



فائق - FaaiQ



*Revolutionizing telecommunications
using Quantum Internet*



فائق السرعة - FaaiQ Fast



*Revolutionizing telecommunications
using Quantum Internet*

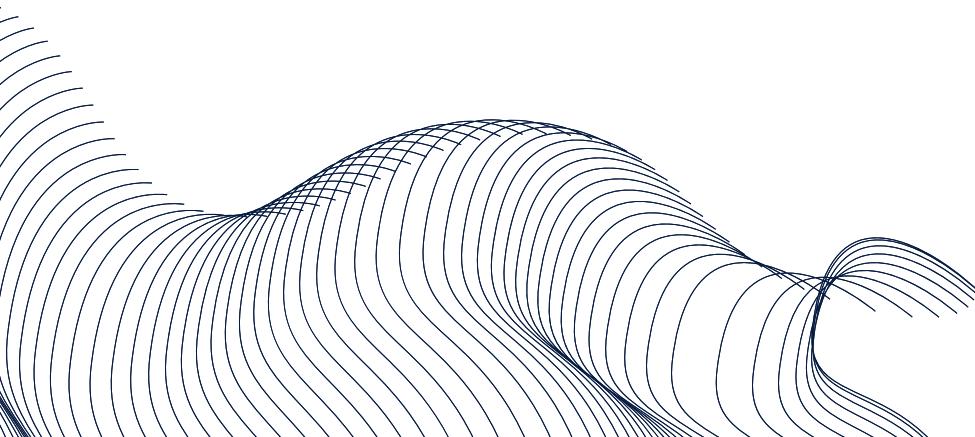
THE PERILOUS STATE OF THE INTERNET

USD 7.46 Million

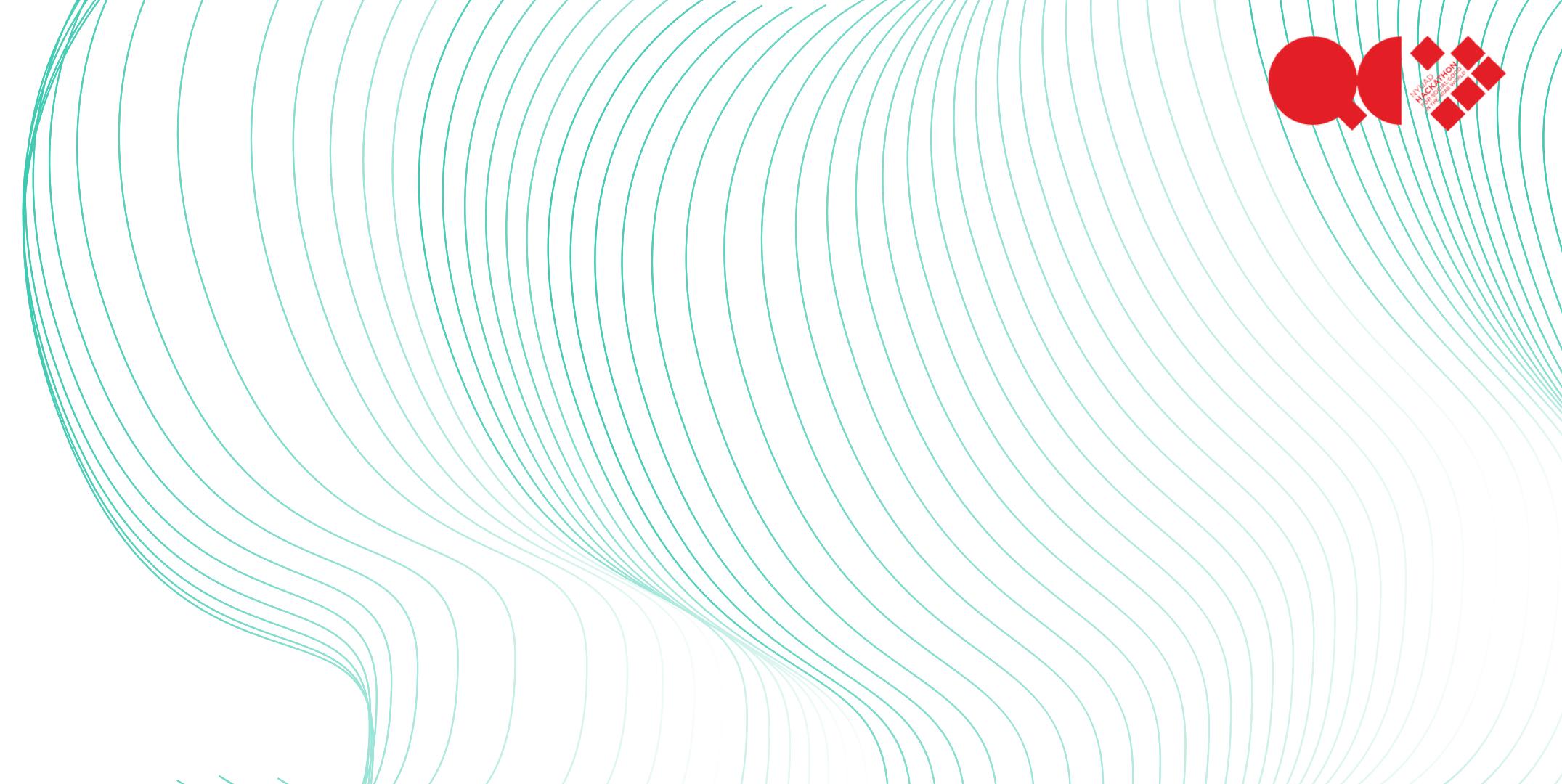
Average cost of a data breach in the Middle East (2nd highest after the US)

