



The Quantum Quarterly

Q2 2024



Welcome to the 2024 Q2 Annual Report.

Here we cover the biggest
commercial news in the
quantum computing industry
over the last three months

TQI Quarterly Report



2024 Q2 IN BRIEF

Even for an emerging industry, such as quantum, the second quarter of 2024 was a wild ride. This roller coaster stretched across all aspects of the quantum ecosystem – from policymaking to science and research to business and entrepreneurship.

We will start with government involvement in quantum: During the second quarter, the rapidly developing technology war between the United States and China grew more obvious. The U.S. issued several trade restrictions with China, specifically targeting technologies that enable quantum computing and artificial intelligence. Officials continued to shape policies that enhanced the development of their internal ecosystems. Singapore, as just one example, invested S\$300 million in its national quantum strategy.

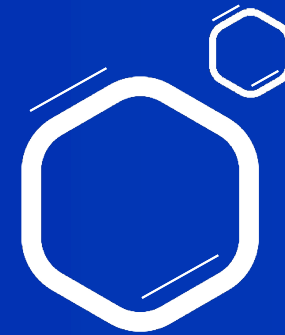
On the scientific front, Microsoft and Quantinuum partnered to create what they are calling the most perfect logical qubit ever created. This was just one of a scientific cascade of research papers and advances that came out during the quarter for these two companies that are working toward practical quantum computing.



Click this icon throughout this press to see the full stories behind the brief



The Big News

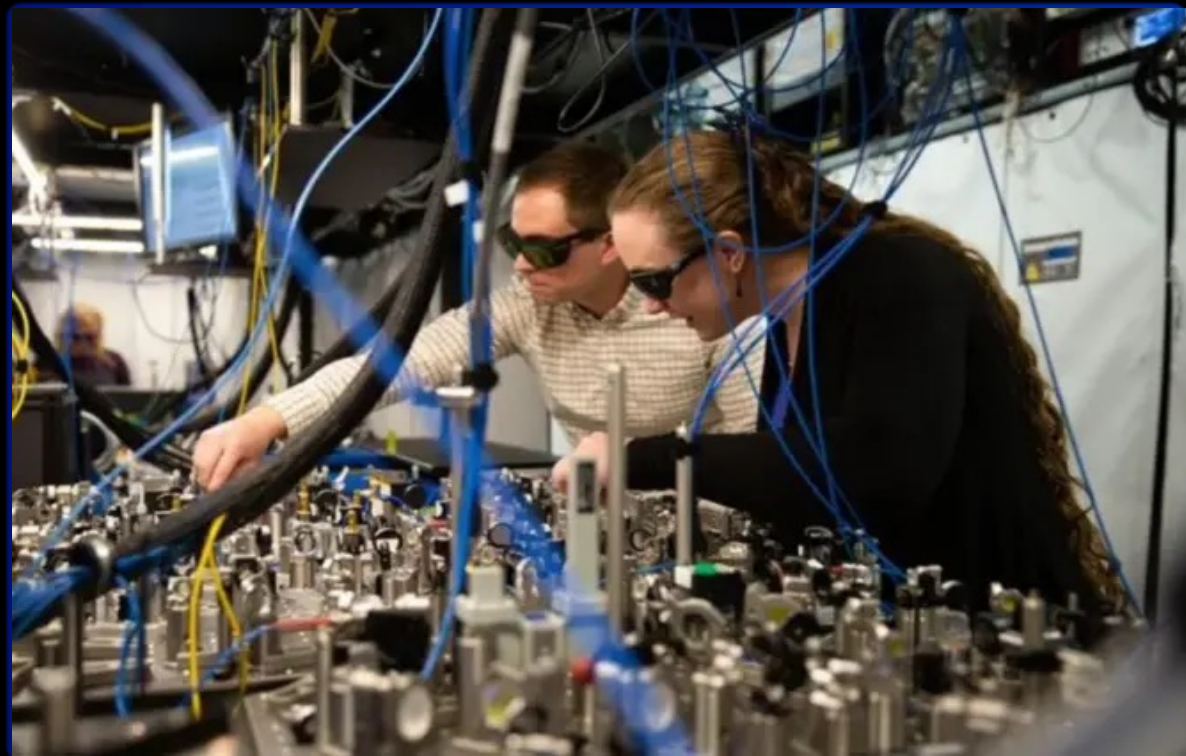




Microsoft And Quantinuum Research Yields 'Most Reliable Logical Qubits Ever'

If you thought you heard the sound of a door latching behind you, Microsoft and Quantinuum may have just closed — perhaps not slammed — the door shut on the Noisy Intermediate-Scale Quantum era.

