

IBM and Vodafone Join Forces in Exploration of Quantum Computing Technology and Quantum-Safe Cryptography



Vodafone partners with IBM to prepare for the quantum era of applications in telecommunications

NEW YORK, Nov. 9, 2022 /PRNewswire/ -- IBM (NYSE: [IBM](#)) announced today at the [IBM Quantum Summit 2022](#) that Vodafone Group is collaborating with IBM on quantum-safe cybersecurity, and also joining the IBM Quantum Network, which will give the company cloud access to IBM's advanced quantum computing systems, as well as IBM's industry-leading quantum expertise. The multinational telecommunications company will work with IBM to help validate and progress potential quantum use cases in telecommunications.

As part of this collaboration, Vodafone will explore quantum computing for a variety of telco use cases. The company will also advance their employees' skills in quantum technology through iterative prototyping led by IBM, as well as actively recruit quantum computing experts, to build a dedicated capability within its ranks.

Throughout this engagement, Vodafone will explore how to apply [IBM Quantum Safe](#) cryptography technology across its entire and diverse network infrastructure and systems. Future quantum computers will pose a threat to today's standard security, such as public key encryption. Quantum-safe cryptography protocols not only exist today, and offer the capability to help protect classical data and systems from these future quantum computers' potential decryption capabilities, but the US National Institute of Standards and Technology (NIST) [recently announced](#) that four algorithms — three of which IBM helped develop have been chosen to be part of a protocol for standardization by 2024. Vodafone's exploration of these protocols marks an IBM Quantum Safe first in understanding and preparing for this risk in telecommunications.

"Partnering with IBM provides us with access to quantum technology which has the potential to provide incredible network optimization. It's the sort of innovation that existing computers will never achieve alone, allowing us to save energy, reduce costs and give customer great connectivity in more places," said Luke Ibbetson, head of group R&D at Vodafone Group. "Investing in quantum-safe cryptography, now, also gives us the peace of mind that our infrastructure and customer data will also always be secure as we explore the benefits of quantum computing."

"Vodafone, as a leading mover in telco, is setting the example for their industry by exploring quantum computing applications for their business operations, as well as applying quantum-safe cryptography protocols to protect their long-term data and systems," said Scott Crowder, Vice President, IBM Quantum Adoption and Business Development. "We're excited to partner with Vodafone to help them simultaneously adopt quantum technology, and move to quantum-safe technology as they serve an entire ecosystem of operators, vendors, regulators, and open-source community."

IBM and Vodafone are also among initial members of the recently [announced](#) GSMA Post-Quantum Telco Network Taskforce, whose mission is to help define policy, regulation and operator business processes for the enhanced protection of telecommunications in a future of advanced quantum computing.

Vodafone joins more than 200 members of the IBM Quantum Network, a global community of Fortune 500 companies, start-ups, academic institutions, and research labs working to advance quantum computing and explore practical applications. Their engagement is designed to set them on a path to tap into this future of quantum advantage capabilities: when a computational task of business or scientific relevance can be performed more efficiently, cost-effectively, or accurately using a quantum computer than with classical computations alone.

For more information, visit: <https://www.ibm.com/quantum/quantum-safe>.

Statements regarding IBM's future direction and intent are subject to change or withdrawal without notice and represent goals and objectives only.

About IBM

IBM is a leading global hybrid cloud and AI, and business services provider, helping clients in more than 175 countries capitalize on insights from their data, streamline business processes, reduce costs and gain the competitive edge in their industries. Nearly 3,800 government and corporate entities in critical infrastructure areas such as financial services, telecommunications and healthcare rely on IBM's hybrid cloud platform and Red Hat OpenShift to affect their digital transformations quickly, efficiently, and securely. IBM's breakthrough innovations in AI, quantum computing, industry-specific cloud solutions and business services deliver open and flexible options to our clients. All of this is backed by IBM's legendary commitment to trust, transparency, responsibility, inclusivity, and service. For more information, visit <https://www.ibm.com/quantum>

About Vodafone

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