National Quantum Initiative Advisory Committee

August 6, 2024

Agenda

Time (pm EDT)	Topic
1:00 – 1:05 (5 min)	*Welcoming Remarks* • Gretchen Campbell and Kathryn Ann Moler, NQIAC Co-Chairs
1:05 – 1:10 (5 min)	*Opening Remarks* • Asad Ramzanali, Special Assistant to the President, Chief of Staff and Deputy Director for Strategy at the White House Office of Science and Technology Policy
1:10 – 1:16 (6 min)	*Public Comments* • Frederick Moxley • Leland Cogliani
1:16 – 2:00 (44 min)	*NQIAC Quantum Networking Findings: Presentation and Deliberation* • Mark Ritter and Krysta Svore, NQIAC Subcommittee on Quantum Networking Co-Chairs
2:00 – 2:10 (10 min)	*Break*
2:10 – 3:00 (50 min)	*NQIAC Quantum Networking Recommendations: Presentation and Deliberation* • Mark Ritter and Krysta Svore, NQIAC Subcommittee on Quantum Networking Co-Chairs

Findings

FINDING 1: Quantum networking capabilities will play a role in U.S. economic prosperity and national security, but the magnitude of that role will only be clarified through sustained R&D.

Findings

FINDING 2: Continued investment in R&D by the U.S. Government will be necessary to determine, understand, and realize advantages of quantum networking for practical applications.

Findings

FINDING 3: Quantum networking R&D can complement and enhance progress in advancing other quantum information science technologies.

Findings

FINDING 4: There is ambiguity in the term “testbed.” Testbeds are distinct from demonstrators, prototypes, and user facilities as per the following definition:

> A testbed is a platform or facility that is accessible to multiple users to conduct replicable and rigorous testing of component technologies, protocols, and systems integration.

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FINDING 5: Early quantum networking prototypes, demonstrators, and testbeds exist and are in operation, with practical or economic impact yet to be determined.

Findings

FINDING 6: Quantum networking testbeds, if strategically chosen and appropriately timed, can play an important role in accelerating U.S. QIS leadership.

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Recommendations

RECOMMENDATION 1: The U.S. Government should continue to support fundamental research in quantum networking, its applications, and their enabling technologies.

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RECOMMENDATION 2: Encourage the definition, development, and use of metrics to measure progress of quantum networking technologies and their applications.

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RECOMMENDATION 3: Federal funding for quantum networking testbeds should be allocated when testbeds are both “right-sized” and “properly-timed.”

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RECOMMENDATION 4: Create a coordination model for describing the functional layers of quantum networks.

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RECOMMENDATION 5: Support and facilitate industry participation in quantum networking testbeds.

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RECOMMENDATION 6: The U.S. Government should appropriate new funding and develop mechanisms to promote collaboration with international allies and like-minded partners for quantum networking research.

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RECOMMENDATION 7: Leverage quantum networking testbeds to enable and train a diverse quantum workforce.

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