



Data protection takes a 'quantum' leap into the future

Danske Bank

In the race to combat soaring cybercrime, researchers from the Technical University of Denmark — in collaboration with KPMG in Denmark's cyber specialists — have taken quantum communication out of the lab and into the real world by successfully transferring data between two Danske Bank computers.

The breakthrough technology used in the 'quantum safe' data-transfer experiment exploits quantum physics to create the digital 'keys' needed to encrypt and decrypt confidential data. Quantum key encryption is a new generation of encryption that's designed to resist malicious attacks by cyber criminals. It essentially enables the creation and sharing of secure data-encryption keys using standard fiber optics that are widely used today in telecommunications.

The technology takes data protection to a new level and holds remarkable promise for revolutionary advances in data security amid the increasing sophistication of today's cyber criminals. KPMG contributed both by financing and providing technological assistance for the project.

Prof. Tobias Gehring, the university's associate professor of Physics, explains that the quantum-based approach relies on the unpredictability and randomness of quantum mechanics for security. "This way, we create the foundation for data transfers that are impossible to hack — unless you break the laws of physics."

Could your business take advantage of 'quantum key encryption' to protect data?

“**As a bank, we have a responsibility to constantly seek new ways to protect our customers' data and ensure that we are a step ahead of the criminals in the tech arms race.**”

Lance McGrath
Chief Security Officer,
Danske Bank



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