

Quantum Technology for Telecommunications

Quantum Technology

A four-hour course on quantum technology for telecom operators. We cover quantum networking and QKD services, timing and synchronization, quantum random numbers and network optimization, with the status of each and what to prepare now.

Duration

4 hours

Short professional course

Level

Executive

No prerequisites

On-demand fee

US\$399

Online on-demand

Assess services, trials and operator readiness.

What you will learn

- ✓ Explain what quantum networking, computing and sensing can and cannot do for operators today
- ✓ Judge a QKD claim by key rate, distance, loss and the number of trusted nodes
- ✓ Tell a commercial service from a field trial, a lab result or an announcement
- ✓ Build a business case for quantum-safe network services that combines QKD with post-quantum cryptography
- ✓ Assess the timing and random-number products operators can deploy now
- ✓ Plan pilots, standards and skills for the next five years

Who should attend

Operator executives, program managers, network strategy and architecture leads, network engineers and product managers for security services at fixed, mobile and satellite operators. Also useful for network equipment vendors, and for regulators who oversee telecom security.

Prerequisites

None. No technical background is assumed.

Why Quantum Academy

Quantum Academy teaches from *Quantum Systems Integration*, written by the course author, and faculty experience with quantum engineering and integration teams. Hardware results, announcements and resource estimates are clearly distinguished.

What you will study

5 modules · 4 hours · No exam

01 Judging Quantum Claims – 45 minutes

Separate hardware results, announcements and estimates; distinguish physical from logical qubits. Test classical baselines, including network optimization claims that name none, and separate roadmap targets from commitments.

02 Quantum Networking for Operators – 75 minutes

Review metro, long-haul and satellite QKD, trusted nodes, key rates, distance and loss. Cover entanglement distribution, repeaters and the business case for services. Assess why fiber-based QKD has end-to-end security limits over long distances.

03 Timing, Randomness and Network Optimization – 45 minutes

Cover enhanced timing, atomic clocks, quantum random number generators and annealing claims that name no classical baseline. We explain why we do not expect gate-model advantage on telecom optimization this decade.

04 What Operators Are Doing – 30 minutes

Review Orange, China Telecom, BT, Toshiba, Singtel, Telefónica, Deutsche Telekom, IonQ, ID Quantique and NTT DOCOMO programs. Distinguish commercial services, field trials and announcements.

05 Preparing Now – 45 minutes

Plan timing and randomness deployment; pilot QKD where customers or regulators ask for it, alongside post-quantum cryptography. Require standard key-management interfaces and check vendor figures. Draft a one-page quantum brief for leadership.

Formats and fees

Online on-demand	US\$399
Live online	US\$599
In person	US\$799
Private team training	Custom quote

What is included

- Course handbook: full material with written instructor notes.
- Use-case table with sources and results labelled as demonstrated, announced or estimated.
- PDF copy of *Quantum Systems Integration*, written by the course author.
- 180 days of access to the online on-demand course.

Upon completion, you receive a Quantum Academy certificate of completion. It confirms that you completed the course and is separate from Quantum Academy's professional certifications.

Explore the course

See dates and enroll on the [course page](#).

quantumacademy.com/courses/quantum-technology-telecommunications/



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