

Latest developments of PTA in the EPTA member countries

National reports

Directors' Meeting Angers, France (12th & 13th May, 2025)

SUMMARY

AUSTRIA	3
CATALONIA	6
DENMARK	8
EUROPEAN PARLIAMENT	
FRANCE	13
GERMANY	15
GREECE	
JAPAN	20
LITHUANIA	
NETHERLANDS	24
NORWAY	27
POLAND	
PORTUGAL	
SPAIN	
SWEDEN	
SWITZERLAND	40
UNITED KINGDOM	44
USA	46
WALLONIA	49



AUSTRIA

Name of the PTA unit + Name of respondent

Institute of Technology Assessment (ITA) of the Austrian Academy of Sciences (Michael Nentwich)

Institutional developments

The ITA is currently experiencing significant staff changes. In 2024, the former deputy head, Walter Peissl, retired, and the new deputy, Karen Kastenhofer, took office. One more staff member retired, three went on to new jobs, and we hired three new experts (nanotechnologies, economics).

General elections took place in autumn, resulting in a new distribution of seats in the Austrian Parliament; there are also partly new members of our so-called FTA Advisory Board, consisting of representatives of all five parties in the current Parliament. We are currently establishing new working relations with them. This is particularly necessary as the Board needs to recommend renewing our framework contract with Parliament in the summer.

Finished projects

- Generative AI and Democracy was the topic of our latest study on behalf of the Austrian Parliament. We analysed the chances for the political sphere and the risks for the democratic discourse of the new AI tools. We focused particularly on disinformation, deepfakes, digital sovereignty, and cybersecurity. Our recommendations, delivered in January 2025, include establishing a committee of inquiry on the future use of generative AI in politics, a nationwide citizen forum on democracy, and building a European-wide platform for political debates with publicly financed or supported fact-checking mechanisms.
- With partners led by ISI Fraunhofer, we carried out a study for STOA aimed to illuminate the role of research and innovation in ensuring a **safe and sustainable supply of critical raw materials**. We provided background information on related EU policies, sustainability issues, and public controversy, tying all these to their respective R&I needs. The study concluded by presenting eleven policy options on EU institutional and R&I capacities, international collaboration, and legitimacy and regulation, assessing each against a list of dimensions (e.g., costs, benefits, and feasibility).
- The "Critical AI Literacy" project investigated how AI-based technologies affect knowledge work practices. The results show that AI can complement knowledge work by easing routine tasks and fostering agency. However, making practical use of AI with added value requires more than just technical skills: more knowledge is needed on the peculiarities of AI-based automation and the practical use and limitations in specific application contexts. In contrast to common narratives, AI does not automatically lead to more efficiency and cannot produce new knowledge but is often prone to errors (e.g. "lost-in-the-middle") and thus also implies more workload for maintaining data and ensuring process quality. The project gained high public interest: among the various dissemination activities, parts of the project were also presented to a wider audience during an event of the Austrian UNESCO Commission.
- Our project "**Privacy 3.0 Consumers in the Digital Sphere**" for the Austrian Chamber of Labour examined the altered roles and actualities of consumers' lives caused by digitalisation processes, new technologies or cultural practices. In the digital economy, consumers buy products, pay for

services, and provide massive data about themselves and their way of living. These data are raw materials, currency, and products collected, processed, and traded amongst interested parties – often without consumers' knowledge. At the same time, they are said to have given informed consent to this practice. The results show that the reasons for the EU coming up with this bundle of regulations might stem from consumer protection and civil rights, but not solely. The report ends with recommendations to increase the impact of the regulatory path and highlight any shortcomings.

• Science and technology have become central to political debates in many contemporary crises. During the pandemic, science scepticism has become a buzzword. It refers to the phenomenon of denying proven scientific findings in order to defend a particular policy. Recent studies show that science scepticism is not an isolated phenomenon but is closely linked to trust in other institutions. Technology and democracy are at the forefront of this. The project "**Trust in Science, Technology, and Democracy**" focused on institutional confidence and examined the links between trust in science, technology and democracy. On the one hand, it addressed the question of which representations of science and technology scepticism are directed against in the first place and which values or socio-technical imaginaries are involved. On the other hand, it examined how trust in science is linked to the acceptance of democratic politics. The background is the assumption that the transparent organisation of the interface between science and politics is important for institutional confidence.

Impacts

- ITA experts were again asked to give oral input to the policy processes, notably by the Austrian Court of Audit, the Federal Audit Office Germany, the Salzburg Chamber of Labour, and the Austrian and European Parliaments.
- The federal ministries responsible for technology, health, chemistry, and consumer protection again decided to extend our NanoTrust project by advising the ministries to formulate nano policies.
- ITA experts are invited to high-ranking advisory bodies, such as the Open Science Austria network, the Austrian Gentechnology Commission, the Advisory Board on Ethics of Artificial Intelligence of the Austrian UNESCO Commission, the AI Advisory Board of the Austrian Government, the Nano Information Commission, the EASAC Energy Steering Panel, or the German Federal Institute for Risk Assessment.

Public engagement

The EU-funded project ToNoWaste assesses the impact of food waste on Europe and explores solutions to **reduce food waste**. The work package led by the ITA aims to engage more food system actors in the mindset and behavioural shift with open access to demonstrative actions in pilots. Among others, the ITA has organised a special workshop in Valencia attended by many young people.

Ongoing projects

- **Biodigitisation at the Museum** analyses various digital approaches that are revolutionising our natural history museums, our view of the animate and inanimate natural world, and our scientific possibilities.
- **NanoTrust-Beyond** continues the assessment of the chances and risks of nanotechnologies and advanced materials.
- Heated Outdoor Seating focuses on the impacts of the spread of outdoor heating in restaurants in Vienna.
- **FTA-Monitoring** of socio-economic developments of potential interest to the Austrian Parliament continues in a 6-month rhythm.
- Automating Welfare investigates the extensive implementation of automated decision-making (ADM) in the welfare sector.

Plans for the future

The ITA will host 3-5 June 2025, a major and fully hybrid TA conference in Vienna on "**Global TA**". The programme includes several panels, workshops, a keynote (by an EPTA member, Raimundo Roberts from Chile) and 24 sessions. Paper presenters will come from all continents, even from Oceania.



CATALONIA

Name of the PTA unit + Name of respondent

Advisory Board of the Parliament of Catalonia for Science and Technology (Consell Assessor del Parlament sobre Ciència i Tecnologia, CAPCIT) – Clara Marsan-Raventós

Institutional developments

After eighteen years of service, CAPCIT is undergoing an in-depth reform. During 2025, it is expected to have a renewal of its structure, functioning and thus of its norms.

The most relevant change in terms of staffing and budget is the fact that for the first time CAPCIT will recruit scientists (in-house scientists). It is expected to start in the framework of a 3-4 year pilot programme in which two scientists will accompany the work of the secretariat and the work with the MPs members of CAPCIT.

Due to these changes, during 2025 CAPCIT has stopped its scientific production in order to avoid the duplicity of costs while working with two different structures in parallel. Thus, once the new structure is in place, CAPCIT will resume activity with the new staff and procedures.

Finished projects

• AI: challenges and opportunities for parliament and public authorities (to be published and presented at CAPCIT's session of 19/5/2025)

(NB: Scientific research is on hold. See "Institutional developments")

Impacts

• Creation of a group of civil servants that studies the uses of AI within Parliament.

Public engagement

- 7/11/2025: citizens are invited to the Parliament to different events on science and technology. A part of the event will be devoted to the relationship between Parliament and citizens in the area of science and technology.
- 11/2/2026: In the framework of Science and women, CAPCIT is organising a series of meetings between the scientific community and the legislative.

Ongoing projects

• *Date tbc:* Conference on "circular economy" with local, regional and national legislators and scientists of the field.

(NB: Scientific research is on hold. See "Institutional developments")

Plans for the future

Following the study on CAPCIT's statutes to introduce the necessary changes to strengthen CAPCIT's interaction with other parliamentary bodies and with the society, with an implementation period end 2024 - 2025, we are now starting the implementation "phase" that will lead to a renewal of CAPCIT's staff and its activities (see "Institutional developments").



DENMARK

Name of the PTA unit + Name of respondent

Democracy X, Bjørn Bedsted (International director)

Institutional developments

No new developments

Finished projects

- Engagement of youths across Denmark concerning their perspectives on generative AI within the areas of education, deep fakes and for social relations, which will be followed up in May 2025 with a policy workshop. <u>https://videnogdemokrati.dk/national-ungedialog-om-generativ-kunstig-intelligens-ai/</u> (in Danish)
- Cross-European engagement of employees regarding their perspectives on the actual or prospective implementation of AI solutions in their field of work, as a way of informing the development of an AI based decision support system for developing AI systems. Part of the EU Horizon Europe project, THEMIS, https://www.themis-trust.eu/.

Impacts

We recently organised the (now) yearly Climate Action Day, where over 250.000 Danish citizens joined to take different kinds of actions. <u>https://www.klimahandledag.dk/</u> (in Danish)

Public engagement

Many DemX projects are structured around public engagement; either doing it in practice, creating knowledge about it, training people in doing it, or helping public authorities make more use of it.

We are currently implementing a training program on Citizen Engagement for the EU's Joint Research Center (it's Competence Center on Participatory and Deliberative Democracy).

Ongoing projects

- LUKE: A Horizon Europe Coordination Support Action "Linking Ukraine to the European Research Area Joint Funding and Capacity Building Platform for Enhanced Research and Innovation Cooperation LUKE". The project will develop and implement a multilateral call between European R&I funding agencies. As part of the process, we are currently preparing a Citizen Visioning Workshop. <u>https://horizon-europe.org.ua/en/luke/</u>
- **Knowledge & Democracy**: We're in the second year of our collaboration with the Danish foundation, Tryg, about strengthening the relation between knowledge and democracy. This year, we will make a survey about the public relationship to science; initiate a new practice with citizens informing research agendas; and support the potential initiation of a Danish membership organisation for science communication. <u>https://videnogdemokrati.dk/</u> (only in Danish)
- **SCALEDEM**: An EU Horizon project exploring, testing and supporting the scaling of democratic innovations. <u>https://scaledem.eu/</u>

Plans for the future

We are collaborating with the Global Systems Institute (Exeter) about the operationalisation of their framework for Positive Social Tipping Points within the Danish Food System.



EUROPEAN PARLIAMENT

Name of the PTA unit + Name of respondent

Scientific Foresight Unit (STOA), European Parliamentary Research Service (EPRS), European Parliament (EP) - Collective (edited by: Marcus SCHEUREN, Head of Unit)

Institutional developments

The <u>STOA Panel on the Future of Science and Technology</u> currently consists of 27 Members of the European Parliament (MEPs) nominated from 11 permanent parliamentary committees: Agriculture & Rural Development; Culture & Education; Employment & Social Affairs; Environment, Public Health & Food Safety; Internal Market & Consumer Protection; International Trade; Industry, Research & Energy; Legal Affairs; Civil Liberties, Justice & Home Affairs; Regional Development; and Transport & Tourism.

The year 2024 saw the start of the 10th parliamentary term, following the European elections in June. After the nominations of its members by the various parliamentary committees, the STOA panel was reconstituted at a constituent meeting on 24 October 2024. For the first half of the 10th parliamentary term (2024-2026), the STOA Chair remains Christian EHLER (EPP, Germany), with Victor NEGRESCU (S&D, Romania) as the new European Parliament Vice-President responsible for STOA.

The STOA Panel is supported by the <u>Scientific Foresight Unit</u> (STOA), which is part of the European Parliamentary Research Service (EPRS), the research Directorate-General of the European Parliament. The unit comprises, besides the STOA Secretariat, also the European Science-Media Hub (ESMH) Team. The EP forum for Academic freedom, launched in March 2022, continues to be an important part of STOA activities.

STOA staff currently includes eleven policy analysts, the Head of Unit and two assistants.

Finished projects

STOA's activities are wide-ranging, including technology assessment and scientific foresight studies, events and visits, with specific activities performed using its dedicated instruments: the European Science-Media Hub (ESMH) and the EP Forum for Academic Freedom.

In the previous legislature, STOA focused on the following priority thematic areas:

- Artificial intelligence and other disruptive technologies
- The European Green Deal
- Quality of life.

The new STOA Panel has not yet defined new priorities. However, the initial call for Members' proposals for studies and events held at the end of 2024 was not limited to the above priorities set, even if most proposals broadly fall under it.

