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Readout: International Roundtable on Pursuing Quantum Information Together

The White House Office of Science and Technology Policy (OSTP) and U.S. Department of State hosted a dialogue this week to foster international cooperation in quantum science and technology. The roundtable, *Pursuing Quantum Information Together: 2^N vs 2N*, was held on May 5^{th} and 6^{th}.

Quantum Information Science and Technology (QIST) has significant potential to enhance our understanding of the universe and improve our collective prosperity. The roundtable gathered the heads of quantum strategy offices from the United States, Australia, Canada, Denmark, Finland, France, Germany, Japan, the Netherlands, Sweden, Switzerland, and the United Kingdom to reinforce the importance of international cooperation in QIST to accelerate discovery, share resources, and jointly address global challenges.

Attendees were welcomed to the White House by Dr. Jason Matheny, OSTP Deputy Director for National Security, Jennifer R. Littlejohn, Principal Deputy Assistant Secretary at the Bureau of Oceans and International Environmental and Scientific Affairs, U.S. Department of State, and Dr. Charles Tahan, the Assistant Director for Quantum Information Science at OSTP and Director of the National Quantum Coordination Office (NQCO). The NQCO supports the U.S. National Quantum Initiative.

On May 5, each country shared its approach to quantum at the national-level with the goal of sharing best practices and finding common challenges. Discussion sessions followed on *Science and the Global Economy* and *Growing the Quantum Workforce and a Quantum Aware Society*. The dialogue focused on opportunities for concrete next steps toward growing international cooperation in these areas. Examples include highlighting exchange opportunities for students, postdocs, and professionals, and improving public awareness by promoting events like World Quantum Day.

During the second day of the roundtable, May 6, the discussions focused on *Shaping a Healthy Global QIST Ecosystem*. The group discussed shared values that guide each country's QIST approach, inclusive of the principles of openness, transparency, honesty, equity, fair competition, objectivity, and democratic values. Topics included identifying potential security risks and safeguards for QIST investments, the role of international standards, and the need to balance the enthusiasm for QIST with a realistic grounding of potential opportunities. Attendees also discussed efforts to promote diversity, equity and inclusion, and the importance of reciprocal engagements to enhance the value of cooperation.

Earlier this week, President Biden released a National Security Memorandum (NSM) on Quantum Computing. The NSM set Presidential policy for promoting and protecting quantum technologies, while mitigating risks future quantum computers could pose to economic and national security. The NSM called out the need for continued engagement among international partners to ensure a vibrant, fair, and competitive market that nurtures scientific and economic opportunities.

About the meeting title: As the number of qubits (which make up a quantum computer) doubles in size, a property called quantum entanglement enhances the power of quantum information processing. "2^N vs. 2N" refers to this exponential increase in performance when qubits are entangled. We strive in collaborations to create a whole that is more than the sum of its parts. Accordingly, the theme for this meeting was to continue prior discussions beyond one-to-one conversations and set the stage for continuing multi-country engagements.

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