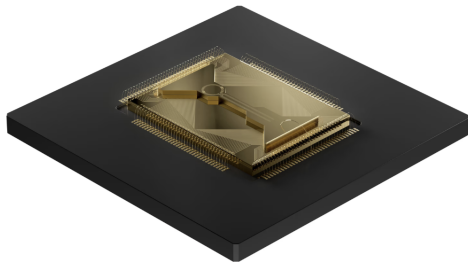


A massive leap

in our world-leading Quantinuum Systems



Quantinuum Helios, Powered by Honeywell, is the world's most accurate quantum computer. A scientific and engineering marvel – Helios redefines what's possible.

With the highest fidelity logical qubits, a **next-generation software stack** featuring a modern, high-level programming language called Guppy, and NVIDIA GPUs integrated right into the control system, Helios is designed to accelerate quantum computing adoption by enterprises.

The Helios platform is now available to customers through Quantinuum's cloud service and on-premises offering.

ACCESS HELIOS NOW ↗

98

FULLY-CONNECTED QUBITS

50

LOGICAL QUBITS

99.9975%

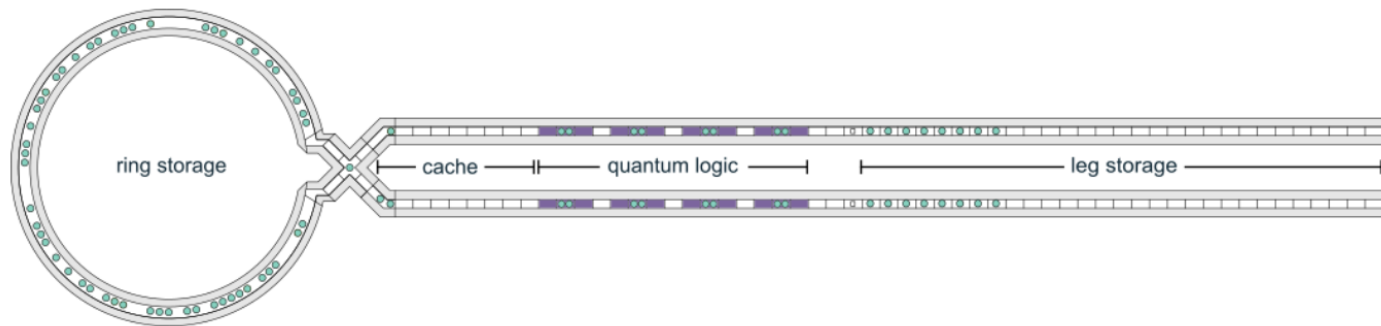
SINGLE-QUBIT GATE FIDELITY

99.921%

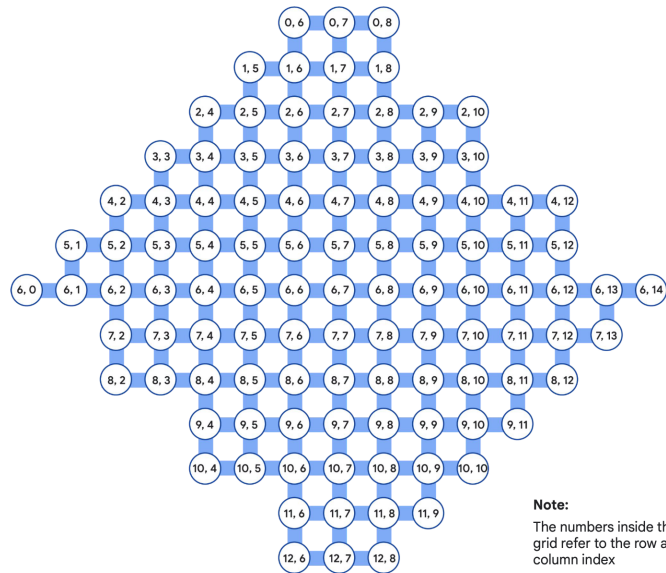
TWO-QUBIT GATE FIDELITY

Willow System Metrics	
Number of qubits	105
Average connectivity	3.47 (4-way typical)
Quantum Error Correction (Chip 1)	
Single-qubit gate error ¹ (mean, simultaneous)	0.035% ± 0.029%
Two-qubit gate error ¹ (mean, simultaneous)	0.33% ± 0.18% (CZ)
Measurement error (mean, simultaneous)	0.77% ± 0.21% (repetitive, measure qubits)
Reset options	Multi-level reset (1⟩ state and above) Leakage removal (2⟩ state only)
T ₁ time (mean)	68 μs ± 13 μs ²
Error correction cycles per second	909,000 (surface code cycle = 1.1 μs)
Application performance	$\Lambda_{3,5,7} = 2.14 \pm 0.02$