In what could be a significant advance, Microsoft and Quantinuum scientists reported they successfully demonstrated the most reliable logical qubits ever recorded.





PsiQuantum's \$940 Million (AUD) May Make It World's Highest Funded Independent Quantum Firm

Australia announced a \$940 million — or about \$617 million US — investment in PsiQuantum, a Silicon Valley start-up with Australian roots, in a bid to build the world's first commercially viable quantum computer in Brisbane.

This brings PsiQuantum's total funding to nearly US\$1.3 billion, potentially making it the highest funded independent quantum company in the world, according to [The Quantum Insider Market Intelligence Platform](#).





UN Declares 2025 International Year Of Quantum Science And Technology

The United Nations officially recognized the importance and potential of quantum technologies after a General Assembly meeting declared 2025 as the International Year of Quantum Science and Technology (IYQ) – a global collaboration that aims to strengthen national capacities in the basic sciences and science education.





IBM Reportedly Partnering With Japan's AIST To Develop 10,000-Qubit Quantum Computer

Japan's government-backed National Institute of Advanced Industrial Science and Technology (AIST) is set to partner with IBM to develop a next-generation quantum computer.

The project aims to create a quantum computer with 10,000 quantum bits, or qubits, which would significantly surpass the capabilities of current models. The most advanced quantum computers today in the hundreds of qubits.





Quantonation Announces First Closing Of Its New €200 Million Fund Dedicated To Quantum Technologies

Quantonation Ventures announces the first closing of its second early-stage fund dedicated to Quantum Technologies, Quantonation II, at €70 million of the €200 million target.

Quantonation is at the center of the emerging Quantum Tech industry, and is already investing globally in new companies from this second fund.





Novo Holdings Commits DKK 1.4 Billion (€188 Million) To Quantum Technology Start-Up Ecosystem

Novo Holdings announced that it is allocating EUR 188 million (DKK 1.4 bn) for investing in quantum technologies and thereby significantly boosting the startup ecosystem in quantum technologies in the Nordics

With Denmark as the center of gravity, the ambition is to invest in, support, and advance some of the world's most promising quantum technology companies with applications in the life sciences.

