

Market : Quantum Futures

Across the world, early adopters attempt to prepare their businesses for a future scenario where quantum will supercharge AI, dismantle all existing encryption models, begin a new healthcare era and give a new lease of life to eco-tech.

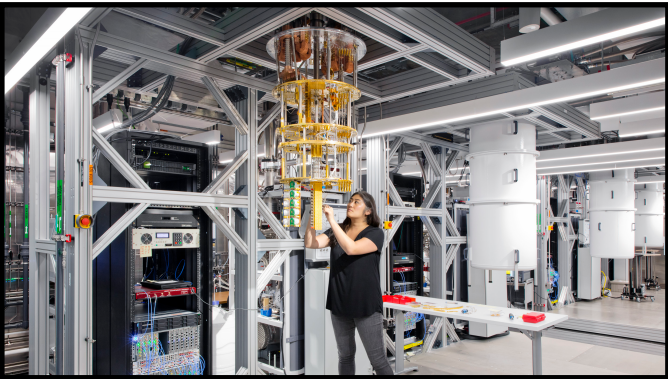
Quantum computers are a new kind of computing technology that harnesses the principles of quantum mechanics to process information.

They use quantum bits, or qubits, which can exist in multiple states simultaneously, enabling them to solve complex issues much faster than traditional computers.

Market Snapshot:

- : The global quantum computing market is set to grow from £11.3bn (\$13.7bn, €12.9bn) in 2022 to £118.5bn (\$143.4bn, €135.9bn) by 2032,
- : Quantum computers' use cases include developing artificial intelligence, data analysis, chemistry and drug research, carbon capture, new fuels, batteries, fertilisers and more

MARKET SHIFTS



Quantum Lab, IBM, US

Quantum-Safe Data Protection

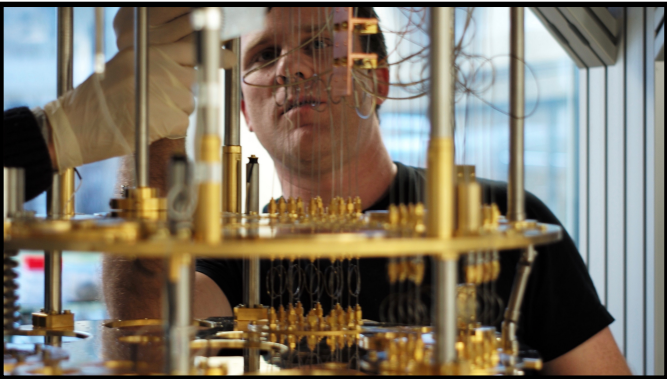
Industry experts predict that quantum computers will be able to crack all current cryptosystems in the next five to 30 years. In response, HSBC became the first bank to join BT and Toshiba’s quantum-secured metro network, using Quantum Key Distribution (QKD) to prepare its global operations against future cyber threats.



Quantum System One at Cleveland Clinic, IBM

A Quantum Health Revolution

In March 2023, IBM unveiled the first deployment of an on-site, private sector IBM-managed quantum computer at the Cleveland Clinic. The latter is looking into developing a pipeline where quantum computers can help screen and optimise drugs that target specific proteins.



Quantum Lab, IBM, US

Advancing Eco-Tech

As quantum technology matures, it will help to develop eco-tech and new solutions to live more sustainably - from managing decentralised energy networks to developing new battery materials for EVs or reducing pollution by creating efficient delivery routes to forecasting the effects of climate change.

Strategic Opportunities

Prioritise cybersecurity	Explore environmental use cases	Coordinate collaborations
Consider assessing the risks now and planning a roadmap to turn your current cybersecurity ecosystem into quantum-safe encryption	As the technology matures, explore how it can be leveraged to develop eco-tech solutions. The hardware's potential for reduced energy consumption makes it an attractive option for sustainable innovation	Although it's still early days, health and pharmaceutical firms should be ready to collaborate with quantum computing companies which can expedite drug discovery processes thanks to chemical reaction simulations

‘Imagine if [AI] now ran at five orders of magnitude higher performance. That, inevitably, is coming’

Michael Dell, the founder and CEO of Dell