The hiatus in the Panel's activities due to the elections led to an unusual pattern of activity, in particular for events that only took place in the first few months of the year. Altogether, in 2024

STOA <u>published</u> 13 studies and 1 briefing, and held 3 <u>workshops</u>, aiming to provide impartial and widely accessible information on developments, prospects and options in science and technology. Given the Panel was only reconstituted late in the year, there was no annual lecture organised for 2024. Remaining STOA activity was less impacted by the election break, with a steady stream of short-form content: seven 'What if...?' publications looking into several potential future scientific and technological developments, as well as 17 blog posts, and 19 videos and podcasts, served to raise awareness of techno-scientific trends. Some of the topics covered include neurorights, AI hardware and the exposome.

Some highlights:

- The STOA study <u>'Alternative protein sources for food and feed'</u> looks into the future role of alternative protein sources in sustainable animal and human nutrition. It examines the current and projected protein balance, focusing on conventional and alternative protein sources (algae, insects, microbially fermented products, and cultured meat), the current state-of-the-art of the alternatives and challenges and opportunities for their adoption, and describes policy options to support the development of those alternatives. The study findings were also presented in a knowledge map.
- The STOA study <u>'Protecting mental privacy in neuroscience societal, legal and ethical challenges</u>' examines the open questions and potential threats to data security and privacy, as well as neuropsychological, ethical and societal implications, linked to the availability of consumer-grade neurotechnology devices. Using the set of fundamental 'neurorights' proposed by the Neurorights Foundation in 2017 as a basis, the study shows, among other findings, that secondary legislation and practically applicable legal formulations should be used for new regulations on neurotechnology-related topics.
- The STOA study <u>'Digital product passport for the textile sector'</u> focuses on the possibility of introducing a digital product passport (DPP), framed within the European Union's strategy for sustainable and circular textiles. It examines the potential, needs, benefits, and challenges associated with deploying a DPP for all stakeholders throughout the European textile sector's value chain. The study outlines a three-phase deployment scenario with policy options aimed at fostering a circular economy to minimise the sector's overall footprint.

Impacts

STOA regularly communicates about its activities on social media and other platforms. This includes STOA's own X account (@EPScienceTech) and blog posts on the EPRS blog, which report on news, projects and events in an accessible manner. STOA also produces monthly <u>podcasts</u>, often based on the 'What if ...?' notes, and, increasingly, video clips about STOA/ESMH events and studies.

In 2024, the ESMH produced 19 <u>videos</u> and podcasts to promote STOA projects in the European Parliament and outside more efficiently. Short video clips, distributed via the STOA and EPRS social media channels, covered several STOA events and studies.

Public engagement

The election break meant that public engagement activities were considerably curtailed in 2024. In addition to the STOA events, which are open to the public, the European Science-Media Hub (ESMH) continued its public facing activities, with a goal to develop a network among policymakers, scientists and media and to promote science-based information.

Ongoing projects

A few studies were still initiated just prior to the elections, based on requests from the outgoing Panel. Examples include:

- The future of water availability and use in the EU: A foresight study and policy options to address water scarcity
- Human exposome research: Potentials, limitations and public policy implications
- European added value and governance for a European News streaming platform

The election year meant the new members of the Panel only submitted their proposals for studies close to the end of the year, for a start in 2025.

Plans for the future

STOA intends to continue strengthening its relations with parliamentary committees, and better matching work volume and diversity with the human and budgetary resources available. The creation of new full committees at the EP (security and defence; public health) may lead to new members joining the STOA Panel in the immediate future, to help cover these topics of parliamentary interest.

The <u>EP Forum for Academic Freedom</u> will continue to be an important activity for STOA in the new legislature. STOA plans to become an authoritative platform that reports on all aspects of academic freedom in Europe by publishing a yearly monitor report the 'EP Academic Freedom Monitor' since 2022. The annual lecture will also return, after the break during the election year.



FRANCE

Name of the PTA unit + Name of respondent

OPECST (France), Michel Bermond (Assemblée nationale) and Bénédicte Rougé (Sénat)

Institutional developments

OPECST activities were interrupted from June to October 2024 due to the dissolution of the National Assembly.

OPECST was reconstituted on October 3. One third of its members are new but the president remains Stéphane Piednoir, Senator, and the first vice-president Pierre Henriet, Member of the National Assembly.

Within the staff, after the departure of two scientific advisors, two new colleagues have arrived, one with a PhD in astrophysics, the other with a PhD in biology.

Finished projects

Long studies:

- Decarbonation of the aviation sector
- Latest scientific developments on Covid (long Covid, side effects of vaccines, pharmacovigilance, epidemiologic monitoring, disinformation in health matters)
- Assessment and prospects of new developments in AI
- Evaluation of the 5th National Plan on the management of radioactive waste and materials

Public hearings:

- Protection of marine biodiversity beyond national jurisdiction
- Women and AI
- The impact of plastics on human health

Scientific briefings:

- Space Weather
- Space Debris

Impacts

At least 3 of these projects had a direct and strong impact:

- The report on AI led to a large public debate with the minister responsible for digital technology and AI and all the political groups.
- Several recommendations made by OPECST in the report on the BBNJ (Biodiversity Beyond National Jurisdiction) Treaty were followed by Government: quick ratification of the Treaty and addition of an important reserve on the retroactive application of the Treaty.
- The report on the impact of plastics on human health was used by the French delegation during the last round of negotiations on a future treaty to end plastic pollution, which took place in Busan in November 2024.

Public engagement

The partnership between OPECST and the Academies of Science and Medecine developed throughout the year with plenary meetings and the organisation of "Trinômes" with MPs, Academicians and young researchers, set up in order to promote a better understanding of science and scientific life on one side, political life and parliamentary activity on the other side.

Ongoing projects

Long studies:

- Proteins and nutrition
- Progress of science and technology in sport
- Technological aspects of the energy mix
- Evaluation of the latest Bioethics Act (passed in 2021)

Public hearings:

- Future of human space flight
- Science and agriculture in the context of climate change and loss of biodiversity

Scientific briefings:

- Electricity networks
- New genomic techniques
- Geo-engineering
- Neurosciences and education
- Future Circular Collider

Plans for the future

The next meeting of OPECST with its Scientific Council will be aimed at reviewing the current situation of science, researchers and scientists in the USA.

The partnership between OPECST and the Academies of Science and Medecine may enter a new cycle with a second round of 'trinômes' and a further couple of plenary meetings along 2025 and 2026.



GERMANY

Name of the PTA unit + Name of respondent

Office of Technology Assessment at the German Parliament (TAB), Reinhard Grünwald

Institutional developments

Since the beginning of the year, we have strengthened our team by hiring a data scientist, who we share with ITAS.

Finished projects

The results of our new product, the **Foresight-Report**, are now published online in the innovative (at least for us) format of a micro-site: <u>https://foresight.tab-beim-bundestag.de/</u> (German only, I'm afraid)

Regular projects:

- **Cybersecurity in the food supply**: The digitisation increases the vulnerability of critical infrastructures. The food supply is mainly provided by a wide range of SMEs. This leads to special challenges with respect to threats and vulnerabilities from cyberspace. This is analysed in the TAB report, which also provides options for action to strengthen the sector's cyber resilience. https://www.tab-beim-bundestag.de/english/projects_cybersecurity-in-food-production.php
- Near-natural forest conversion in times of climate change: Climate change poses a significant threat to the integrity of forest ecosystems in Germany. In order to prevent the progressive destabilisation of forest ecosystems, it is essential to convert forests into more diverse mixed forests. Technological innovations, economic considerations and implications for forest management are discussed.

https://www.tab-beim-bundestag.de/english/projects_near-natural-forest-conversion-in-timesof-climate-change.php

- Social implications of hybrid forms of work: The COVID-19 pandemic has led to a sharp increase in hybrid forms of work in Germany. Studies available to date provide insights into the background, forms and first emerging consequences of hybrid forms of work. This TAB report fills in gaps in explanation and knowledge from a technology assessment perspective. https://www.tab-beim-bundestag.de/english/projects_societal-impact-of-working-from-home.php
- Gene drives technologies for spreading genetic modifications throughout populations: The term gene drive describes a phenomenon in which certain segments of genetic material (genome) are passed on at an overly high rate. These genome segments and the traits they determine can spread through populations of organisms within a few generations. Gene drives have the potential to help solve major challenges, including the fight against invasive species or vector-borne diseases such as malaria. These hopes are offset by technical and scientific challenges as well as environmental risks.

 $\frac{https://www.tab-beim-bundestag.de/english/projects_gene-drives-technologies-for-propagating-genetic-modifications-throughout-populations.php$

• Towards a possible fusion power plant - knowledge gaps and research needs from the perspective of TA: Harnessing the energy of controlled nuclear fusion has always been the goal of fusion research. Recent progress gives hope that the technical realisation of an energy-producing fusion plasma could be imminent. However, the road to power generation in possible commercial fusion power plants is still long and will require decades of effort in basic and applied research and engineering development.

https://www.tab-beim-bundestag.de/english/projects_towards-a-possible-fusion-power-plant-knowledge-gaps-and-research-needs-from-the-perspective-of-technology-assessment.php

Impacts

Two recent reports were widely reported in traditional and online media:

- Innovative engines and fuels for more climate-friendly air transport
- Towards a possible fusion power plant

Public engagement

Within our new foresight activities, there is an ongoing effort for a systematic expert/stakeholder engagement. See for example the first round here:

https://foresight.tab-beim-bundestag.de/ueber-den-foresight-report/beteiligte-expertinnen/

Ongoing projects

- Technology options for reducing plastic waste in the oceans: Litter is found in all marine waters around the world and poses a major environmental problem. This TA compact study analyses the potential and impacts of technological options to reduce plastic waste in the oceans. https://www.tab-beim-bundestag.de/english/projects_technology-options-for-reducing-plastic-waste-in-the-oceans.php
- **Military use of quantum technologies**: quantum technologies have the potential to have a significant impact on many areas of business and life. As with other cutting-edge technologies, this is particularly true for the defence sector. Quantum technologies could have an impact on all aspects of modern warfare. Experts believe that a "quantum revolution" is possible, which could lead to new military capabilities and techniques and to a significant increase in the efficiency of modern warfare, but could also have a destabilising effect on international relations. https://www.tab-beim-bundestag.de/english/projects_military-use-of-quantum-technologies.php
- AI-based applications in decentralised electricity systems: The aim of this TA project is to take stock of the current and prospective use of AI in the electricity system, to assess the potential of AI-supported applications and to identify the risks associated with the application of AI.

https://www.tab-beim-bundestag.de/english/projects_ai-based-applications-in-decentralised-electricity-systems.php

- **Biotechnology and AI: risks from research for security and proliferation of biological weapons**: The project will provide a focused analysis of the potential security risks of recent biotechnological developments and their interactions with developments in AI. It also aims to identify control and regulatory options and discuss ways to further develop them to minimise these security risks and strengthen the non-proliferation of potential biological weapons. <u>https://www.tab-beim-bundestag.de/english/projects_biotechnology-and-artificial-intelligence-</u> <u>risks-from-research-for-security-and-proliferation-of-biological-weapons.php</u>
- Rare earths the supply situation, considering geopolitical risks and progress in recycling and establishing a circular economy: (The title says it all ⁽²⁾) https://www.tab-beim-bundestag.de/english/projects_rare-earths-the-supply-situation-considering-geopolitical-risks-and-progress-in-recycling-and-establishing-a-circular-economy.php

Plans for the future

The immediate future: Following the recent elections, many new MPs will be in the Committee responsible for TAB and in the Rapporteur Group that decides on all TAB matters. This brings with it the task for us of once again educating MPs about the benefits of TA and familiarizing them with the special nature of the relationship between scientific policy advice and political opinion-forming and decision-making.

One unknown at present is how the Committees will be thematically structured (and whether the term "TA" will remain in the name of the Committee).

According to our contract we are required to conduct a mid-term review of our activities focusing on some of the new traits (foresight, TA compact studies, enhanced public communication efforts).



GREECE

Name of the PTA unit + Name of respondent

Special Permanent Committee on Research and Technology, Kostas Papadimitriou

Institutional developments

Parliamentary Committees, secretariat staff, and scientific advisors all carry out their duties under the umbrella of the Hellenic Parliament. As such, there have been no changes in terms of institutional developments.

With regard to **Parliamentary Technology Assessment (PTA)** and the field of **artificial intelligence (AI)**, a national AI strategy has been adopted, introducing core principles and methodological frameworks aimed at promoting responsible AI governance. Within this context, PTA plays a crucial role in supporting the **parliamentary mandate to safeguard democratic values**, ensure **transparency in public decision-making**, and anticipate the **societal implications** of emerging technologies.