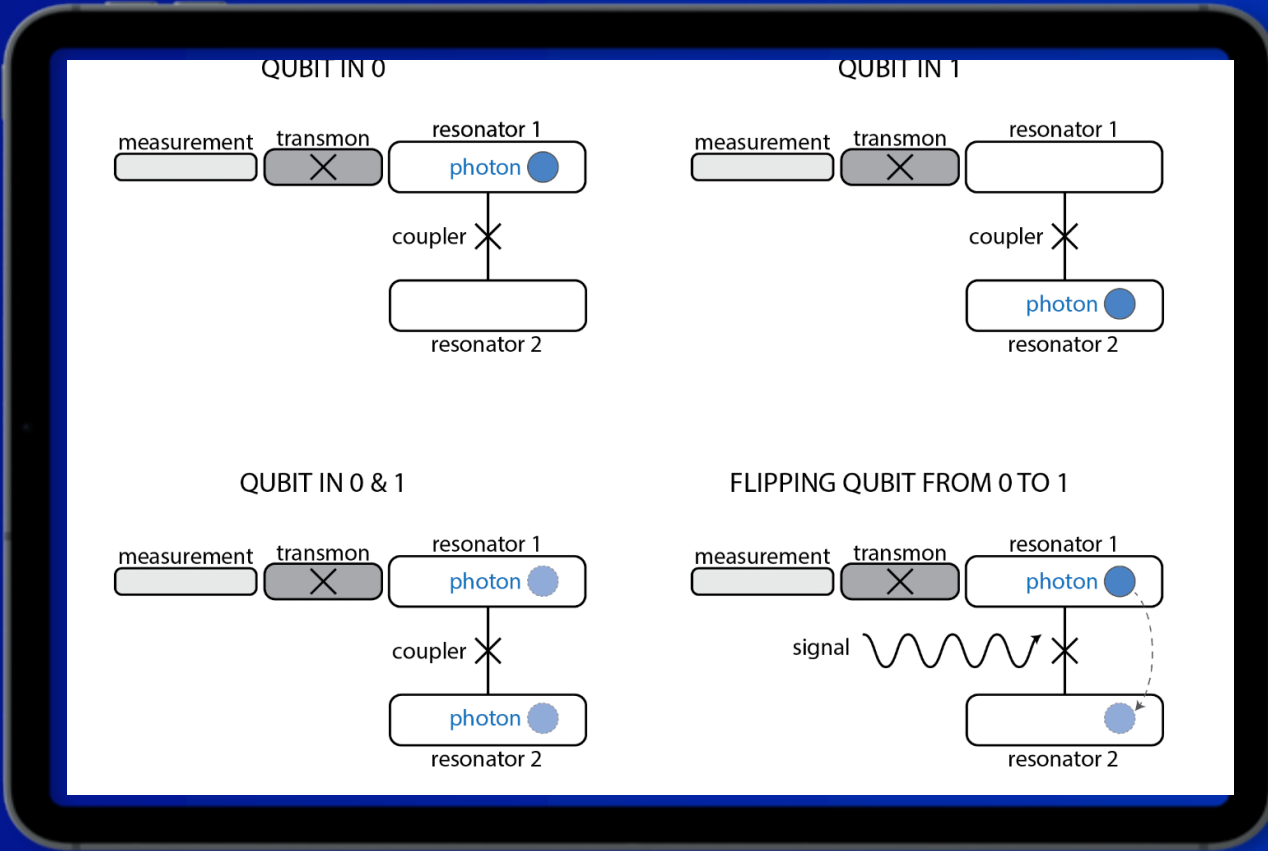




Quantum Circuits Inc. Quietly Raises \$26.5 Million

Quantum Circuits Inc. raised a \$26.5 million extended Series B from some of the world's biggest venture capital groups, a Connecticut area business media is reporting.

The funding round reportedly happened earlier in May — without a lot of the typical fanfare that accompanies a raise of this significant size.





EIFO Invests 70 Million DKK — \$10.2 Million US — In Atom Computing

EIFO announces an investment of 70 million DKK — about \$10.2 million US — in the American Atom Computing, one of the world's leading quantum technology businesses.

On the basis of this investment, the California-based company has chosen Denmark as the location of its European headquarters. Atom Computing is currently part of the race to become the first company to launch a viable quantum computer.





C12 Raises 18 Million Euros To Accelerate Its Unique Approach To Quantum Computing Development

C12, a French spin-off of the Physics Laboratory of the École Normale Supérieure in Paris and a pioneer in the development of a carbon nanotube-based universal quantum computer, announces the closing of its second financing round of €18 million.

It brings together leading investors, Varsity Capital, EIC Fund, and Verve Ventures, as well as historical investors including 360 Capital, Bpifrance and BNP Paribas Développement.

