



# Q-Newsletter

## HIGHLIGHT OF THE WEEK

### [The Nobel Physics Prize Goes to Quantum Research](#)

Quantum research has once again claimed the Nobel Prize in Physics, confirming how central it has become to modern science.

The 2025 Nobel Prize in Physics was awarded to John Clarke, Michel Devoret, and John Martinis who demonstrated that quantum phenomena can occur in macroscopic circuits: large enough to see and engineer.

They observed that circuits can exist in discrete energy states, just like electrons in atoms, demonstrating energy quantisation at a macroscopic level. Quantum tunnelling was also detected, where the system's superconducting current tunnels through an energy barrier when it classically shouldn't.

These discoveries confirmed that entire circuits could maintain coherent quantum states, making it possible to design controllable superconducting qubits, the building blocks of today's quantum computers.

## RESEARCH

### [First Manufacturable CMOS Quantum Computer](#)

Quantum Motion, a UCL and Oxford spin-out, specialising in silicon-based quantum processors built from quantum dots, is bringing quantum technology into conventional chip manufacturing.

On September 15th, Quantum Motion announced the first quantum computer built using standard CMOS (Complementary Metal-Oxide-Semiconductor) technology.

In other words, the same technology used to make the transistors in our everyday classical devices can now be used to manufacture quantum computers.

By embedding quantum bits (qubits) in silicon, Quantum Motion is moving closer to scalable, mass-produced quantum processors, representing a major step toward integrating quantum computing into mainstream manufacturing.

## MARKET

### [Finance Moves from Quantum Pilots to Early Deployments](#)

## McKinsey & Company

McKinsey's 2025 outlook finds quantum shifting from lab demos to real use, with financial institutions among the first movers.

Banks are testing quantum-inspired and early quantum algorithms for portfolio optimisation, derivatives pricing, and scenario risk, while simultaneously hardening data with post-quantum cryptography. Investment is tilting from "more qubits" to better, stabler ones, as error-correction and coherence improve.

McKinsey estimates the quantum market could approach \$100B by 2035, with computing leading the value creation. With 2025 designated the UN's International Year of Quantum, the firm urges finance leaders to expand targeted pilots, build a small specialist team, and begin PQC migrations now to capture upside and contain security risk.