Furthermore, the initiative "Pharos: The Greek AI Factory for Accelerating AI Innovation" will establish a European AI Factory in Greece, built around the capabilities of the national supercomputer "Daedalus". This infrastructure is expected to significantly accelerate AI research and application across strategic sectors, including health, culture and language, and sustainability.

Given the scale and ambition of this project, **PTA is essential in assessing the broader societal and economic impacts**, such as those related to **energy demand**, **environmental sustainability**, **infrastructure requirements**, **and ethical governance**.

Finished projects

Due to a series of electoral processes that took place last year, resulting in changes to the Committee's Chair, no formal reports have been submitted to date.

Impacts

The Special Permanent Committee on Research and Technology organized a series of sittings under the theme **"Innovation and Inclusion"**, with active participation from civil society organizations (CSOs). These sessions highlighted how innovation not only facilitates everyday life for persons with disabilities but also serves as a tool for **empowerment and skills development**, contributing meaningfully to their **social and economic inclusion**.

The initiative received institutional support, with the Speaker of the Hellenic Parliament addressing the session. The event was also covered by national television channels, further amplifying public awareness and reinforcing the Parliament's commitment to inclusive policy dialogue.

Public engagement

Throughout the past year, the Special Permanent Committee on Research and Technology organized a series of sittings that addressed the **cross-cutting theme of innovation and its societal impact**. These sittings explored a wide range of topics, including:

- Research, innovation, and best practices in addressing water consumption challenges.
- The intersection of innovation and intellectual property.
- Entrepreneurship and social innovation as drivers of economic and social change.
- The role of the **Greek scientific diaspora** in advancing innovation.
- **Defense and innovation**, particularly in relation to national security.
- Policies to strengthen research and innovation within the country.
- Technology transfer from research centers to society: challenges and future prospects.

During these sittings, a diverse range of **civil society organizations** (CSOs) was invited to share their insights and expertise. These organizations provided valuable contributions to the Committee's discussions.

Ongoing projects

- **Sports and Nutrition**: The role of innovation in enhancing sports performance and public health by examining the technological advancements in nutritional products and training methods.
- **Clinical Trials in Greece**: An assessment of clinical trials within Greece, focusing on innovation in medical research, regulatory frameworks, and the integration of advanced technologies in clinical settings.

Plans for the future

• Artificial Intelligence: Hopes and Fears: A comprehensive examination of artificial intelligence (AI), balancing its transformative potential with the risks and ethical concerns it raises. This discussion would focus on AI-driven innovation, its potential to improve public services, healthcare, and the economy, as well as the societal and economic challenges it presents, such as job displacement, privacy concerns, and bias in algorithms.

Particular attention will be given to the integration of AI within parliamentary procedures, exploring how such technologies can support legislative processes, information management, and public engagement.



JAPAN

Name of the PTA unit + Name of respondent

Science and Technology Research Office, Research and Legislative Reference Bureau, the National Diet Library of Japan; SAWADA Daisuke

Institutional developments

None.

Finished projects

The following three reports in Japanese have been published regarding projects during FY2024. We published these three reports at the end of March 2025 and distributed them to all Members of the Diet as well as making them available to the public online.

Summaries in English are available:

https://www.ndl.go.jp/en/diet/publication/document/index.html

Framework of our research is shown:

https://www.ndl.go.jp/en/diet/ta/index.html

- Trends and Issues in Ocean Affairs comprises six papers: "The Basic Plan on Ocean Policy and the Current State of Japan's Ocean Policy", "Efforts Being Made to Conserve the Land and Develop a Base for Marine Development in Okinotorishima and Minamitorishima", "Worldwide and Japanese Trends in Marine Energy and Mineral Resources as well as Marine Renewable Energy", "Arctic Ocean Observational Research", "Ocean Policy of the U.S.: Promotion of Ocean Science and Technology R&D" and "Key Issues Surrounding Values in Ocean Governance". The papers in this report are the result of research by in-house researchers and were written in collaboration with several academic experts.
- Food Tech: Exploring the Challenges and Potential of Innovative Food Solutions is the result of analysis-driven research. This report introduces various food techs used for everything from production to consumption, such as cultivated meat, genome-edited foods, food robots, and 3D food printers, and also summarizes the current situation and future challenges regarding the social acceptance of food tech.
- AI and Society in Perspective is the result of debate-driven research. This report summarizes discussions about the impact and challenges that AI will bring to society. Based on a symposium, the report includes four presentations ("Large Language Models (LLMs): Promises and Pitfalls", "Frontiers of XR and the Metaverse: Toward an Era of Spatial Computing Fusing Reality and Digital", "AI Technology and Society: Ethical, Legal, and Social Issues (ELSI) and Global Trends in AI Regulation" and "Promoting the AI Industry") by panelists, problems suggested by the facilitator, panel discussion and commentary.

Impacts

Our research materials are used for reference during deliberation in the National Diet, as well as during government policy making. As the above-mentioned reports have just been published, we are not yet able to understand the reaction from the Members of the Diet. However, as with previous reports, we hope that they will be widely read and utilized by them.

Several X accounts have posted about the publication of these reports. In particular, the **Food Tech** report seems to have been widely read by those involved in food tech.

Public engagement

As part of the abovementioned **AI and Society in Perspective** project, a symposium featuring a discussion between specialists and members of the public was held online on November 15, 2024.

Ongoing projects

The following projects were initiated in April for FY2025 (all tentative titles):

- **Circular Economy**, carried out as research by in-house researchers: Aiming to review the current situation, challenges and strategies related to sustainability of consumption.
- **Robotics in the Age of AI**, carried out as analysis-driven research: Intending to compile information on technological advancements and policy support related to AI robots, both domestically and internationally. Additionally, the necessary legal adjustments for the practical implementation of AI robots and the challenges related to its societal acceptance will be addressed.
- International Collaborative Research & Science and Technology Diplomacy, carried out as debate-driven research: Intending to convene open panel discussions with specialists from a variety of specializations to further explore this field.

Plans for the future

None.



LITHUANIA

Name of the PTA unit + Name of respondent

Kęstutis Vilkauskas, representative of the Committee on the Future of the Seimas of the Republic of Lithuania (hereinafter referred to as "the Committee"), alternate member Giedre Balčytyte

Institutional developments

The parliamentary elections held in autumn 2024 led to significant changes in the Committee for the Future of the Seimas of the Republic of Lithuania – approximately 90% of its members were replaced, along with a shift in political party representation. For the 2024–2028 term, Vytautas Grubliauskas, representing the Lithuanian Social Democratic Party, was elected as the Committee Chair. The Committee now consists of 17 members from all parliamentary party factions.

Finished projects

- Dictionary of Futures Studies: 100 Steps Toward the North Star: This conceptual dictionary was commissioned by the Committee's Bureau to support the activities of the working group established by the Seimas Board for the preparation of the "White Paper on Lithuania's Future Ecosystem."
- Foresight and Anticipatory Governance in the 2024–2029 European Commission Term: This study reviews key topics on the EU political agenda – security, resilience, and crisis preparedness – which are also of critical relevance to Lithuania. The paper particularly highlights two areas: intergenerational fairness and the application of foresight in EU threat preparedness.
- **Prospects, Challenges, and Opportunities for a Common EU Future Ecosystem**: The study explores both existing practices and theoretical scenarios for developing a common EU foresight ecosystem. It presents success factors, research recommendations, and the prerequisites for such an ecosystem's effective implementation in the future.
- **Regional Policy**: During the 2024 spring session, the Committee addressed regional development, governance, and the proposal for establishing a Ministry of Regions.

Impacts

The Committee's enhanced role was recognized in a review published on 27 March 2025 by the European Parliamentary Research Service (EPRS), titled "Intergenerational Fairness from the Perspective of Climate Policy: Current Trends and EU Priorities". The report identified Lithuania as a best practice example for involving parliaments in EU decision-making related to intergenerational fairness. The Lithuanian Committee for the Future is cited as one of four institutional examples integrating the interests of future generations into policymaking processes.

Public engagement

Although the new parliamentary term has only just begun, a notable initiative was carried out in collaboration with the Strategic Foresight Unit of the National Library and the Committee. Together, they hosted the sixth annual event aimed at assessing global, regional, and national scenario developments for the year 2025. The special theme of the 2024 event was *"Regional Policy and National Resilience"*. Discussions focused on global trends such as geopolitical realignments,

pandemics, climate-related disasters, hybrid and cyber threats, artificial intelligence development, and socio-political tensions. The event emphasized the importance of expert insight into the progress and obstacles in Lithuania's regional policy and the necessary actions in the near and medium-term future.

Ongoing projects

During the spring session, the Committee's main areas of focus include:

- Reforms in strategic planning and governance;
- Regional development;
- National identity and education;
- EU and international affairs.

Plans for the future

Two major forthcoming publications are in preparation:

- "White Paper on Lithuania's Future Ecosystem"
- "State Progress Strategy Vision for Lithuania 2050: Preparatory Documents"



NETHERLANDS

Name of the PTA unit + Name of respondent

Rathenau Instituut, Eefje Cuppen

Institutional developments

In 2024, the Rathenau Instituut experienced several notable developments:

- **Staff**: Four new board members joined in September 2024: Nynke van Dijk, Radjesh Manna, Joep Munten, and Kees Verhoeven. They bring expertise from science, finance, entrepreneurship, and policymaking. Meanwhile, four long-standing members concluded their terms.
- **Relationship to Parliament**: In 2024, we delivered parliamentary briefings and contributed to debates on digitalisation, biotechnology, and climate-related policies.
- **Contextual developments in the Netherlands**: National ambitions for nuclear energy, rapid developments in digital technologies (e.g., AI), and societal transitions in healthcare and sustainability continue to drive demand for well-informed, democratic decision-making. Governmental budget cuts on research and innovation and education.

Finished projects

• <u>Neurotechnology</u>

In this scan, the Rathenau Instituut provides an overview of neurotechnology. We describe the intended applications, opportunities, and risks for public values in the short and longer term, and policy instruments for protecting and promoting those values. The scan concludes by outlining the options that policymakers have for taking action. This Rathenau Scan was produced at the request of the Dutch Ministry of the Interior and Kingdom Relations.

• <u>Monitor Praktijkgericht onderzoek (Monitor of Practice-Based Research)</u> In this 2023 Monitor of Practice-Based Research, we presented developments in practice-based research at the 36 publicly funded universities of applied sciences in the Netherlands in the year 2023. The Rathenau Institute compiled this monitor at the request of the Netherlands Association of Universities of Applied Sciences (VH).

• Dutch research and development in an international perspective The Rathenau Instituut collected data on research and development from 25 countries. Thirteen

figures and two tables offer comparative insights on topics such as investments, researchers, students, and publications. This briefing was prepared in response to a request from the Ministry of Education, Culture and Science (OCW).

• <u>Regie over onze genen (Steering our genes)</u> Research policy should pay more attention to technologies that modify the operating system of our DNA. This 'epigenetic editing' raises urgent societal questions that are currently overlooked. That is one of the conclusions of our report 'Regie over onze genen' (Steering our genes).

• Knowledge of the future

This report describes how four major developments are changing the functioning of science and its relationship with society, posing challenges for science policy. These developments are: advancing digitalisation and artificial intelligence, increased direction in coordination and collaboration in the organisation of science, an increasing urgency of societal challenges, and changing international relations.

• <u>Taking steps together now</u>

The Rathenau Institute advised the Dutch government on how to organise the decision-making process for the long-term storage of radioactive waste. While the government initially planned to postpone key decisions until 2100, we recommended taking action now. We proposed a five-step approach in which the government, together with society, determines what is needed in each phase to move toward a safe, long-term solution. The Ministry of Infrastructure and Water Management has embraced the advice of the Rathenau Instituut.

• <u>State of the Science System 2024</u> In this report, the Rathenau Institute examines how Dutch science is doing in relation to the objectives set by the government. This concerns: a healthy and strong foundation, a greater social impact of higher education and research, and room for diverse talent. Based on the available figures, the balance shows how the Netherlands has developed since the previous balance in 2020 and how it is performing compared to other countries.

Impacts

- The Rathenau Instituut took part in a roundtable discussion with the Standing Committee on Health, Welfare and Sport (VWS) of the Dutch House of Representatives about the Bill to amend the Embryo Act in connection with the abolition of the temporary ban on the creation of embryos for scientific research.
- Digital Dependency Parliamentary Briefing: We highlighted risks of governmental reliance on non-European tech platforms, calling for long-term digital sovereignty strategies.
- The Rathenau Instituut presented its report State of the Science System to Minister Eppo Bruins at the Ministry of Education, Culture and Science (OCW).
- The Dutch State Secretary for Environment adopted the institute's core recommendations on radioactive waste governance.
- Insights from the Generative AI Scan directly shaped the government's AI vision and parliamentary debate.
- The Rathenau Instituut hosted a meeting on the potential of a Chief Science Advisor (CSA) in the Netherlands. Attendees from ministries, academia (KNAW, UNL), and advisory bodies discussed how science can better inform policy. Following the meeting, the Rathenau Instituut published an <u>exploration</u>.

