

Development and Validation of Quantum Repeater Systems for Advanced Cryptography and Information Processing(LQUOM, Inc.)



City	Year of Establishment	Founder
Yokohama-shi, Kanagawa	2020	Kazuya Niizeki

Partner VC	Latest round of Fundraising	Valuation
SBI Investment Co., Ltd.	Series B	JPY 4,700 million

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○ Business Plan

In modern communications, where data traffic is increasing explosively, advances in computational technology are making conventional cryptographic methods increasingly vulnerable to decryption, creating a growing demand for absolutely secure cryptographic systems. This project aims to develop and implement quantum repeaters—including quantum memories that serve as their core components—toward platforms enabling the decentralization of quantum computers for communication security and innovative information processing.

○ Research Outline

distance. Toward achieving the R&D objective of a “quantum entanglement system between quantum memories,” we will complete the integrated system based on element technologies developed during the STS phase and develop a quantum transmission system suitable for installation in external field optical fiber environments.

The main R&D items include:

1. Development of a quantum entanglement system between quantum memories
2. Development of a quantum transmission system for external environments (field optical fibers)
3. Performance improvement of quantum memories

Business Area/Field	Research Period	Research Grant Amount	International collaborative technology demonstration
Information & Communication	PCA 2025~2027FY	JPY 812 million	—