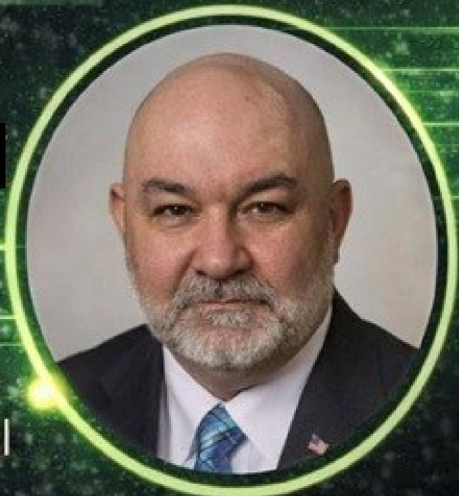
USA Quantum Snapshot 2026

Presentation

Chicago Quantum Group

July 2026



William Slater

Senior Cybersecurity Professional
& Quantum Technology Manager

William Slater
Slater Technologies, Inc
Chicago, Illinois, USA

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This Presentation Is Readily Available

- State of Quantum in America – 2026 (July 2026)
- Presentation
  - https://billslater.com/usaquantumdeck2026.pdf
- Paper
  - https://billslater.com/usaquantum2026.pdf

Quantum in America – 2026 Updates

- ✓ 2025 Spending = $12.1 Billion
- ✓ Global Ranking = No. 1
- ✓ Hardware = Diversified with several capable vendors. Hardware frontier is defined by five engineering objectives: logical-qubit formation, error-correction overhead reduction, better two-qubit gate fidelity, stable control electronics, and fabrication repeatability. The theme is to do do this economically, at scale.
- ✓ Software = Toward “ Realism “
- ✓ Workforce = Getting Stronger and less PhD-Focused
- ✓ PQC Remains a Top Concern, and organizations are waking up to the threats of Q-Day and HNDL
- ✓ There are approximately 61.7 Billion Internet-connected devices that require updating
- ✓ Quantum Education and Awareness are driving more curiosity-seekers and enthusiasts to embrace Quantum as career destination.
- ✓ We are proud, but not cocky or arrogant.
- ✓ The White House and Department of Energy support the Advancement of Quantum Technology and so does Congress.
- ✓ NQIRA Updated in May 2026.
- ✓ POTUS 47 signed TWO Executive Orders to support Quantum
- ✓ The U.S. is also Internationally Collaborative and Cooperative
- ✓ There are over 70 slides behind this that tell a very positive, interesting, complete story.
- ✓ Stay “ Quantum Thirsty, My Friends! “

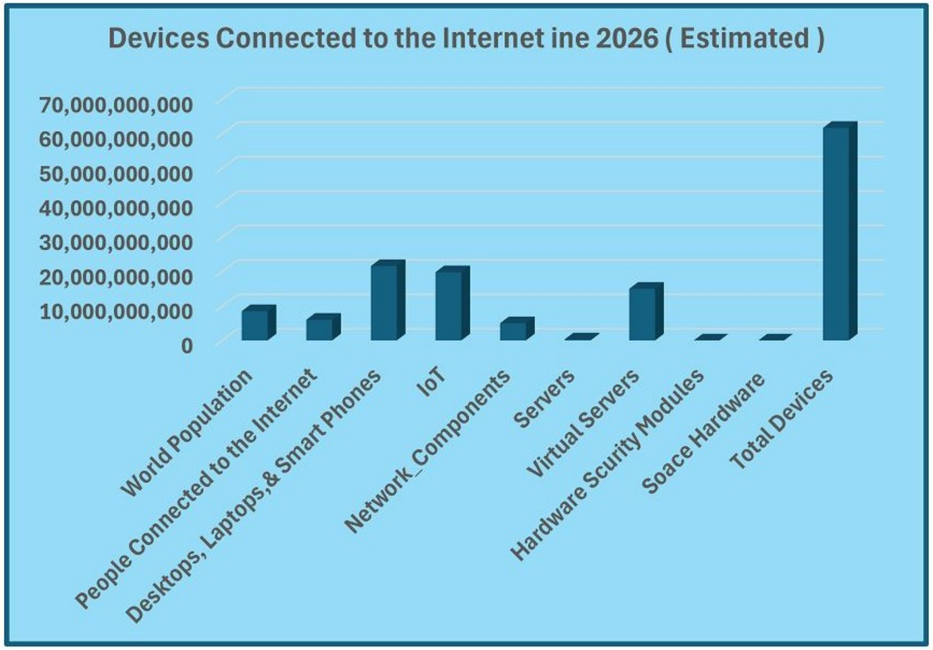
This Should Get Your Attention If You Care About PQC and the Internet

PQC System Engineer Readiness

How Large Is This Opportunity?

World Population	8,500,000,000
People Connected to the Internet	6,000,000,000
Desktops, Laptops,& Smart Phones	21,600,000,000
IoT	19,800,000,000
Network_Components	5,000,000,000
Servers	300,000,000
Virtual Servers	15,000,000,000
Hardware Scurity Modules	1,000,000
Soace Hardware	14,000
Total Devices	**61,701,014,000**

(All figures are estimated)



Sunday, April 12, 2026
Chicago, Illinois, USA

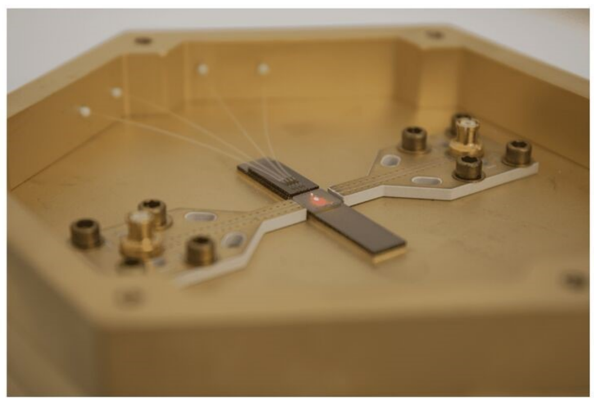
This Should Get Your Attention If You Care About PQC and the Internet

BARRON'S

TECHNOLOGY

Experts Are Worried 'Q-Day' Could Bring a $3 Trillion Banking Nightmare

As enthusiasm abounds for quantum computing, Moody's cautions that the rise of ultra-powerful systems could upend the financial sector.



The Commerce Department has pledged to invest $2 billion in quantum computing as part of a deal that includes equity stakes in several companies. PHOTO: COURTESY IONQ

Quantum in America – 2026
Congress Has Just Updated the NQIRA

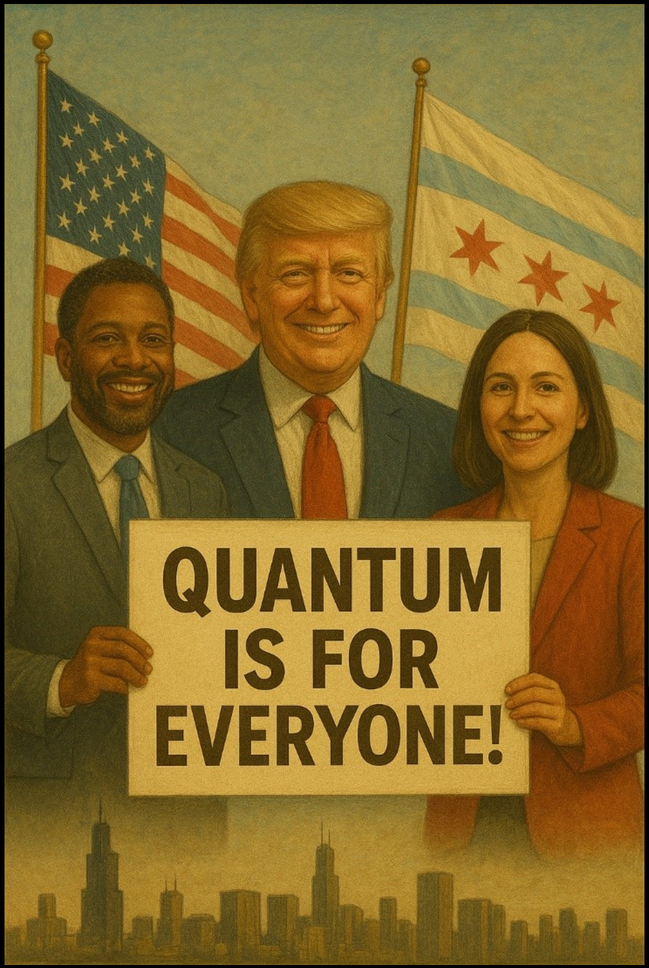
Positives

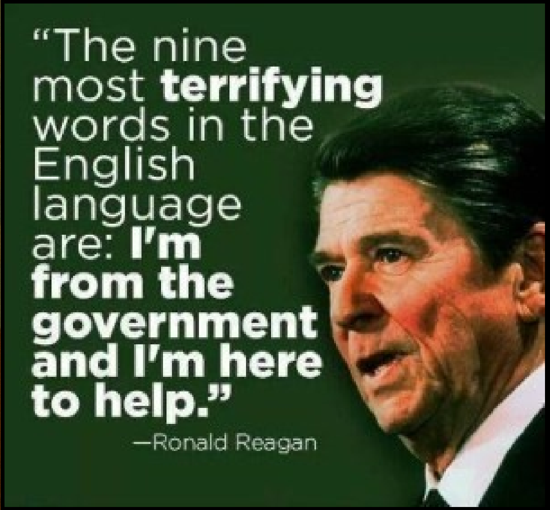
- Continuity: Extends and modernizes the NQI framework, reducing policy uncertainty for agencies, universities, and industry partners.
- Research-to-application bridge: Testbeds and expanded centers would help move quantum from isolated research programs into usable shared infrastructure.
- NIST role: New NIST quantum centers would strengthen measurement science, standards, engineering, sensing, and industry-facing validation.
- NSF role: Expanded NSF centers and education programs would broaden the academic base and potentially include institutions outside the highest R&D-spending tier.
- NASA inclusion: Satellite quantum communications and space-based sensing could connect U.S. civil space, defense, and quantum-network roadmaps.
- Workforce: Fellowships, scholarships, faculty awards, and partnerships would help address the multidisciplinary talent bottleneck.
- Allied competitiveness: A clearer U.S. quantum policy posture would support international partnerships and supply-chain resilience.

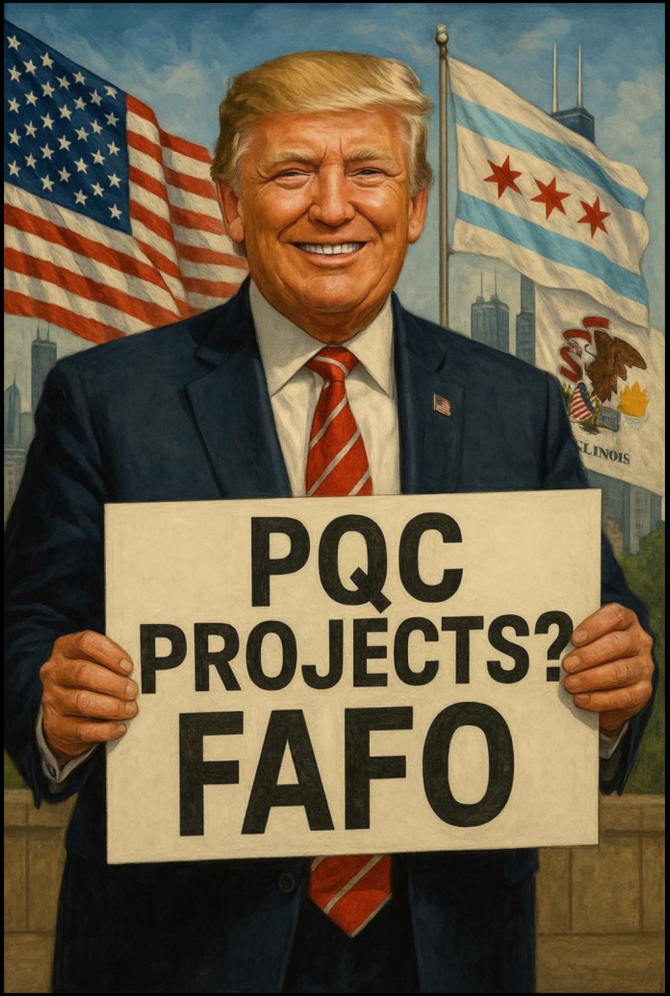
Negatives

- Appropriation risk: Authorization does not guarantee funding; insufficient appropriations could create unfunded expectations.
- Coordination overhead: More centers and agencies can improve coverage but also increase reporting burden and fragmentation.
- Commercialization gap: Federal R&D does not automatically create revenue-generating products or domestic manufacturing capacity.
- Talent dilution: Rapidly expanding programs without enough qualified faculty and mentors could reduce training quality.
- Geographic/political allocation risk: Funding may be distributed for political balance rather than technical excellence or mission fit.
- Security/export-control tension: Stronger national-security controls may protect sensitive capabilities but could slow academic collaboration and international talent flows.
- Hype risk: More funding can intensify unrealistic expectations if milestones are not tied to measurable technical and operational progress.

The U.S. Government LOVES Quantum
And It Shows!







The U.S. Government LOVES Quantum And It Shows!