Public engagement

- <u>New podcast series</u>: In 2024, we launched a new podcast series called Verrekijkers. In each episode, researchers from the Rathenau Instituut engage in conversations with scientists, policymakers, and politicians. They update listeners on societal issues related to science and technology that receive far too little attention, and raise urgent questions that have so far remained underexplored.
- **Multi-year dialogue programme on the digital society:** The Rathenau Instituut is working on a four-year dialogue programme on the digital society. We talk to citizens to explore their ideas and wishes for the digital society of the future. Particular attention will be paid to citizens who may be particularly affected by the risks of digitalization, such as minors, the elderly, patients, or the less literate. The Rathenau Instituut receives funding for this programme from the Ministry of the Interior and Kingdom Relations. The programme aims to gather and share diverse perspectives on digitalisation. It then focuses on broadening and deepening societal and political judgment formation around digital technologies.
- **Responsible development of biotechnology**: In the project *Holland's Next Embryo Model*, the Rathenau Instituut and NEMO Kennislink toured festivals in the Netherlands with a mini-catwalk to engage visitors in conversations about research using embryo models. We collected the

arguments, concerns, and questions raised during these dialogues. The Ministry of Health, Welfare and Sport (VWS) can use these insights in the revision of the Embryo Act.

• Melanie Peters Prize: The 2024 Melanie Peters Prize was awarded to the creators of Intimate Implant, a co-production between an artistic designer and two researchers. Their work consists of interactive art objects that invite reflection on ethical questions surrounding new medical implants.

New/ongoing projects

- **Online Tracking Study**: This study is commissioned by the Dutch House of Representatives to assess privacy and surveillance practices, to be delivered in May 2025.
- **Digital Dependency**: We are researching the dependence on digital services provided by large tech companies, focusing on the public domain. We describe what the dependency relationship with tech companies looks like and what the consequences could be. We illustrate this through case studies and provide action options for different parties to reduce digital dependency. Publication expected in May 2025.
- **Inclusive Online Environments**: Features of the internet such as openness and hyperconnectivity enable groups of like-minded individuals to quickly unite and exchange information. This can have an empowering effect. However, these same characteristics can also facilitate harmful behavior, such as online hate, bullying, revenge porn, and the spread of misinformation. Groups marginalised in society are at additional risk. In this project, we explore how online environments can empower rather than harm.

In our Working Programme 2025/2026 we have defined 5 programmes in which projects will be conducted:

- Giving direction to digitalization: Towards a humane digital technology & Towards a new relationship with technology companies
- Democratic sustainability: sustainable living environment & sustainable industry
- Innovate for health: Towards responsible medical biotechnology & Innovation and technology for health promotion
- Mission-oriented innovation: Mission-oriented knowledge and innovation policy & Design of mission-oriented approaches in concrete cases
- Science of the future: Science under pressure & AI in science

Plans for the future

- **Organisational setup**: With the publication of the work programme 2025-2026, the institute introduced a programme-based way of working. The programmes are organised under the overarching themes of Digitalisation, Climate, Health, Knowledge and Innovation for Transitions, and the functioning of the Science System.
- **40th anniversary**: The Rathenau Instituut will celebrate its 40th anniversary in 2026. A plan to mark this milestone with both festive and substantive activities is currently in preparation.



NORWAY

Name of the PTA unit + Name of respondent

Norwegian Board of Technology / Tore Tennøe

Institutional developments

The NBT has nine full-time staff, and the budget is 14 million NOK (appr. 1.2 million €)

A new board with 15 members has been appointed by the government. 7 members are continuing from the former board, and Sverre Gotaas is still the chair.

The strategy for 2024–2027 has two main focus areas:

- Democratic AI, where we will fill several roles: Radar for regulation and new policy; Driving force for socially beneficial AI; and Arena to address AI risk, in addition to set up a Democracy lab for AI
- Technology policy within nature's limits, where the main focus is being a Radar for new climate technology, an Arena for debate on nature and the use of resources, as well as to develop Scenarios for climate mitigation in the face of tipping points

Finished projects

- <u>Tech trends for the parliament 2025</u>. Reasoning artificial intelligence, the digital Atlantic divide, quantum technology, the tech giants' insatiable hunger for power, and solar energy are trends we believe will shape the political agenda this year. The report was presented in an open meeting with comments from MPs and is a tool for planning the work in both the Parliament Technology group and the NBT.
- <u>Generative Artificial Intelligence</u>: The final report underlined that the EU's AI Act gives Norway a solid foundation for regulating artificial intelligence and opens new space for developing national policy. Norway must act swiftly and strategically to seize this opportunity and ensure AI is used safely, responsibly, fairly, and for the public good. Three key priorities stand out: promote socially beneficial AI use; develop national AI infrastructure; and enhance digital resilience.
- <u>Carbon Removal</u>: Cutting emissions will not be enough to reach the climate targets. We will also need to remove CO2 from the atmosphere. The report "Carbon Removal as a Climate Measure Ten Methods and How Citizens Assess Them» provides a brief introduction to ten carbon removal methods, with their respective advantages and disadvantages. We also involved a group of citizens, and the results highlight what people consider important and what factors a carbon removal policy should take into account.
- AI and elections: The historic election year 2024 (e.g. USA, Germany, Great Britain, EU Parliament) coincided with a breakthrough for generative artificial intelligence which makes falsifying digital media content cheaper and more automated, targeted and widespread. The NBT has published the policy brief <u>AI in the Super Election Year of 2024</u>, which summarises experiences, effects, and measures from various countries.

• Social Media, Freedom of Expression, and National Security. In this report, the NBT and the Norwegian Human Rights Institution (NIM) have joined forces to assess how social media can affect both security and freedom of expression in Norway. We have used the potential TikTok ban in the United States as a point of departure and examine how European and Norwegian issues differ from the U.S. case. We have also mapped out the tools available to us. Measures to counteract such effects may have negative consequences. Should the state limit our freedom of expression for our own protection?

Impacts

The Board has contributed to the government's digitalisation strategy, particularly in the area of artificial intelligence. Several proposals from the report *Generative Artificial Intelligence in Norway* have been followed up, including investment in Norwegian and Sámi AI models, strengthening infrastructure for data and computing power, and giving the National Library a new role. The library has now been given a mandate and funding to train language models and manage data rights.

On cryptocurrency, the Board highlighted the high energy consumption of mining, which contributed to the Norwegian Parliament's decision to launch an inquiry into a potential ban. The Board has also raised concerns about the use of AI in election campaigns and helped lay the groundwork for the political parties agreeing not to produce, use, or spread deepfakes.

Public engagement

- **Democracy lab for AI**: The new type of AI has a wide variety of uses; as a conversation partner, a source of knowledge, for coding and translation as well as to generate images, videos and sound, and comes close to people in an entirely new way. This raises important value questions and ethical dilemmas. The NBT has made a strategic decision to set up a Democracy Lab for AI which aims to follow technology developments in real time and involve lay people and affected parties systematically to contribute to the democratic development of AI technology, and to explore how AI can affect democracy. The NBT has so far completed two of these involvement labs: Democracy lab on AI and elections, and Democracy lab on AI in public services (report to be published in May or June).
- <u>ARRIVAL lab-grown food</u>: The project explores the opportunities for sustainable lab-grown food production. The NBT is responsible for horizon scanning and has involved a range of stakeholders in workshops.
- Foresight supporting higher education and career development (FORhesIT) has involved different stakeholders in developing scenarios for students.

New projects

- Data centres, AI and the Norwegian energy system
- Artificial intimacy: AI as friends and therapists
- Scenarios for Artificial General Intelligence
- Strategic foresight for Norway a new approach
- AI in technology assessment
- Digital Sovereignty

Plans for the future

We have an active role as secretariat for the Technology group in the Storting, with MPs from 6 different political parties in the steering group. After the general elections in September, a new steering group will be appointed in Parliament.



POLAND

Name of the PTA unit + Name of respondent

Bureau of Research (BEOS) of the Chancellery of the Polish Sejm, Miroslaw Sobolewski

Institutional developments

The Bureau for Research (BEOS) continues to function as a multi-purpose research and analytical service supporting the work of the lower house of Polish Parliament through legal, social, and economic analyses. The core focus of BEOS activities is the evaluation of the regulatory impact of legislative proposals submitted by the Deputies. The Bureau also prepares assessments of proposed European legislative documents and other EU-related documents.

Analyses incorporating elements of technology assessment are carried out by the Regulatory Impact Assessment Department, which currently employs 36 experts with specializations in economics, finance, social sciences, and sectoral public policies.

The Bureau maintains ongoing cooperation with the Parliamentary Committee on Digitalisation, Innovation, and New Technologies.

BEOS regularly publishes briefs in the *Infos* series, which addresses current issues relevant to parliamentary work. Selected issues of *Infos* specifically cover topics related to digitalisation, emerging technologies and other areas important from TA perspective. Information about BEOS publications is available on the Bureau's official website. Currently, both the website and the publications are available only in Polish.

Finished projects

BEOS publications are accessible on the Bureau's official website: <u>https://beos.sejm.gov.pl/</u> (only in Polish). Recent publications address a diverse range of topics, including:

- Lifestyle medicine,
- Regulatory challenges of homeschooling,
- The transformation of coal mining regions in the context of climate policy,
- Alcohol as a public health challenge,
- Green belts surrounding urban areas,
- Short-term rental accommodations,
- Polish school digitalisation challenges, Aging labor market in Poland,
- Economic integration of immigrants from Ukraine in Poland in the context of demographic trends.

Impacts

BEOS opinions are regularly used and quoted in parliamentary proceedings. However, the Bureau does not systematically monitor or evaluate how its advice and publications influence public debate.

Public engagement

BEOS operates exclusively in support of Members of Parliament and parliamentary committees. The Bureau does not undertake public outreach activities other than publicly available publications.

Ongoing projects

Currently, issue briefs in the Infos series are being prepared on the following topics:

- E-voting,
- Disinformation in the context of democratic systems,
- AI in parliamentary work,
- Development of the biogas and biomethane sector,
- Economic and technological aspects of policies aimed at enhancing national military security,
- Digital addiction among children.

Plans for the future

BEOS has only a limited autonomy in shaping its long-term agenda, as its activities are primarily driven by requests from Members of Parliament and parliamentary committees. The Bureau conducts ongoing analysis of legislative proposals submitted to the Sejm.

Looking ahead, BEOS plans to enhance its methodologies for regulatory impact assessment in the parliamentary context, incorporating elements of technology assessment.

The Bureau also plans to continue developing publications related to technology assessment, particularly within the *Infos* series.



PORTUGAL

Name of the PTA unit + Name of respondent

Observatory of Technology Assessment (António Moniz, Marta Candeias, Nuno Boavida)

Institutional developments

Since our last October report there were no significant changes. The management board of OAT is still composed by António Moniz, Nuno Boavida and Marta Candeias, but we are preparing new board election until the end of the semester.

The parliamentary committee on Science and Education has settled last year and elected a president (Manuela Tender) from the extreme right wing of the parliament (Chega party). After several contact attempts, there was never possible a meeting to re-start the efforts to set up a PTA office. Meanwhile, the government failed to pass a confidence vote at the parliament and new elections are being prepared for mid-May this year. Parliament activities have been suspended. After that, and until the end of the year, a new committee have to be appointed, and we hope to re-start the conversations immediately after with the president of the parliament (to be elected) and the president of the parliamentary committee.

In terms of the topic "evaluation", the research centre CICS.NOVA, where the OAT is settled, have been evaluated by the national Foundation for Science and Technology, and the new classification has been "excellent". The research activities under OAT continue to be administratively organised through the Nova University of Lisbon or through the UNINOVA (Institute for the Development of New Technologies) at the Nova University Campus of Caparica.

