

QED-C®, Rigetti, Amphenol RF, Maybell Quantum, XMA Release Results of Research to Enhance Quantum Control Electronics

Work funded in part by NIST crucial to Advance the Quantum Information Science and Technology (QIST) industry

ARLINGTON, VA, UNITED STATES, February 26, 2026 /EINPresswire.com/ -- [The Quantum Economic Development Consortium](#) (QED-C) has announced the completion of a research program funded by National Institute of Standards and Technology (NIST) to make control electronics for quantum hardware more compact and manufacturable. The work addresses the needs identified by QED-C members in the enabling technology roadmap, Control and Readout Electronics for Quantum Systems.

In 2022, \$1.4 million in government matching funds were competitively awarded to QED-C member companies to enhance the control and readout electronics supply chain and its capabilities.

The results achieved by QED-C members Amphenol RF, Maybell Quantum Industries, Rigetti Computing, and XMA, in collaboration with NIST, demonstrate improvements in size and performance of control and readout technologies across several qubit modalities.

Amphenol RF reduced the size, weight, and loss of room-temperature control readout electronics in quantum systems while improving overall performance. This advance will enhance room-temperature control readout electronics in future quantum systems in a manufacturable package designed for production scalability.

Maybell Quantum Industries changed the design of control and readout electronics to tightly integrate passive and active devices with interconnects, shrinking the overall size. This new cable



design delivers high performance in a simpler, denser, and more integrated package.

Rigetti Computing created a way to measure temperature directly on the chip alongside the qubit circuitry using nanoscale superconducting structures that are relatively straightforward to fabricate and integrate into existing manufacturing flows. This will make it easier to identify and diagnose heating issues that can degrade qubit performance.

XMA solved three bottlenecks to scaling quantum hardware: cost, footprint, and thermal impact. A new cabling solution increases channel capacity while reducing the cost and shrinking the size of this crucial infrastructure.

Companies had to be members of QED-C to participate in the sponsored R&D program. Participants' work had to support one of four goals from the roadmap:

- Reduce the thermal load and physical footprint associated with microwave-control cabling in cryogenic environments
- Locate digital and mixed signal electronics closer to the quantum processor in cryogenic environments
- Enable tighter integration of active and passive components with each other and with quantum devices in cryogenic environments
- Reduce the size, weight and power of room-temperature control and readout electronics

QED-C aims to identify gaps in enabling technologies for quantum computing, quantum sensing, and quantum networking. To learn more about the Control and Readout Electronics program, [visit here](#).

About QED-C:

The Quantum Economic Development Consortium (QED-C) is the world's premier association of pioneers in the quantum technology marketplace. Members of QED-C enable the real-world application of quantum technology, and, in turn, grow a robust commercial industry and supply chain.

Sitting at the intersection of tech, academia, business, entrepreneurship, and policymaking, QED-C is uniquely able to foster the collaborations the industry needs. QED-C is where experts and organizations share knowledge and collectively shape how quantum technology will grow.

QED-C is managed by SRI. More information: <https://quantumconsortium.org/>

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