The Quantum Threat

Quantum computing will break RSA encryption



THE QUANTUM INTERNET



Fast data transfer



Secure Communication
QKD Cryptography



Blind Quantum Computation



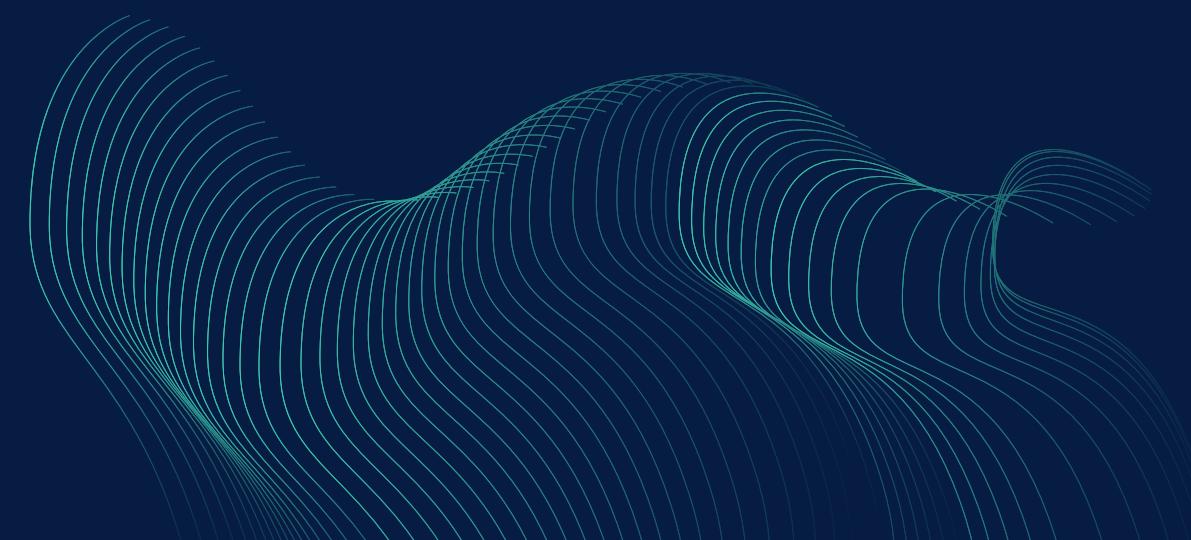
PROBLEM STATEMENT

Network Placement Problem

Integrate the quantum internet with the pre-existing fiber optic infrastructure by equipping the network with repeaters and end-nodes in specific locations.