1. U.S. Government Leadership and Influence

1.1 Executive Order 14412 - Securing the Nation Against Advanced Cryptographic Attacks

EO 14412 accelerates federal migration to post-quantum cryptography. It directs OMB and the National Cyber Director to lead execution, requires agency migration leadership, prioritizes High Value Assets and high-impact systems, calls for implementation guidance from Commerce, NSA and DHS, and establishes priority-system targets of December 31, 2030 for quantum-resistant key establishment and December 31, 2031 for digital signatures. It also uses acquisition policy, pilot programs and international engagement to influence contractors, critical infrastructure and allies.
Official source: https://www.whitehouse.gov/presidential-actions/2026/06/securing-the-nation-against-advanced-cryptographic-attacks/ .

1.2 Executive Order 14413 - Ushering in the Next Frontier of Quantum Innovation

EO 14413 establishes a whole-of-government approach to quantum innovation. It calls for an updated ***National Quantum Strategy***, commercialization and deployment, support for enabling technologies and domestic supply chains, public-private partnerships, workforce development, allied cooperation and strategic federal procurement.
Official source: https://www.whitehouse.gov/presidential-actions/2026/06/ushering-in-the-next-frontier-of-quantum-innovation/ .

1.3 Department of War Post-Quantum Cryptography Strategy

The Department of War PQC Strategy frames migration as a mission-assurance requirement. It emphasizes inventory, governance, acquisition, testing, interoperability, crypto-agility, workforce, supply-chain coordination and resilient warfighter communications across enterprise, embedded and long-lived systems.
Official source: https://dowcio.war.gov/Portals/0/Documents/Library/DoW-PQC-Strategy.pdf ,

1.4 OMB Memorandum M-26-15

OMB M-26-15, published June 24, 2026, operationalizes EO 14412 for civilian executive agencies. It requires agency migration plans within 120 days, automated cryptographic inventories, risk-based prioritization, integration with zero-trust and enterprise architecture, procurement and vendor coordination, resource estimates and phased modernization through 2035.
Official source index: https://www.whitehouse.gov/omb/information-resources/guidance/memoranda/

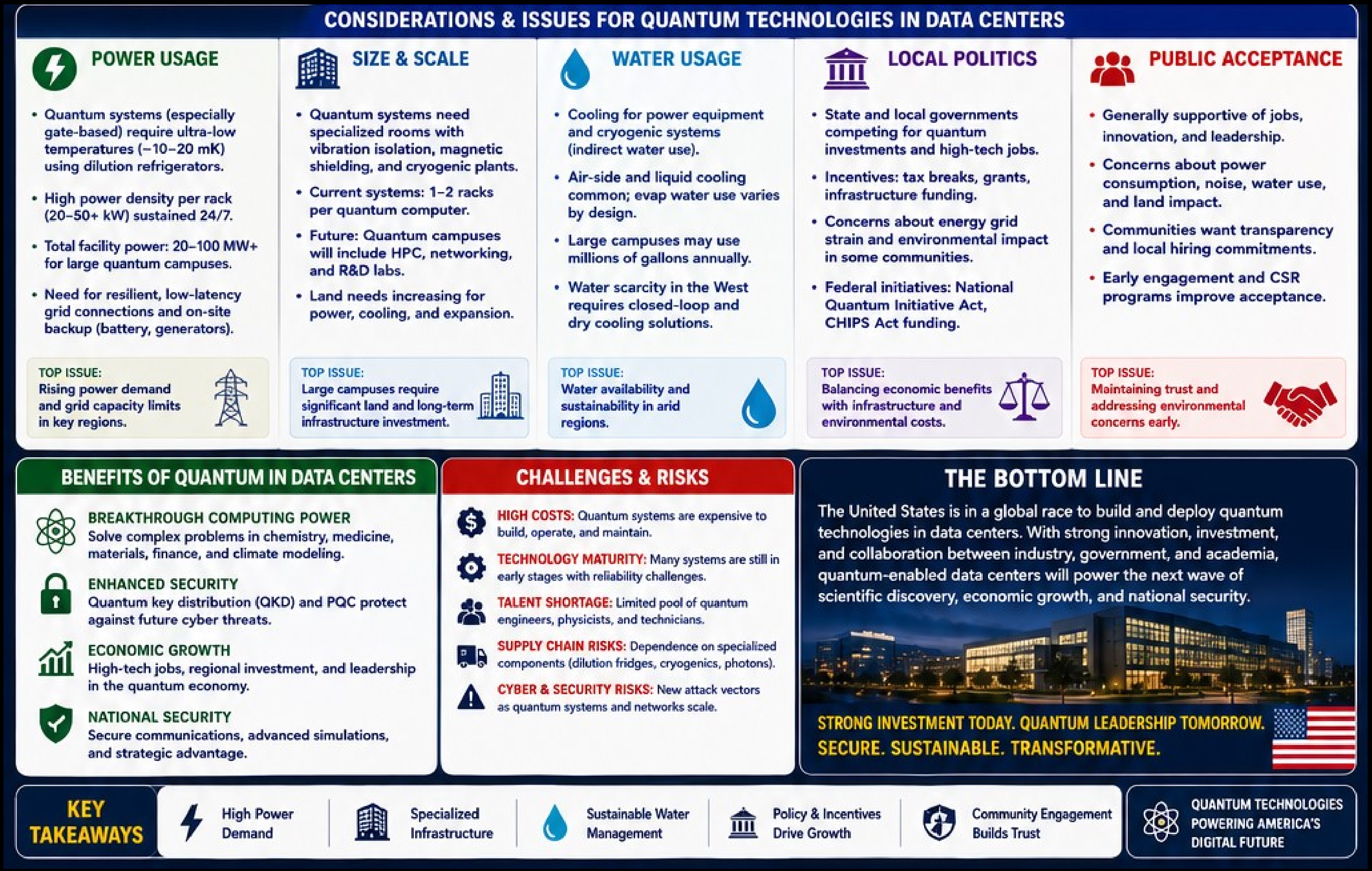
1.5 National Quantum Initiative Reauthorization Act of 2026

As of July 18, 2026, House and Senate versions had advanced through committee. The legislation would renew and expand federal programs, research centers, workforce initiatives, testbeds, standards, supply-chain programs and commercialization pathways. Committee passage is not enactment.
House: https://science.house.gov/2026/4/h-r-8462-national-quantum-intiative-reauthorization-act
Senate: https://www.commerce.senate.gov/press/dem/release/led-by-cantwell-and-young-national-quantum-initiative-reauthorization-act-unanimously-passes-commerce-committee-on-world-quantum-day/

The IQMP is a Big Deal in Illinois and for the U.S. ($ 9 Billion Project)

Quantum Technologies in U.S. Data Centers (Part 1 of 2)

Quantum Technologies in U.S. Data Centers (Part 2 of 2)



Conclusion – Part 1

- The State of Quantum in America in 2026 is strong but uneven. The U.S. leads in breadth: hardware diversity, software platforms, cloud access, patents, startups, research universities, national labs, and private capital. It also has a uniquely powerful ability to combine quantum with AI, HPC, semiconductors, aerospace, defense, cybersecurity, and cloud infrastructure.

- The most realistic near-term value will come from quantum-safe cybersecurity, quantum sensing, advanced simulation workflows, cloud-based experimentation, and hybrid quantum-classical R&D. Universal fault-tolerant quantum computing remains a strategic objective rather than a routine commercial tool. Organizations should therefore manage quantum as both a near-term security migration program and a long-term platform option.

- NQIRA could materially strengthen U.S. leadership if it is enacted with adequate appropriations, disciplined governance, clear testbed metrics, and direct integration with workforce and commercialization goals. Without those elements, it risks becoming another broad research authorization that improves activity but not outcomes. The central U.S. challenge for 2026-2030 is execution: turning scientific leadership into trusted systems, trained workers, secure cryptographic transitions, deployable sensors, and commercially meaningful applications.

Conclusion – Part 2

- PQC is the most immediately actionable quantum risk for Board of Directors, CEOs, CTOs, CIOs & CISOs. NIST finalized FIPS 203, FIPS 204, and FIPS 205 in 2024; by 2026, large organizations are expected to maintain crypto inventories, CBOMs, migration runbooks, hybrid TLS/PKI plans, and continuous testing.

- Quantum sensing is commercially nearer than universal fault-tolerant quantum computing. Atomic clocks, quantum magnetometers, gravimeters, inertial sensors, RF sensors, and quantum microscopes have near-term defense, navigation, semiconductor, medical, energy, and infrastructure applications.

- The U.S. workforce challenge is broadening. The bottleneck is no longer only Ph.D.-level quantum physicists; it includes cryogenic technicians, photonics engineers, RF engineers, device-fabrication specialists, quantum software engineers, cybersecurity/PQC architects, product managers, and application specialists.

USA Quantum Snapshot 2026

Questions and Answers

William Slater
Slater Technologies, Inc
May 15, 2026

Supplemental Slides

USA Quantum Snapshot 2026

Agenda

USA Quantum Snapshot 2026

Abstract

This presentation will cover the State of Quantum in America in 2026.

The United States remains a leading quantum power in research quality, commercial platform availability, private capital formation, cloud access to quantum processors, quantum software, and quantum-safe cybersecurity deployment. The competitive picture is no longer only a laboratory race; it now spans manufacturing, supply chains, national-security use cases, workforce training, export controls, PQC migration, and state-level ecosystem development.

USA Quantum Snapshot 2026

Introduction – Part 1

- The United States remains a leading quantum power in research quality, commercial platform availability, private capital formation, cloud access to quantum processors, quantum software, and quantum-safe cybersecurity deployment. The competitive picture is no longer only a laboratory race; it now spans manufacturing, supply chains, national-security use cases, workforce training, export controls, PQC migration, and state-level ecosystem development.

- Quantum hardware in 2026 is advancing across superconducting, trapped-ion, neutral-atom, photonic, silicon-spin, and annealing architectures. The market has shifted from raw qubit counts to logical-qubit roadmaps, error correction, fidelity, connectivity, calibration automation, manufacturability, and credible paths to fault tolerance.

- Quantum software is moving into hybrid workflows: circuit compilation, error mitigation, quantum control, resource estimation, cloud orchestration, AI-assisted discovery, and domain-specific libraries for chemistry, optimization, finance, logistics, and materials.

- PQC is the most immediately actionable quantum risk for CISOs. NIST finalized FIPS 203, FIPS 204, and FIPS 205 in 2024; by 2026, large organizations are expected to maintain crypto inventories, CBOMs, migration runbooks, hybrid TLS/PKI plans, and continuous testing.

USA Quantum Snapshot 2026

Introduction – Part 2

- Quantum sensing is commercially nearer than universal fault-tolerant quantum computing. Atomic clocks, quantum magnetometers, gravimeters, inertial sensors, RF sensors, and quantum microscopes have near-term defense, navigation, semiconductor, medical, energy, and infrastructure applications.
- The U.S. workforce challenge is broadening. The bottleneck is no longer only Ph.D.-level quantum physicists; it includes cryogenic technicians, photonics engineers, RF engineers, device-fabrication specialists, quantum software engineers, cybersecurity/PQC architects, product managers, and application specialists.
- The National Quantum Initiative Reauthorization Act of 2026 (NQIRA), as advanced through congressional committees in 2026, would extend and broaden the 2018 NQI framework. Its likely positive impacts include stronger federal coordination, expanded NSF and NIST centers, more testbeds, NASA inclusion for sensing and satellite communications, and better workforce pathways. Risks include congressional appropriations uncertainty, administrative overhead, possible diffusion of funds across too many centers, and continuing gaps between research milestones and commercial deliverables.

USA Quantum Snapshot 2026

What Is PQC?

- **PQC is Post-Quantum Cryptography.**

- **It is a standard that has been developed to withstand efforts by Cryptographically Relevant Quantum Computers (CRQC) to break standard cryptography. NIST is the most prevalent set of PQC Standards, but there are also other standards available in Europe, Japan, China, etc.**

Hardware Development Updates

- U.S.-linked quantum hardware development is diversified across several modalities. Superconducting platforms remain central to IBM, Google, Rigetti, and several academic/national-lab programs; trapped-ion systems remain central to IonQ and Quantinuum; neutral-atom systems have attracted strong U.S. investment through QuEra and related ecosystem players; photonic approaches remain central to PsiQuantum and Xanadu-style architectures; silicon-spin and semiconductor-compatible qubits continue to draw attention because manufacturability may become decisive at scale.

- The 2026 hardware frontier is defined by five engineering objectives: logical-qubit formation, error-correction overhead reduction, better two-qubit gate fidelity, stable control electronics, and fabrication repeatability. A credible quantum roadmap now requires not just a qubit number but a system-level plan for cryogenics, lasers or microwave control, interconnects, control software, calibration automation, packaging, and serviceability.

- Key U.S. status: the United States has strong platform diversity and commercial access, but supply-chain control remains a strategic issue: dilution refrigerators, lasers, photonics components, ultra-low-noise electronics, semiconductor fabrication, cryogenic cabling, and specialized materials are all part of the strategic industrial base.

Software Development Updates

- Quantum software is maturing around hybrid execution rather than stand-alone quantum replacement of classical computing. The main software domains are quantum SDKs, compilers/transpilers, error mitigation, pulse-level control, resource estimation, cloud scheduling, benchmarking, algorithm libraries, and domain-specific applications.