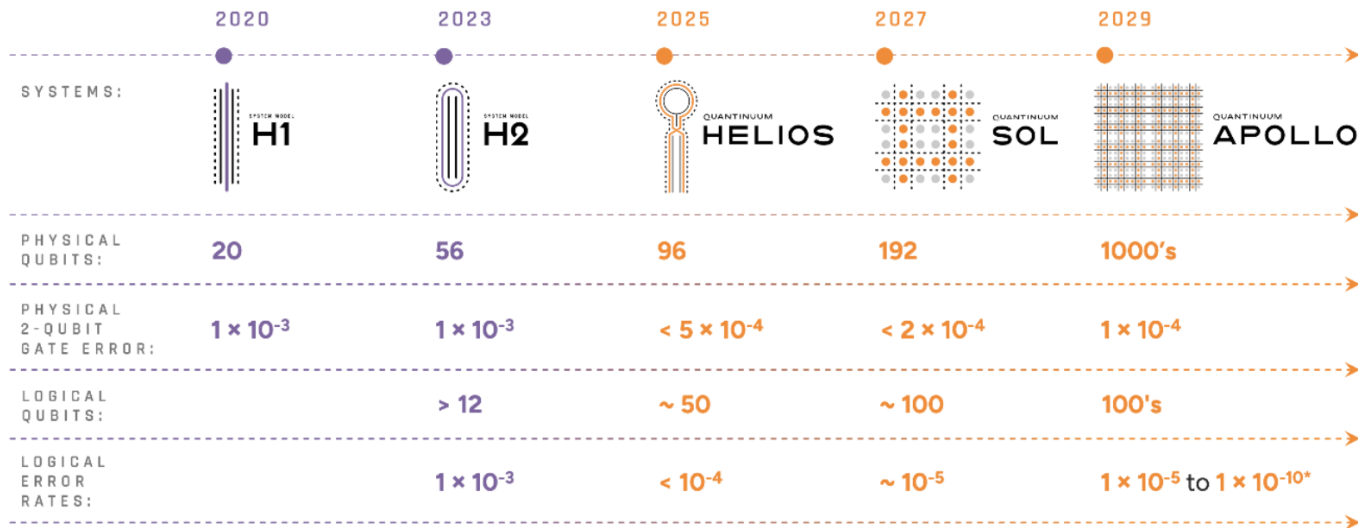
Helios qubits



Willow qubit topology



Development roadmap



Aplicaciones? Discurso de Quantinuum:

The era of scientific (quantum) discovery and exploration will inevitably lead to commercial value. Apollo will be the centerpiece of this commercial tipping point where use-cases will build on the value of scientific discovery and support highly innovative commercially viable products.

Very interestingly, we will uncover applications that we are currently unaware of. As is always the case with disruptive new technology, Apollo will run currently unknown use-cases and applications that will make perfect sense once we see them. We are eager to co-develop these with our customers in our unique co-creation program.

Aplicaciones? Discurso de Quantinuum:

La era del descubrimiento y la exploración científica (cuántica) conducirá inevitablemente a un valor comercial. Apolo será la pieza central de este punto de inflexión comercial donde los casos de uso se basarán en el valor del descubrimiento científico y respaldarán productos comercialmente viables altamente innovadores.

De manera muy interesante, descubriremos aplicaciones de las que actualmente no somos conscientes. Como siempre ocurre con la tecnología disruptiva, Apolo ejecutará casos de uso actualmente desconocidos y aplicaciones que tendrán un sentido perfecto una vez que los veamos. Estamos ávidos de codesarrollar estos con nuestros clientes en nuestro programa único de cocreación.