Benchmarks:

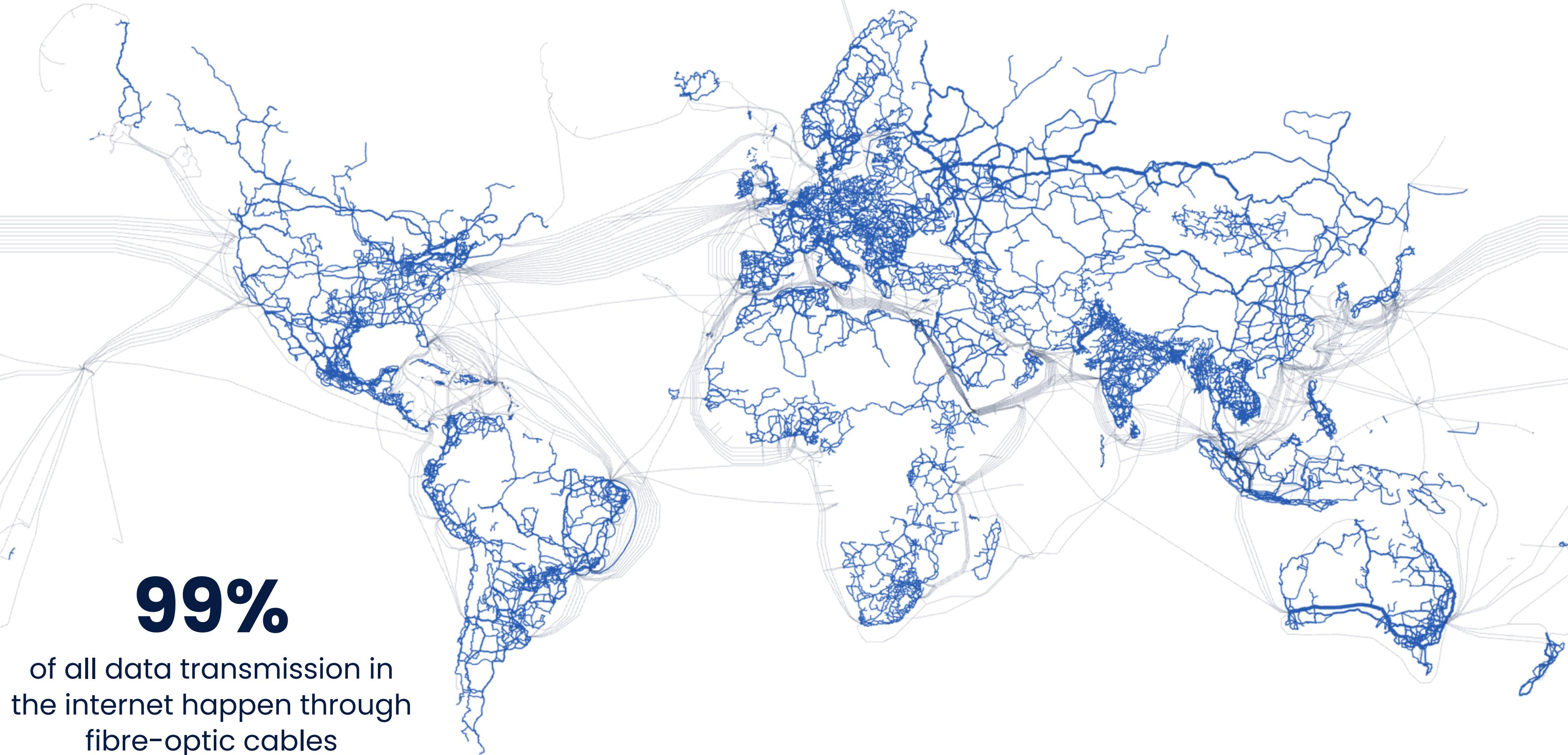
- Entanglement Rate and fidelity
- Network robustness
- Repeater capacity