- U.S. cloud and software ecosystems remain highly visible through Amazon Braket, Microsoft Azure Quantum, IBM Quantum, Google Quantum AI tooling, NVIDIA CUDA-Q, IonQ cloud access, Quantinuum software, Q-CTRL control software, and open-source ecosystems such as Qiskit, Cirq, PennyLane, and Braket SDK. The practical trend is toward hardware-aware compilers, better noise models, automated calibration loops, and workflow integration with classical HPC and AI.

Algorithm Updates

- The most important 2026 algorithm trend is ***realism***. Research continues on Shor, Grover, quantum simulation, QAOA, VQE, HHL-style linear algebra, quantum machine learning, and amplitude-estimation variants, but implementation is now tightly coupled to resource estimation and error-correction assumptions.

- Near-term algorithms are concentrated in chemistry, materials, optimization, quantum dynamics, Monte Carlo acceleration, and cryptanalysis resource estimation. Enterprise value depends on whether the quantum subroutine can beat classical heuristics, GPUs, AI accelerators, and problem-specific optimizers after total system cost and error-correction overhead are included.

Quantum in Research

- U.S. research remains anchored by universities, national laboratories, NSF Quantum Leap Challenge Institutes, DOE National Quantum Information Science Research Centers, NIST metrology and standards programs, DARPA benchmarking and transition programs, and industry research labs.

- Research emphasis has expanded from proof-of-principle demonstrations to system integration, testbeds, benchmarking, quantum networking, quantum transduction, materials, quantum control, and workforce development.

- National-lab and university consortia remain critical because quantum systems require expensive infrastructure, multi-disciplinary teams, and long-cycle engineering. The most productive U.S. research ecosystems are those that combine device physics, engineering, algorithms, software, application-domain expertise, and transition pathways to industry.

Education:
K-12, College, Graduate School, Post-Graduate

Education Level	2026 Priority
K-12	Early exposure to quantum concepts, probability, waves, measurement, coding, cybersecurity, and STEM identity-building. Best delivered through age-appropriate modules rather than full quantum mechanics.
Community college / technical	Cryogenic technician, photonics technician, RF technician, lab operations, semiconductor process support, cybersecurity/PQC analyst, and quantum-aware IT roles.
Undergraduate	Quantum information science minors, physics/EE/CS pathways, software development, mathematics, device fabrication, and application-domain tracks.
Graduate school	Deep specialization in quantum hardware, algorithms, quantum error correction, sensing, materials, communications, and cryptography.
Post-graduate / professional	Executive education, CISO PQC migration training, product management, standards, export controls, and continuing education for classical engineers entering quantum.

Post-Quantum Cryptography (PQC)

- PQC is the most urgent near-term quantum-security action area because harvest-now/decrypt-later risk already exists. Organizations with long-lived confidential data need crypto discovery, data-lifetime analysis, vendor coordination, CBOM/SBOM integration, hybrid cryptography architecture, test environments, and formal migration governance.

- NIST finalized FIPS 203, FIPS 204, and FIPS 205 in August 2024. In practice, U.S. enterprises in 2026 should treat PQC as a multi-year migration program, not a patch cycle. The highest-priority areas are external TLS, PKI/certificates, VPNs, code signing, identity infrastructure, device firmware signing, key management, high-value databases, long-term archives, and regulated data flows.

PQC Migration Operating Model

Activity Category	Explanation
Inventory	Discover cryptography in applications, endpoints, servers, network devices, IoT/OT, cloud, APIs, databases, and certificates.
CBOM	Maintain cryptographic bills of materials linked to asset inventory, software ownership, vendor dependencies, and remediation status.
Risk ranking	Prioritize long-lived sensitive data, externally exposed services, brittle embedded systems, and systems with certificate or firmware constraints.
Hybrid architecture	Use hybrid classical/PQC where policy, interoperability, and vendor readiness require staged transition.
Testing	Continuously test performance, handshake size, certificate chains, interoperability, rollback, monitoring, and break-glass procedures.

Quantum in Industry

- Industry activity is strongest in cloud access, national security, cybersecurity, chemicals/materials, pharma, finance, logistics, telecom, semiconductors, and advanced manufacturing.
- The commercial reality is uneven: quantum computing revenues are growing quickly from a small base, while most firms remain unprofitable and dependent on patient capital.
- Quantum sensing, timing, and security-related products have clearer near-term paths to production revenue.

Quantum in Communications

- Quantum communications in the United States focuses on metropolitan quantum networks, quantum key distribution testbeds, entanglement distribution, quantum repeaters, transduction between modalities, trusted-node architectures, and integration with conventional optical networking.

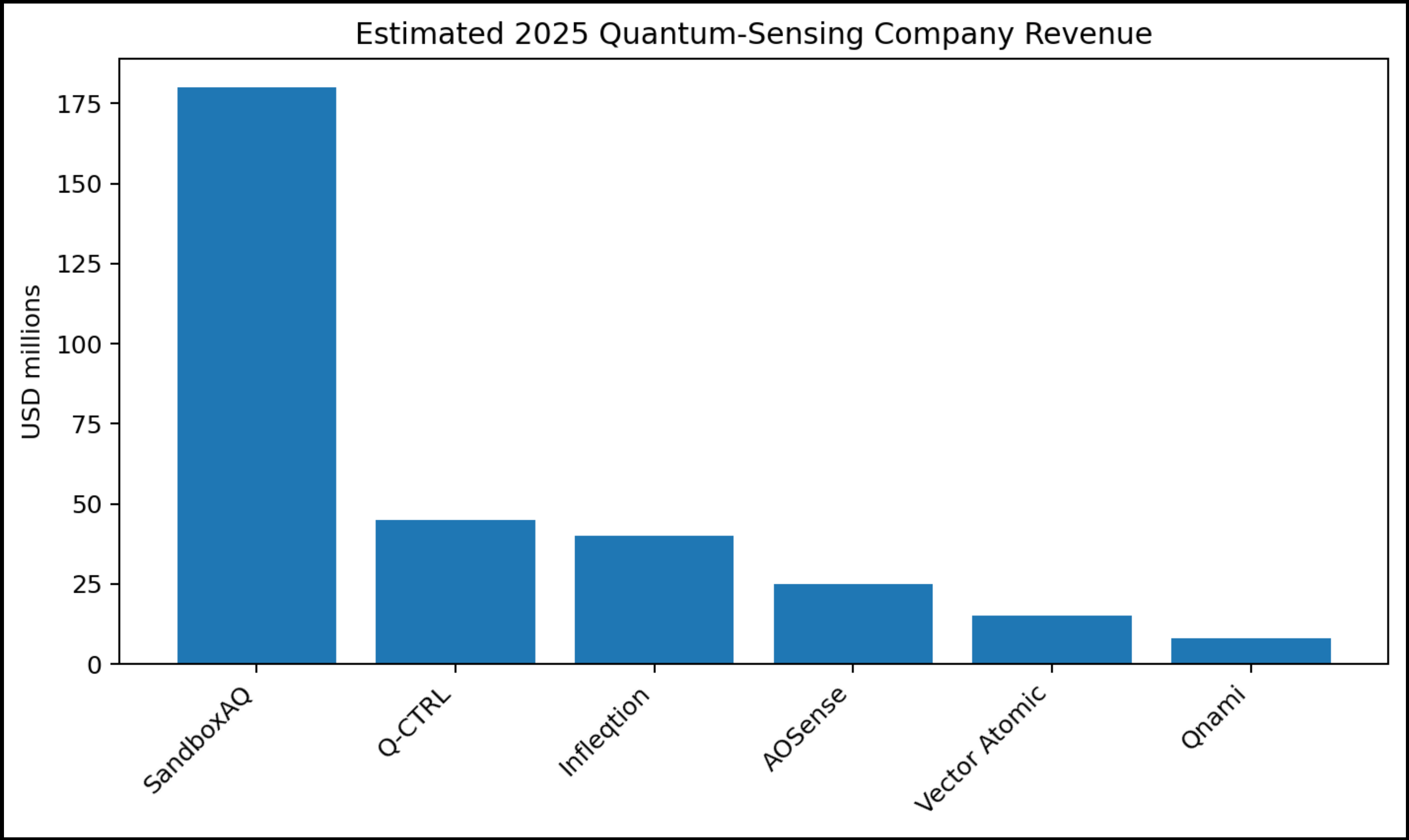
- The likely 2026 path is not a sudden replacement of the Internet; it is a layered set of specialized networks for national labs, telecom testbeds, financial services, defense, and high-security research environments.

Quantum Sensors

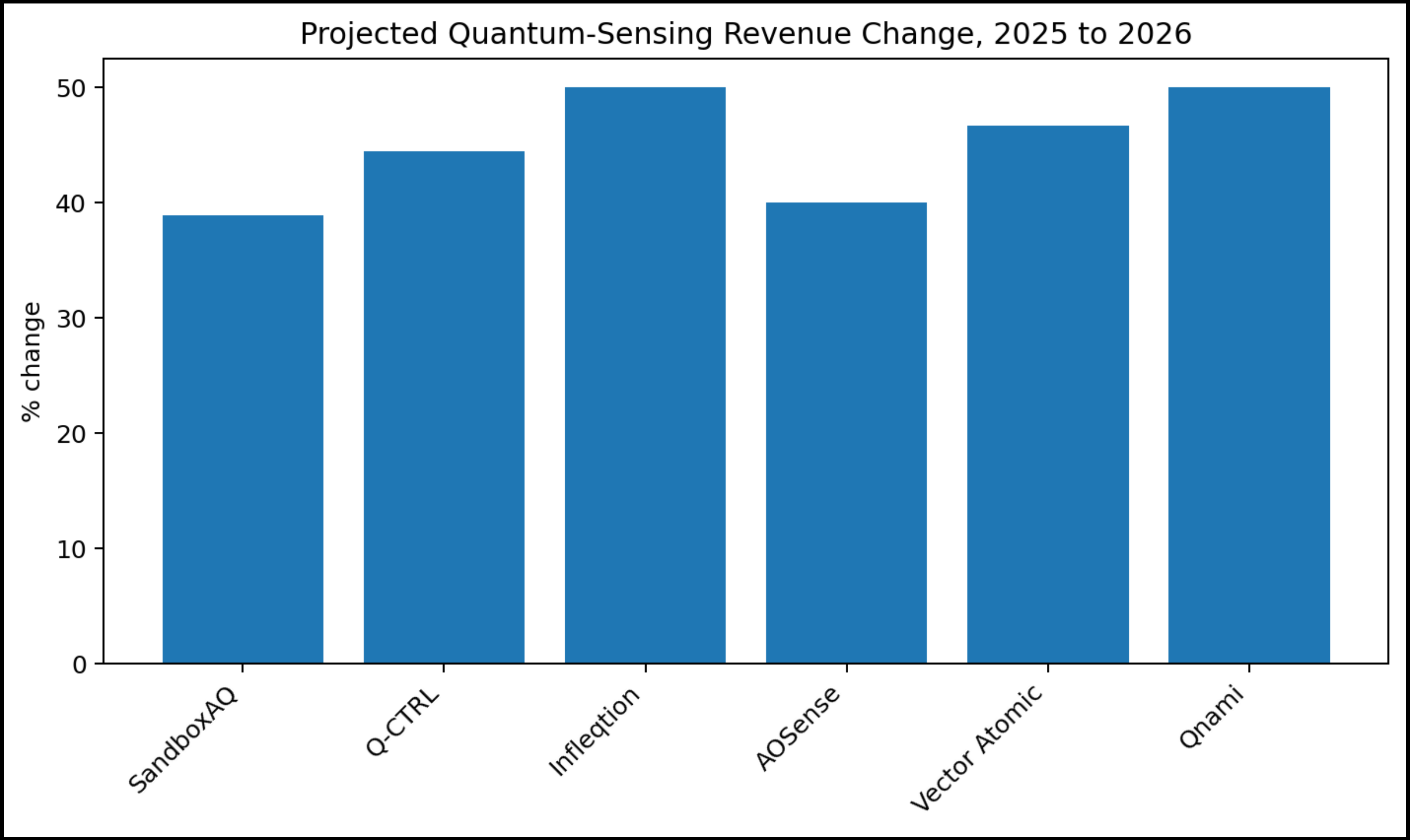
- Quantum sensing is one of the most commercially plausible quantum sectors in the near term. Applications include GPS-denied navigation, underground/underwater detection, precision timing, RF spectrum sensing, magnetic-field imaging, gravimetry, biomedical imaging, semiconductor metrology, and infrastructure monitoring.

- The U.S. sensing ecosystem benefits from defense demand, national-lab metrology, chip-manufacturing needs, and advanced manufacturing clusters.

