

AI, Quantum, and Emerging Tech Cooperation in the US-EU Trade & Technology Council

Artificial Intelligence (AI) offers substantial benefits to society and the global economy, driving economic, social and safety improvements and offering new capabilities to businesses of all sizes, civil society, and individual citizens. Policymakers on both sides of the Atlantic have increasingly recognized the importance of AI and other emerging technologies, such as quantum technologies, to future growth and competitiveness, as well as addressing shared global challenges. The COVID-19 pandemic is a prime example. AI has been used to boost knowledge sharing, enable better prediction of health trends, and support research to develop vaccines and treatments for serious disease. In the longer term, AI can be a vital aid for business recovery, helping companies to more rapidly scale up and boost their productivity.

AI also presents new challenges and risks. AI is, in some sense, too important *not* to regulate. Governments have an important role to play in supporting the development and deployment of AI, and ensuring that use of this important technology reflects democratic values. But AI is a global ecosystem, with developers, deployers, users, and advocates around the world, and ensuring interoperability and a common approach to managing these challenges is essential to enable innovation and effectively manage risk. Similarly, for emerging technologies like quantum computing, it is vital that governments cooperate to support collaborative research, technology deployment and commercialization, risk management, development of and access to talent, and a secure supply chain.

US and EU policymakers are increasingly aligned around two core themes for AI and emerging tech policy: (1) enabling innovation and competition, and (2) ensuring trust and accountability. Both the US and EU have endorsed principles adopted by organizations like the OECD, G7, and G20 for responsible AI development, and both have prioritized research funding for emerging technologies like quantum computing. But there are important differences in these policy approaches.

- The US has focused on the importance of innovation and growth, expanding research and development funding, establishing shared resources for stakeholders throughout the AI ecosystem, expanding access to data to drive machine learning applications, and providing oversight through light-touch regulation that builds on existing authorities. In the case of quantum computing, the US is also grappling with mechanisms to protect US IP from adversarial countries, while still promoting innovation.
- The EU has focused on the importance of risk management and trust, introducing a new regulatory framework through the Artificial Intelligence Act, investigating how liability frameworks apply to AI systems, and establishing networks of researchers to understand

AI's risks and impacts. At the same time, the EU's focus on "digital sovereignty" has in some cases dampened enthusiasm for collaborative research with US entities on emerging technologies like quantum computing.

The US-EU Trade and Technology Council (TTC) can play an important role in balancing these approaches and establishing a common approach to AI and emerging tech policy that enables safe and responsible AI and emerging tech innovation and adoption around the world, supplementing ongoing global partnerships through organizations including the OECD, International Standards Organization, G20, and Global Partnership on AI.

To unlock these opportunities, TTC leaders should prioritize developing common principles and cooperative efforts on AI, quantum, and emerging tech that cover the following themes:

Enabling innovation and competition

The TTC can serve as an important venue for transatlantic cooperation to support the continued development of the AI, quantum, and emerging tech ecosystem, adoption of emerging tech in new industries and applications, and supporting trade in innovative products and services. Six important areas for collaboration are:

- *Support for fundamental research:* The US and EU are committed to driving fundamental research in AI, helping to advance the state of the art and develop new capabilities. The TTC should identify opportunities to expand research funding on both sides of the Atlantic, facilitate cross-border research collaboration, and accelerate commercialization of new AI, quantum, and other emerging technologies.
- *Open resources to support academia, civil society, and small businesses:* State of the art AI applications, particularly those based on machine learning, require significant compute resources. The TTC should explore how the US and EU can partner to make these resources available to academics, civil society organizations, and small businesses and startups through public-private partnerships, building on the National AI Research Resource (NAIRR) initiative in the US.
- *Access to data:* At its core, AI is about deriving insights from data and acting on those insights in novel ways. The TTC should prioritize establishing common data governance principles, enabling the free flow of data across borders with trust, making US and EU government datasets available for AI development, and facilitating data sharing and open data by private organizations, with appropriate safeguards for privacy, transparency, and fairness.
- *Enabling digital trade:* AI and machine learning technologies increasingly impact trade – from small businesses using AI tools to increase productivity and find new markets abroad, to companies and researchers building and exporting AI technologies across borders. The TTC can be an important mechanism for US and EU policymakers to promote responsible AI governance frameworks that are internationally aligned and that facilitate these new forms of AI-driven trade. In particular, the US and EU should develop consistent and non-discriminatory rules that allow businesses and researchers to move data and technologies safely across borders, while avoiding discriminatory outcomes in

the regulation of AI applications. Policymakers should also commit to the development and mutual recognition of AI standards to foster regulatory compatibility and facilitate trade.

