valcárcel Siso, EP Vice-President responsible for STOA, opened the event, followed by Mikel Irujo Amezaga (Committee of the Regions) and Antonio Longo (European Economic and Social Committee). Constanze Krehl and Lambert van Nistelrooij, from the EP's REGI Committee, chaired the two sessions of the workshop, which was closed by Georgi Pirinski, REGI and STOA Panel member.

The first session provided policy perspectives from the European Commission: Marek Przeor (DG REGIO) explained the role of cohesion policy in encouraging innovation and industrial transition; Magda De Carli (DG R&I) tackled the European research policy and its relation to cohesion policy; Dana Eleftheriadou (DG GROW) focused on industrial policy and investments for growth; and Anne-Marie Sassen (DG CNECT) spoke about the role of Digital Innovation Hubs in supporting the digital transformation of industry in all European regions. The session ended with a comparative expert perspective on science and technology parks by André Domin.

The second session had the format of an open debate, with the participation of five EU regions, as institutional beneficiaries of cohesion policy, and a Member State. Representatives of the EU institutions and the audience actively discussed policy options concerning the implementation, impact on growth and smart specialisation strategies in relation to ICT and science and technology parks.

Event | Should we fear the future?

The STOA workshop 'Should we fear the future? Is it rational to be optimistic about artificial intelligence?' opened with a keynote lecture from Steven Pinker (Harvard University), in which the experimental psychologist claimed that humanity is making progress and that we have every reason to be optimistic about the future in general. The workshop was chaired by Eva Kaili, STOA Chair, while María Teresa Giménez Barbat, STOA Panel member, gave closing remarks.

Eva Kaili, STOA Chair, with Steven Pinker, the keynote speaker

The keynote was followed by a panel of experts from different disciplines speaking about the future of artificial intelligence (AI). Peter J. Bentley (University College London), a computer scientist, argued that AI is good at specific tasks, but does not - and will never - have the general intelligence required to pose significant threats to humanity. Miles Brundage (University of Oxford), a policy researcher, highlighted that AI could have significant impacts on our lives and argued that we should think carefully about how we manage its development. Olle Häggström (Chalmers University), a statistician, argued that the chances of significant negative impacts may be small and little understood, but their gravity demands that we take them seriously. Finally, philosopher Thomas Metzinger (Johannes Gutenberg University of Mainz), reframed the debate in terms of rational risk management, arguing for international cooperation and a global code of ethics, so that AI development can be fostered in a responsible way and controversial research - such as on the development of artificial consciousness - is not pushed to marginal countries.

While we cannot predict how AI will develop in the future, we are likely to encounter many challenges and opportunities. If there were a single rational position on the future of AI, it would certainly be more nuanced than unbridled optimism or crippling fear. Until we know more about the impacts of AI and our capacity to respond to them, it will remain important to create spaces where we can observe, reflect upon and debate the issues and, where necessary, prepare appropriate responses.

Event | Annual Lecture: Media in the age of AI

STOA Chair Eva Kaili with Commissioner Carlos Moedas (left) and the keynote speaker Nello Cristianini (right)

This year's STOA Annual Lecture focussed upon how media and other information is managed and distributed in the age of AI, including how AI can be used to disseminate information and misinformation, and also in implementing new measures to counteract fake news. The Lecture marked the 30th anniversary of STOA, and was dedicated to the memory of the inaugural STOA Chair Rolf Linkohr (1941 - 2017). The event was chaired by Eva Kaili, STOA Chair, with key contributions from Ramón Luis Valcárcel Siso, EP Vice-President responsible for STOA, Carlos Moedas, European Commissioner for Research, Science and Innovation, and Paul Rübig, STOA First Vice-Chair.

The keynote lecture was given by Nello Cristianini (University of Bristol), who guided the audience through the history of AI to its current potential and challenges. He recognised the potential of forthcoming legislation, including the General Data Protection Regulation. He called for imaginative implementation to ensure that we can really benefit from the measures. This set the scene for a panel discussion, moderated by David Wheeldon (Sky) and including Michail Bletsas (MIT Media Lab), Michiel Kolman (Elsevier and International Publishers Association) Andeas Vlachos (University of Sheffield), Jon Steinberg (Google) Richard Allan (Facebook) and a case study on 'algorithms in action' presented by Yannis Kliafas (Athens Technology Center) and Wilfried Runde (Deutsche Welle).

The presentations inspired many interesting questions and comments from the public, notably about how technical action and media literacy might be mobilised to counteract fake news, and how we can raise funds to cover the costs associated with making 'true news'.

Event | MEPs' annual rendez-vous with scientists

From left to right: STOA First Vice-Chair Paul Rübig, Commissioner Tibor Navracsics, EP Vice-President Lívia Járóka, JRC Director-General Vladimír Šucha, and STOA Chair Eva Kaili.

The sixth round of STOA's MEP-Scientist Pairing Scheme kicked off with the 'Science meets Parliaments' event, co-organised with the European Commission's Joint Research Centre (JRC) on 28 November 2017. The event brought together individuals from across the European institutions, Member States and scientific disciplines, with a single goal: establishing an understanding on the role of science in a post-fact society.

EP Vice-President Lívia Járóka opened the packed event and welcomed the participants. She stressed how the contribution that scientists make every day is vital for the parliamentarians' work, arguing that "without your input, some of the work would be based on empty words which wouldn't be followed up upon".

There was general agreement on what was first stated by Paul Rübig, STOA First Vice-Chair, and was later reinforced by other speakers: scientists and policy-makers have to become better communicators, both with each other and towards the citizens, in order to combat effectively the dissemination of fake information. Vladimír Šucha, JRC Director-General, advocated the integration of more scientific reports and articles into policy-making, whilst stressing that policies should reflect facts as much as values and political views. Other keynote speakers included Tibor Navracsics, Commissioner for Education, Culture, Youth and Sport, responsible for the JRC, Rolf-Dieter Heuer, Chairman of the European Commission's Scientific Advice Mechanism High-Level Group, and Markku Markkula, First Vice-President of the Committee of the Regions.

Eva Kaili, STOA Chair, expressed her appreciation for the support that scientists continuously offer both to the EU's policy-making and implementation efforts, and to the citizens, with the accurate and accessible information they provide.

The Pairing Scheme continued until 30 November 2017, with 18 MEP-Scientist pairs working together to identify areas where their knowledge and experiences can be combined to gain insights for better policy-making.

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

STOA Panel

The STOA Panel is composed of 25 Members of the European Parliament, including the EP Vice-President responsible for STOA and 24 MEPs appointed by nine 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 the field of science and technology. 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
Civil Liberties, Justice and Home Affairs (LIBE): one Member

STOA Bureau

The STOA Bureau is comprised of four Members:
Ramón Luis VALCÁRCEL SISO, EP Vice-President responsible for STOA
Eva Kaili, STOA Chair
Paul Rübig, STOA First Vice-Chair
Evžen Tošenovský, STOA Second Vice-Chair.

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