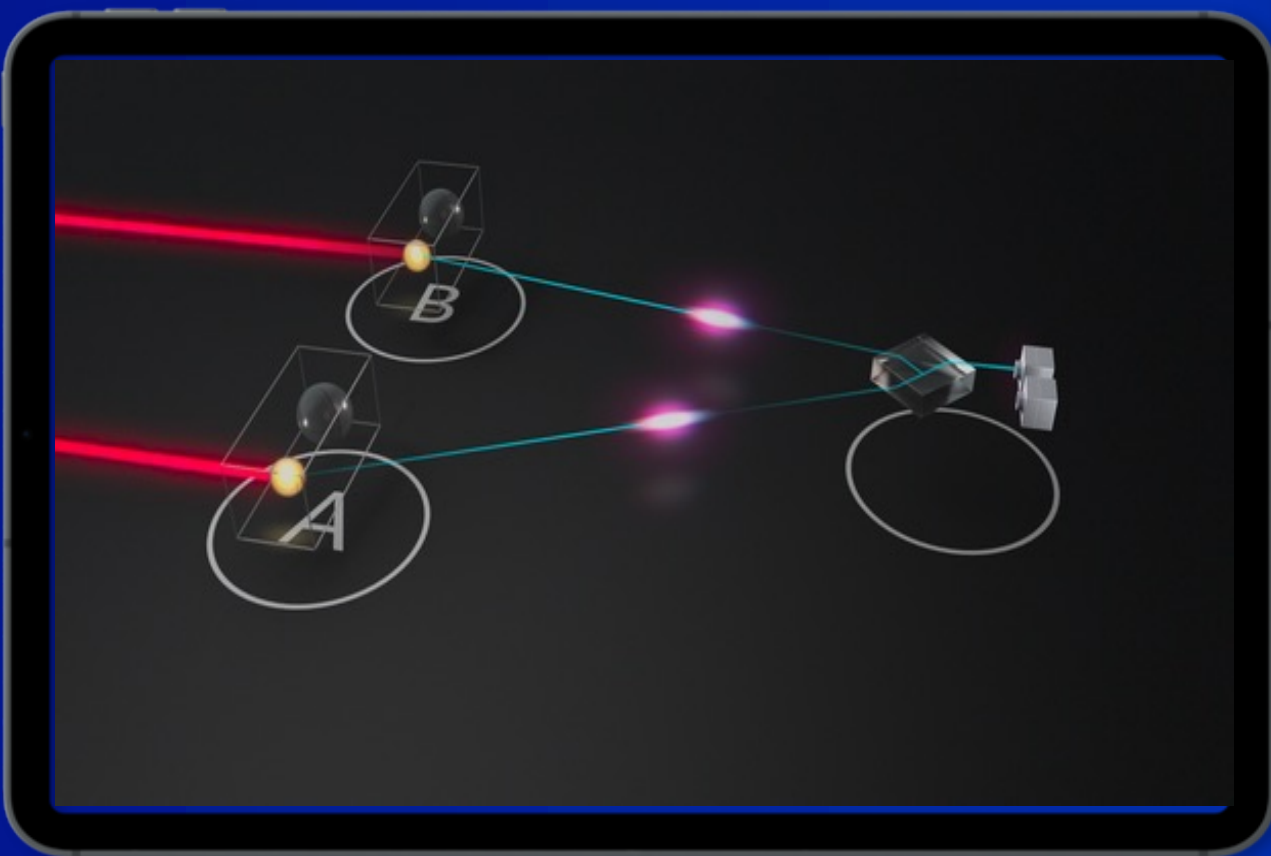


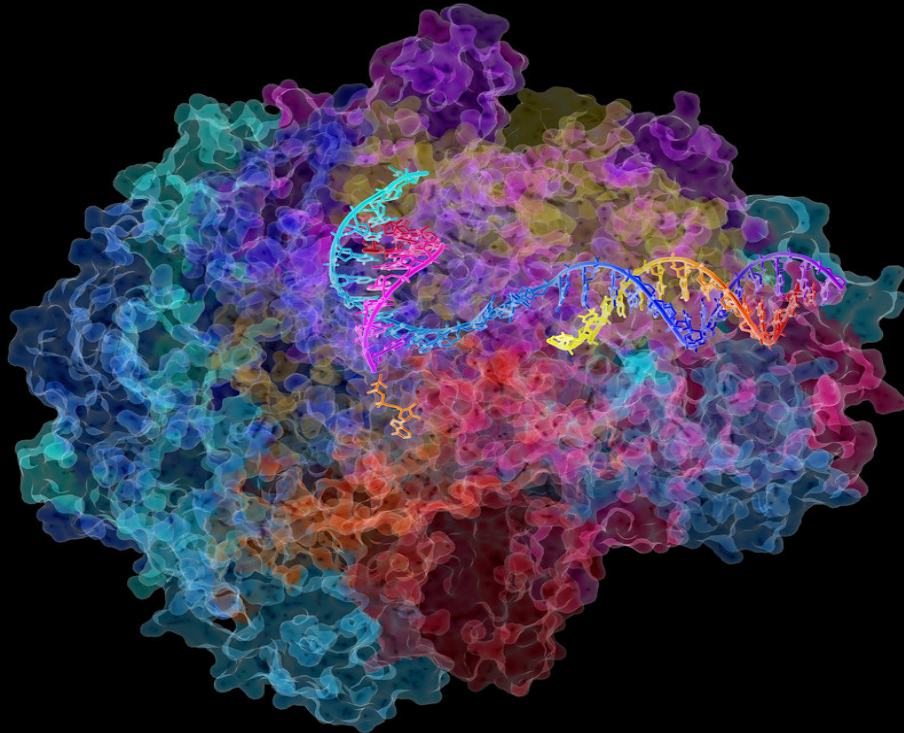


Photonic Inc Demonstrates Distributed Entanglement Between Modules

Photonic, Inc. a leader in distributed quantum computing in silicon, announced a significant milestone on the path to commercially relevant quantum systems.

While many existing quantum architectures achieve entanglement within modules, Photonic has demonstrated entanglement between modules.





