



Company profile

TELUS: quantum-safe networking strategy

Michelle Lam

TELUS: strategy

TELUS has a live commercial post-quantum cryptography (PQC) service and is the most active Canadian operator in quantum-networking research and development thanks to its partnership with Photonic.

In December 2024, TELUS first announced its partnership with Photonic to build and test quantum-safe networking (QSN) solutions over 30km of fibre in British Columbia. It later announced a live Quantum-Safe VPN service in November 2025, which integrates PQC into TELUS's Managed Next Generation Firewall service, which was built with Palo Alto Networks. The service is adaptable, allowing organisations to respond as cryptographic standards evolve and as new regulatory requirements are introduced globally.

In early 2026, Photonic announced that it had successfully transmitted quantum information across 30km of TELUS's commercial fibre network, which was described as a world-first demonstration of quantum teleportation over a live telecoms network. The demonstration saw the transfer of quantum information into a matter-based quantum processor using Photonic's Entanglement First architecture, enabling storage and further processing at a remote node.

TELUS and Xanadu signed a memorandum of understanding in March 2026 to explore sovereign hybrid quantum-classical data centre infrastructure in Canada, pairing Xanadu photonic quantum processors with TELUS' PureFibre network and Canadian-controlled data centres.

Figure 1: Overview of TELUS’s QSN strategy

Company details	<ul style="list-style-type: none"> Headquartered in British Columbia, Canada Listed on the Toronto Stock Exchange and New York Stock Exchange. Operates mobile and fixed networks nationally Serves consumer, small business, enterprise and government customers. Offers mobile, broadband, cloud, IoT, cyber-security, digital health and AI-enabled services. More than 21 million customer connections Consolidated revenue of CAD20.35 billion in 2025
QSN strategy	PQC-led commercial VPN offering complemented by quantum networking and quantum key distribution (QKD) experimentation
Launch status	Commercially launched (Quantum-Safe VPN); quantum-networking trials ongoing
Launch country	Canada
Vendor partnerships	Palo Alto Networks, Photonic (equity investment, four-year preferred partner)
Customers	Enterprise-managed firewall/VPN customers; no named customers
Relevant memberships	Supported by Canada's National Quantum Strategy

Source: Analysys Mason

TELUS: analysis

TELUS is focusing its QSN strategy on enterprise commercial offerings while investing in long-term research developments in quantum teleportation.

TELUS’s Quantum-Safe VPN service aims to support enterprise customers that already have managed-firewall contracts. Its managed-service delivery model allows TELUS to bill this service through existing managed-security contracts, with minimal sales overhead. Currently, no named customers have been announced, although the operator has stated that its geographic focus will be Canada.

TELUS participated in Photonic's CAD180 million funding round (with a total of CAD375 million raised to date), which evolves the relationship from a network access arrangement to a strategic investment with equity alignment. The expanded partnership with Photonic aims to advance QSN, distributed quantum computing and future commercial quantum infrastructure built on existing telecoms systems.

TELUS's quantum-safe programme is aligned with Canada's National Quantum Strategy and the Canadian government's PQC roadmap from June 2025, which targets completion by 2035. However, direct participation in ETSI, ITU-T or GSMA standards bodies is not documented.

Figure 2: TELUS’s strengths and weaknesses

Strength	Description
Deployment pace	TELUS has demonstrated exceptional commercial execution capability by moving from its first partnership announcement and initial trials to live commercial product launch in under 12 months.
Strong R&D commitment	The world-first quantum teleportation over a live TELUS fibre network in early 2026, performed in partnership with Photonic, establishes TELUS as Canada's leading operator in quantum-networking infrastructure.
Strategic investments	TELUS Global Ventures equity investment in Photonic will allow TELUS to have a bigger role in the quantum-technologies value chain.
Weakness	Description
Limited international standards role	TELUS has minimal documented engagement with ETSI, ITU-T or other international standards bodies. This limits its influence on future global interoperability frameworks.

Source: Analysys Mason

About the author



Michelle Lam (Senior Analyst) is a member of the *Operational Applications* practice. She leads the *Network Automation and Orchestration* programme. Her research focuses on competitive and strategic challenges in the evolution to next-generation networks that are highly autonomous and orchestrated by software-defined networking and network virtualisation principles. In addition, her research provides critical insights into the prospects for established and emerging network management, automation and orchestration products and related professional services. She holds a BSc in physics and an MSc in quantum technologies from University College London.

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PUBLISHED BY ANALYSYS MASON LIMITED IN APRIL 2026

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Registered office: 5th Floor, 22 Upper Ground, London, SE1 9PD, UK.

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