

Quantum Quarterly Brief - Enterprise CTO Edition

Executive Summary

Quantum computing activity is accelerating within research and high-performance computing environments, driven by government-led initiatives and investments from major technology vendors. However, these developments do not materially impact near-term enterprise platform, AI, or budget decisions. Quantum computing remains experimental for enterprise use.

State of the Enterprise Quantum Computing Market Q1 2026

Enterprise CTOs are hearing increased claims from vendors that quantum computing is moving rapidly from research into high-performance computing (HPC) environments and will soon influence enterprise data platform and AI decisions. These developments do not affect near-term enterprise platforms or budget decisions. Here are the reasons why:

What's Real vs. What's Not

Real	Not Ready
<ul style="list-style-type: none"> ✓ Research adoption ✓ Vendor investment ✓ Hybrid HPC-quantum integration 	<ul style="list-style-type: none"> ✗ Fault-tolerant systems ✗ Economic proof ✗ Enterprise operational maturity

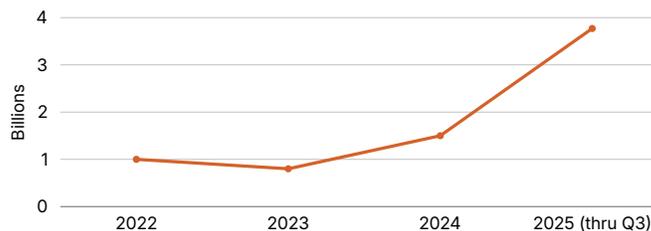
Vendor Signals This Quarter

Recent announcements from **NVIDIA, IBM, Cisco**, and software startups indicate an emphasis on ecosystem-building rather than on enterprise deployment readiness. The various announcements address different aspects of what could become an integrated quantum computing solution for accelerating general HPC workloads. Collectively, they signal long-term commitment, not near-term disruption.

Reality Checks

- ✓ **Scalability:** Current systems lack the logical qubits required for production workloads.
- ✓ **Commercial Viability:** Long timelines and funding risk remain significant.
- ✓ **Proof of Value:** Classical HPC and AI continue to advance faster and at lower risk.

Equity Funding | 2022-2025



Quantum computing reached an inflection point in 2025; commercial readiness did not

Source: Crunchbase (2022-2024); SpinQ (2025 figures)

IRONSPARK ANALYSIS

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Quantum and AI: Practical Assessment

Quantum computing may eventually accelerate optimization and linear algebra tasks used in AI. Today, these benefits remain theoretical. Hybrid quantum-classical workflows represent the only credible near-term path.

Industry Spotlight

Outside of national laboratories and academic research centers, early adopters of quantum computing are likely to be in pharmaceuticals, material sciences, and industrial chemistry.

Why earlier

Strong alignment with quantum algorithms

Use Cases

Molecular simulation, modeling, and optimization of complex molecular interactions and energy states that are prohibitively slow to compute accurately with classical methods.

Your Action

Participate in research partnerships.

Bottom Line for This Quarter: Hold Tight

- ✓ No changes to enterprise data platforms, AI, or infrastructure strategy are warranted
- ✓ Continue investing in classical HPC, GPU acceleration, and AI efficiency
- ✓ Monitoring quantum progress through research benchmarks

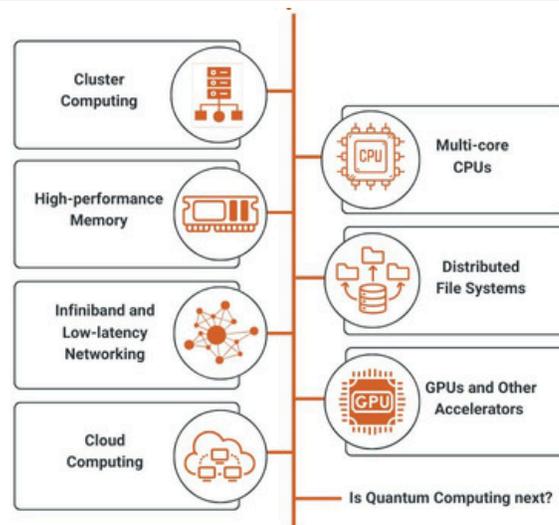
Market Developments to Monitor

National laboratories, academic centers, and some large enterprise data centers are piloting quantum computing in efforts to better understand feasibility and integration issues. Many past HPC technological advances followed this path, and many of those technologies gradually made their way into the enterprise (see graphic below).

The developments on the quantum front should be monitored as indicators of future readiness, not triggers for enterprise adoption.

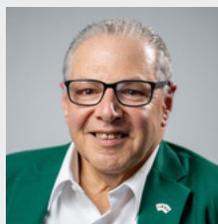
That said, those who want to start testing quantum computing should look to commercial Quantum-as-a-Service offerings from **Amazon Web Services, IBM, Microsoft**, and others.

Enterprise Adoption of HPC



Source: IronSpark Analysis

About the Analyst



Salvatore Salamone brings 30+ years of experience analyzing technology and scientific developments across data infrastructure, high-performance computing, and emerging technologies. He has authored three business technology books and served as editor at leading industry publications including Network Computing, Bio-IT World, and RTInsights.