

## Summary

New Trends in Science, Technology and Innovation Policy Promoted by the OECD

### Learning from the Science, Technology and Innovation Outlook 2025

~ Featuring Mr. Jerry Sheehan and Dr. Alessandra Colecchia from the OECD Directorate for Science, Technology and Innovation ~

**Date:** Thursday, February 5, 2026

**Venue:** Co-Creation Space (2F), Tokyo Headquarters, Japan Science and Technology Agency (JST)

**Format:** Hybrid (approximately 20 participants in person; approximately 80 participants online)

**Organizer:** Japan Science and Technology Agency (JST)

**Target Audience:** JST staff, government officials, and researchers(by invitation only)



On February 5, 2026, the Japan Science and Technology Agency (JST) held a seminar titled:

“New Trends in OECD Science, Technology and Innovation Policy: Learning from the Science, Technology and Innovation Outlook 2025 – Featuring Mr. Jerry Sheehan, Director, and Ms. Alessandra Colecchia, Head of Division, OECD Directorate for Science, Technology and Innovation”

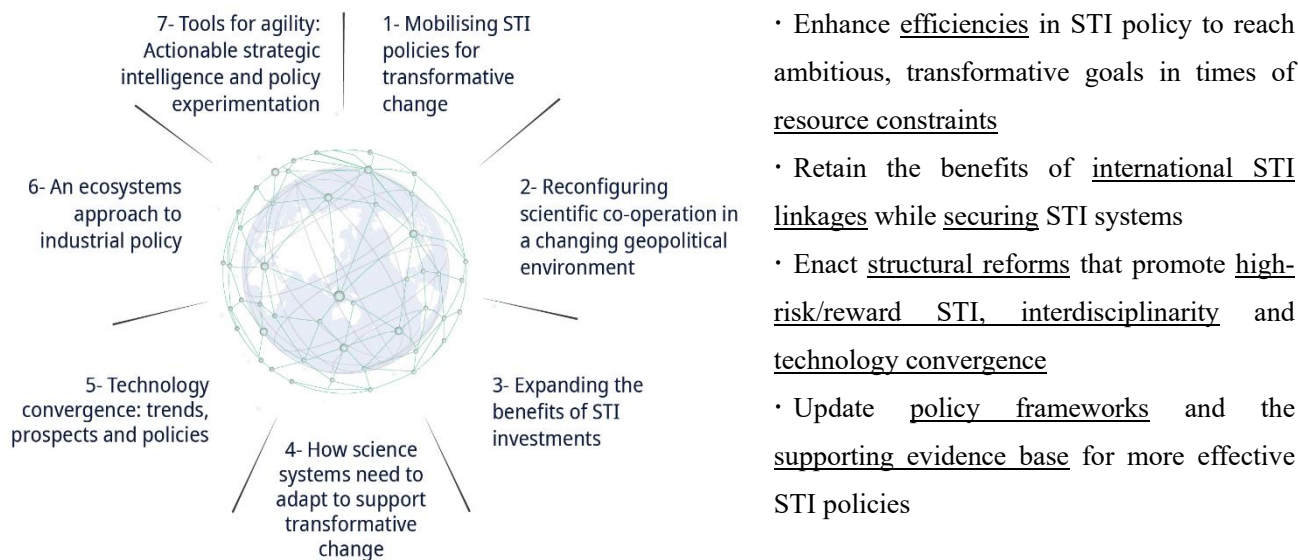
The event was organized for JST staff, government officials, and researchers.

The OECD (Organization for Economic Co-operation and Development), in its STI Outlook 2025 published in October 2025, highlights key challenges facing national STI policies, including the changing landscape of scientific collaboration due to geopolitical factors, the rapid development of emerging technologies, and the growing importance of strategic intelligence as a tool to anticipate developments in and assess impacts of emerging technologies. In Japan, as preparations are underway for the 7th Science, Technology and Innovation Basic Plan of Japan, scheduled to begin in April 2026, policy responses that reflect these international trends are increasingly required.

At the seminar, Mr. Jerry Sheehan, Director of the OECD Directorate for Science, Technology and Innovation, and Ms. Alessandra Colecchia, Head of Division, presented key findings from the STI Outlook 2025. They addressed topics such as research security, science diplomacy, technology convergence, an ecosystem approach to industrial policy, and the importance of strategic intelligence, offering valuable insights for the future development of Japan's STI policies.

**Overview:**

The main themes of the *STI Outlook 2025* presented in Director Sheehan's lecture are as follows:

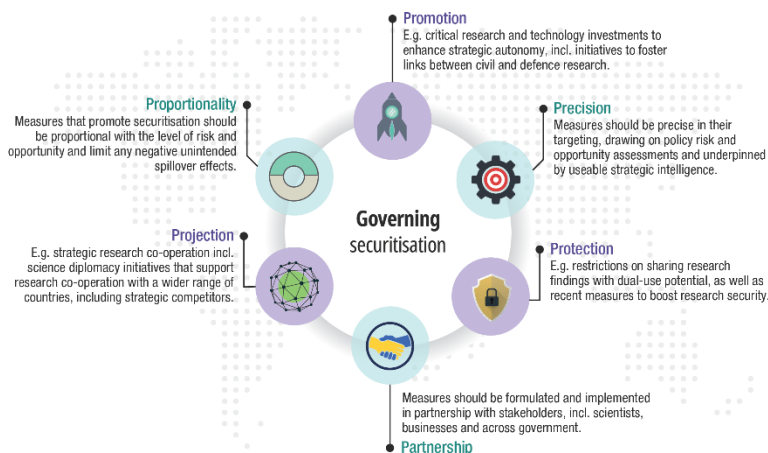


The main points from the lectures by Director Sheehan and Head of Division Colecchia, as well as the Q&A session, are as follows:

**(Reconfiguring International Collaboration)** International scientific cooperation has contributed significantly to improving research quality and fostering innovation; however, in recent years, its momentum has slowed due to geopolitical tensions. In particular, a deceleration in the growth of internationally co-authored publications and changes in researcher mobility have been observed, underscoring the need to explore new frameworks for collaboration in frontier technology fields. This would suggest that Japan should strengthen cooperation not only with Europe and the United States but also with other trusted partners such as India and ASEAN countries, and build more diverse international partnerships.