Finished projects

- Moniz, A.B. (2024). <u>Scenarios report on posting of workers in Europe</u>. Warsaw: Federation of Polish Metal Workers.
- Dissemination of the main conclusions among national labour institutions on the results of the project Posting of workers during the COVID-19 pandemic, current challenges, and prospects (European project, DG EMP; 2022-2024)

Impacts

- Marta Candeias is member of the management team of European Technology Platform Manufuture since 2020 (<u>https://manufuture.org/</u>) and member of the Working Group Leader in Advanced Materials 2030 initiative since 2021 (<u>https://www.ami2030.eu/</u>).
- **Nuno Boavida** is member of the Board of the Research Committee 23 "Sociology of Science and Technology" of the International Sociological Association. Editorial Board member of the journal "Que Força é Essa" (<u>https://www.mundosdotrabalho.pt/posts/31</u>)
- António Moniz is member of the Steering Committee of the GERPISA international network (<u>https://www.gerpisa.org/node/568</u>) on the automotive industry.
- Maintenance of the **GrEAT portal** for the TA network in Portugal with 1400 views over last year and increasing monthly views (<u>https://avaliacaotecnologia.wordpress.com/</u>).

Publications:

- Candeias, M. and Moniz, A. (2024), "Public policies for Industry 4.0: some lessons from the Portuguese case", <u>International Journal of Automotive Technology and Management</u> 24(2), DOI: 10.1504/IJATM.2024.10066272
- Moniz, António B., Marta Candeias, and Nuno Boavida (2024). *Is there a CASE paradigm in the Portuguese regulatory context? What can challenge the automotive industry?*, In *GERPISA Colloquium* 2024. Bordeaux: GERPISA.
- Jones, Bryn, Bettina-Johanna Krings, and António B. Moniz (2024). The Poly Crisis of Big Tech
 Platform Capitalism as a Neoliberal Trojan Horse. In *30th Annual Conference on Alternative Economic Policy in Europe (EUROMEMO group)*. Vienna: University of Applied Sciences, BFI Vienna. (the-poly-crisis-of-big-tech_31_8-old-word.pdf)

Public engagement

- Participation in the group of events on <u>"A Prospetiva na Administração Pública Portuguesa</u>", 12th July 2024, Lisbon, Portugal: Debate on "Os desafios e as oportunidades no mercado de trabalho em Portugal: do combate às desigualdades às novas dinâmicas económicas e sociais" (Challenges and opportunities in the labour market in Portugal: from combating inequalities to new economic and social dynamics), where the intervention of Marta Candeias was on the impact of AI on work (<u>https://www.planapp.gov.pt/megatendencias-financas-publicas-economia-trabalho/</u>).
- Series of online workshops on the topic "Technology and Work", and some co-organized with the association Praxis (initiated in 2022):
 - Debate on AI on work: practices, risks and collective action (Debate Práxis "Inteligência Artifical no trabalho: práticas, riscos e ação coletiva", with António Moniz and Nuno Boavida, <u>https://www.youtube.com/watch?v=33o59l5eGtE</u>) 17/10/2024
 - Webinar on AI impacts on citizenship and labour ("Inteligência Artificial: Impactos na Cidadania e no Trabalho"), with António Moniz and Nuno Boavida, for the project In&Out of the Box, 21/3/2025.
- Public interviews or participation in webinars
 - Work, Technology and Artificial Intelligence ("Trabalho, Tecnologia e Inteligência Artificial"), with Nuno Boavida, 10 April at Cooperativa Unicepe, Porto.

Ongoing projects

• **CERP** - Collective bargaining and environmental responsibility – challenges and perspectives for transport and public sector, European Commission, DG EMP, 2024-2026

Abstract: In order to inform policies, science community and public, our research project seeks to improve expertise in the field of industrial relations, to builds on and contributes to environmental responsibility in Europe by analysing an impact of relevant national and sectoral (public and transport) EU and national green policies on level, scope and modalities of collective bargaining/agreements and role of social dialogue and collective bargaining in managing transition to a low carbon economy in just and fair manner for workers and local communities. It will conduct six case studies in Spain, Greece, Portugal, Poland, Serbia and North Macedonia with the cooperation of research institutions with key players of industrial relations in respective countries - trade unions, employer organizations and labour decision making –, and it will be possible to conduct a research based on empirical data. The project is following the 13 legislative proposals that aim at aligning EU climate and energy policies with the new climate targets set by the recently adopted Climate Law – a GHG emission reduction of at least 55% by 2030 compared to the 1990 levels, and climate neutrality by 2050. The CERP project also deals with the rethinking and setting up European social dialogue measures for implementation of REPowerEU and other Green New Deal policies.

The final result of research will be country specific comparative study, which should provide evidence-based data on ongoing trends in 6 EU Member States and Candidate Countries with specific and different industrial relations and to provide recommendations for further theory and practice in Europe.

• IMET - Innovating social dialogue and collective bargaining toward artificial intelligence in the MET Industries, European Commission, DG EMP, 2024-2026

Abstract: CEEMET and IndustriALL Europe adopted joint conclusions on artificial intelligence in the MET (metal, engineering and technology based) industries on their social dialogue meeting on competitiveness and employment on 15 March 2023. The aim of the joint conclusions is to provide guidance for the social partners in the European MET industries on how to approach AI in the workplace. Thus, the project aims to support implementation of adopted conclusions by two European level organizations from MET industries through capacity building and large dissemination of deliverables on employment related aspects of technology by innovating collective agreements toward changes. iMET project will joint support of project partners at European level, the CEEMET and the IndustriALL Europe (associated partners), the employer organizations from Croatia, Poland, Spain, Serbia and Latvia and trade union federations from Croatia, France, Austria, Spain, Portugal, Poland, Romania, Serbia including expertise support of University NOVA Lisbon (Observatory of Technology Assessment).

The project will surface different geographical regions and impact of policies to selected communities and sectors. iMET will be focused at improving capacities of social partners to be informed, consulted, and engaged in digital transformation of sector companies and monitor these effects on employment, job requirements and working condition. It is relevant the study of impact of digitalization and AI on jobs, especially regarding occupational health and safety, human resource management, data protection and skills needs.

• Metallica - Promoting Employee Involvement In Dispute Prevention and Resolution in the Face of the Restructuring Taking Place Due to the Twin Transition in Europe's Metal Sector, European Commission, DG EMP, 2025-2027

The European Metal industry frequently experiences conflicts and clashes of interest, particularly during the restructuring process due to changes brought about by the twin transition to Industry 5.0. Undertakings in the European metal sector are adapting to these changes. However, navigating the twin transitions presents specific restructuring challenges in the metal sector that significantly affect work organization and employee-employer relations, often leading to a lack of employee involvement and consultations, as well as disputes and conflicts at the workplace. As the sector invests in a clean energy approach and incorporates digital manufacturing, employees previously skilled in 'traditional' methods may find their expertise less relevant and require upskilling initiatives. If the twin transition is not accompanied by relevant information, consultation, and participation measures, disputes can arise at the workplace. These disputes ultimately affect the 'just' aspect of the twin transition.

The Metallica project aims to realize workers' rights to information, consultation, and participation in the metal sector and to build their capacity to engage in effective dispute prevention and resolution during the companies' measures to adapt to the twin transition (green and digital). To address the challenges faced by metal sector stakeholders, the Metallica project will implement a comprehensive approach consulted with project target groups and implement activities such as national research and analysis, preparation of publications, and online learning OERs on dispute prevention and the twin transition, among others. The project corresponds to the objective of the Call and will be implemented in Bulgaria, Poland, North Macedonia, Slovakia, Portugal, Italy, and Spain.

• IN&OUT of the BOX - Exploring Emerging Technologies and Future Skills in the Creative Industries, National Foundation for Science and Technology (FCT 2023.15112.PEX)

Creative industries sit at the intersection of three crucial value creation factors, but these are also three major "black boxes" of human culture – intelligence, creativity and technology. This project aims to challenge this opacity and critically explore the transformation trends of the creative industries, focusing on the new wave of Artificial Intelligence (AI) technologies and how they are challenging skills, agency and value formation, as well as our notions of intelligence, creativity and authorship. In addition to the growing weight and relevance of the creative industries sector, the analysis of these trends makes a more general contribution to the understanding of contemporary societies, often described as knowledge societies, creative economies or even cultural capitalism, where soft skills have become a crucial factor of innovation and development. In this framework, the analysis of creative industries becomes crucial for the technological assessment of AI and for understanding socio-technical transformations at the level of skills, work and entrepreneurship. IN&OUT of the BOX proposes to address the changing ecosystem of creative industries through an exploratory methodology, which is both experimental and reflective, including hands-on and immersive interaction with the AI black box, as well out of the box; critical thinking and artistic investigation.

Plans for the future

- Re-establish the contacts with the parliament (Assembleia da República) after the May 2025 elections. In particular, we will do it with the Committee for Education and Science, and with the President of the parliament;
- Participation in the Anticipatory Practices network (ITAS-KIT, OAT Nova University of Lisbon, ITA Austria, Praxis University of Basque Country, University of Twente);
- Organization of OAT Board elections (May 2025)
- Organization of the 1st National Meeting on Technology Assessment ENAT (December 2025).



SPAIN

Name of the PTA unit + Name of respondent

Oficina C, Science and Technology Office, Congress of Deputies, Spain



Ana Elorza, FECYT Coordinator

Institutional developments

In 2024, the Spanish Congress of Deputies and the Spanish Foundation for Science and Technology (FECYT) agreed to extend the agreement establishing the Office of Science and Technology (Oficina C) for 2025 while increasing its annual budget to \notin 580,000 to support its consolidation and continued activities. Oficina C, co-directed by representatives from both institutions, continues to provide scientific evidence to the Spanish National Congress of Deputies through standardized processes that ensure transparency and accessibility and connects the scientific community and society to the national Parliament.

The team, composed of technical staff from both the Congress and FECYT, has continued to strengthen its collaboration with various units of the Congress' Secretariat General. In line with its commitment to continuous improvement, Oficina C developed an internal guide on the ethical use of generative artificial intelligence and initiated its first external and independent evaluation to enhance its effectiveness and impact.

Oficina C also reinforced its institutional link with society and stakeholders by launching a public consultation to collect proposals for future topics. Out of 330 submissions, 14 were fully or partially included in the list of 20 topics submitted to the Bureau of the Congress (la Mesa) for 2025. This initiative was included in the Spanish Parliament's first Open Parliament Plan and marked a milestone in public engagement efforts.

Finished projects

In 2024, Oficina C published four new C Reports on topics selected by the Bureau of the Congress. These reports were produced in collaboration with 100+ experts and followed the Office's distinctive C Method, combining systematic literature reviews with expert interviews and peer validation. The topics addressed included:

- Sustainable Management of Coastal Areas featuring a public webinar to gather evidence.
- Active Suicide Prevention incorporating an expert roundtable to evaluate the findings.
- Critical Raw Materials for Energy Transition
- Artificial Intelligence and Education

As part of Science Week (Semana C), Oficina C organised closed-door meetings known as *Diálogos C*, where the C Reports were thoroughly discussed. These sessions brought together experts from a wide range of disciplines with members of parliament and advisors from the different parliamentary groups. The meetings provided a space for in-depth, cross-disciplinary dialogue on the scientific evidence presented in the reports and its relevance to legislative work. In addition, the C Reports were also formally presented in the relevant parliamentary committees, further strengthening their integration into the legislative process. All reports were reviewed by consulted experts and presented in clear language, fostering accessibility and transparency.

Impacts

Since their release in late October 2024, the four C Reports have received strong public and institutional attention. They have already been cited in:

- 10 academic journals,
- 10 policy and civil society reports,
- 11 university theses,
- 2 book chapters,
- 2 parliamentary non-legislative proposals, and
- various Senate and Congress sessions.

The reports were also featured in traditional media, *Canal Parlamento*, and social media – particularly LinkedIn, which proved to be the most effective dissemination platform. Overall, website traffic increased by 66% and new users by 90% compared to the previous period. A new newsletter launched in late 2024 has already grown its subscriber base by 109%.

The European Commission's Joint Research Centre (JRC) referenced Oficina C as an international best practice example in its 2024 report *Building Capacity for Evidence-Informed Policymaking in Governance and Public Administration in a Post-Pandemic Europe.*

Public engagement

Oficina C has prioritized in 2024 engaging the general public:

- The **public consultation** on future report topics marked an important innovation in participatory agenda-setting. This public consultation collected proposals for future topics coming from the general public. Out of 330 submissions, 14 were fully or partially included in the list of 20 topics submitted to the Bureau of the Congress (la Mesa) for 2025. This initiative was included in the Spanish Parliament's first Open Parliament Plan and marked a milestone in public engagement efforts.
- The Science Week (Semana C) in the Congress brought together MPs, scientists, experts, journalists, and citizens. It included discussions on the 2024 C Reports.
- A third edition of **Oficina C pairing programme** was launched, matching 10 new researchers with MPs or legal advisors of Parliament. Since its launch, this programme has formed 60 pairs. A new alumni programme has been created for the pairs formed through the pairing initiative
- The **Colabora mailbox** at Oficina C remained a key tool for researchers to express interest in participating in future reports, resulting in several new expert collaborations.

