Toshiba starts verification testing of its "theoretically completely secure" quantum cryptography technology in a series of transmissions from the company's Life Science Analysis Centre to the Tohoku University.

The test will run for 2 years, and involves the transmission of genome data over 7km of custom-made dedicated fibre optic cable. Should it be successful it will pave the way for longer-term commercial use of the technology.

Quantum cryptographic communications make use of individual photons carrying the encrypted data together with a one-time decoding key. According to quantum mechanics one cannot observe the data without altering it (together with the cryptographic key), meaning receiving untampered data is a guarantee of security.

Toshiba hopes to commercialise the technology for government and enterprise use by 2020, but it faces a number of issues-- servers are pricey and the photons making the transmissions are vulnerable to vibration and heat, making long-distance transmissions difficult.

Go Toshiba Commencement of Verification of Quantum Cryptographic Communication System