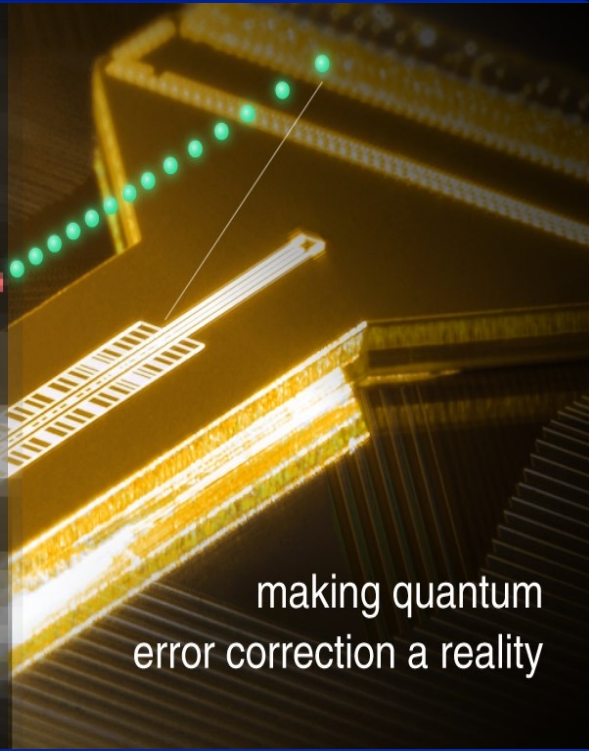
Moderna, IBM Quantum Researchers Use Quantum Computers For Critical Step In RNA-Based Therapeutic Design

Moderna and IBM Quantum researchers successfully used quantum computers predict mRNA secondary structures, a critical aspect of designing RNA-based therapeutics, according to a paper posted on [the pre-print server ArXiv](#).

The collaborative effort shows the promise of quantum computers to enhance mRNA research, specifically, as well as marking a significant step in computational biology.



Quantinuum achieves
**three 9's
fidelity**



making quantum
error correction a reality



‘Three Nines’ Surpassed: Quantinuum Notches Milestones For Hardware Fidelity And Quantum Volume

Quantinuum announced that its ion trap quantum computer is the first commercial quantum computer to reach a 2-qubit gate fidelity of 99.914(3)%.

Scientists refer to this feat as the “three nines” threshold — which means a level of fidelity for quantum operations or quantum gates that are correct with a probability of 99.9%.