Ongoing projects

The following new projects were initiated in 2024 and are currently under development:

- **EPTA network virtual café initiative**, a monthly forum for practitioners peer exchange that was launched by Oficina C and will continue under German coordination in 2025
- Gender and Evidence focused on ensuring gender balance and inclusive language in all activities and publications (46% of consulted experts were women).

- **Evaluation of AI Ethics** creating internal tools and standards for ethical use of generative AI in evidence gathering.
- External Evaluation of Oficina C aimed at improving processes and measuring impact.
- **Professionalisation of Scientific Advice** contribution to the EU's REBECA initiative under EURAXESS, framing scientific policy advisory work as a new career path.

Plans for the future

Looking ahead to 2025, the Office will:

- The Bureau of the Congress, following proposals from parliamentary groups, selected three new topics for the preparation of C Reports in 2025: Drought in Spain; Minors and social media and Territorial development: opportunities and challenges in rural areas
- To continue working on clear science communication for public policy in collaboration with the University of Barcelona.
- To continue engaging in the European Science for Policy (S4P) Community of Practice, as Oficina C remains committed to sharing best practices and collaborating with its international peers in the field of science for public policy.
- To launch a new public consultation in 2025
- Oficina C is launching a new, shorter and faster working format Notes C with the committees of the Congress of Deputies.
- Implement recommendations from the independent evaluation.



SWEDEN

Name of the PTA unit + Name of respondent

ERS, Thomas Larue

Institutional developments

A new research secretary was recruited in October 2024 – Gustav Bohlin – he comes from a position as a senior investigator at Public & Science Sweden (an independent Swedish non-profit membership organisation that works to promote dialogue and openness between researchers and the public).

The new working group for the organisation of seminars on research on the Swedish parliament has continued its work. It is comprised of 10 MPs (of which two are Vice Speakers). The group held its second seminar in November 2024 and its third seminar in April 2025 and will be holding its fourth seminar in November 2025. Feedback from the first three seminars was overwhelmingly positive (invitations to the group's seminar are sent to all 349 MPs, and last time over 50 MPs took part which was a good participation).

No budget or organisational changes. Nor any other changes (except those mentioned above).

Finished projects

If you want more information, just ask me and I can arrange for translation of the summary (or whole reports).

- Social Insurance Committee Evaluation of efforts for work-oriented rehabilitation for insured individuals who are on sick leave due to mental illness/stress-related health issues (published in November 2024) - <u>https://data.riksdagen.se/fil/68C30E89-ECB2-4CF5-B4F7-59D835F05DE2</u>
- Defence Committee Mapping the civilian defence based on the goals of civil defence to describe the work with selected readiness sectors (published in November 2024) https://data.riksdagen.se/fil/3D54A491-8FC4-40C8-B561-95E9DE73A638
- Social Committee Partial evaluation of national highly specialized care (published in May 2025) <u>https://data.riksdagen.se/fil/F642DD82-B8F3-4F33-BEF2-2449F15C216F</u>

Impacts

The projects have significantly contributed to the committees' assessment of some parts of the budget as well as to other evaluation and research projects directed by the committees. Several of the committees' projects are used by the Government Offices, state agencies and other actors. Our/their reports are also mentioned in debates in the Chamber, not least in budget debates but also in other debates.

Public engagement

On April 18th, 2024, the Swedish Parliament's Research Day was held for the fifth consecutive year. Speaker Andreas Norlén hosted the day, which focused on knowledge for the future labour market. During the morning, the parliamentary committees held internal seminars with researchers whom the committees had invited themselves. This was followed by a joint open seminar focusing on the labour market.

Ongoing projects

- Tax Committee Preliminary study on reporting obligations and automatic exchange of information for cross-border arrangements, DAC 6 (will be published later this Spring).
- Culture Committee Broader study on the gaming industry and social culture (will be published in late fall/winter 2025).
- Civil Affairs Committee Evaluation project om certain housing policy decisions (will be published in fall 2025).
- Committee on Finance support ahead of an upcoming structured and periodically recurring independent evaluations of the National Audit Office's audit activities
- Business Committee Evaluation on export and investment promotion (will be published in Spring 2026)
- Education Committee Evaluation of support and school results for students with NPF diagnoses and/or mental health (will be published in Spring 2026)
- The Justice Committee Evaluation of human trafficking (will be published in Spring 2026)
- The Traffic Committee UoF project where the topic has not yet been determined by the committee group (topic to be picked by the group in May 2025)

Plans for the future

We still strive towards a situation where ERS could regain an additional research secretary (thus to have 3 RS and 9 in the staff in total) given the many extra-project on research which have been initiated – not least by the Riksdag's Speaker. But so far, no success in budget negotiations.



SWITZERLAND

Name of the PTA unit + Name of respondent

TA-SWISS, Elisabeth Ehrensperger

Institutional developments

Our team of eight is well coordinated and we are highly motivated to work for TA-SWISS.

The Swiss Parliament has approved the **budget** for our multi-annual planning from 2025 to 2028. So far, there have been no significant linear cuts in the budget. However, 10% cuts in certain education, innovation and research institutions are expected for 2027 and beyond. The global budget of the academies, which includes TA-SWISS, does not appear to be targeted by these cuts – at least for the time being.

Finished projects

On April 28th, TA-SWISS has published a study on new forms of digital money that would be cryptography-based and programmable. The study examines four variants worth considering in the Swiss context: **tokenized bank deposits, stablecoins**, retail central bank digital currency (**rCBDC**), and so-called **synthetic CBDC** (stablecoins covered through central bank money). Unlike crypto currencies such as Bitcoin, these "new digital franks" (new digital Swiss currency) would be issued by regulated private or public actors and tied to financial guarantees. The study offers a discussion of opportunities and risks for the Swiss economy and financial stability, but also of social implications related to citizens' private sphere, the use of cash, the political instrumentalization of money, as well as ecological aspects depending on the actual design of these new forms of money. In addition, a survey and a focus group took place to include citizens' attitudes and questions on this overly complex, niche topic. Given the subject, the study is also original in its interdisciplinarity, as it gathered the fields of economics, law, political science, and sociology across the German and French-speaking parts of Switzerland. It was presented to the media and will be sent to Parliament, the Swiss National Bank, federal offices, political parties, as well as other official stakeholders in the weeks to come.

Public engagement – external impact and communication

General services and information for Parliament

Our current approach to communication with the Swiss parliament sets on (1) direct contact with MPs showing a concrete interest in specific TA topics and (2) looking for opportunities to send our studies to individual MPs, committees, or councils whenever useful. To this aim, we conduct an ongoing monitoring of all new parliamentary interventions related to new technologies (i.e., when a MP or a committee proposes a measure or asks questions to the Federal government; there are more than 2500 such interventions per year!). On this basis, we send our studies and/or prior information on our ongoing projects to MPs working on issues closely related to our topics. Occasionally, we will get in touch with the Federal administration if our material can be of interest to the Federal government's reply. Further, we monitor committee and council sessions programs to send relevant

studies before deliberation. This entails the committee's secretariat, which may include our study in its documentation for MPs or invite us for a hearing.

When a new study is published, it is first sent to all MPs via an "e-news", and then more personally to specific MPs (see above). We also send it to the Parliamentary services (i.e. the secretariat of the relevant committees), the Parliament's library, political parties (who advise MPs), and relevant offices in the Federal administration. Prior to the press conference, we sometimes reach out to the presidents of the committees in charge of the study's thematic area to inform them of the coming publication and offer a hearing.

Published studies in the media, at conferences and events for the general public

- The study on **Deepfakes and Manipulated Realities** investigating the risks and opportunities of deepfakes and synthetic media (including AI-generated images, videos, and sound files) and comprising a survey on the Swiss population's views and ability to detect deepfakes, scenarios for Swiss politics and companies (with a survey of Swiss MPs), a discussion of current and needed legal dispositions, and a survey among prominent media houses has a high number of downloads and was featured in numerous media articles after the press conference. We received positive feedback from MPs working on the topic, as well as from civil servants in the Federal administration, and were cited by the Federal Council in some of its responses to Parliament. The study was also presented at various events, e.g. from the NGO "digital society" on digital politics, the University of Geneva, or the Swiss conference of library directors. However, we also experience difficulties in positioning a study on such a trendy topic, on which competition for attention is extraordinarily high.
- With the study on **Substitutes for Milk and Meat** TA-SWISS could participate at several events to communicate the results not only to scientists but also to laypeople, e.g. a conference related to food technology, a discussion in a vocational school, two "Science Cafés" and two food markets. Furthermore, TA-SWISS made the report available to stakeholders in the domain of nutrition and agriculture as well as to numerous politicians dealing with the issue. Two events will follow in 2025. In 2026, several participatory events are planned in public libraries (including tastings, a small exhibition and panel discussions).
- The study on **Death and Technology** examining the «digital afterlife», i.e. the death tech and grief tech services that have emerged around the data of the deceased, has continued to attract widespread interest from newspapers and radio/TV shows. The study authors have been invited to present at several scientific and public conferences as the topic is close to the everyday life of most citizens.
- The multifaceted study on **Culture and Digitalisation** was not only published in traditional print format. It was also reworked as an interactive web platform to promote accessibility for other target groups. The platform's impact is currently evaluated. The results of the study were presented by members of TA-SWISS and the project groups at stakeholder workshops or in the curricula of higher education institutions. A DIY workshop on AI tools followed by a large panel discussion on intelligent art was organised in collaboration with the House of Electronic Arts in Basel, Switzerland.
- The TA study on **Nuclear Technologies** (see below, ongoing projects) was launched in April 2025. Even before the start of the project, TA-SWISS was invited by Switzerland's main radio station SRF to give an interview on the topic at prime time. This shows the topicality and controversial nature of the subject. The study will also be announced at a parliamentary event in May 2025 organised by the Swiss academies about nuclear technologies.

Ongoing and new projects

• Social Scoring Systems: Many of our daily behaviors generate easily trackable data: from our search history, virtual payments, and mutual ratings to active self-measurement. Over time, these data points can add up to a personal profile. A treasure whose value has been actively used and

exploited by the private sector for many years. So far, such profiles do not conflict with basic human rights, but what happens when they become relevant in the housing market, for example? Scoring systems quantify and reward behavior defined as desirable by their operators. However, they differ in terms of the actors involved, the existing power structures, the technologies used and the local implementation contexts. An interdisciplinary research team will develop a typology of existing and fictional social scoring systems in the public or near-public sector. Furthermore, they will examine the tension between individual freedoms and other types of social incentive systems, especially regarding the aspects of social inequality, ethics, and constitutional compliance.

- **Health Data**: The interdisciplinary study will look at the opportunities and risks of using health data. Digitalization and new diagnostic methods make it possible to collect health-related data to a greater extent than before: How can the data be used to provide the greatest possible benefit to society, for example in research (in universities or in the pharmaceutical industry), in the early detection of diseases (individual prognoses) or in prevention (public health aspect)? An international and interdisciplinary project team began work on the study in December 2024.
- Nuclear Technologies: In April 2025, a project has been launched for the assessment of new generations of nuclear technologies, which represents a highly topical, lively, and controversially discussed subject in Swiss politics, science, and society. The study will identify opportunities and risks of new technologies in the field of nuclear power from an interdisciplinary perspective by addressing technical, economic, societal, and political aspects. Moreover, issues such as safety, feasibility, supply, profitability, sustainability as well as the corresponding perception in politics and society will be analyzed.
- Large Language Models and De-/Upskilling (loss and gain of human skills): We published our call for projects in September and have now selected a research team for it, after receiving a record number of applications. The main questions will be the following: Which skills do we risk losing if we increasingly rely on LLMs? How can they help us develop existing or new competencies? Which skills related to LLM use will be necessary in the future, and how to preserve human skills while drawing the best from these new applications? In the process, we note a tendency in the public and political discussion of this topic to consider it almost certain that LLMs are about to be implemented on a massive scale. However, we would like to encourage a broader perspective on the social dynamics that are feeding these developments in the workplace (e.g. which framing and whose perspectives drives the redefinition of necessary skills in the future?). Taking a step back without ignoring the rapid increase of LLM use is thus an interesting challenge for TA.

