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The Global Quantum Technology Market 2026–2046: Computing, Sensors, Communications & Software

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Abstracts

The global quantum technology market entered 2026 from a position of unprecedented commercial momentum. Full-year 2025 closed with nearly $10 billion in total quantum financings — a structural acceleration rather than a hype cycle, encompassing private equity rounds, public market offerings, strategic acquisitions, and government-backed joint ventures. Q1 2025 alone delivered over $1.25 billion in equity funding, a 125% increase year-on-year, and momentum compounded through every subsequent quarter. Fifteen companies raised more than $100 million each in 2025, with average late-stage round sizes expanding from approximately $50 million in 2023 to comfortably above $100 million in 2025 — reflecting the transition from seed-stage research bets to serious commercial deployment capital.

The headline transactions reset valuation expectations across the industry. PsiQuantum closed a $1 billion Series E led by BlackRock, Temasek, and Baillie Gifford at a $7 billion post-money valuation — the largest quantum venture round in history. Quantinuum raised $600 million at a $10 billion pre-money valuation, the highest-ever for a privately held quantum company, with NVIDIA, Fidelity, and Quanta Computer participating. IQM Quantum Computers raised over $300 million in Series B funding, achieving unicorn status. IonQ executed approximately $2.5 billion in acquisitions across 18 months, absorbing Oxford Ionics ($1.075 billion), ID Quantique, and Vector Atomic to become the world's most comprehensive quantum technology platform. D-Wave's $550 million acquisition of Quantum Circuits Inc. similarly reflected industry-wide consolidation toward integrated quantum stacks.

Funding momentum has carried directly into 2026. IQM Quantum Computers announced a SPAC merger at a $1.8 billion valuation, becoming the first European quantum computing company listed on a US exchange. Xanadu Quantum Technologies

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advanced toward its NASDAQ listing with approximately $455 million in net cash on close. Quantinuum is pursuing a traditional underwritten IPO. The quantum sector has crossed decisively from private to public capital markets — and pricing pressure has not abated, with private and public valuations sustaining levels that would have been considered extraordinary even two years earlier.

The strategic picture for 2026 is unambiguous: capital concentration at scale, full-stack consolidation as the dominant industry strategy, photonics emerging as the scale-up architecture of choice (three of the five largest 2025 raises were photonic companies), software and control layers attracting durable platform-level investment, and quantum-AI convergence forming a genuine investment theme. Quantum technology now sits alongside AI, biotech, and advanced semiconductors as one of the defining technology investment categories of the decade.

The Global Quantum Technology Market 2026–2046: Computing, Sensors, Communications & Software is the most comprehensive market intelligence resource available on the second quantum revolution. Spanning a 20-year forecast horizon and 14 chapters, the report covers every commercially active layer of the quantum technology stack — from foundational materials and cryogenic infrastructure through QPU hardware, software platforms, sensors, communications systems, and end-use applications — with detailed market sizing, vendor analysis, and forward-looking strategic intelligence.

Report contents include:

Executive summary including 2025 investment landscape ($10 billion in financings), Q1–Q4 quarterly funding analysis, government initiatives across 10 leading nations, supply chain concentration and geopolitical exposure, top ten supply chain bottlenecks, SWOT analysis, market map, value chain, and 2026–2046 forecasts.

Introduction to first and second quantum revolutions, quantum mechanics principles (superposition, entanglement, coherence, tunnelling), enabling technologies, and standards development.

Quantum computing across all eight major qubit modalities — superconducting, trapped ion, silicon spin, topological, photonic, neutral atom, diamond-defect, and quantum annealers — with technology descriptions, market players, SWOT analyses, hardware roadmaps, and detailed coverage of error correction, fault

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tolerance, infrastructure requirements, software, business models, and quantum-classical data centre integration.

Quantum chemistry and AI, quantum machine learning (including QML phases, algorithms, and applications), and quantum simulation (analog vs digital approaches, simulation platforms, and chemistry applications).

Quantum communications including QRNG, QKD (BB84, CV-QKD, DV-QKD, MDI-QKD, TF-QKD protocols), post-quantum cryptography (NIST standardisation, migration implications, market players), quantum networks, quantum memory, and quantum internet.

Quantum sensors across atomic clocks, magnetic field sensors (SQUIDs, OPMs, TMRs, NV centres), gravimeters, gyroscopes, image sensors, radar, navigation, chemical sensors, RF field sensors (Rydberg and NV-centre based), and quantum NEMs/MEMs.

Quantum batteries, including technology types, applications, and market forecasts.

End-use markets spanning pharmaceuticals, financial services, aerospace and defence, energy and utilities, healthcare and medical, telecommunications, and government applications.

Materials for quantum technologies including superconductors, photonics, nanomaterials, artificial diamond, cryogenic infrastructure, helium-3 supply chain, cryo-CMOS, lasers, UHV systems, and microwave/optical interconnects.

Regional analysis for North America, Europe, Asia-Pacific, and Rest of World, plus government initiatives comparison.

Global market analysis including consolidated forecasts to 2046 by segment, end-use industry, and region; supply chain market sizing; and combined quantum technology economy view.

Profiles of 327 companies spanning every layer of the quantum technology ecosystem. Companies profiled include A* Quantum, AbaQus, Absolut System, Adaptive Finance Technologies, Aegiq, Agnostiq, Algorithmiq, Airbus, Alea Quantum, Alpine Quantum Technologies (AQT), Alice & Bob, Aliro Quantum,

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Anametric, Anyon Systems, Aqarios, Aquark Technologies, Archer Materials, Arclight Quantum, Arctic Instruments, Arqit Quantum, ARQUE Systems, Artificial Brain, Artilux, Atlantic Quantum, Atom Computing, Atom Quantum Labs, Atomionics, Atos Quantum, Baidu, BEIT, Beyond Blood Diagnostics, Bifrost Electronics, Bleximo, Bluefors, BlueQubit, Bohr Quantum Technology, Bosch Quantum Sensing, BosonQ Ps, C12 Quantum Electronics, Cambridge Quantum Computing (CQC), CAS Cold Atom, Cerca Magnetics, CEW Systems Canada, Chipiron, Chiral Nano, Classiq Technologies, ColibriTD, Commutator Studios, Covesion, Crypta Labs, CryptoNext Security, Crystal Quantum Computing, D-Wave Systems, DeteQt, Digistain, Diatope, Dirac, Diraq, Delft Circuits, Delta g, Duality Quantum Photonics, EeroQ, eleQtron, Element Six, Elyah, Entropica Labs, Ephos, Equal1, EuQlid, evolutionQ, Exail Quantum Sensors, EYL, First Quantum, Fujitsu, Genesis Quantum Technology, GenMat, Good Chemistry, Google Quantum AI, Groove Quantum, g2-Zero, Haiqu, Hefei Wanzheng Quantum Technology, High Q Technologies, Horizon Quantum Computing and more....

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