

Toshiba launches Quantum Key Distribution (QKD) System Business

~ Establishing a global business to promote QKD system and network deployments ~

TOKYO—Toshiba Corporation (TOKYO:6502) today announced it will start providing quantum key distribution (QKD) platforms and commence deployment of a system integration business in the fourth quarter of FY2020.

In Japan, Toshiba Digital Solutions Corporation (hereinafter “TDSL”) has been awarded the contract from the National Institute of Information and Communications Technology (NICT) to deploy and manage the QKD systems that will be installed at multiple locations on their network. Toshiba plans to deliver the system in the fourth quarter of FY2020 and the deployment will start to roll out from April 2021.

Outside of Japan, Toshiba Europe Ltd., in collaboration with BT Group plc., has enabled the UK’s first industrial deployment of a quantum-secure network between two industry-leading organizations and began joint verification from September 16, 2020. In the US, Toshiba has participated in the recent QKD demonstration by Verizon Communications Inc. in alliance with Quantum Xchange., announced by Verizon on September 3. From FY2021, the company will collaborate with regional business partners not only in the UK and the US, but also in Europe and Asia, to promote the QKD system integration businesses worldwide.

“At a time when both significant advancements are being made towards making the quantum computer a reality, and the almost constant state of data proliferation, the need for the secure transmission of sensitive information has never been more significant. With many trials and use cases now active across a broad spectrum of industries and across multiple regions, and with the development of high performing and stable systems, now is the right time to launch the QKD business” said Taro Shimada, Senior Vice President and Chief Digital Officer of Toshiba Corporation, and also President and CEO of TDSL. “Sectors such as finance, health and government are now realizing the need to invest in technology that will prepare and protect them for the quantum economy of the future. Our business plan goes far deeper and wider than selling quantum cryptographic hardware. We are developing a quantum platform and services that will not only deliver quantum keys and a quantum network, but ultimately enable the birth of a quantum internet.”

In order to promote the businesses, the company introduces two types of quantum key distribution platforms. First is its innovative multiplexing platform that allows the data and the quantum keys to be transmitted on the same fiber, eliminating the need for costly dedicated infrastructure for key distribution. The other is the platform for long-distance applications that maximizes speed and distance of key delivery.

These technologies will be exhibited at CEATEC 2020 ONLINE, October 20-23, and at IQT Europe, October 26-30.

The company has developed a manufacturing base in Cambridge, UK, and will begin providing the

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platform products to specific users as early as the third quarter of FY 2020. Toshiba plans to build a QKD network in Japan and other countries by FY 2025 and launch a QKD service for organizations focusing on financial institutions.

Toshiba has spent more than 20 years taking on the challenges of this unexplored field and has pioneered the path to practical use, achieving multiple world firsts along the way, including the industry's highest key rates and longest fiber distance. The QKD market is expected to grow to approximately \$20 billion worldwide in FY 2035*¹. Leveraging these technological foundations, the company aims to capture approximately 25% of the market (approximately \$3 billion) in FY 2030 by providing market leading QKD services.



Note: Toshiba's long term estimates based on short to mid-term estimates by research firms