Quantum Sensors



Quantum Sensors

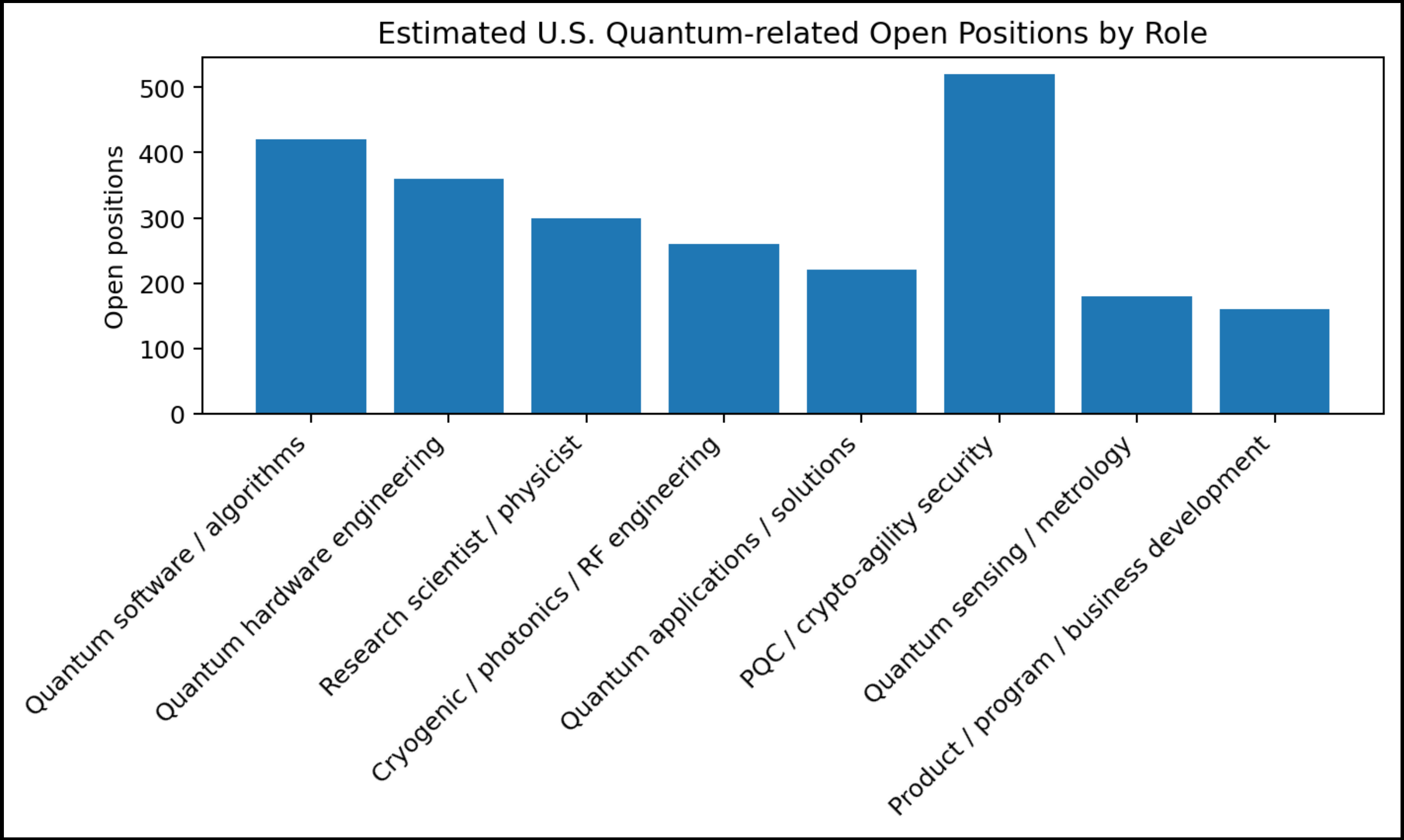


U.S. Quantum Workforce

- The workforce gap is multidisciplinary. A mature U.S. quantum workforce needs physicists, electrical engineers, computer scientists, software engineers, control engineers, cryogenic technicians, photonics specialists, cybersecurity/PQC experts, product managers, compliance specialists, and manufacturing technicians.

- A major strategic issue is converting quantum from an elite Ph.D.-only labor market into a layered workforce with technician, bachelor's, master's, doctoral, and continuing-education

U.S. Quantum Workforce



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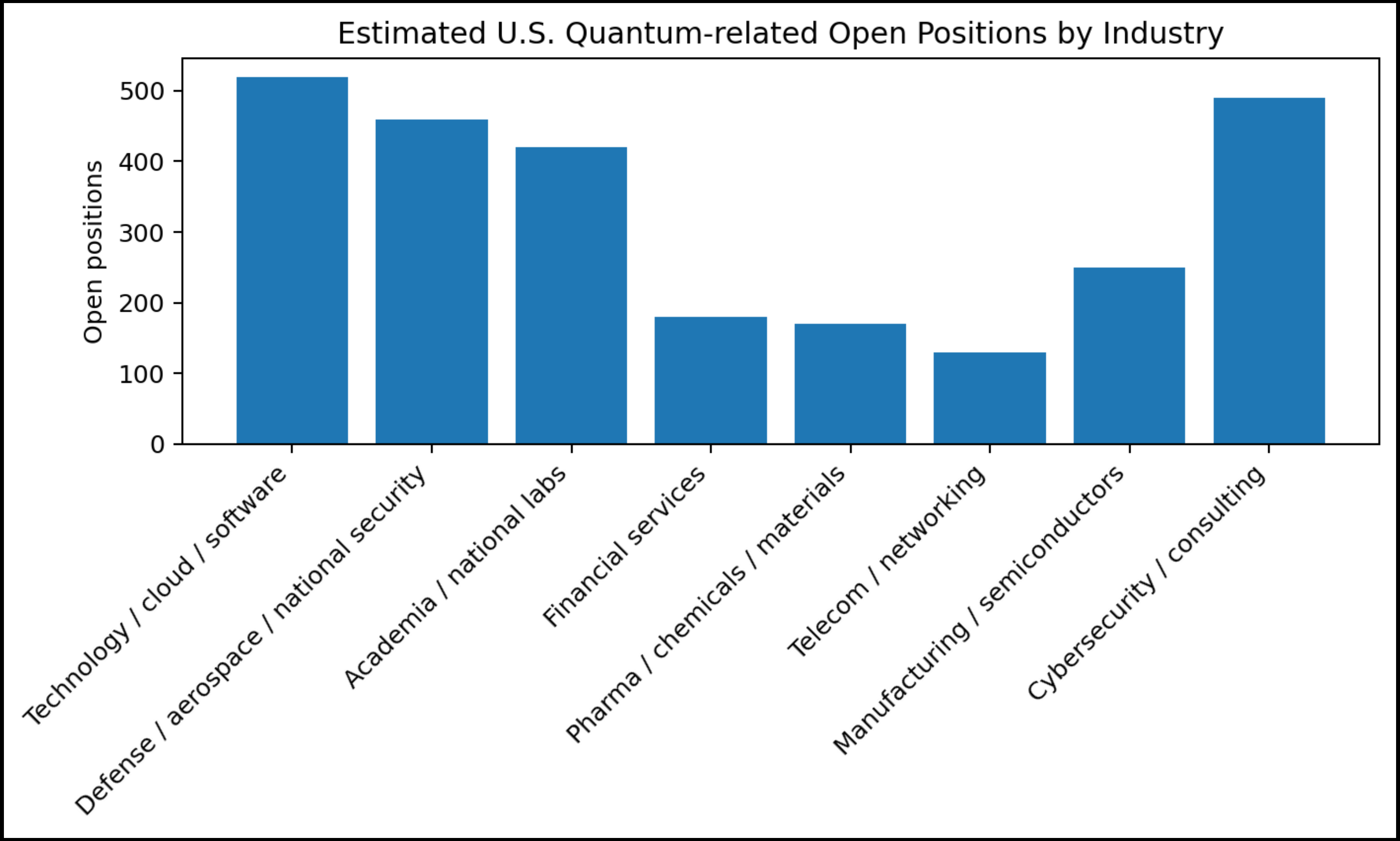
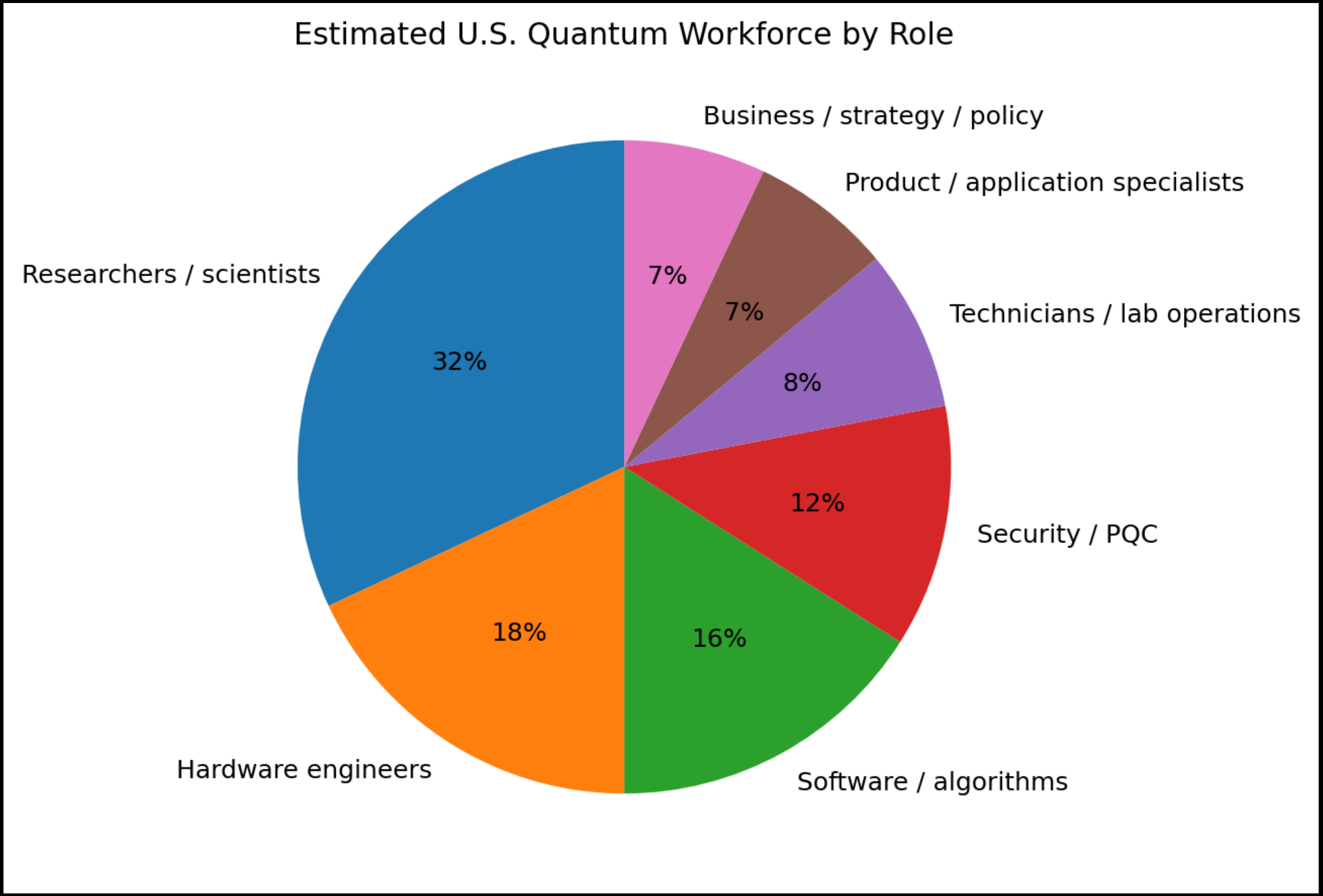


U.S. Quantum Workforce

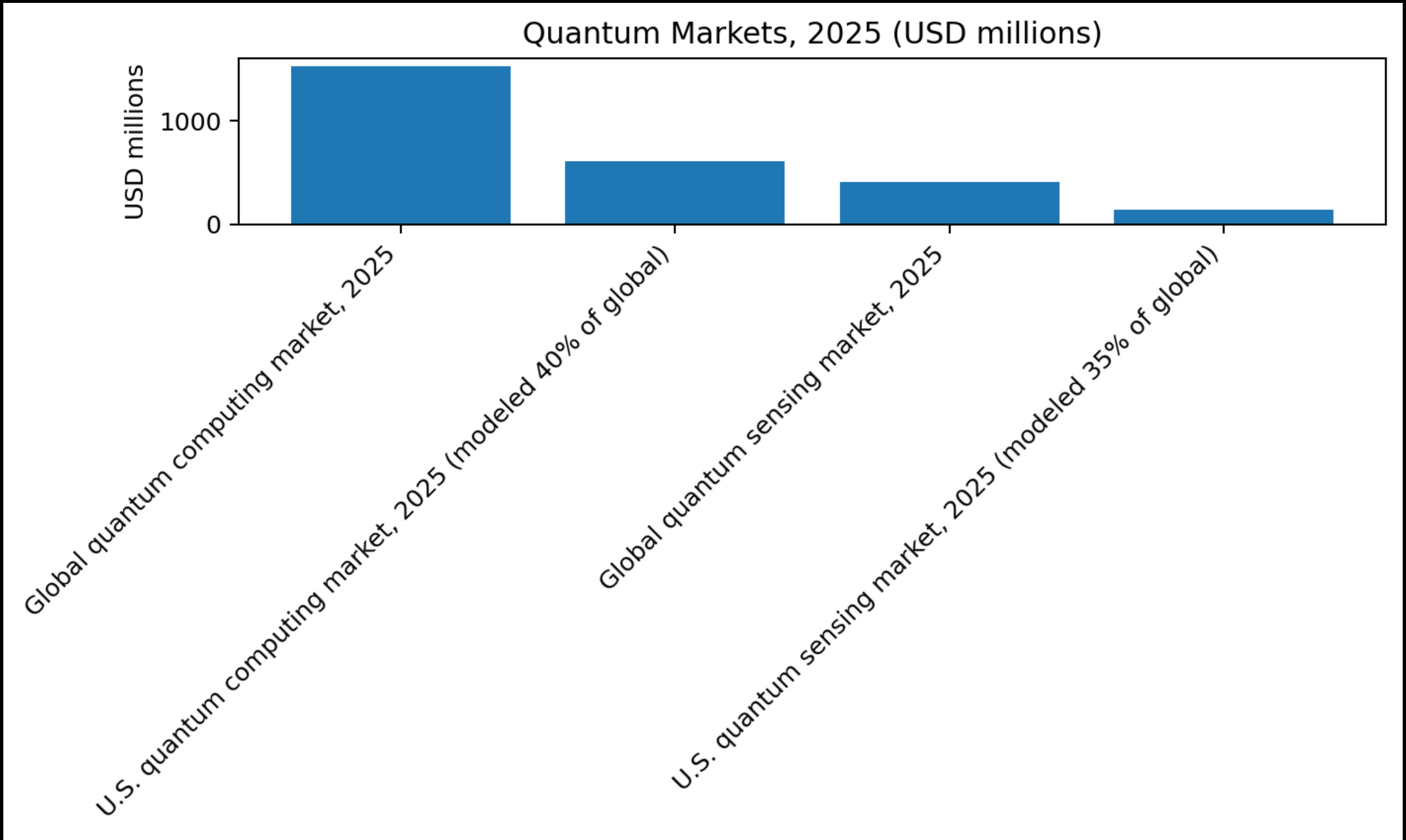


U.S. and Global Quantum Technology Markets

- Market estimates vary because analysts define the sector differently: some include only quantum-computing hardware/software/cloud revenue; others include enabling components, sensing, communications, security, consulting, and government-funded R&D.