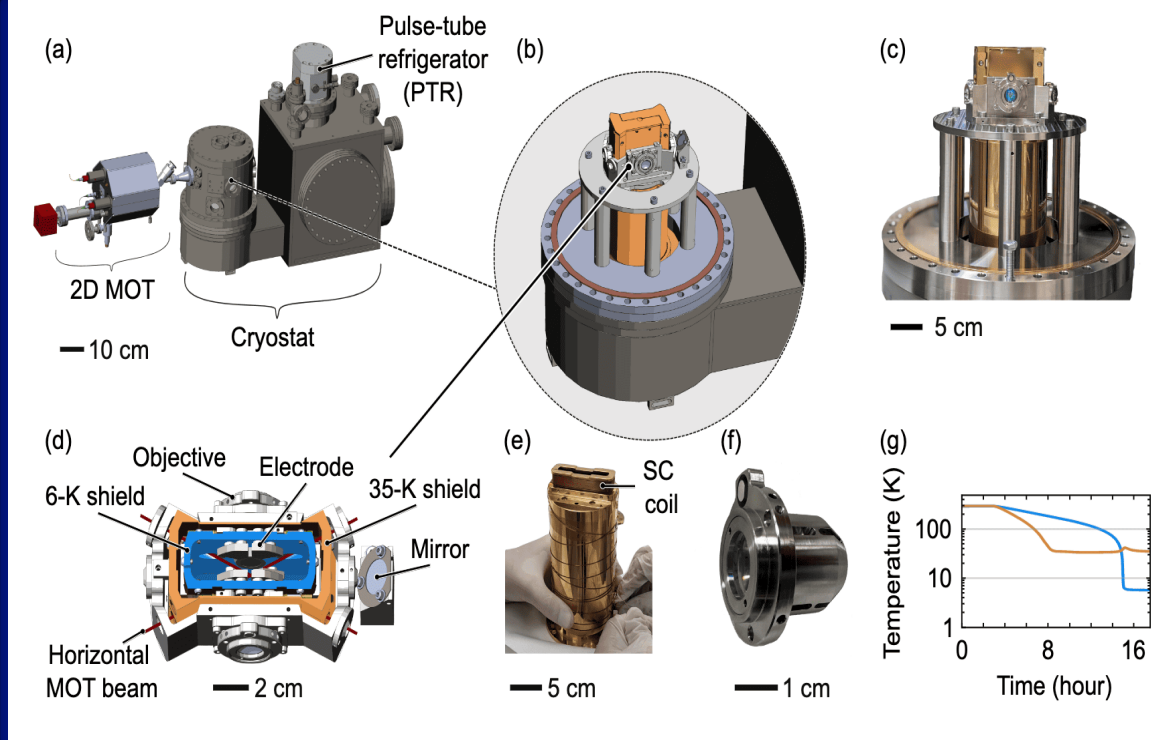




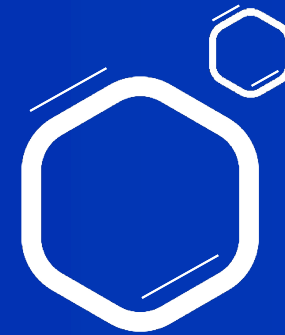
Pasqal Reports Loading More Than 1,000 Atoms In Quantum Processor

Pasqal, a global leader in neutral-atom quantum computing, today announced a significant technological milestone: the successful loading of over 1000 atoms in a single shot within their quantum computing setup.

This breakthrough marks a crucial step in Pasqal's progress towards quantum advantage and scalable quantum processors.



Key Numbers



\$0.8BN

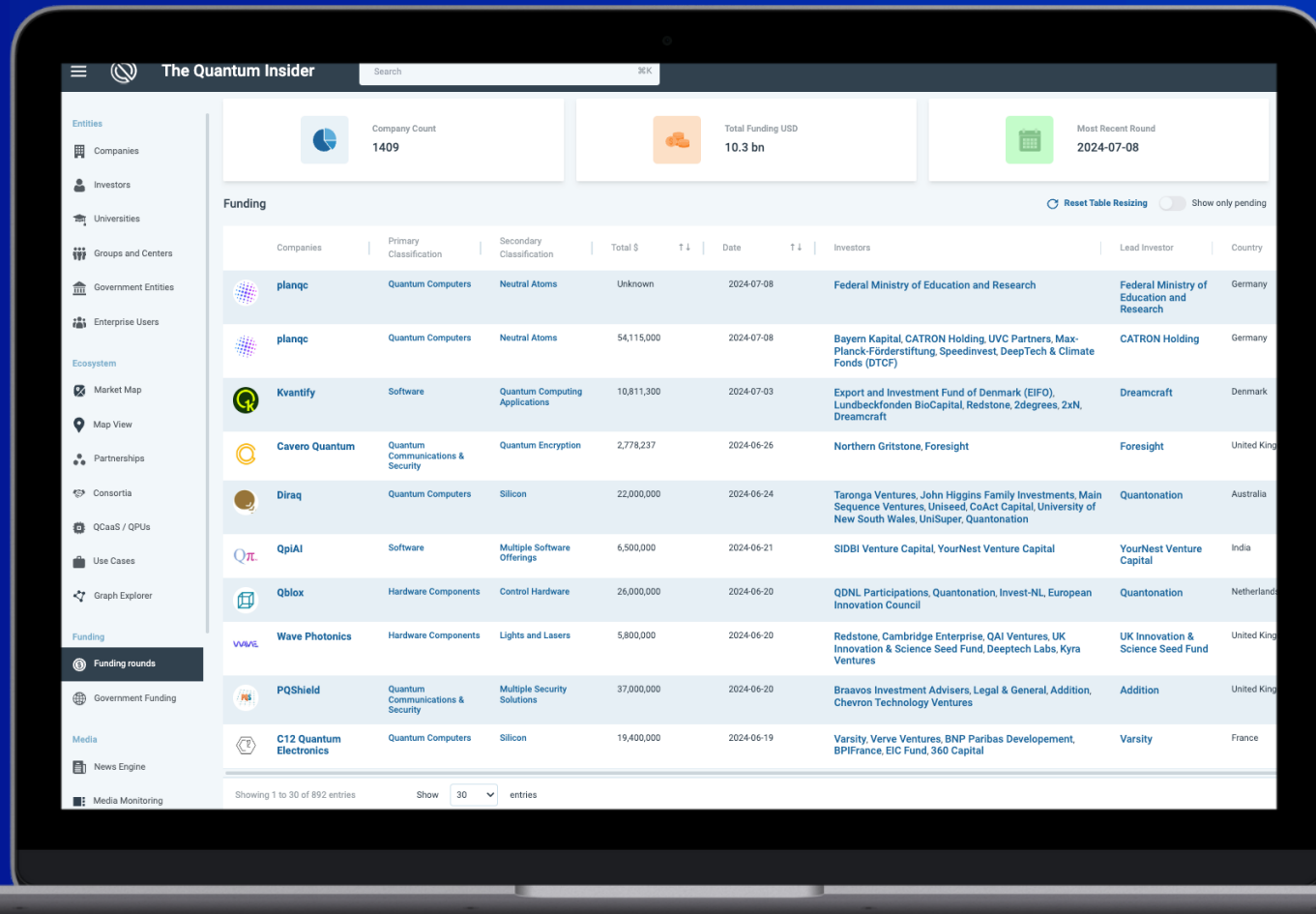
New private capital flowing into
Quantum Technology companies
in Q2 24