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



THE CURRENT EXISTING FIBRE-OPTIC CABLE NETWORK



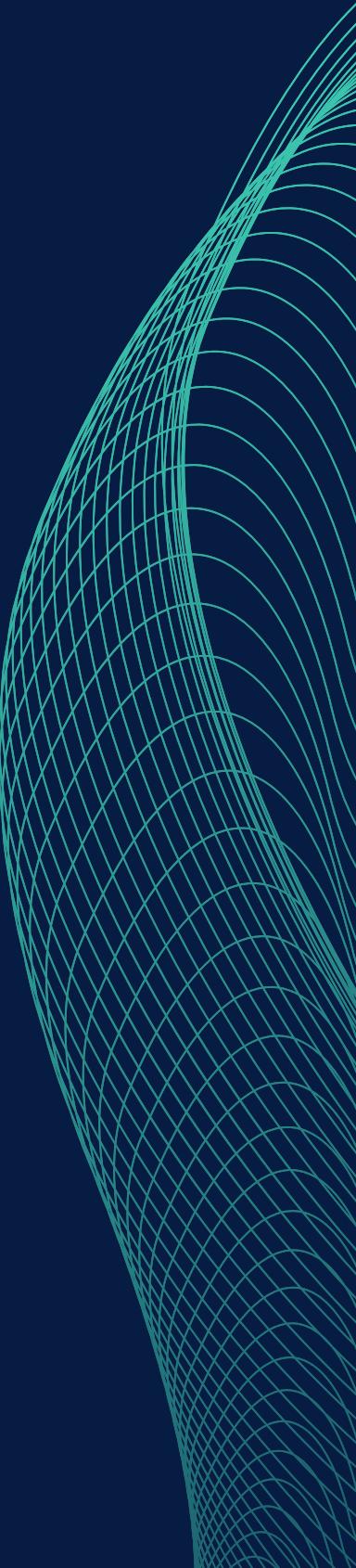
PRODUCT



Secure communication for strategic industries.

Robust quantum internet using the pre-existing infrastructure.

Solve the repeater placement problem using quantum optimization.