- For this report, the market exhibits use a conservative baseline for global quantum computing and quantum sensing and modeled U.S

U.S. and Global Quantum Technology Markets



U.S. and Global Quantum Technology Markets

Market Baseline Table

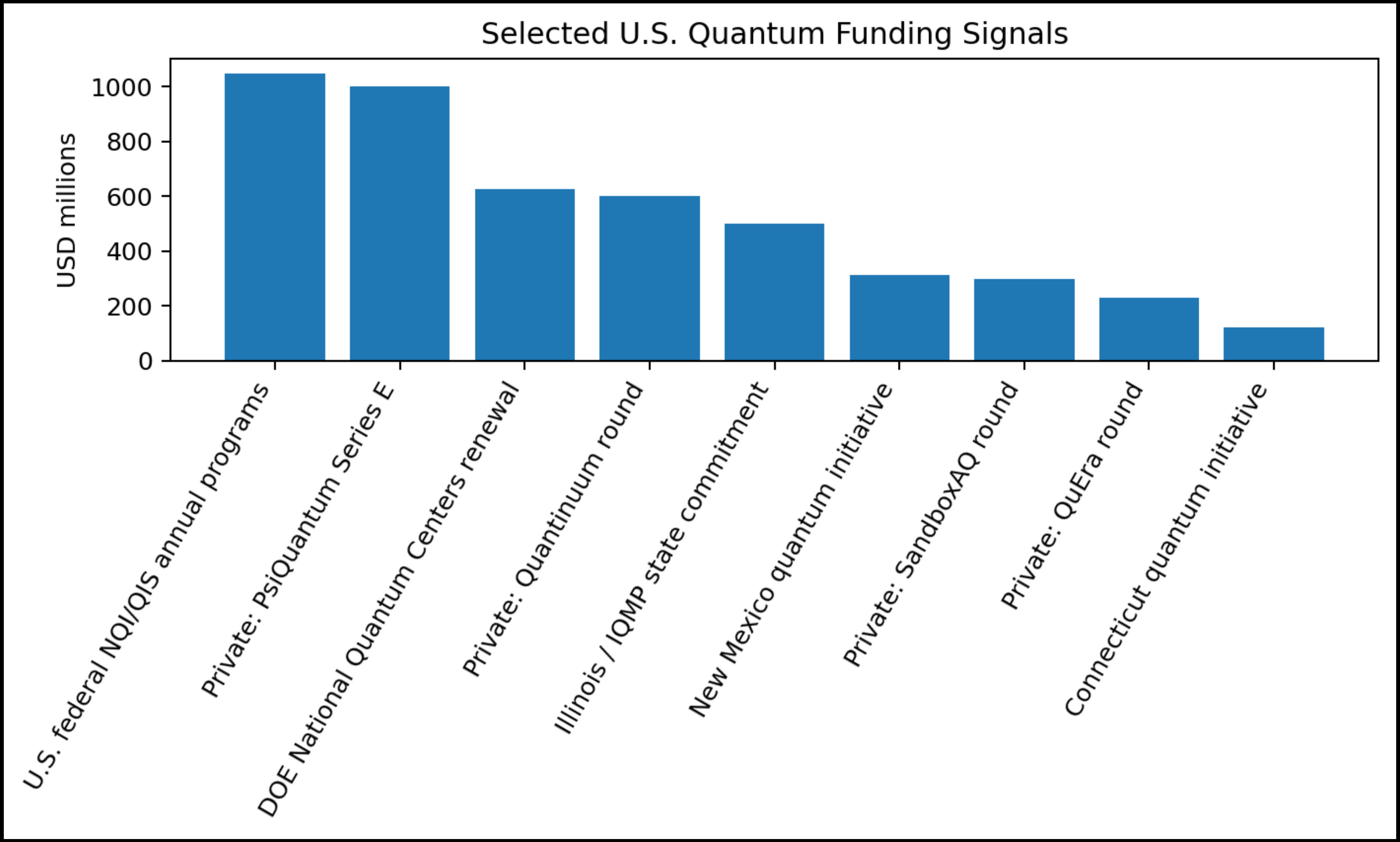
Metric	Value	Basis
Global quantum computing market, 2025	1,530.0	Fortune Business Insights / market-research baseline
U.S. quantum computing market, 2025 (modeled 40% of global)	612.0	Model estimate based on U.S. private-investment leadership
Global quantum sensing market, 2025	414.6	Global Market Insights baseline
U.S. quantum sensing market, 2025 (modeled 35% of global)	145.1	Model estimate

U.S. Government Funding of Quantum

- U.S. government funding remains foundational. Federal support flows through DOE, NSF, NIST, DARPA, DoD, IARPA, NASA, and national laboratories, while state governments are increasingly using quantum as an economic-development strategy.

- Illinois, New Mexico, Connecticut, Maryland, Colorado, California, New York, Massachusetts, and the broader Midwest are examples of state or regional ecosystem development.

U.S. Government Funding of Quantum



U.S. Private Funding of Quantum

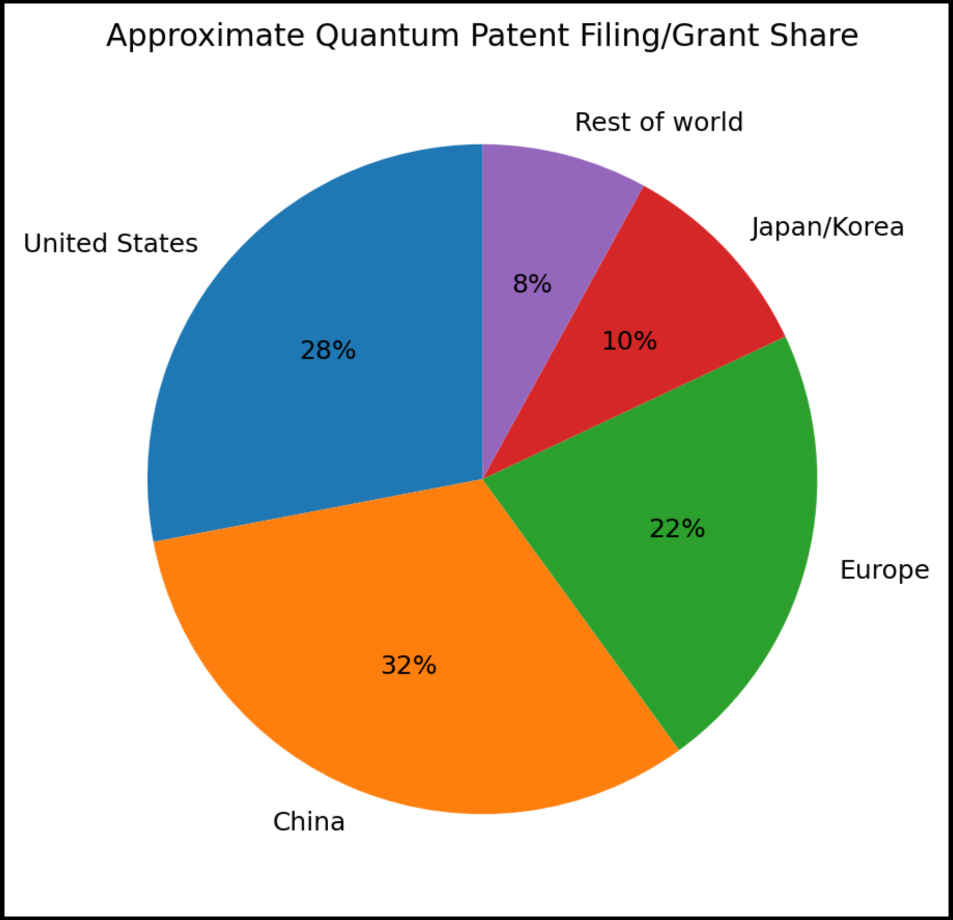
- Private funding is increasingly concentrated in large rounds for companies with credible system roadmaps, differentiated hardware modalities, or national-security relevance.
- PsiQuantum, Quantinuum, QuEra, SandboxAQ, IonQ, D-Wave, Rigetti, Infleqtion, Q-CTRL, and related suppliers illustrate a market in which capital formation is selective and milestone-driven.
- Public companies face volatility

U.S. Patents on Quantum Science and Quantum Technologies

- Quantum patenting continues to accelerate. The United States remains highly competitive, especially in quantum computing, quantum communications, and quantum sensing, but China has become a dominant filer in several global patent datasets.

- Patent activity should be interpreted carefully: quantity does not equal enforceable quality, and global patent families, grants, priority filings, and U.S. grants each tell different stories.

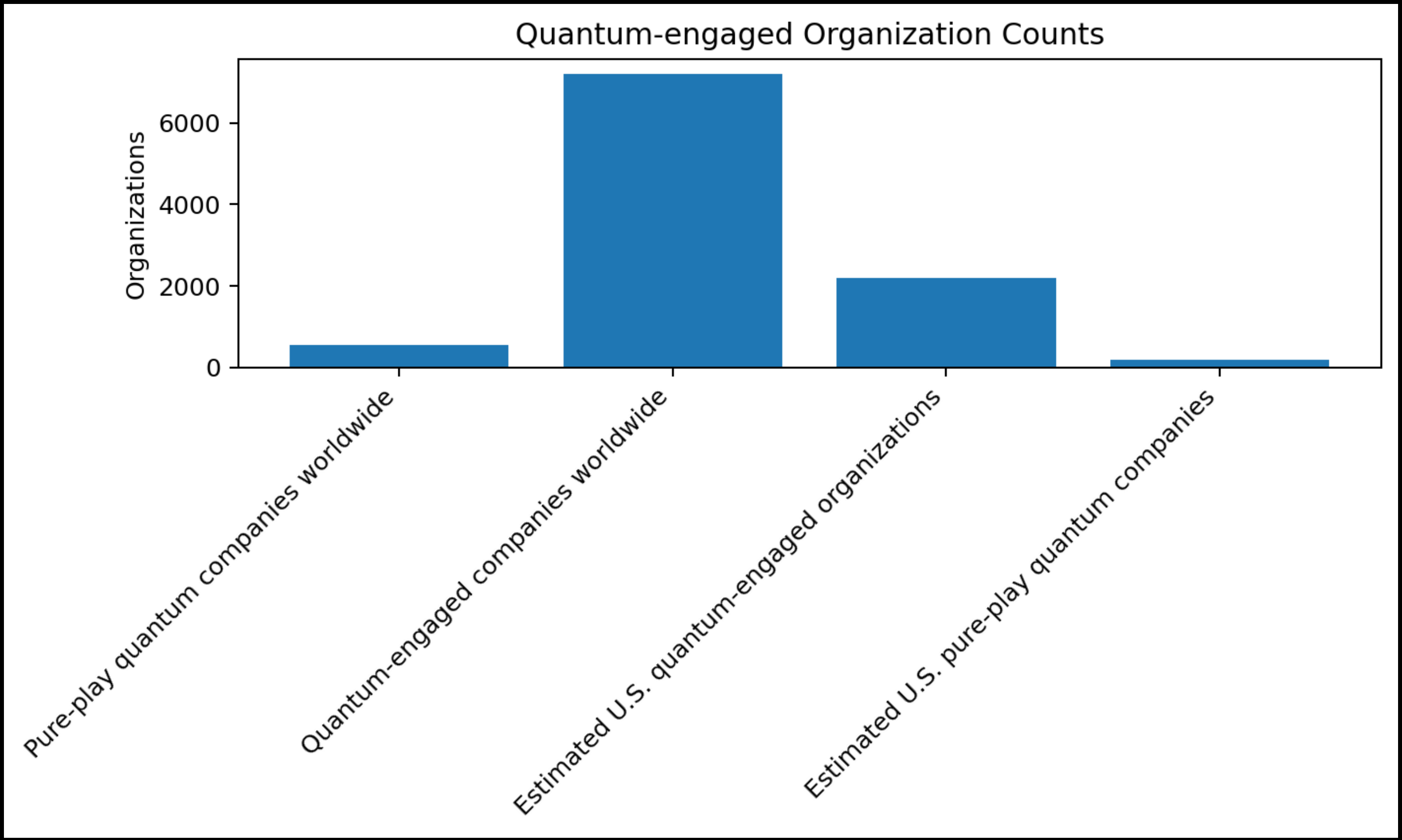
U.S. Patents on Quantum Science and Quantum Technologies