### (The 6 Ps of International Collaboration)

In recent years, the securitisation of research has advanced rapidly, with many countries expanding policies based on the traditional “three Ps”: Promotion, Protection, and Projection. While measures to strengthen research security have increased significantly, excessive restrictions risk undermining research quality and international collaboration. In response, STI Outlook 2025 introduces



additional perspectives—Proportionality, Precision, and Partnership—to ensure a more balanced approach. Policies should be developed in close partnership with scientists, industry, and other parts of government, and implemented in an agile manner as risks evolve. Striking a balance between research security and openness requires careful consideration of all “6 Ps.”

**(Research Integrity and Security)** Research security policies have expanded rapidly worldwide, with the number of policy measures introduced increasing approximately tenfold compared to 2018. Such policies should be designed in accordance with the principles of proportionality, precision, and partnership, ensuring that excessive regulation does not undermine the quality of research. It is also essential to avoid discriminatory treatment based on nationality and to develop harmonized rules that do not hinder desired international collaboration.

**(Promoting International Brain Circulation)** While international mobility among PhD holders has increased in many countries, Japan continues to face challenges related to relatively low researcher mobility. To address this, Japan should promote “two-way brain circulation” by encouraging the overseas placement of early-career researchers, strengthening support for their return, and enhancing the recruitment of researchers from trusted partners abroad. Establishing a high-quality research environment that supports such mobility is essential.

**(Developing Next-Generation Talent)** With the rapid advancement of converging fields such as AI × natural sciences and quantum × life sciences, it is essential to cultivate next-generation researchers with interdisciplinary perspectives. This requires strengthening the training and utilization of PhD talent, establishing diverse career pathways, and promoting initiatives that foster an international outlook.

**(Anticipatory Governance of Emerging Technologies)** Emerging technologies such as AI, quantum technologies, and synthetic biology offer significant benefits while also posing substantial risks. The growing proximity between basic science and commercial application is particularly notable. In this context, the OECD emphasizes the importance of anticipatory governance, calling for continuous collaboration among diverse stakeholders and flexible policy frameworks capable of adapting to rapid technological change.

**(The Role of Industry and Policy Support)** Globally, industry is playing an increasingly prominent role as a key actor in science and interdisciplinary research. Better alignment across industrial and STI policies is needed to boost support for basic research through industry–academia–government collaboration, the coordination of tax and regulatory measures, and STI investments based on a comprehensive understanding of the broader industrial ecosystem.

**(Diverse Collaboration and Policy Formulation)** The effectiveness of STI policy depends on strong inter-ministerial coordination, the cultivation of trust among industry, academia, and government, and the incorporation of insights from the research community. International case studies highlight the importance of cross-cutting collaboration grounded in strategic intelligence. Japan should likewise advance similar efforts to strengthen evidence-based and coordinated policy development.

**Conclusion:**

The environment for science, technology, and innovation is changing rapidly. Emerging technologies such as AI, quantum technologies, and biotechnology are being implemented in society within short time frames, directly affecting national economies, societies, and security. At the same time, growing uncertainty in the international environment has generated new policy challenges, particularly the need to retain the benefits of openness and international collaboration while ensuring appropriate management of research security and integrity , as well as the need for an active role of science diplomacy in this rapidly shifting landscape.

There are many commonalities between the policy directions presented by the OECD and Japan’s forthcoming 7th Science, Technology and Innovation Basic Plan. Enhancing policy efficiency, rebuilding and strengthening international collaboration, implementing research security measures, promoting technology convergence, formulating policies based on industrial ecosystems, and reinforcing strategic intelligence are all critically important for Japan’s policy development. While taking international trends into account, Japan must build strategic and flexible STI policies through close collaboration among industry, academia, and government.

## Speaker Profile:

### Jerry Sheehan



### Director, Directorate for Science, Technology and Innovation, OECD.

Studied Electrical Engineering (B.S.) and Technology Policy (M.S.) at the Massachusetts Institute of Technology, USA. In addition to positions at the U.S. National Library of Medicine and White House Office of Science and Technology Policy (OSTP), he served as Co-Chair of the U.S. National Science and Technology Council (NSTC) Subcommittee on Open Science, Chair of the OECD Working Party on Innovation and Technology Policy, and U.S. Representative to the G7 Open Science Working Group.

Details: <https://www.oecd.org/en/about/directorates/directorate-for-science-technology-and-innovation/jerry-sheehan.html>

### Alessandra Colecchia Head of the Science and Technology Policy Division, Directorate for Science, Technology and Innovation, OECD.



Oversees work on science, technology, and innovation policy, including emerging and converging technologies, the Global Science Forum, space and ocean programs, and measurement and evidence analysis in science and technology. Led digital measurement efforts, presenting key indicators for each dimension of the OECD's integrated policy framework "Going Digital" and publishing "Measuring the digital transformation" (2019),

which set a future measurement roadmap.

Details: <https://www.oecd-events.org/ai-wips-2021/speaker/91b36a51-f654-cb11-b9ed-000d3a20e9aa/alessandra-colecchia>