- *Responsible adoption of AI by governments:* AI has the potential to streamline the delivery of government services, reduce costs and eliminate bureaucracy, improve security and public safety, and enable new services for citizens. But AI adoption can be challenging for large organizations, requiring significant investment, talent development, changes in policies and business processes, and a careful assessment of risks and best practices to address them. The TTC can serve as a venue for sharing insights and best practices between the US and EU.
- *Developing a Transatlantic workforce:* As emerging technologies mature, they require a ready workforce to further develop and deploy them. This is evident for AI today, and is likely to become an issue for quantum computing in the coming years. The TTC should identify options for collaborative workforce development and exchange for emerging tech scientists, engineers, and experts, which will enrich the R&D and commercial ecosystems of both the US and the EU.

Ensuring trust and accountability of AI and emerging tech systems

Building trust in AI and emerging tech systems and holding stakeholders throughout the AI ecosystem accountable for responsible behavior will require coordination between governments around the world. The fundamentally global nature of AI and other emerging technology – with researchers, developers, deployers, and users in different countries working together to build and operate AI systems across multiple markets – requires a harmonized approach to effectively manage risk and ensure that regulation does not impede innovation and competition in AI and emerging tech. To advance this objective, the TTC should prioritize:

- *Adopting and operationalizing common principles based on democratic values:* The US and EU have jointly endorsed common principles for AI development through multiple international organizations, including the OECD, G7, and G20 (eg the OECD Principles on AI).¹ Through the TTC, the US and EU should work toward formal adoption of these common principles by both governments, and develop a common understanding of how these principles can be operationalized technically, organizationally, and through policy.
- *Harmonizing risk-based, proportional AI regulation:* The US and EU are both developing regulatory frameworks for AI, with the US focused on issuing guidance and oversight from agencies under their existing authorities, and the EU seeking to enact new legislation including the AI Act. To avoid overly burdensome requirements or a conflict of laws which would disproportionately impact small businesses and startups, the TTC should seek to establish a harmonized framework of risk-based, proportional rules based on common standards and risk management practices, while avoiding overbroad liability measures that would discourage responsible AI innovation.
- *Supporting research to better understand and manage the impact of AI systems:* AI remains a nascent technology, and how new AI hardware, software and applications

¹ <https://www.oecd.org/going-digital/ai/principles/>

impact society remains an emerging field of research. In supporting fundamental research in AI, the TTC should prioritize research to better understand the impact of AI systems on users and society, and develop more effective tools, techniques, and strategies to maximize AI's benefits and minimize its risks.

- *Developing common standards and benchmarks:* Evaluating AI, quantum, and emerging tech requires a common lexicon and set of metrics to assess the performance of AI and emerging tech systems. Through the TTC, the US and EU should coordinate efforts to drive the development of consensus, multi-stakeholder standards for AI and emerging tech systems and common benchmarks for AI evaluation through organizations like ISO and IEEE, while ensuring that these standards and benchmarks are aligned with democratic values.
- *Restricting the malicious use of AI:* In addition to managing the risks of unintended harm from AI systems, the US and EU should work through the TTC to establish clear restrictions against the malicious use of dual-use AI and other emerging technologies, and hold malicious actors accountable for harms. This includes export controls on AI and quantum hardware to prevent malicious use by authoritarian governments, and clear guardrails for the development and use of AI in weapons systems (including through the UN Convention on Certain Conventional Weapons), AI-enabled surveillance, and the creation and dissemination of mis- and disinformation and manipulated media.
- *Strengthening the quantum computing supply chain:* The US supply chain for quantum computing contains several choke points – *i.e.*, hardware components that are made by a limited number of global suppliers, many of which are European. Similarly, there are US manufacturers of key quantum hardware components (and the leading quantum computing hardware companies are largely US-based). Both the US and the EU would benefit from discussions in the TTC of options for collaboration on supply chain issues to ensure secure and reliable access to key hardware components, such as dilution refrigerators and amplifiers.