BT and Toshiba launch first commercial trial of quantum secured communication services

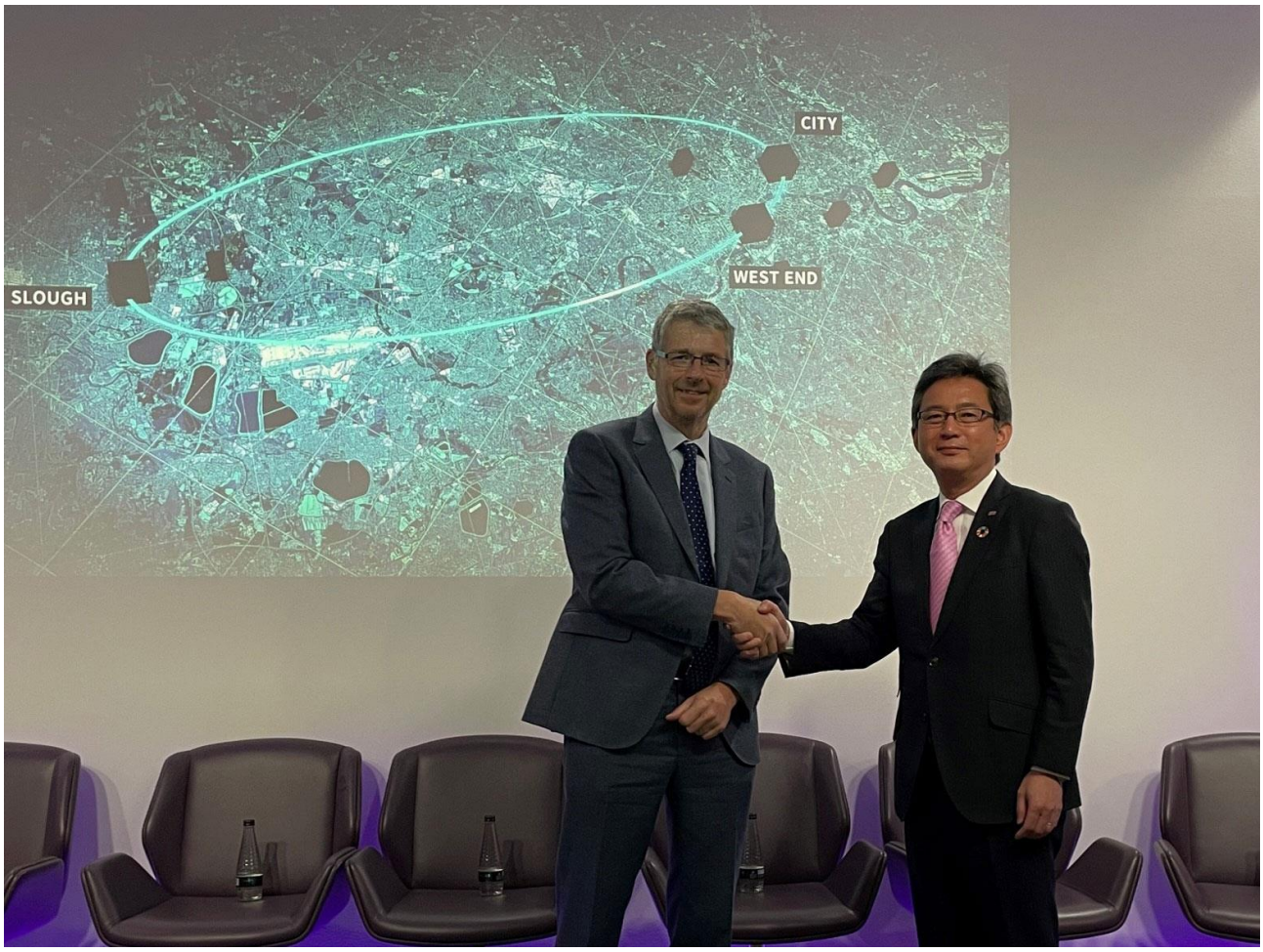
EY becomes first commercial customer to connect quantum secure data transmission between its major London offices.

Wednesday April 27, 2022

London, England and Japan – At an event held at BT Tower yesterday (Tuesday 26th April), BT and Toshiba, along with EY launched the trial of a world first commercial quantum-secured metro network. The infrastructure will be able to connect numerous customers across London, helping them to secure the transmission of valuable data and information between multiple physical locations over standard fibre optic links using quantum key distribution (QKD). QKD is an important technology, playing a fundamental role in protecting networks and data against the emerging threat of cyber-attack using quantum computing. The London network represents a critical step towards reaching the UK government's strategy to become a quantum-enabled economy.

The network's first commercial customer, EY, will use the network to connect two of its sites in London, one in Canary Wharf, and one near London Bridge. It will demonstrate how data secured using QKD can move between sites and will showcase the benefits this network brings to its own customers.