U.S. Quantum-engaged Organizations and Ecosystem

- The U.S. quantum ecosystem includes pure-play quantum startups, large technology companies, telecom providers, aerospace/defense contractors, semiconductor firms, cybersecurity companies, universities, national labs, federal agencies, state economic-development authorities, standards bodies, and nonprofit consortia

U.S. Quantum-engaged Organizations and Ecosystem



U.S. Quantum-engaged Organizations and Ecosystem

Ecosystem Category	Representative Organizations
Large technology / cloud	IBM, Google, Microsoft, Amazon, NVIDIA
Pure-play / hardware	IonQ, Quantinuum, Rigetti, D-Wave, PsiQuantum, QuEra, Infleqtion
Quantum software / control	Q-CTRL, Classiq, Zapata AI legacy ecosystem, Strangeworks, QC Ware
Quantum sensing / timing	AOSense, Vector Atomic, SandboxAQ, Qnami, ColdQuanta/Infleqtion
Government / labs	DOE labs, NIST, DARPA, NSF, NASA, IARPA, DoD labs
Universities / hubs	MIT, Harvard, Stanford, Caltech, University of Chicago, UIUC, Maryland, Colorado, Yale, Princeton, Duke
Consortia / nonprofits	QED-C, Chicago Quantum Exchange, Quantum Economic Development Consortium, IEEE Quantum, Optica, APS, AAAS quantum programs

Non-Profit U.S. Quantum Groups

- Key nonprofit and consortium actors include QED-C, ***Chicago Quantum Exchange***, IEEE Quantum, Optica, APS, Quantum Industry Coalition, university-led Quantum Leap Challenge Institutes, regional quantum alliances, and standards-focused bodies.

- These groups reduce fragmentation by aligning workforce development, standards, testbeds, public-private partnerships, and commercialization pathways.

U.S. Quantum Computing Market - 2025

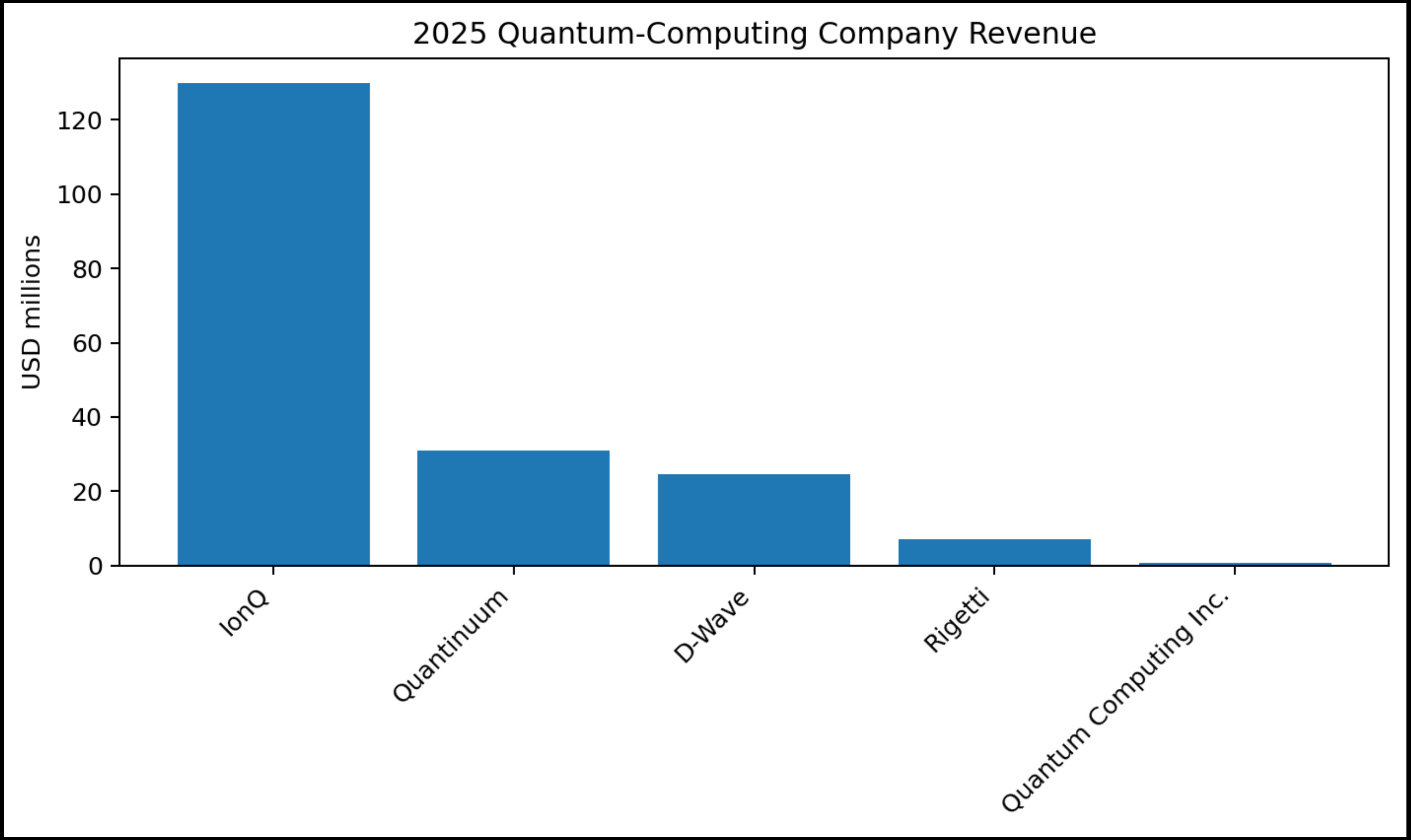
- A reasonable modeled estimate for the U.S. quantum-computing market in 2025 is approximately $0.6 billion when using a $1.53 billion global baseline and assigning roughly 40% to the United States.

- This includes hardware access, cloud services, quantum software, professional services, and ecosystem revenue; it excludes much broader long-term total

Global Quantum Computing Market - 2025

- Third-party market estimates place the global quantum-computing market around $1.5 billion to $1.6 billion in 2025, depending on definitions.
- Growth expectations remain high, but practical enterprise adoption is gated by error correction, reliable advantage, skilled users, and integration with classical computing.

2025 Quantum-Computing Company Revenue



2025 Quantum-Computing Company Revenue

Quantum-Computing Company Revenue Table

Company	2025 Revenue	2026 Projection	Change %	Basis
IonQ	130.0	235.0	80.8	2026 midpoint guidance / outlook
Quantinuum	30.9	41.7	35.0	Modeled +35% growth, equal to 2025 YoY
D-Wave	24.6	35.0	42.3	Modeled from bookings momentum; no official annual guide located
Rigetti	7.1	21.3	200.0	Analyst estimate cited in 2026 reporting
Quantum Computing Inc.	0.682	1.2	76.0	Modeled from low revenue base and Q4 run-rate

Quantum-Computing Company Projected Revenue Change, 2025 to 2026

Quantum-Computing Company Revenue Table

Company	2025 Revenue	2026 Projection	Change %	Basis
IonQ	130.0	235.0	80.8	2026 midpoint guidance / outlook
Quantinuum	30.9	41.7	35.0	Modeled +35% growth, equal to 2025 YoY
D-Wave	24.6	35.0	42.3	Modeled from bookings momentum; no official annual guide located
Rigetti	7.1	21.3	200.0	Analyst estimate cited in 2026 reporting
Quantum Computing Inc.	0.682	1.2	76.0	Modeled from low revenue base and Q4 run-rate

U.S. Quantum Sensing Market - 2025

- The U.S. quantum-sensing market is estimated here at approximately $145 million in 2025, modeled as 35% of a $414.6 million global quantum-sensors baseline.

- This reflects U.S. strength in defense, timing, navigation, semiconductor metrology, and national-lab metrology

Global Quantum Sensing Market - 2025

- Published 2025 global quantum-sensing estimates vary from roughly $170 million to more than $430 million depending on market definition.

- This report uses a $414.6 million baseline because it captures a broader commercial sensor definition. The market is expected to grow through defense, navigation, timing, healthcare, industrial inspection, and semiconductor

U.S. and Global 2025 Quantum Sensing Company Revenue

- Most quantum-sensing companies are private and do not publish audited annual revenue.

- The sensing revenue table therefore uses modeled estimates and should be treated as directional, suitable for market-mapping and strategic planning rather than investment valuation.

U.S. and Global 2025 Quantum Sensing Company Revenue Estimates Table

Quantum-Sensing Company Revenue Estimates

Company	2025 Revenue	2026 Projection	Change %	Basis
SandboxAQ	180	250	38.9	Private company; estimated quantum/AI-security/sensing-related revenue
Q-CTRL	45	65	44.4	Private company; estimated controls/sensing/software revenue
Infleqtion	40	60	50.0	Private company; estimated quantum systems/sensing revenue
AOSense	25	35	40.0	Private company; estimated cold-atom sensor revenue
Vector Atomic	15	22	46.7	Private company; estimated timing/navigation revenue
Qnami	8	12	50.0	Private company; estimated quantum microscopy/sensing revenue

U.S. Quantum-related Open Positions by Position Type

Position Type	Open Positions
Quantum software / algorithms	420
Quantum hardware engineering	360
Research scientist / physicist	300
Cryogenic / photonics / RF engineering	260
Quantum applications / solutions	220
PQC / crypto-agility security	520
Quantum sensing / metrology	180
Product / program / business development	160

U.S. Quantum-related Open Positions by Industry Type

Industry Type	Open Positions
Technology / cloud / software	520
Defense / aerospace / national security	460
Academia / national labs	420
Financial services	180
Pharma / chemicals / materials	170
Telecom / networking	130
Manufacturing / semiconductors	250
Cybersecurity / consulting	490

U.S. Quantum Workforce by Role

Role	Share %
Researchers / scientists	32
Hardware engineers	18
Software / algorithms	16
Security / PQC	12
Technicians / lab operations	8
Product / application specialists	7
Business / strategy / policy	7

Overall Strategic Quantum Assessment for 2026

Issue	Assessment
Most near-term value	PQC migration, quantum-safe architecture, sensing/timing/navigation, quantum-inspired optimization, and quantum/HPC/AI hybrid research.
Highest technical uncertainty	Large-scale fault-tolerant quantum computing timelines, logical-qubit cost, and true business advantage over classical/HPC/AI alternatives.
Highest national-security priority	PQC, cryptographically relevant quantum computing monitoring, quantum networking, sensing for defense/navigation, and supply-chain resilience.
Best workforce lever	Create technician-to-Ph.D. pathways and retrain classical engineers in cryogenics, photonics, RF, software, PQC, and systems integration.
Best enterprise action in 2026	Build a crypto inventory/CBOM, run PQC pilots, evaluate quantum sensing use cases, and track quantum computing through disciplined proofs of concept.