Plans for the future

- **Relationships in the Digital Age**: 10,000 followers, 3 relationships and a love bot: digital applications, almost infinite contact possibilities, endless social media feeds and constant accessibility are changing human relationships. What are the risks for the social and political fabric when interpersonal contact, essential for a democratic society, is increasingly mediated through digital space and AI bots? An upcoming call for projects aims at tackling this complex question.
- Quantum Technologies: Given Switzerland's increasing investments in quantum technologies and the rising international competition in this domain, we decided to launch a study now even though concrete applications are not expected in the years to come. We aim to focus on the information decision-makers and citizens need to be able to forge an opinion on the societal implications of these technologies that are often framed as 'for experts only'. From a TA perspective, we benefited a lot from the paper of the Rathenau Institute on quantum technologies.
- Solar Radiation Modification: To counteract climate change, increasing consideration is being given to technologies that can help reduce the global average temperature. One such method, which is increasingly discussed on the political level, is solar radiation modification (SRM). It

aims to reduce solar radiation on the earth using various technical approaches. SRM is highly controversial, especially as the global, regional, and local effects associated with such interventions in the Earth's climate system have hardly been researched. TA-SWISS aims to develop a factual knowledge base on the opportunities and risks of SRM. The study call is currently being prepared and will be published by the end of 2025.



UNITED KINGDOM

Name of the PTA unit + Name of respondent Parliamentary Office of Science and Technology – Oliver Bennett **Institutional developments since April 2025** POST staffing has changed, with some movement between teams. See the full organogram below. POST is also supported by approximately 50 academics each year. Administration **Advisory board** 6 MPs, 4 Members of House of Lords, 4 external experts, 4 senior staff Oliver Bennett Yasmin McNeil Ed Newton Team Manager Liaison Librarian Head Knowledge Research teams **Exchange Unit Biological Sciences** Social **Digital & Physical** Energy & & Health Environment Sciences Sciences Sarah Carter-Natasha Lydia Clare Jonny Bell Harriss Lally Mutebi Wentworth Sarah Foxen Laura Simon Jennv vacant Webb Chapman Brawley Rakhi Biswas Evans **Topics include: Topics include: Topics include:** Topics include: Defence Food Social issues Environment Michelle Technologies Medicine Constitution Climate change Ntow Digital communication Public health Home affairs Energy Artificial intelligence Healthcare Biodiversity Economics 50 academics: Parliamentary Academic Fellows, PhD fellows, Thematic Research Leads

Finished projects

From April 2024 to April 2025, we published 43 major research papers (all published on our website, <u>post.parliament.uk</u>).

We also published 78 short articles to present the results of our parliamentary horizon scan.

Several other actions have been delivered over the period including:

- Integrating POST into the governance framework of parliament's research bodies. Parliament has agreed KPIs and deliverables for POST.
- the production of a new POST business plan for 2025 to 2027. This will focus on engaging members of parliament and committees directly in our work, as well as delivery of some efficiency improvements (see below).
- The production of a new communications strategy
- The production of a knowledge exchange strategy

• The 2023-24 Thematic Research Lead (TRL) pilot concluded with a showcase event attended by the research funding councils, government fellowship programme representatives, universities, parliamentary staff, and POST representatives. The 2024-2026 TRL cohort, funded by UKRI, commenced in September 2024. The new cohort of eight thematic research leads recently completed their intensive induction and are now fully embedded within their parliamentary home teams.

Impact

In 2024, POST research was cited in:

- 87 parliamentary reports (committee reports, library reports, parliamentary debates)
- ~200 external reports (journal articles, government agencies etc)

POST also:

- received 270,658 views of our research of our website
- answered 51 confidential questions from parliamentarians and staff
- conducted ~240 knowledge exchange activities for committees and colleagues (identifying experts etc)
- helped to deliver parliament's general election plan by:
 - acting as 'buddies' to new members
 - helping prepare biographies of members to support parliamentary induction activities
 - o working in the New Members Reception Area
 - contributing to information sent to all members, including for a major briefing "Research in brief: Quick reads for the 2024 Parliament"

Public engagement

POST leads on UK Parliament engagement with the research community. This includes weekly newsletters, stakeholder meetings, presentations, answering questions and training.

A new strategy has been developed to enhance the effectiveness of this work, and to free resources for other activities that parliament has prioritised.

New projects

POST works on a quarterly research cycle. The latest major research projects are announced on our future <u>POST work programme</u>.

Plans for the future

POST will be focusing on delivering the major actions in the new business plan, comms strategy and knowledge exchange strategy, including:

- efficiency improvements to our research processes
- developing clear recording and monitoring processes around our rapid evidence support activities
- developing clear direct services to members of parliament
- efficiency improvements in our fellowship schemes
- reviewing our horizon scan
- internal and external communications work



USA

Name of the PTA unit + Name of respondent

GAO/STAA, Karen Howard and Brian Bothwell

Institutional developments

Our Science, Technology Assessment, and Analytics (STAA) team continued to grow. At our inception in 2019, we had 49 full-time employees. As of April 2025, STAA has approximately 166 full-time employees and by October 2025 we project to be at approximately 175 full-time employees. This includes staff focused primarily on TA work as well as staff doing other GAO work such as performance audits of the executive branch. (*Read more:* Science and Technology: GAO's Support for Congress | U.S. GAO.)

GAO's fiscal year 2026 budget request is for \$933.9 million in appropriated funds and \$72.2 million in offsetting receipts. These resources will be used to support GAO's 15 mission teams (including STAA), as well as administrative and staff offices, to enable GAO to meet the priority needs of the U.S. Congress, including these three key areas of importance to the nation and Congress:

- Science and Technology. There is growing demand for GAO's science and technology work. GAO has focused on enhancing this area to meet increased demands from Congress. GAO's science and technology team, for example, provided over 90 technical consultations to Congress in 2024 alone. GAO's portfolio of ongoing and future work includes many aspects of artificial intelligence, medical research and applications, hydrogen fuel uses, and quantum computing.
- National Security Enterprise. GAO evaluates an array of national security efforts in areas such as military readiness, major weapons systems acquisitions, space programs, and the U.S. nuclear complex. The size and complexity of these efforts continue to grow.
- **Cybersecurity**. GAO assesses the development and execution of a comprehensive national cybersecurity strategy, the cybersecurity of 16 critical infrastructure sectors across the U.S., and the security of federal information systems.

(*Read more:* Fiscal Year 2026 Budget Request: U.S. Government Accountability Office | U.S. GAO)

The STAA team within GAO is led by Managing Director John Neumann. The Technology Assessment (TA) group within STAA is co-managed by Karen Howard, Director of Science and Technology Assessment, and Brian Bothwell, Director of Engineering and Technology Assessment. GAO's technology assessment work is also supported as needed by the agency's Chief Scientist, Sterling Thomas. Of our 166 staff, about 50 are scientists and engineers, with most of the remainder having expertise in science policy, data science, analytics, operations research, and science communications. Across the entire agency, GAO has 15 mission teams of analysts, financial auditors, and specialists who work on reports and other products that examine various aspects of federal programs and services. Each mission team focuses on key issue areas that help GAO achieve its mission to serve Congress and the American people. GAO has 16 operations and staff offices that work to support the agency's mission teams and Executive Committee, Congress, and the American people. In total, GAO currently has more than 3,500 staff. (*Read more and access GAO's organizational chart:* Our Teams U.S. GAO)

GAO is part of the Legislative Branch of the U.S. federal government, responsive to but independent from Congress, and is strictly nonpartisan. GAO, under various statutory authorities, examines the use of federal funds; evaluates federal programs and activities; and provides information, analyses, options, recommendations, and other assistance to help the Congress make effective policy, funding, and oversight decisions. GAO frequently relies on two general statutory authorities to support its work. The Budget and Accounting Act of 1921 authorized GAO to "investigate all matters related to the receipt, disbursement, and use of public money." The Legislative Reorganization Act of 1970 authorized GAO to "evaluate the results of a program or activity the Government carries out under existing law" when ordered by either House of Congress, when requested by a committee of jurisdiction, or on the initiative of the Comptroller General. To assist GAO in performing its work, the Congress provided GAO broad rights of access to a wide range of agency information. Specifically, the Budget and Accounting Act of 1921 directs each agency to give GAO the information the Comptroller General requires about the duties, powers, activities, organization, and financial transactions of the agency. (*Read more:* GAO-17-767G, GAO's Congressional Protocols)

In FY 2024, we produced \$67.5 billion in financial benefits for the government – a return of about \$76 for every dollar invested in us. Our average return on investment (ROI) for the past 6 years is \$123 to \$1. In addition to financial benefits, our work contributed to enacted legislation and improvements to various programs. Many other benefits resulting from our work cannot be measured in dollars but lead to operational and program improvements. In FY 2024, we recorded 1,232 of these other benefits.

Since its establishment in 2019, STAA has served as a crucial resource for the Congress in understanding both the promise and the risks of emerging innovations. Its growing portfolio of work includes (1) technology assessments on generative AI, weather modification, and in-space servicing; (2) performance audits on funding and safeguarding federal research, federal use of generative AI, and patent system oversight; and (3) 2-page *Science & Tech Spotlights* explaining the latest trends, including textile recycling and at-home diagnostic tools for Alzheimer's and Parkinson's disease. GAO's Innovation Lab continues to apply a hands-on approach to explore data science and emerging technology through experiments. By adapting generative machine learning models, applying immersive technologies, and using other data-centric ideas, the Innovation Lab is working on issues related to improper payments, improving information and evidence collection, and increasing efficiency.

(Read more: Performance and Accountability Report, Fiscal Year 2024 | U.S. GAO)

The U.S. is experiencing increased national discussions on the benefits, challenges, and costs of scientific research and development and how such activities are funded.

Finished projects

- On the Horizon: Three Science and Technology Trends that Could Affect Society | U.S. GAO – Issued Nov. 13, 2024. In our first periodic report on science and technology trends, we looked at three emerging technologies: gene editing, which could improve disease treatment and prevention and have benefits like increasing lifespans; manufacturing in space, which could allow more efficient production of higher-quality semiconductor materials to help meet demand for technologies such as AI; and biodegradable bioplastics—plastics made from biological materials—which break down more quickly than traditional plastics and may help reduce pollution. Our report looks at the status of these technologies, their potential implications, and considerations for policymakers and others.
- Brain-Computer Interfaces: Applications, Challenges, and Policy Options | U.S. GAO issued Dec. 17, 2024. This TA examines systems that are implanted in the brain or worn on the head to let people control electronic devices using brain signals. In clinical trials, these brain-computer interfaces helped people with severe disabilities. Businesses are also investing in developing the technology for entertainment and other uses. We identified challenges with this

fast-moving technology, including uncertainty over who owns sensitive brain data, how to support people with implanted devices over the long term, and what Medicare and private insurers will cover. And we outlined policy options to help address these issues and more.

- <u>Cloud Seeding Technology: Assessing Effectiveness and Other Challenges</u> U.S. GAO issued Dec. 19, 2024. "Cloud seeding" is an 80-year-old technology that adds tiny particles— usually silver iodide crystals—to clouds to trigger rain or snow. But the benefits of this technology are unproven. Some U.S. states are using cloud seeding, but there is little federal involvement. This TA explores how policies might address challenges such as unavailable or unreliable data on effectiveness; unpredictable cloud conditions, which need to be favorable for cloud seeding; and uncertain safety of using silver iodide more widely.
- Artificial Intelligence: Generative AI Environmental and Human Effects | U.S. GAO issued Apr. 22, 2025. Generative AI could dramatically increase productivity and transform workloads in many industries. It can be used to respond to questions in customer service chats, create schedules, summarize information, produce Internet content—and more. But generative AI also poses potential risks to people and the environment. For example, the IT equipment that powers generative AI needs a lot of water and electricity to function efficiently and avoid overheating. Also, generative AI could replace workers or be used to create dangerous deepfakes. Our TA discusses these and other challenges and offers options for policymakers to consider.
- Smart Cities: Technologies and Policy Options to Enhance Services and Transparency U.S. GAO – issued Apr. 29, 2025. Cities across the nation are using "smart city" technologies like traffic cameras and gunshot detectors to improve public services. In this technology assessment, we looked at their use in transportation and law enforcement. Experts and city officials reported multiple benefits. For example, Houston uses cameras and Bluetooth sensors to measure traffic flow and adjust signal timing. Other cities use license plate readers to find stolen vehicles. But the technologies can be costly and the benefits unclear. The data they collect may be sold, raising privacy and civil liberties concerns. We offer three policy options to address such challenges.

Impacts

We continue to monitor the status of recommendations and policy options we identified through our Technology Assessments and Technical Audits and report accomplishments through our annual <u>Performance and Accountability Report</u> as noted in the section above on Institutional Developments. We also continue to build our relationships with members of Congress and their professional staff to offer ongoing technical assistance, briefings, advice on legislation and hearing support.