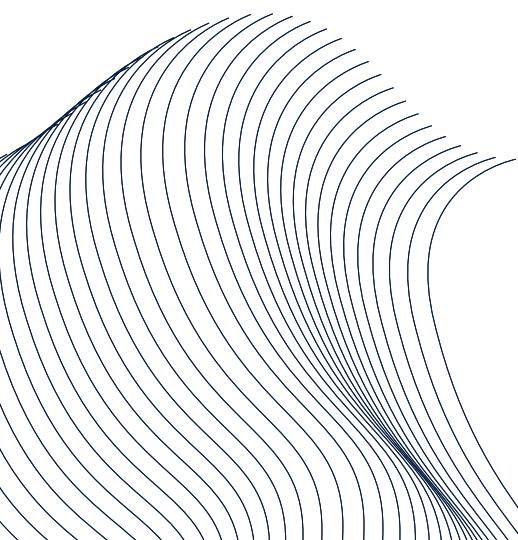
PRODUCT

Approach

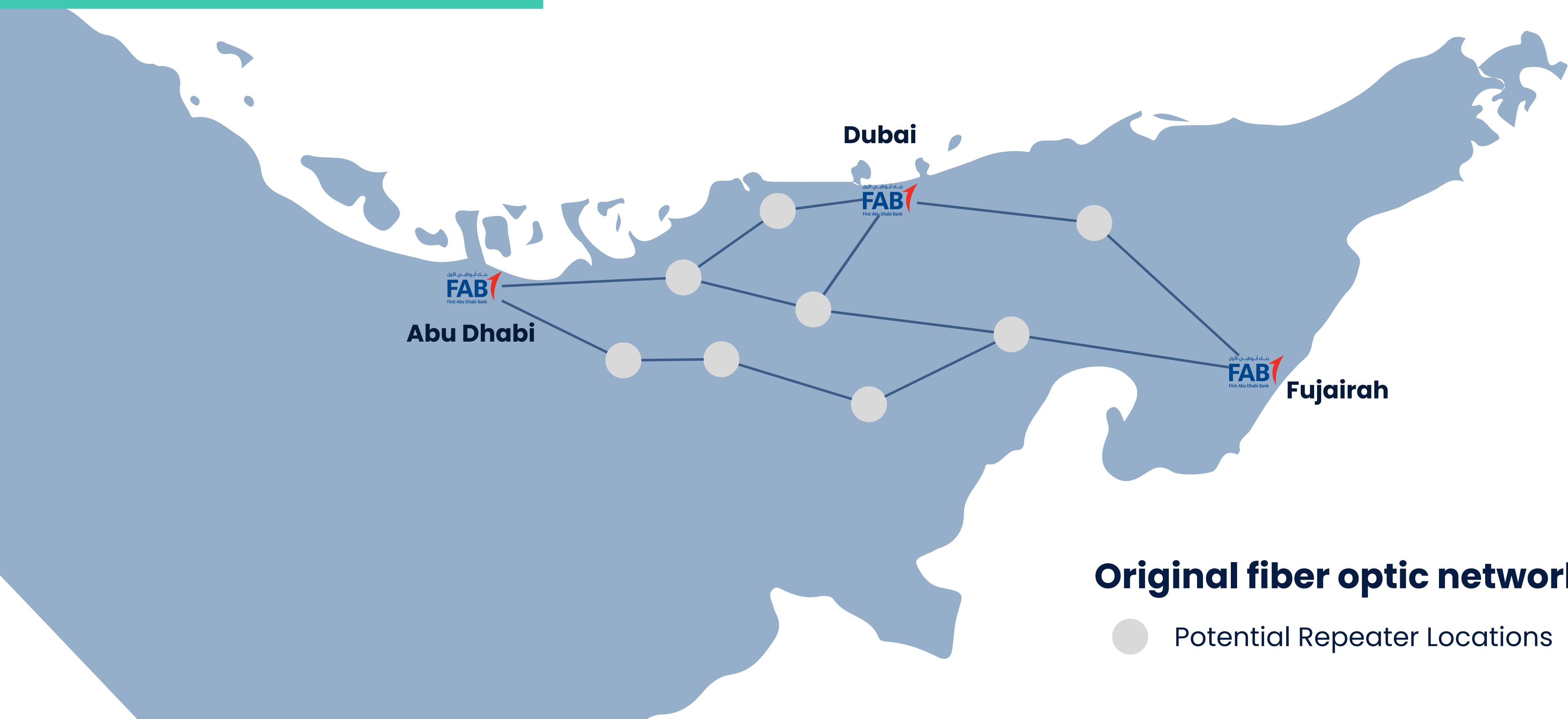
- Quadratic Unconstrained Binary Optimization (QUBO)