Sources and Notes

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- **NIST, finalized post-quantum encryption standards:** https://www.nist.gov/news-events/news/2024/08/nist-releases-first-3-finalized-post-quantum-encryption-standards
- **NIST PQC Standardization Project:** https://csrc.nist.gov/projects/post-quantum-cryptography/post-quantum-cryptography-standardization
- **NSF Quantum Leap Challenge Institutes:** https://www.nsf.gov/mps/quantum-leap-challenge-institutes
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- **IonQ Q1 2026 financial results and 2026 outlook:** https://www.ionq.com/news/ionq-announces-first-quarter-2026-financial-results
- **D-Wave FY2025 results:** https://ir.dwavequantum.com/news/news-details/2026/D-Wave-Reports-Fourth-Quarter-and-Year-End-2025-Results/default.aspx
- **Rigetti FY2025 results:** https://investors.rigetti.com/news-releases/news-release-details/rigetti-computing-reports-fourth-quarter-and-full-year-2025/
- **Quantum Computing Inc. FY2025 results:** https://quantumcomputinginc.com/news/press-releases/2026/quantum-computing-inc.-reports-fourth-quarter-and-year-end-2025-financial-results
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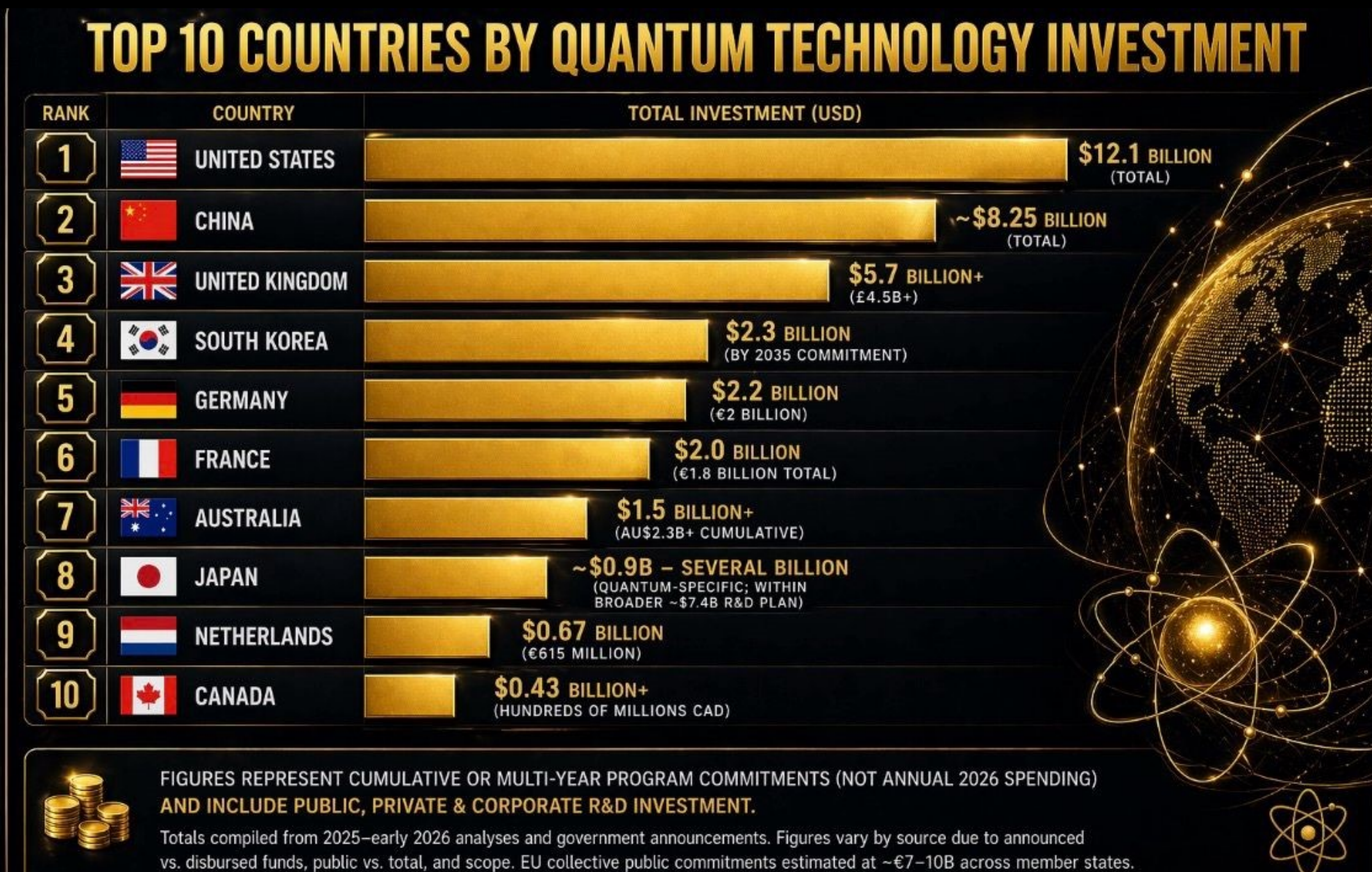
- **Reuters, Quantinuum IPO filing:** https://www.reuters.com/technology/honeywells-quantinuum-makes-us-ipo-filing-public-2026-05-08/

Caveat: Third-party market sizes and private-company revenue estimates differ materially by definition. Figures labeled modeled should be treated as directional planning estimates, not audited financial statements.

Top 10 Companies in Quantum

RANK	COMPANY	CATEGORY/SERVICE
1	IBM (US)	Quantum Computing Solutions
2	Google (US)	Quantum AI Research
3	Microsoft (US)	Quantum Computing & Azure Quantum
4	Amazon Web Services (US) Sur toroalic Technology	Quantum Cloud Services
5	intel (US)	Quantum Research & Hardware
6	D-Wave Quantum Inc. (CA) · The Quantum Comprated tion	Quantum Annealing Solutions
7	Rigetti Computing (US) · The Deep Unum inal Ca	Quantum Computing Platforms
8	IonQ (US)	Quantum Computing Hardware
9	Quantinuum (UK) · The Quantum Computing	Quantum Software & Hardware.
10	FUJITSU (JP)	Quantum Computing Solutions

Top 10 Countries in Quantum



Conclusion – Part 1

- The State of Quantum in America in 2026 is strong but uneven. The U.S. leads in breadth: hardware diversity, software platforms, cloud access, patents, startups, research universities, national labs, and private capital. It also has a uniquely powerful ability to combine quantum with AI, HPC, semiconductors, aerospace, defense, cybersecurity, and cloud infrastructure.

- The most realistic near-term value will come from quantum-safe cybersecurity, quantum sensing, advanced simulation workflows, cloud-based experimentation, and hybrid quantum-classical R&D. Universal fault-tolerant quantum computing remains a strategic objective rather than a routine commercial tool. Organizations should therefore manage quantum as both a near-term security migration program and a long-term platform option.

- NQIRA could materially strengthen U.S. leadership if it is enacted with adequate appropriations, disciplined governance, clear testbed metrics, and direct integration with workforce and commercialization goals. Without those elements, it risks becoming another broad research authorization that improves activity but not outcomes. The central U.S. challenge for 2026-2030 is execution: turning scientific leadership into trusted systems, trained workers, secure cryptographic transitions, deployable sensors, and commercially meaningful applications.

Conclusion – Part 2

- PQC is the most immediately actionable quantum risk for CISOs. NIST finalized FIPS 203, FIPS 204, and FIPS 205 in 2024; by 2026, large organizations are expected to maintain crypto inventories, CBOMs, migration runbooks, hybrid TLS/PKI plans, and continuous testing.

- Quantum sensing is commercially nearer than universal fault-tolerant quantum computing. Atomic clocks, quantum magnetometers, gravimeters, inertial sensors, RF sensors, and quantum microscopes have near-term defense, navigation, semiconductor, medical, energy, and infrastructure applications.

- The U.S. workforce challenge is broadening. The bottleneck is no longer only Ph.D.-level quantum physicists; it includes cryogenic technicians, photonics engineers, RF engineers, device-fabrication specialists, quantum software engineers, cybersecurity/PQC architects, product managers, and application specialists.

USA Quantum Snapshot 2026

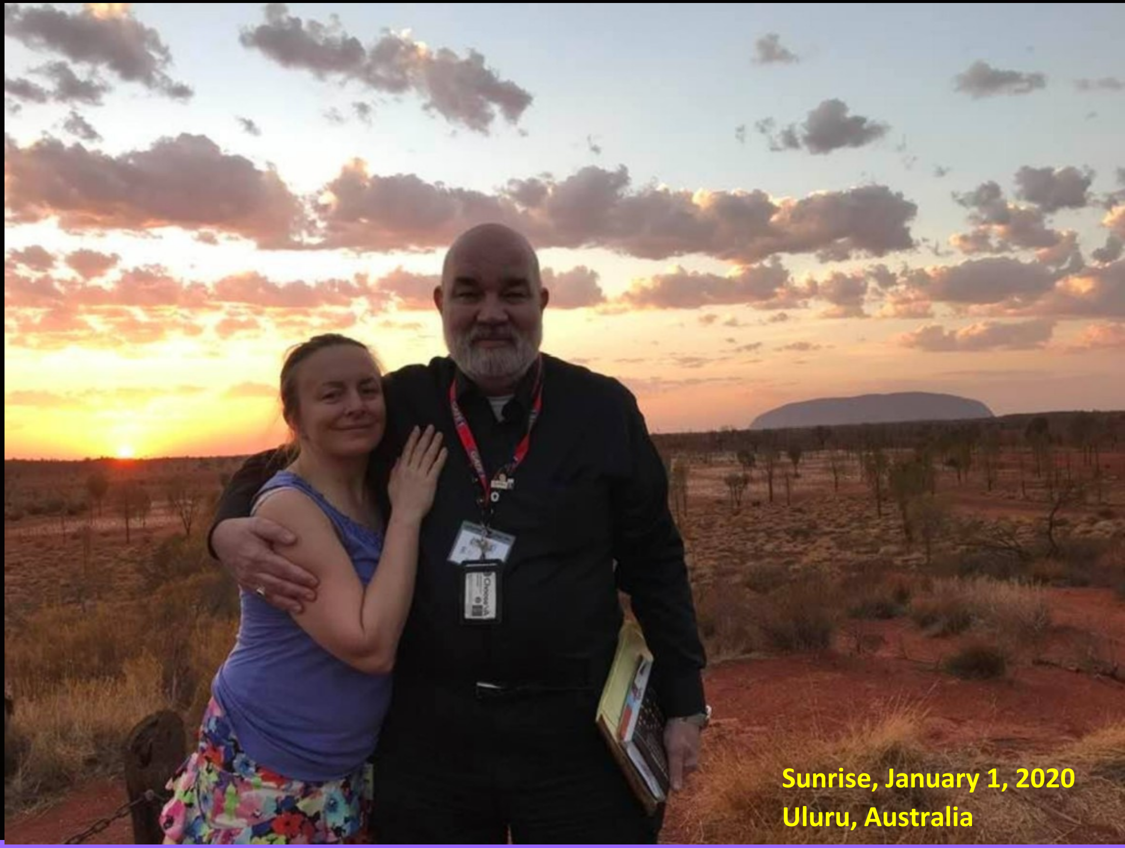
Questions and Answers

William Slater
Slater Technologies, Inc
May 15, 2026

Your PQC Migration Project – Course and Skills

About Me

1. E-Mail williamslater @ gmail.com
2. Phone 1-312-342-2626
3. CEO and owner of Slater Technologies, Inc. (since 1989)
4. In Quantum since 2011
5. PQC training and Projects since January 2025
6. Started in Cybersecurity in the U.S. Air Force: 1977.
7. Former U.S. Air Force Computer System Staff Officer who served at Strategic Air Command HQ.
8. Programming Languages: 43
9. 3 Graduate Degrees
   - MS Computer Information Systems
   - MBA
   - MS Cybersecurity
10. 88 Certifications including CISSP, SSCP, CISA, PMP.
11. Certified Project Manager with over 25 years experience.
12. Born and Raised in Memphis, Tennessee
13. Lives and works in Chicago, Illinois, USA
14. Published Author: https://billslater.com/writing
15. Working with QSECDEF since September 2024.
16. Happily married to Joanna Roguska since December 2000.
17. Actively working on PQC Migration Projects
18. Avid fan of Andreas Vollenweider Music (since 1985), Chess (since 1964), and Judo (since 1968).
19. Voracious Reader with 18,000 physical books and 8000 digital books.
20. Meyers-Briggs: INFP.
21. Non-Denominational Christian (since 1973).



Sunrise, January 1, 2020
Uluru, Australia

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Join Our QSECDEF Group Meeting Every Tuesday

3 PM Paris Time, 2 PM UK, 9 AM New York, 8 AM Chicago, 2 AM Wed. Australia

Event Link on Zoom, CLICK HERE:

https://zoom.us/j/91478584384

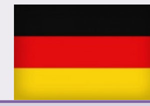
FREE QSECDEF (Australia) Group Meeting Every Monday

12:00 Noon, NSW Australia (contact Muria.Roberts@protonmail.com for more information)

https://us06web.zoom.us/j/81330899720

FREE Quantum Group Meetings

QSECDEF - Germany & France - Meets Weekly, every Tuesday
Event Link: https://zoom.us/j/91478584384
Event Date and Time - Tuesday, April 7, 2026
15:00 CEST / 14:00 UK / 09:00 EST / 08:00 CST / 02:00 Wednesday - Australia
Steve Vaile is the Director. steve@qsecdef.com



Australia
QSECDEF Australian Quantum Group - 9:00 Central Time, every Sunday . It's 12:00 Noon Monday in Australia
https://us06web.zoom.us/j/81330899720
Meeting ID: 813 3089 9720
Wonderful People, and Great Presentations!
Muria Roberts is the Director - Muria.Roberts@protonmail.com

Chicago Quantum Meetup - Monthly Meetings
https://www.meetup.com/chicago-quantum-computing-meetup-group-revival/
Registration required - Meetup
Do an Internet Search - Chicago Quantum Meetup. Sometimes they have 1 to 0 meetings per month.
Barry Burd and Ron Schreiner are the Directors.