Public engagement

For our Technology Assessments, we reach out to key stakeholders, which can include public local governments. For example, for our TA on <u>Smart Cities</u>, we involved municipal government and local organizations to learn about their approaches and experiences.

Ongoing projects

- AI Competitiveness and Capacity Framework
- Hydrogen Economy
- Housing Construction Innovations
- Synthetic Biology for Clean-up and Remediation
- Medical Wearables in Clinical Decision-making

Plans for the future

In 2025, we plan to issue our second Science and Technology trend paper, projecting new technologies and the opportunities and challenges these could pose.



WALLONIA

Name of the PTA unit + Name of respondent

Spiral Research Centre, University of Liège (Belgium), Author: Pierre Delvenne

Institutional developments

• Céline Parotte has been reappointed (for another two years) by the Walloon Parliament to assist MPs with a strategy for consulting and involving citizens. She is part of an advisory committee of four scientists appointed by the Parliament's Bureau for their expertise in participatory methods. The committee's mission so far was to define the methodology for the draw of the Consultative Commission (2022), to monitor and advise the service provider (about ten online meetings), to observe and evaluate the five days of deliberation in person and to draw up an evaluation report (2024).

She has also been reappointed as **civil society representative to EURAD2** (European Partnership on Radioactive Waste Management). Her long-lasting integration into that consortium helps to maintain the network of nuclear expertise at Spiral, facilitating the comparison of case studies, the maintenance and sharing of scientific knowledge on advanced R&D programs in radioactive waste monitoring, the social acceptability of small modular reactors, and a co-constructed approach to nuclear safety (including regulators and their technical support). There are also interdisciplinary projects dealing with the socio-technical construction of cutting-edge technological innovations.

• Sébastien Brunet (former director of Spiral from 2008 to 2011) has been appointed President of the Scientific Council of a Transitions Laboratory, a newly created interdisciplinary entity in ULiège.

Finished projects

• LAMARTRA Project, "Bridging decarbonization and labour market in sustainability transitions", project funded by Belspo – federal science policy (consortium: ULB [coordination], ULiège, UCLouvain, KULeuven, IWEPS) (2021 – 2025).

How can we achieve a just and democratic transition toward a low-carbon economy? To finalize the LAMARTRA project, a full-day <u>final conference</u> on the 26th of May 2026 will bring together research, policy, and practice to explore how the ecological and labour transitions can be governed in ways that are fair and democratic.

Based on four *policy briefs*, this event will dive into:

- Employment risks and opportunities linked to decarbonization
- Workers participation at firm level for the transitions
- The role of social dialogue for governing the transitions
- o The role of visions about the future in selected sectors
- [New book] by Céline Parotte, *Méthodes de recherche qualitatives. Approches et pratiques réflexives en sciences politiques et sociales*, Coll. Manuel, Presses Universitaires de Liège, 224p.

<u>Highlights</u>: Presentation of a constructivist and reflexive approach to the stages of qualitative research in political and social sciences, identification of the methodological and theoretical choices to be made from the choice of a research question to the writing and valorization strategy, theoretical and practical support for research.

• [New paper on method] Parotte, Céline, Flore Nathan, Frenay, Sacha, (2024), "Training to embrace uncertainties? <u>The 'Pathway Evolution Process' serious game for assessing toxic waste program</u>", *Journal of Strategic Trade Control*, Special Issue Vol. 2, (August 2024).

<u>Highlights</u>: in-depth study and practical evaluation of a method for producing qualitative data (the serious game) on a controversial policy, symmetrical analysis of the role of experts, facilitators and participants.

• [New paper on a key concept to address futures]: Abe Hendriks, Kamilla Karhunmaa, Pierre Delvenne, "Shaping the future: A conceptual review of sociotechnical imaginaries", *Futures*, Volume 170, 2025, 103607 (open access).

Highlights:

- Sociotechnical imaginaries has evolved beyond STS as a way to inquire collective visions of desirable futures.
- We review 300+ articles engaging with sociotechnical imaginaries to capture the rich evolution of the concept.
- We assess four key development areas: future engagement, temporal changes, forms of comparison, and spatio-material focus.
- We suggest exploration of the relations between imaginaries and adjacent concepts and the endurance of imaginaries.
- [New policy-oriented chapters] Two contributions by Spiral members are forthcoming in the *Oxford Handbook of Belgian Politics* (in press, co-edited by Reuchamps, Min; Biscop, Sven; Brans, Marleen et al.):
 - "Civil service and public administrations in Belgium", by De Visscher, Christian; Fallon, Catherine; Piron, Damien et al.
 - <u>"Energy Policy in Belgium"</u>, by Sabbe, Matthias; Frenay, Sacha ; Parotte, Céline.
- [Finished PhD] on the 21st of May, Jean-Baptiste Fanouillère will defend his PhD on: "Privacy and Health in the Age of Big Data. Sociopolitical issues around (de)centralization of medical data in Belgium, France and the United Kingdom".

Abstract: His dissertation focused on how ecosystems organizing the production, circulation, and use of health data are established and function in Belgium, France, and the United Kingdom. He analyzed the roles played by different stakeholders, such as the government, the private sector, insurers, healthcare professionals, and even patient associations. In fact, the collection of medical data is not simply based on the development of big data technologies, but results from discussions, confrontations and negotiations between these stakeholders, whose reasons for supporting or opposing computerization projects are manifold. It underlines the importance of considering health data as mutually constituted, linked by a contingent, relational and contextual set of practices and complex material and discursive relations. The acceleration of the "European Health Data Space" project (European Commission, 2022), as part of the European Health Data Space, now requires us to question the evolution of the transnational regulatory framework and its impact on national practices. The empirical approach was carried out through a real immersion in the sector, an analysis of the IT tools used, and numerous semi-structured interviews with political and administrative officials, health professionals who manage data centers, and representatives of the voluntary sector. The result is a particularly detailed socio-historical account of developments in each country.

Impacts

- Catherine Fallon is an active member of the consortium in charge of preparing the "First Risk Assessment" (FRA) on the impact of climate change and biodiversity loss on the territory of Belgium. This project is financed by the Federal Agency CERAC. The FRA aims to provide a thorough assessment of the risks that Belgium faces from climate change and biodiversity loss. It will also evaluate the potential impacts of these risks on key sectors and systems, such as food systems, energy and transport infrastructure, public health and natural ecosystems, while taking into account broader socio-economic implications. The project started in July 2024. The final report is expected in November 2025.
- [Photo exhibition + art & science and public events] Radiant futures: sensing the traces, remains, and residues of nuclear activity:
 - [Photo exhibition] As part of a partnership between Spiral and MNEMA, with the support of the Maison des Sciences de l'Homme ULiège, Spiral organized a public exhibition that highlighted the consequences of the Fukushima nuclear disaster through photographs and essays. More information about the exhibition: <u>Picturing the Invisible</u>.
 - [Opening conference] was held on February 7 with Makoto Takahashi (curator of Picturing the Invisible), Takashi Arai (Japanese photographer and visual artist), and Martin Denoun (researcher at Spiral on nuclear issues).
 - [Conference-debate] was held on February 19 by Professor Ulrike Felt (University of Vienna) on the following theme: "Beyond the visible: The art of perceiving a nuclear disaster differently."

Public engagement

1) Scientific coordination by Céline Parotte and Hélène Dodion of the **3rd edition of the Participation Encounters on "Anchoring"** [Ancrage], which took place in Liège on December 13th-20th. These encounters take place in the framework of the **Interuniversity Certificate in Participatory Democracy**, which we are co-responsible of. In addition to training, the aim is to organize and coordinate networking events with administrations, civil society, representatives of policy makers and researchers on participatory methods.

2) **"Far Right Movement, what can we do?"** Thematic workshop supported by Spiral Research Center and organized by Barricade ASBL (2024) as part of <u>one-day exchange</u> entitled: "All the way to the right? On the need to (re)create left-wing imaginaries".

3)Volunteer/activist research project on **Multiple endometriosis** (01/02/2022- 30/08/2024 – Shana Riethof, François Thoreau, Lucas Bechoux, Roxane Gabet). This action research project is conducted in partnership with a family planning organization and consists of socio-anthropological support for a frontline care program for chronic pelvic pain.

4) Co-organization of an **interdisciplinary festival on the future of rural areas** (12/07/2024-14/07/2024) on literature, arts, science, and society: **"ROBOZ: Encounters with the future in Condroz"**. Organization of various events such as a guided tour of the region on the theme of water (with Chloé Deligne and Didier Demorcy), a meeting on nuclear power (with Martin Denoun and Ange Pottin), a public meeting on the power of fiction (with Isabelle Stengers) and finally a round table on the future of livestock farming.

5) Festival Image et Santé (23-29 March 2025): We participated in two television programs: 1) "Focus on Spiral at the interface of Science, Technology and Society", Interview (P. Delvenne, F. Thoreau, K. Hendrickx) at the Centre Hospitalier Universitaire; 2) "Roundtable on Pandemics, Memory and One Health" (A. Thiry).

6) **Present for the Future - Dialogue on the future of radioactive waste**: In October 2022, the federal government decided to bury Belgium's high-level and long-lived radioactive waste in a deep geological repository. Throughout 2023, the King Baudouin Foundation has organized a major public debate on the future management of this waste. Catherine Fallon was the chairwoman of the scientific committee supporting the project. In 2024, the <u>final report</u> was presented to the Federal Parliament.

Ongoing projects

1) **"Ruins of the Future: Rethinking Industrial Infrastructures"**. Partnership between the University of Liège (Spiral) with Prof. Pierre Delvenne, Prof. Kim Hendrickx and Prof. Céline Parotte, and the Centro de Estudios en Ciencia, Tecnología y Sociedad (Universidad Alberto Hurtado) with Prof. Sébastian Ureta and Prof. Barbara Silva.

Intermediary outcomes (by Pierre Delvenne, Martin Denoun and Céline Parotte):

- Organization of a panel on "Politics of Ruination? Deteriorating but Operating Infrastructures in the Global North" at the quadrennial joint meeting of the European Association for the Study of Science and Technology (EASST) and the Society for Social Studies of Science (4S), Amsterdam (July 2024)
- Organization by of an international conference on "<u>Nuclear Revival and Legacies</u>" (October 21-22, 2024) at the École nationale des ponts et chaussées (Champs-sur-Marne, Paris).
- Coordination of a collective volume in English to be published in 2026 in the Sciences et technologies en société collection (Presses Universitaires de Liège).
- 2) Raising Public Awareness of the Spread of Antibiotic Resistance Genes in the Environment
- project funded by FNRS WellChange PI François Thoreau (02/01/2024- 31/01/2028)

3) **Development of a risk culture in the Vesdre police zone** (February 2025 - September 2025) – PI Aline Thiry. Investigation and operationalization of the concept of "risk culture" in an area at high risk of flooding, using focus groups with citizens of the Vesdre Valley and professionals from municipal public services (police, firefighters, etc.).

4) **REM: Relating Ecological Mutations** – PI Kim Hendrickx (2025-2027) – The goal of this project is to initiate a new line of research in the social sciences and humanities focusing on anthropogenic (or human-induced) ecological mutation. As recognized in emerging One Health approaches, anthropogenic factors are not only inducing rapid climate change, but also shifts in ecological relations and the nature of organisms which are unpredictable and generative of farreaching ramifications such as the spread of (new) zoonoses, increasing resistance of microorganisms against pesticides and antibiotics, and the health impact of persistent chemicals on human and other organisms. Ecological mutation puts the living center stage, and it prompts two main questions: 1) how does this affect scientific practices and the way they represent the environment and what we know about it? 2) How does it challenge our existing scientific and administrative institutions, designed to define and manage collective problems according to logics of scientific and administrative compartmentalization?

Plans for the future

[Spiral turns 30 – and our plan for the future is to live at least another 30 years ;-)]

The Spiral celebrates its 30th anniversary this year. Many events open to all are planned throughout the year. Following the photo exhibition (see Impact) in February 2025, we are organizing an **invited lecture each month**, as well as a **Euregio STS PhD day** (Liège/Maastricht/Aachen) on the 24th of June. More information about these activities and the agenda can be accessed <u>here</u>.

Finally, we are organizing an <u>international conference on 'Radiant Futures'</u> on October 9 and 10. We aim to bring together both friends and colleagues from the academic community around parallel sessions (on 'radiant natures', 'radiant institutions', 'radiant economies'), a Making & Doing session, and keynote presentations by Kristin Asdal (University of Oslo), Hannah Landecker (University of California – Los Angeles) and Brice Laurent (CSI-Mines Paris-Tech). Of course, there will be plenty of time to celebrate!

Our call for papers is open until May 15, 2025.