- Quantum Approximate Optimization Algorithm (QAOA)

Hardware

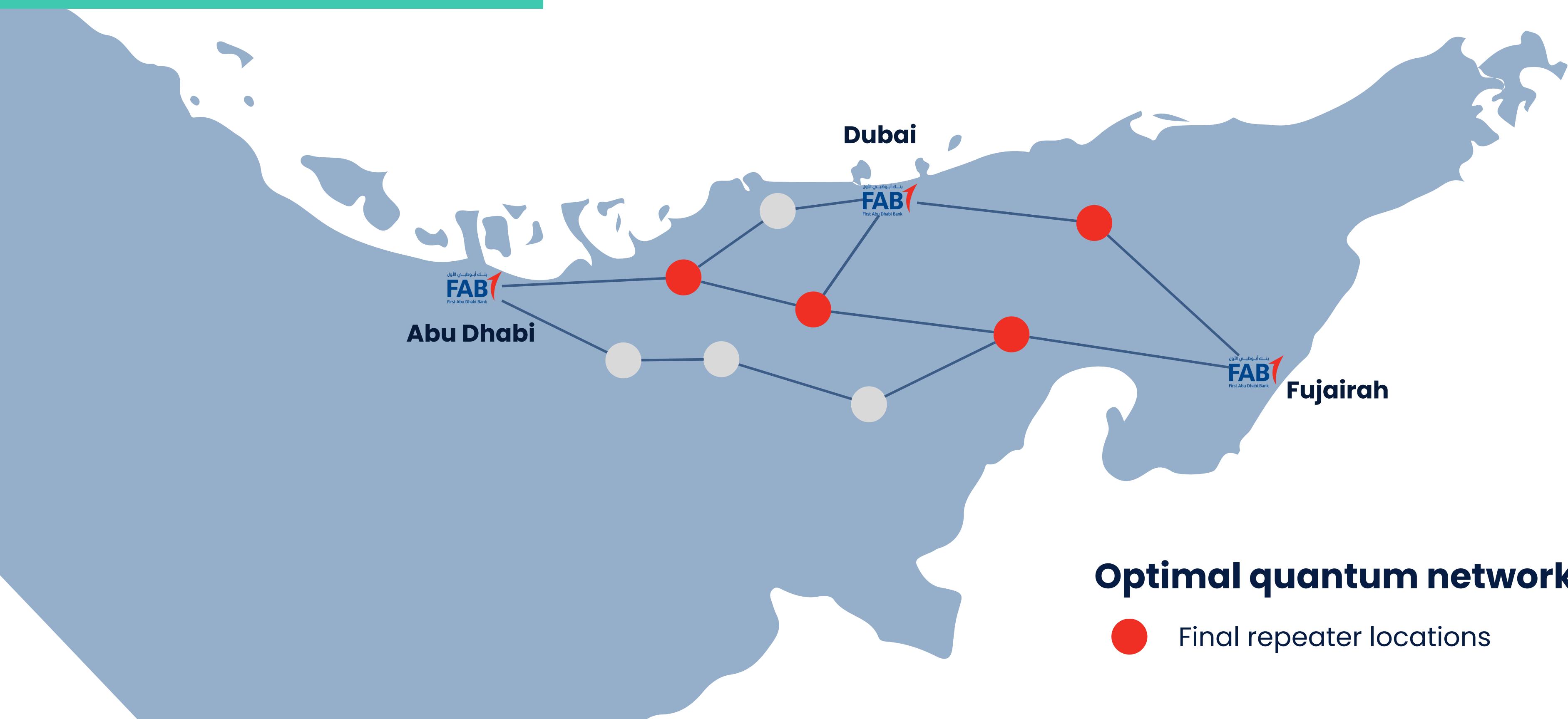
- IBM Quantum Systems
- IBM Aer Simulator



