Our Quantum Roadmap

Pasqal

2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 ›

HARDWARE PRODUCTS ON-PREMISES & CLOUD

Orion

Alpha	Beta	Gamma
100+ qubits ±3M gates	100+ qubits 5M gates On-prem	140+ qubits
Cloud access available	2 QPU delivered	2 QPU booked

Vela

200+ qubits
First Quantum Advantage

Centaurus

Analog
& Early FTQC

Lyra

Analog
& impactful FTQC

HARDWARE R&D

	Orion	Vela	Centaurus	Lyra
Physical qubits	20	50	200	1,000	10,000
Per-step fidelity	95%	99%	99.5%	99.9%
Base repetition rate	1 Hz → 3 Hz	10 Hz	100+ Hz	
Features	Z add	Zoning	In-circuit readout	In-circuit reloading	Fast decoder	Large-scale operations
			10+ PIC-enabled parallel 1Q gates	100+ PIC-enabled parallel 2Q gates
				Full adressability
Logical qubits	2	20	200
Logical fidelity	95%	98%	99.9%	99.999%
			BREAK-EVEN	MEGAQUOPS

ALGORITHM & ACCELERATED LIBRARIES

Hybrid Quantum/Classical computing	Slurm integration		Hybrid programming model development	Low-latency HW co-location
Quantum application	Quantum Advantage on quantum matter		Quantum Advantage on optimization & Machine Learning	
Open-source libraries	GML apps	Optimization applications	Specialized libraries for Quantum Simulation, Optimization and Graph Machine Learning	Digital FTQC SDK & applications

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