4x

Change in private investment into
quantum technologies Q2 24
versus Q2 23



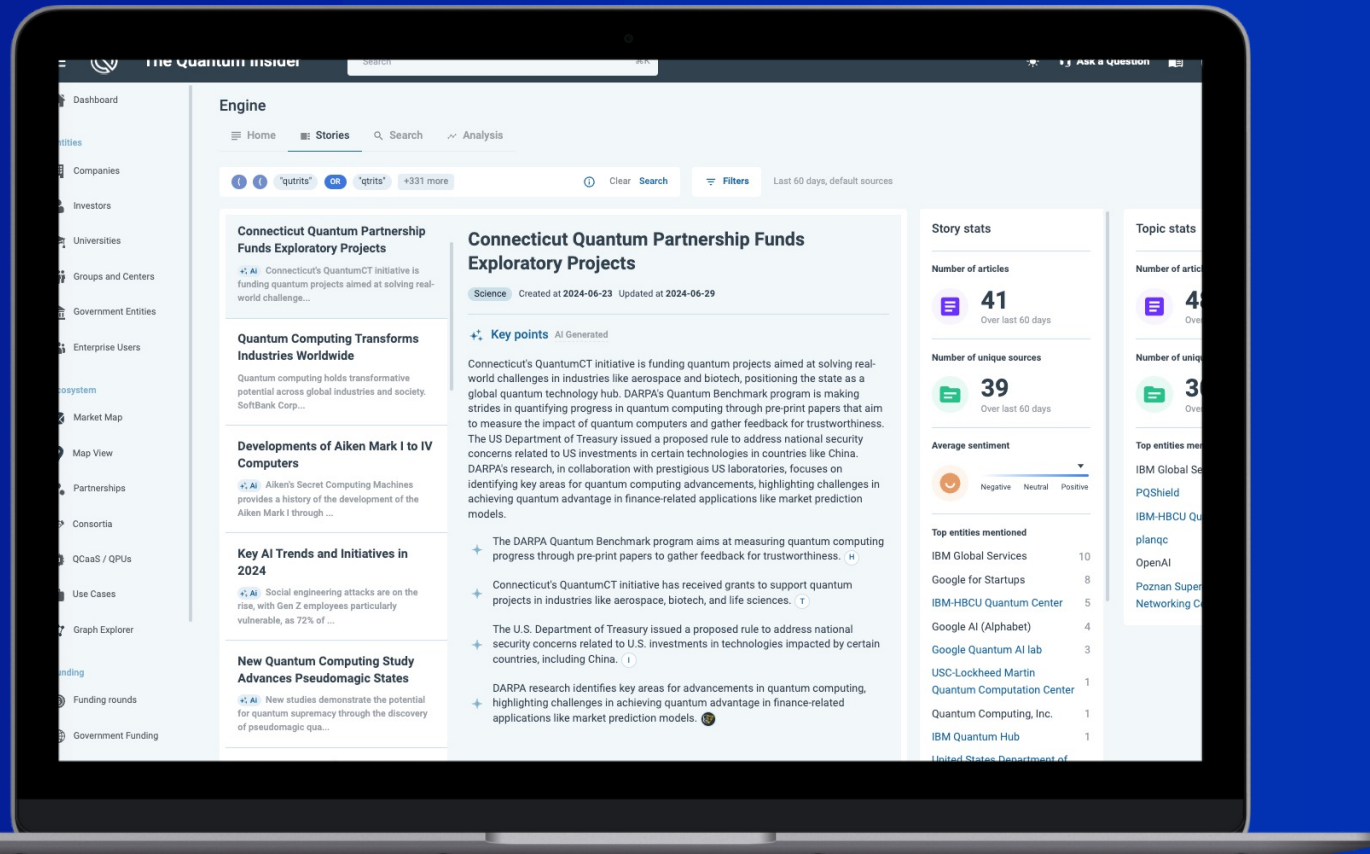
Q2 2024 Funding Rounds



...and more (extracts from intelligence platform)