Use case: UAE

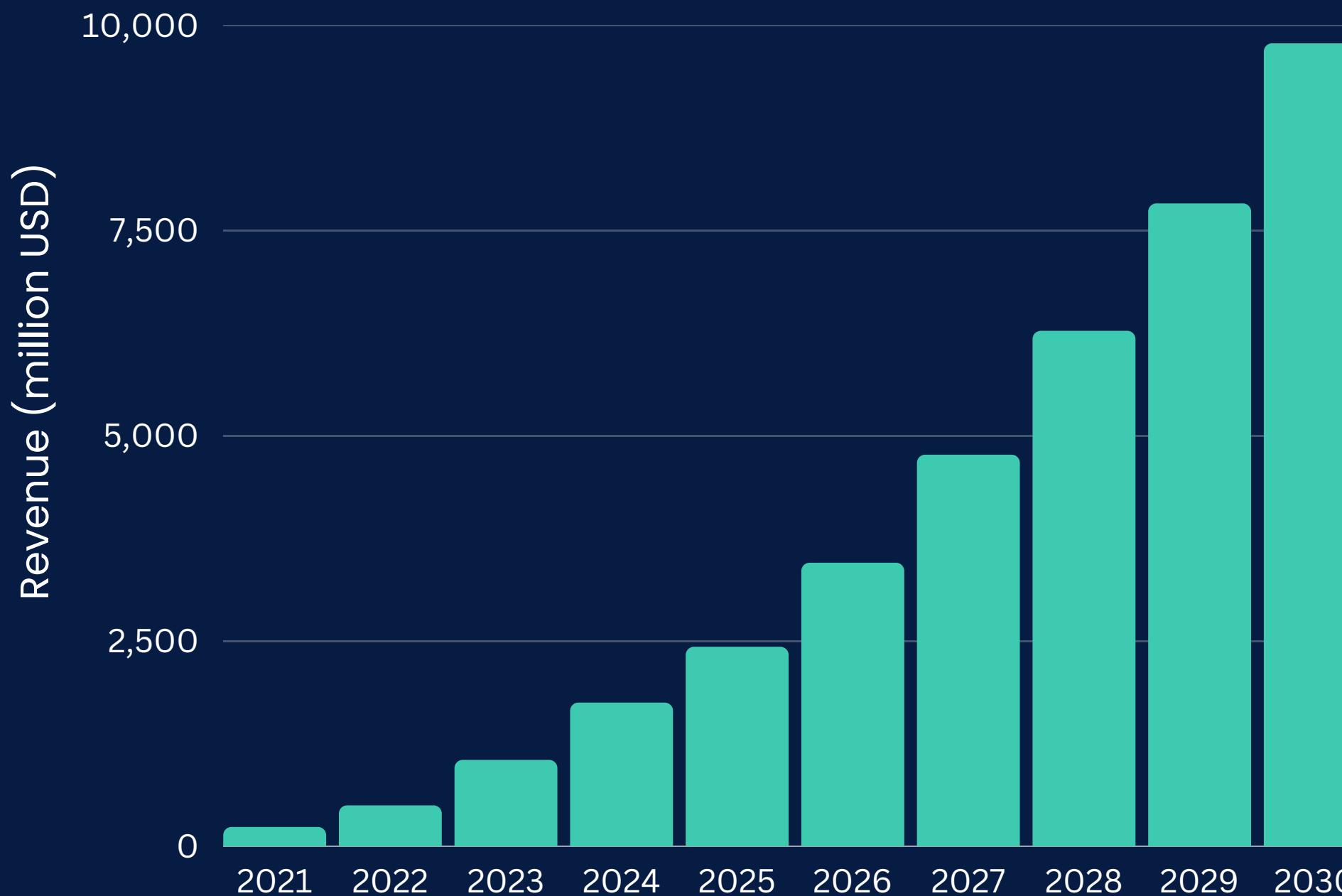


Use case: UAE



IMPACT

Projected Quantum Security Market Revenue
Worldwide from 2021 to 2030



- **Over \$90 mill. spent in Quantum communications in the last two years.**
- **Rising interest in protecting against cyber attacks in the Middle East using Quantum Computing.**



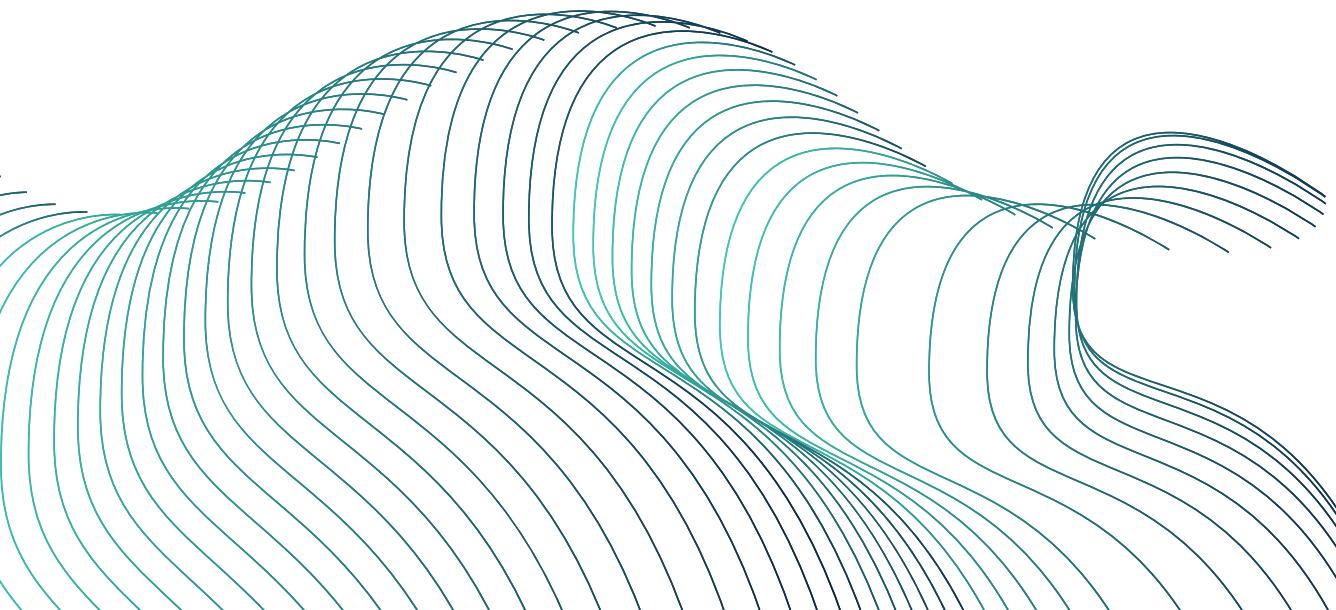
NYUAD
**Hackathon for
Social Good in**
the Arab World

