QSIP Innovation Intelligence Digest – March 2025

Quantum Sweden Innovation Intelligence Digest (QSIID) is a curated monthly newsletter with external quantum innovation business news from around the globe.

VTT Technical Research Centre of Finland and IQM Quantum Computers, have completed and launched Europe's first 50-qubit superconducting quantum computer. This new 50-qubit quantum computer bolsters Finland's position among the countries capable of such a feat, which is the culmination of a four-year joint development project. The computer is now available for both research and business use.
Read more here or here.

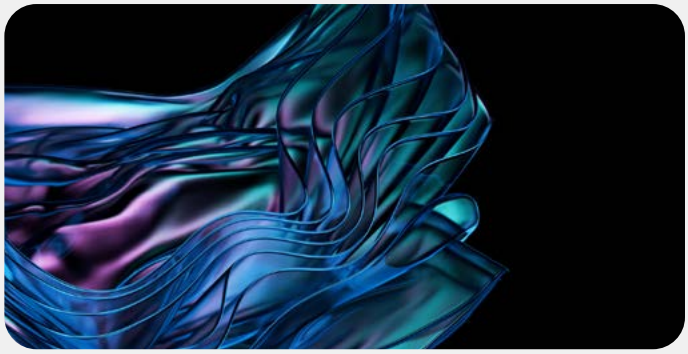
Microsoft has unveiled Majorana 1, the pioneering quantum chip featuring a revolutionary Topological Core design, anticipated to enable quantum computers to tackle significant, large-scale industrial challenges in mere years instead of decades. This innovation utilizes the first-ever topoconductor, an advanced material capable of detecting and managing Majorana particles to create more dependable and scalable qubits, the fundamental elements of quantum computing.
Read more here.

QSIP – Empowering Sweden's Quantum Innovation Future

Majorana 1 faces both internal skepticism and external criticism about the validity of its topological tests. Microsoft claims that the "topological superconductors" are a "break-through" – a claim which Amazon executives and other researchers are hesitant to accept.
Read more here.

Vodafone and IBM are collaborating to integrate IBM's Quantum Safe technology into Vodafone Secure Net to protect users from quantum security risks while using mobile internet. The initiative, introduced at MWC25 with support from Akamai Technologies, involves applying post-quantum cryptography standards to enhance Vodafone's encryption. Vodafone is among the first to test this technology, aiming to implement quantum-resistant algorithms across its networks and services. Both companies are key members of the GSMA's Post-Quantum Telco Network Task Force, supporting the industry's adoption of post-quantum security protocols.
Read more here.

PsiQuantum has unveiled Omega, a quantum photonic chipset crafted for large-scale quantum computing. The chipset combines single-photon qubits with telecom-grade silicon photonics, addressing significant scalability issues and providing high-fidelity quantum connections vital for systems with millions of qubits. Additionally, PsiQuantum has introduced a revolutionary cooling solution for quantum computers, replacing the traditional "chandelier" dilution refrigerator with a more efficient and manufacturable cuboid design, akin to a data center server rack. These breakthroughs enable PsiQuantum to produce and cool extensive quantities of quantum chips.
Read more here.



Quantum Brilliance, a prominent force in scalable, room-temperature diamond quantum technology, along with the Pawsey Supercomputing Research Centre, has achieved a pivotal advancement in quantum computing integration. This partnership has culminated in the creation of a highly integrated, high-performance computing-oriented hybrid workflow that adeptly merges GPU, CPU, and quantum processing capabilities. Spearheaded by Dr. Pascal Elahi and the Pawsey quantum team, this innovation showcases a tangible route for integrating quantum computing into practical applications.
Read more here.

IonQ recently announced a significant milestone in the development of high-speed, mixed-species quantum logic gates for trapped-ion quantum computing and networking. The findings further the company's momentum in driving scalable, high-fidelity quantum networking and distributed quantum computing.
Read more here.

Developed by a research team from the University of Science and Technology China (USTC), a superconducting quantum computer prototype (Zuchongzhi-3) with 105 qubits and 182 couplers, operates at a speed of 1015 times faster than the fastest supercomputer currently available. This is one million times faster than the latest results published by Google.
Read more here or here.

Amazon announces Ocelot, their first-generation quantum chip, which is the first iteration of a "scalable, hardware-efficient quantum computing architecture based on bosonic quantum error correction." An article published in Nature includes measurements of Ocelot's quantum error correction performance.
Read more here.

QunaSys has become a part of the EU's FULL-MAP initiative, which is supported by a budget of €19.95 million, aiming to revolutionize battery technology through the use of artificial intelligence, extensive data analysis, and quantum computing. By improving the simulation of battery components, the project seeks to accelerate the discovery of sustainable materials and enhance energy storage efficiency.
Read more here.

Researchers from NTT Corporation, The University of Tokyo, Kyushu University and RIKEN have devised a robust quantum computing framework that distinctly separates storage and computation, enhancing portability while cutting down quantum resource needs by roughly 40%. This load-store model facilitates effective memory usage and improves program adaptability. This method also almost achieves full memory efficiency, with only a 5% rise in computation duration, potentially speeding up the real-world deployment of quantum computing.
Read more here.

An international consortium has embarked on the PROMISE research project, an innovative initiative poised to transform quantum sensing technology. With a dual emphasis on advanced technological progress and thorough industrial application trials, PROMISE seeks to advance nitrogen-vacancy (NV) based quantum imaging sensors to a near-commercial Technology Readiness Level (TRL7) suitable for practical, everyday use.
Read more here.
