



Entangled future: Collaborative pathways towards responsible quantum technologies

An OECD Global Forum on Technology event

24 April 2025 | Fundación Telefónica | Madrid, Spain

100 years after the establishment of modern quantum mechanics, we are witnessing the onset of a second quantum revolution. By exploiting the unique behaviours of particles at the atomic and subatomic levels, quantum technologies are extending capabilities to gather, process and transmit information beyond what is currently possible. These technologies represent a new paradigm for digital economies and society.

This OECD Global Forum on Technology (GFTech) event, hosted by the Government of Spain, the Ministry for the Digital Transformation and Civil Service and the Ministry for Science, Innovation and Universities, will bring together experts and policymakers for a timely dialogue on these technological developments. Expected to bring numerous benefits, including a wide range of innovative commercial applications, quantum technologies hold promise for significant contributions to global societal challenges such as food security, climate change and water resource management.

This by-invitation event will bring together those working towards such beneficial uses and mindful of mitigating risks that may be posed to human-centric values. Considerations around dual-use applications, digital security and privacy, research security, and technology leadership are creating important frictions for the international collaboration that is much needed to advance quantum technologies and to ensure their responsible development and use. Barriers to technology access and cooperation in research and policy can slow down progress in tackling pending challenges in quantum science and engineering and raise risks of misuse, particularly exposing countries that have lower capabilities in the technologies. A fragmented landscape also risks deepening divides within and across countries. Such divides can deepen economic inequalities across countries and hinder the most vulnerable nations from leveraging quantum technologies to address pressing societal challenges. No country can realise the potential socio-economic benefits of quantum technologies in isolation.

This timely dialogue supports international, multistakeholder cooperation for the responsible development and use of quantum technologies. It will bring together industry, science and policy experts to explore promises and pitfalls, the high stakes for countries across the development spectrum, and opportunities for collaboration that will be imperative to steer these technologies towards their positive potential.

DRAFT AGENDA

- Please note that all session times are in Central European Summer Time (CEST).
- This event is in person, and participation is by invitation only.
- Please contact gfttech@oecd.org for any questions.
- More information is available on the [event webpage](#).

Thursday 24 April

Registration (10:00-10:30)

- **Eduardo Navarro**, Chief Corporate Affairs & Sustainability Officer, Telefónica will welcome the attendees to the Fundación Telefónica.
 - **Ambassador Ximo Puig** will give an informal welcome in Spanish before the start of the meeting.
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- **Alberto Gago Fernandez**, Director, Digital Spain 2030 and International Relations, Spain, will be master of ceremonies for the event

Welcome remarks

10:30-10:45

Welcome remarks:

- Mathias Cormann, Secretary General, OECD (Video remarks)
- Óscar López Águeda, Minister for Digital and Civil Service Transformation, Spain
- Diana Morant, Minister of Science, Innovation and Universities, Spain

National quantum strategies

10:45-12:00

Given the potential technology benefits and risks, as well as the lengthy timelines and financial risks involved, many governments have introduced ambitious national strategies to develop quantum technologies. This session will introduce Spain's new National Strategy for Quantum Technologies, which will be followed by a panel discussion including policymakers from other countries and jurisdictions with dedicated strategies for quantum technologies. Participants will exchange experiences and lessons in developing, implementing and monitoring these strategies.

Introductory presentation:

- María González Veracruz, Secretary of State for Digitalisation and Artificial Intelligence, Spain
- Juan Cruz Cigudosa García, Secretary of State for Science, Innovation and Universities, Spain

Moderator: Elizabeth Thomas-Raynaud, Head of the Emerging Digital Technologies Unit and Global Forum on Technology Lead, OECD

Speakers:

- J B V Reddy, Head of the Quantum Technology Cell, Department of Science and Technology, India (remote participation)
- Josh Fedder, Deputy Head of the Office for Quantum Technologies at the Department for Science, Innovation and Technology, United Kingdom
- Masahiro Horibe, Deputy Director, Global Research and Development Center for Business by Quantum-AI technology, Japan
- Pascal Maillot, Deputy Head of Unit, Quantum Technologies, European Commission
- Sofie Lindskov Hansen, Chief Quantum Expert, Ministry of Foreign Affairs, Denmark

Break (12:00-12:15)**Access and inclusion**

12:15-13:20

Current investment in quantum technologies is concentrated in developed countries. This concentration risks worsening global inequalities and limiting the economic and societal benefits of quantum technologies. This session will explore mutually beneficial collaborations to raise access and support capacity development, including transitional pathways such as quantum education resource sharing and cloud-based quantum computing services, among other initiatives.

Moderator: David Hutchinson, Professor, Department of Physics, University of Otago, New Zealand

Speakers:

- Araceli Venegas-Gomez, Founder and CEO, QURECA
- Enrico Paringit, Executive Director, Council for Industry, Energy, and Emerging Technology Research and Development, Philippines
- Marta Pascual Estarellas, Chief Executive Officer, Qilimanjaro Quantum Tech
- Paulo Nussenzveig, Professor, University of Sao Paulo, Brazil

Lunch break (13:20-14:20)

Skills and talent development

14:20-15:25

Meeting skills demand requires a balanced approach to workforce development through education, talent mobility, and public-private collaboration. While quantum technologies have transformative potential across industries, their advancement depends on a skilled and adaptable workforce to overcome technical and developmental barriers. This session addresses how governments could anticipate and aid in building the future quantum workforce and how international collaboration could help pool complementary expertise.

Moderator: Mahdi Moghaddam, Co-ordinator, InstituteQ-consortium

Speakers:

- Carina Kanitz, PhD Candidate, German Aerospace Center's Institute for Quantum Technologies
- Juan José García Ripoll, Senior Research Scientist, National Research Council, Spain
- Mariano Martinez, Head of Technology Domains, Airbus Defence and Space
- Natalia Maeso, Public Sector Innovation and Development Lead, Microsoft

Coffee break (15:25-15:45)

Emerging supply chain specialisations

15:45-16:45

It is challenging to manage the complexities of emerging, global and highly specialised supply chains for quantum technologies. Dependencies on limited suppliers of components and critical materials risk disruptions further compounded by export controls that pursue security but may also hinder private investment and research efforts. This session explores cross-border bottlenecks, along with complementarities and collaboration opportunities in supply chains, discussing perspectives on these in today's geopolitical context.

Moderator: Andrés Barreneche, Economist and Policy Analyst at the Emerging Digital Technologies Unit, OECD

Speakers:

- Andrea Rodriguez, Lead and Chair of the Governing Board, ImpaQT UA
- Diego Rodriguez, Quantum Policy Lead, Office for Quantum, Department for Science, Innovation and Technology, United Kingdom
- Masahiro Horibe, Deputy Director, Global Research and Development Center for Business by Quantum-AI technology, Japan
- Ulrich Mans, Strategic Partnerships Lead, Quantum Delta NL

Closing remarks

16:45-17:00

Speakers:

- Aleida Alcaide, General Director of Artificial Intelligence, Ministry for Digital and Civil Service Transformation, Spain
- Elizabeth Thomas-Raynaud, Head of the Emerging Digital Technologies Unit and Global Forum on Technology Lead, OECD

The event will be followed by a public launch of Spain's National Strategy for Quantum Technologies