April 27-30, 2023

NEXT STEPS

TECHNICAL

- Increase the size of the network
- Allow for alternative paths to increase robustness

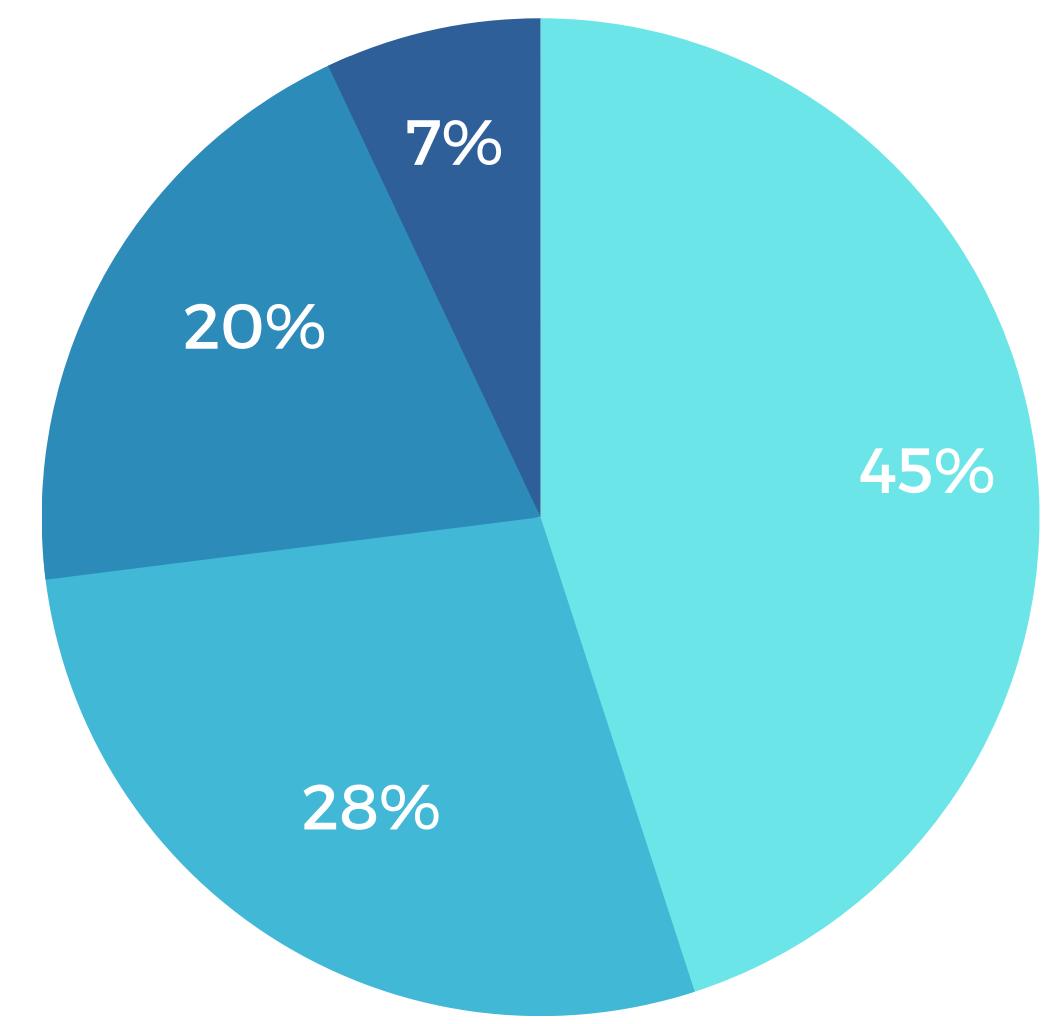


BUSINESS

- Investment in research and development.
- Pilot testing in Middle Eastern countries.
- Partnerships with government agencies and expansion to countries with data breaches.

IMPACT

Estimated Revenue for
Quantum Key Distribution, 2030



- U.S. Department of Energy (DoE) \$60.7 million in 2019 for quantum use in networking and communications, and \$30 million in 2018 for QIS in key application areas.
[Forbes, 2021]

 Government, military, and critical infrastructure

 Financial institutions and data centers

 Telecom and other service providers

 Others