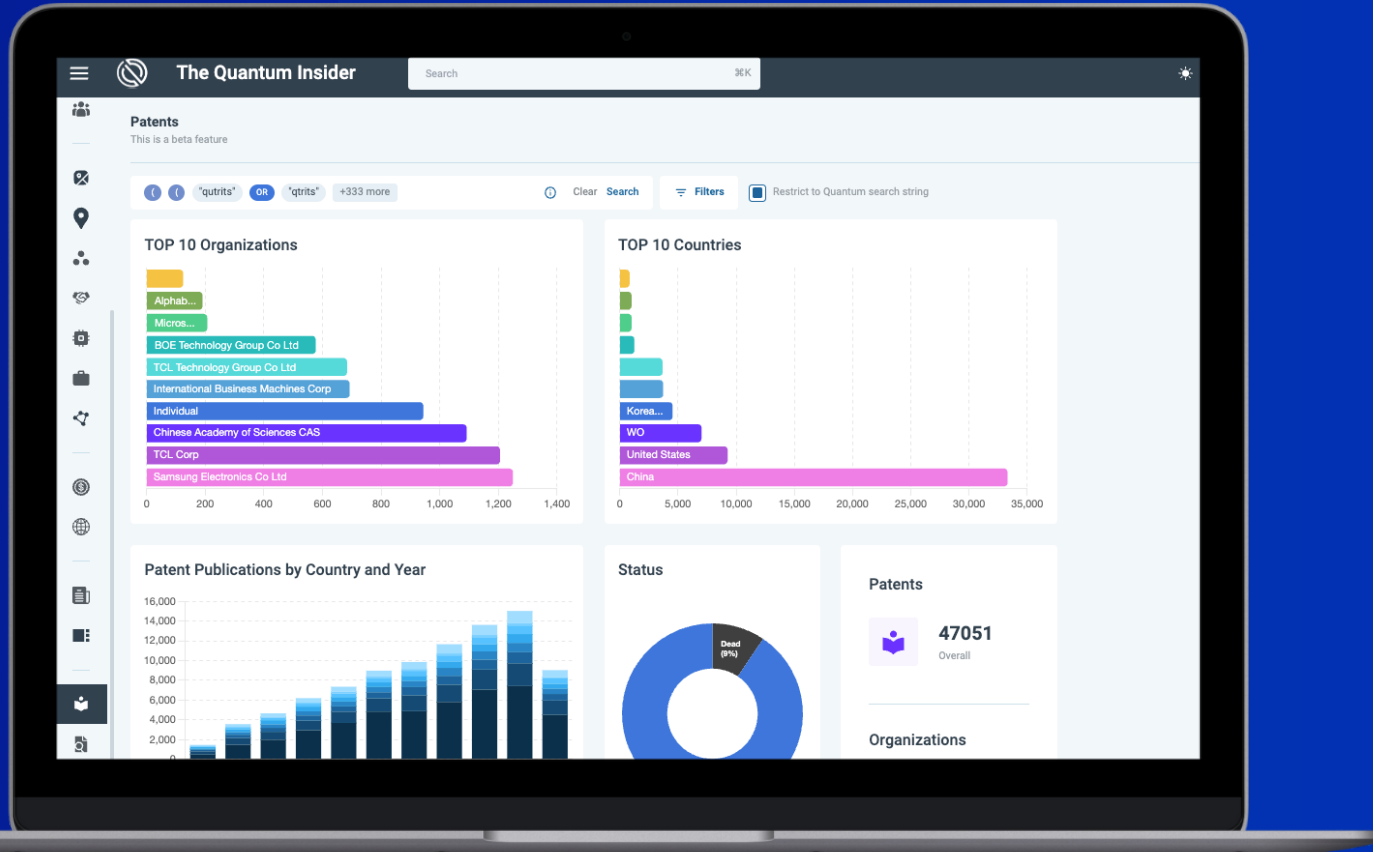
Want more news?



The Quantum Insider's intelligence platform customers now get access to curated news, ranked and analyzed for sentiment and connected up to a rich entity database.



Keen to go deeper?



The Quantum Insider's intelligence platform customers have access to detailed patent and academic paper information



GET IN TOUCH

We would love to hear your feedback on our work. Please don't hesitate to contact us.

✉ hello@resonance.holdings