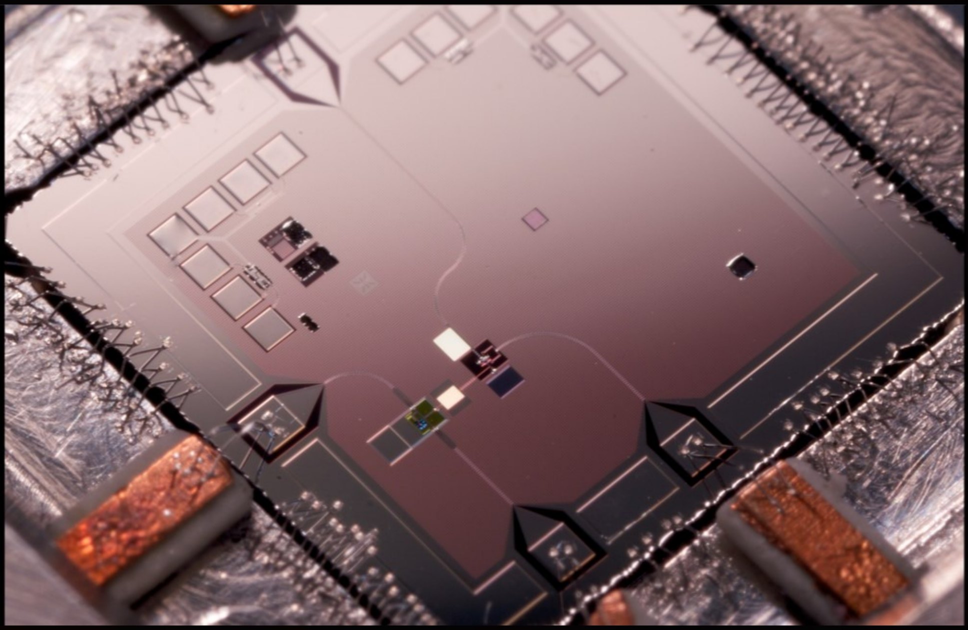
Washington DC Quantum Meetup - Monthly Meetings
https://www.eventbrite.com/o/washington-dc-quantum-computing-meetup-33793545445
Registration required x 2 - Meetup AND EvenBrite.
Do an Internet Search - Washington DC Quantum Meetup. Sometimes they have 3 to 4 meetings per month.
Helen Ma is the Director.

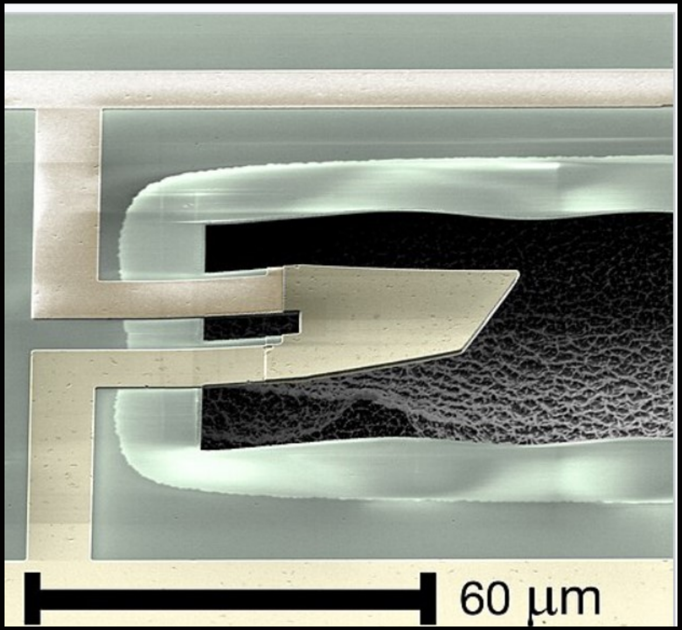
Alexandria, Egypt - Amsterdam, Netherlands Quantum Group - Monthly Meetings
https://duckduckgo.com/?q=Alexandria%2C+Egypt+-+Amsterdam++Quantum+Group&atb=v314-1&ia=web
Registration required on LinkedIn
Do an Internet Search - Alexandria Quantum Meetup. Sometimes they have 1 meetings per month, or every other Month.
Dr. Taha Selim is the Director.

Philippine Quantum Society
On Facebook, with announced Meetings on Zoom.
https://www.facebook.com/qcsp.ph
See the Quantum-Readiness Workshop, Apr 23-24:
https://quantumreadyph.qcsp.institute

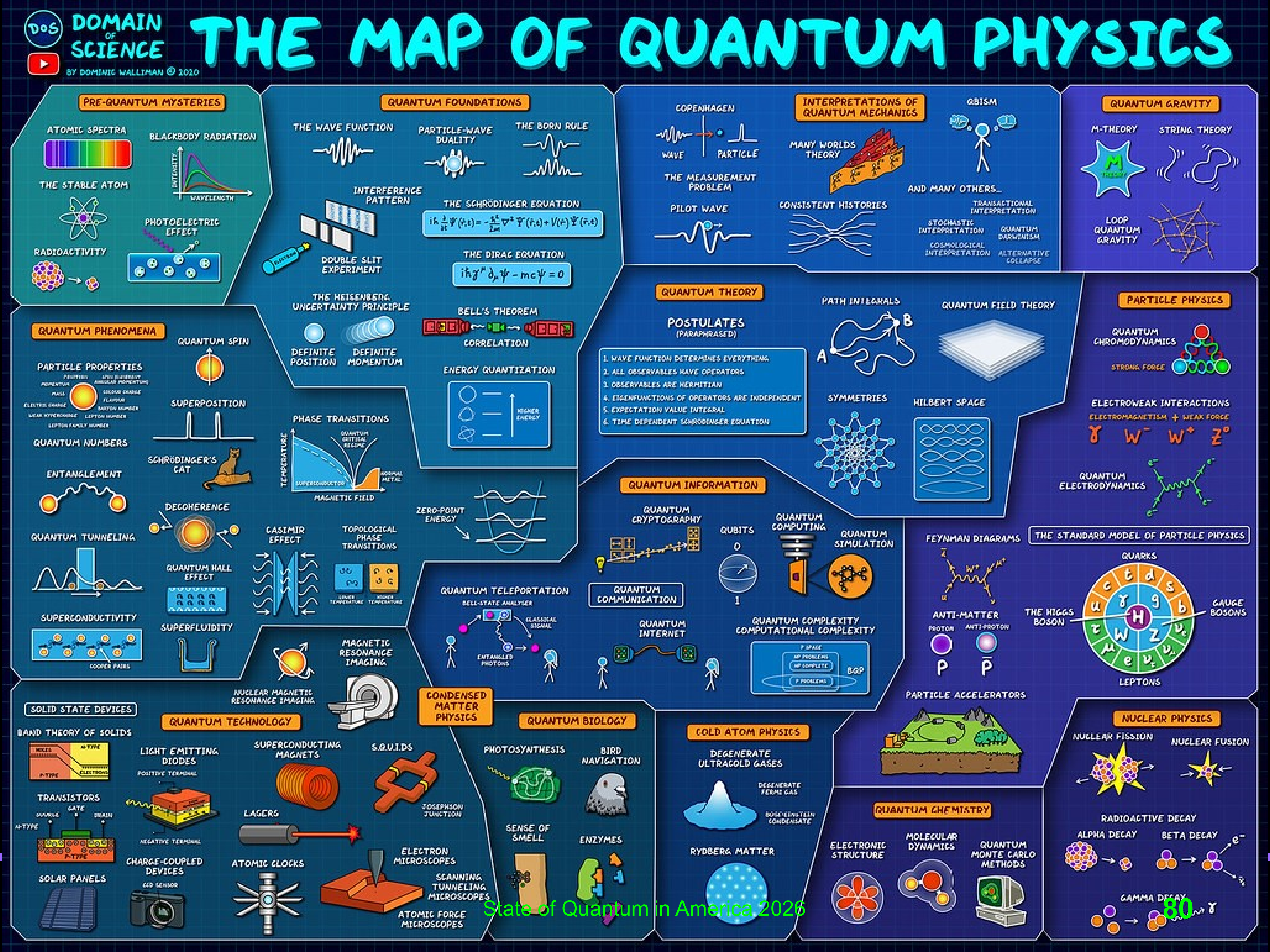
World's First Quantum Machine, 2010

Wikipedia, 2011 - https://en.wikipedia.org/wiki/Quantum_machine





End of Presentation


DOMAIN OF SCIENCE
THE MAP OF QUANTUM PHYSICS
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PRE-QUANTUM MYSTERIES
ATOMIC SPECTRA
BLACKBODY RADIATION
INTENSITY
WAVELENGTH
THE STABLE ATOM
PHOTOELECTRIC EFFECT
RADIOACTIVITY
QUANTUM FOUNDATIONS
THE WAVE FUNCTION
PARTICLE-WAVE DUALITY
THE BORN RULE
INTERFERENCE PATTERN
THE SCHRÖDINGER EQUATION
$i\hbar \frac{\partial}{\partial t}\Psi(\vec{r},t) = -\frac{\hbar^2}{2m}\nabla^2\Psi(\vec{r},t) + V(\vec{r})\Psi(\vec{r},t)$
DOUBLE SLIT EXPERIMENT
THE DIRAC EQUATION
$i\hbar\gamma^\mu\partial_\mu\psi - mc\psi = 0$
THE HEISENBERG UNCERTAINTY PRINCIPLE
DEFINITE POSITION
DEFINITE MOMENTUM
BELL'S THEOREM
CORRELATION
ENERGY QUANTIZATION
HIGHER ENERGY
INTERPRETATIONS OF QUANTUM MECHANICS
COPENHAGEN
WAVE
PARTICLE
THE MEASUREMENT PROBLEM
PILOT WAVE
MANY WORLDS THEORY
CONSISTENT HISTORIES
QBISM
AND MANY OTHERS...
TRANSACTIONAL INTERPRETATION
STOCHASTIC INTERPRETATION
QUANTUM DARWINISM
COSMOLOGICAL INTERPRETATION
ALTERNATIVE COLLAPSE
QUANTUM GRAVITY
M-THEORY
STRING THEORY
LOOP QUANTUM GRAVITY
QUANTUM PHENOMENA
QUANTUM SPIN
PARTICLE PROPERTIES
SUPERPOSITION
QUANTUM NUMBERS
SCHRÖDINGER'S CAT
ENTANGLEMENT
DECOHERENCE
QUANTUM TUNNELING
QUANTUM HALL EFFECT
SUPERCONDUCTIVITY
COOPER PAIRS
SUPERFLUIDITY
PHASE TRANSITIONS
TEMPERATURE
SUPERCONDUCTOR
MAGNETIC FIELD
ZERO-POINT ENERGY
CASIMIR EFFECT
TOPOLOGICAL PHASE TRANSITIONS
QUANTUM THEORY
POSTULATES
(PARAPHRASED)
1. WAVE FUNCTION DETERMINES EVERYTHING
2. ALL OBSERVABLES HAVE OPERATORS
3. OBSERVABLES ARE HERMITIAN
4. EIGENFUNCTIONS OF OPERATORS ARE INDEPENDENT
5. EXPECTATION VALUE INTEGRAL
6. TIME DEPENDENT SCHRÖDINGER EQUATION
PATH INTEGRALS
A
B
QUANTUM FIELD THEORY
SYMMETRIES
HILBERT SPACE
PARTICLE PHYSICS
QUANTUM CHROMODYNAMICS
STRONG FORCE
ELECTROWEAK INTERACTIONS
ELECTROMAGNETISM + WEAK FORCE
γ W^- W^+ Z^0
QUANTUM ELECTRODYNAMICS
QUANTUM INFORMATION
QUANTUM CRYPTOGRAPHY
QUBITS
QUANTUM COMPUTING
QUANTUM SIMULATION
QUANTUM COMMUNICATION
QUANTUM TELEPORTATION
BELL-STATE ANALYSER
CLASSICAL SIGNAL
ENTANGLED PHOTONS
QUANTUM INTERNET
QUANTUM COMPLEXITY
COMPUTATIONAL COMPLEXITY
BQP
FEYNMAN DIAGRAMS
THE STANDARD MODEL OF PARTICLE PHYSICS
QUARKS
ANTI-MATTER
PROTON
ANTI-PROTON
THE HIGGS BOSON
GAUGE BOSONS
LEPTONS
PARTICLE ACCELERATORS
MAGNETIC RESONANCE IMAGING
NUCLEAR MAGNETIC RESONANCE IMAGING
CONDENSED MATTER PHYSICS
SOLID STATE DEVICES
QUANTUM TECHNOLOGY
BAND THEORY OF SOLIDS
LIGHT EMITTING DIODES
POSITIVE TERMINAL
NEGATIVE TERMINAL
SUPERCONDUCTING MAGNETS
S.Q.U.I.D.S
JOSEPHSON JUNCTION
TRANSISTORS
SOURCE
GATE
DRAIN
LASERS
CHARGE-COUPLED DEVICES
CCD SENSOR
ATOMIC CLOCKS
SOLAR PANELS
ELECTRON MICROSCOPES
SCANNING TUNNELING MICROSCOPES
ATOMIC FORCE MICROSCOPES
QUANTUM BIOLOGY
PHOTOSYNTHESIS
BIRD NAVIGATION
SENSE OF SMELL
ENZYMES
COLD ATOM PHYSICS
DEGENERATE ULTRACOLD GASES
DEGENERATE FERMI GAS
BOSE-EINSTEIN CONDENSATE
RYDBERG MATTER
QUANTUM CHEMISTRY
ELECTRONIC STRUCTURE
MOLECULAR DYNAMICS
QUANTUM MONTE CARLO METHODS
NUCLEAR PHYSICS
NUCLEAR FISSION
NUCLEAR FUSION
RADIOACTIVE DECAY
ALPHA DECAY
BETA DECAY
GAMMA DECAY