BT and Toshiba announced their commitment to creating a trial network in October 2021. BT will operate the network, providing a range of quantum-secured services including dedicated high bandwidth end-to-end encrypted links, delivered over Openreach's private fibre networks, while Toshiba will provide quantum key distribution hardware and key management software. In the network, QKD keys will be combined with the in-built ethernet security, based on public-key based encryption, which will enable the resultant keys to be used to encrypt the data.



Howard Watson, CTO, BT (left) and Shunsuke Okada, Corporate Senior Vice President and Chief Digital Officer of Toshiba (right)

Howard Watson, CTO, BT, commented: "Quantum-enabled technologies are expected to have a profound impact on how society and business operates in the future, but they are remarkably complex to understand, develop and build: in particular, ensuring that the end-to-end service designs meet the stringent security requirements of the market. I'm incredibly proud that BT and Toshiba have successfully united to deliver this unique network, and with EY as our first trial customer, we are paving the way for further commercial explorations for quantum technologies and their use in commercial, and societal applications in the future."

Shunsuke Okada, Corporate Senior Vice President and Chief Digital Officer of Toshiba commented: "Both Toshiba and BT have demonstrated world-class technology development and leadership through decades of innovation and operation. Combining BT's leadership in networks technologies and Toshiba's leadership in quantum technologies has brought this network to life, allowing businesses across London to benefit from quantum secured communications for the first time."

Preparation, technical deployment and testing for the network commenced in late 2021. This included equipment deployment in racks, adding security systems and resilience testing, and finally running and optimising the network. While Tuesday 26th April marked the official launch of the network, it has been running since early April, and will operate for an initial period of up to three years.

Praveen Shankar, EY UK & Ireland Managing Partner for Technology, Media and Telecoms (TMT), commented: "Quantum technology creates new and significant opportunities for business, but presents potential risks. Quantum secure data transmission represents the next major leap forward in protecting data, an essential component of doing business in a digital economy. Our work with two of the world's leading technology innovators will allow us to demonstrate the power of quantum to both EY and our clients."

The UK Government's "strategic intent" to develop a quantum-enabled economy was first published in 2020. It sets out a vision for the next 10 years in which quantum technologies will become an integral part of the UK's digital backbone, unlock innovation to drive growth and help build a thriving and resilient economy, and contribute significant value to the UK's prosperity and security.

The London network represents an important step to building a national network for quantum secured communications, which will stimulate the growth of a quantum ready economy in the UK.

Howard Watson continued: "This is a significant moment in the UK's journey towards a quantum-enabled economy, but we're not there yet. Further investment commitments will be required to broaden the study of quantum technologies that will contribute to this new economy, including quantum computing, quantum cryptography and quantum communications. We look forward to working with our government and industry partners to continue the momentum BT has started and shaping the UK's quantum strategy."

The technical collaboration for this network was conducted in BT's Adastral Park labs in Suffolk, UK, and the Quantum technology Business Division of Toshiba, based in Tokyo, Japan and Cambridge, UK, where the quantum key distribution technology has been developed and is manufactured.

About BT

BT Group is the UK's leading telecommunications and network provider and a leading provider of global communications services and solutions, serving customers in 180 countries. Its principal activities in the UK include the provision of fixed voice, mobile, broadband and TV (including Sport) and a range of products and services over converged fixed and mobile networks to consumer, business and public sector customers. For its global customers, BT provides managed services, security and network and IT infrastructure services to support their operations all over the world. BT consists of four customer-facing units: Consumer, Enterprise, Global and its wholly-owned subsidiary, Openreach, which provides access network services to over 650 communications provider customers who sell phone, broadband and Ethernet services to homes and businesses across the UK.

For the year ended 31 March 2021, BT Group's reported revenue was £21,331m with reported profit before taxation of £1,804m.

British Telecommunications plc is a wholly-owned subsidiary of BT Group plc and encompasses virtually all businesses and assets of the BT Group. BT Group plc is listed on the London Stock Exchange.

For more information, visit www.bt.com/about

About Toshiba
Toshiba Corporation leads a global group of companies that combines knowledge and capabilities from over 140 years of experience in a wide range of businesses—from energy and social infrastructure to electronic devices—with world-class capabilities in information processing, digital and AI technologies. These distinctive strengths support Toshiba's continued evolution toward becoming an Infrastructure Services Company that promotes data utilization and digitization, and one of the world's leading cyber-physical-systems technology companies. Guided by the Basic Commitment of the Toshiba Group, "Committed to People, Committed to the Future," Toshiba contributes to society's positive development with services and solutions that lead to a better world. The Group and its 120,000 employees worldwide secured annual sales surpassing 3.1 trillion yen (US$27.5 billion) in fiscal year 2020.
Find out more about Toshiba at https://www.global.toshiba/ww/outline/corporate.html

About EY
EY exists to build a better working world, helping to create long-term value for clients, people and society and build trust in the capital markets.

Enabled by data and technology, diverse EY teams in over 150 countries provide trust through assurance and help clients grow, transform and operate.
Working across assurance, consulting, law, strategy, tax and transactions, EY teams ask better questions to find new answers for the complex issues facing our world today.
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