

# Alice & Bob Unveils First Quantum System Available for Research Partners

*The "Helium Quantum System" and Starboard interface mark major step on roadmap to building a universal fault-tolerant quantum computer by 2030*

PARIS, FRANCE, June 11, 2026

[/EINPresswire.com/](#) -- [Alice & Bob](#), a leader in fault-tolerant quantum computing, today unveiled the Helium Quantum System, marking the company's expansion from developing cat-qubit chips to delivering a complete quantum computing system for on-premise deployment.

The Helium Quantum System has been engineered to encode Alice & Bob's first logical qubit with as few as 18 cat-qubits. From the processor architecture to the cabling, control electronics and software stack, the entire system is optimized for quantum error correction.

Designed as an upgradeable platform, the quantum system will also support the next 48 cat-qubit chip on Alice & Bob's roadmap - expected to feature multiple logical qubits.

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*Théau Peronnin, CEO and co-founder of Alice & Bob*



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Alice & Bob is inviting research partners to conduct experiments on the Helium Quantum System and collaborate with the company on advancing fault tolerant quantum computing research. The system enables researchers to integrate quantum and classical computing resources within a single computing infrastructure, such as those found at high-performance computing (HPC) centers.

By providing direct access to cat-qubit architecture, Alice &

Bob offers a platform for research into quantum error correction, logical qubits and the path to fault-tolerant quantum computing.



“Alice & Bob has focused on fault tolerance from the outset. Our cat-qubit architecture is designed to dramatically reduce the error-

correction overhead - one of the industry's largest technical and economic barriers. We believe the defining race in quantum computing is building better qubits that can reach fault tolerance with the fewest resources. The Helium Quantum System is an important milestone on that journey, giving researchers direct access to the architecture underpinning our roadmap to universal, fault-tolerant quantum computing,” said Théau Peronnin, CEO and co-founder of Alice & Bob.

The Helium Quantum System is designed with operational efficiency in mind, requiring approximately 40 kW of power to run, helping lower the cost of deploying advanced quantum systems, one of the key bottlenecks in quantum computing today.

As part of launch, Alice & Bob is releasing Starboard a custom monitoring interface that gives administrators visibility over the 18-cat qubit system. Through a single dashboard, administrators can visualize system behavior, monitor individual qubit performance, schedule workloads, and track live hardware metrics. Starboard features highly automated software designed by Alice & Bob. Starboard brings together the tools needed to monitor, run, and optimize the Helium quantum system.

The Helium Quantum System features compatibility with the most common HPC schedulers (including Slurm) through the open-source QRMI library, and other third-party solutions. Users can connect to the Helium Quantum System with Alice & Bob's dedicated Felis software framework, providing custom instructions tailored to the Helium chip while maintaining compatibility with major quantum programming frameworks.

#### About Alice & Bob

Alice & Bob is a quantum computing company based in Paris and Boston whose goal is to create the first universal, fault-tolerant quantum computer.

Advised by Nobel Prize winning researchers, Alice & Bob specializes in cat qubits, a technology developed by the company's founders. Demonstrating the power of its cat architecture, Alice & Bob recently showed that it could reduce the hardware requirements for building a useful large-scale quantum computer up to 200 times compared with competing approaches.

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