



Press Release

Geneva, Switzerland, 3 September 2018

ID Quantique, SK Telecom and Nokia announce they have successfully achieved interworking between ID Quantique's Quantum Key Distribution System (QKD) and Nokia's optical transport system on the SK Telecom network

The encryption in Nokia's Secure Optical Transport solution was successfully integrated with quantum keys provided by ID Quantique's (IDQ) QKD server. The combined solution was deployed on the commercial network of SK Telecom to encrypt real production data between two of SKT's switching centres in Seoul, South Korea (Bundang and Jung-gu).

By integrating QKD into its 1830 Photonic Service Switch family of products, Nokia further enhances the quantum safe security of its [Secure Optical Transport solution](#) ensuring long-term protection against malicious hacking and attacks from future quantum computers. ID Quantique, SK Telecom and Nokia have been working together closely since 2016. At Mobile World Congress 2018 in Barcelona, IDQ announced a strategic investment of US\$ 65 million from SK Telecom, intended to develop IDQ's quantum technologies for the telecom and IoT markets. The investment aimed to strengthen ID Quantique's position as the global leader in quantum safe cryptography and quantum sensing solutions, and to help IDQ to continue the development of global markets and partnerships.

SK Telecom and Nokia announced the year before that they had entered into an agreement to cooperate in the quantum cryptography business.

Quantum cryptography – the combination of Quantum Key Distribution and encryption – is known to be the most secure form of communication encryption. QKD is based on quantum mechanics principles, which can offer perfect theoretical security. Quantum cryptography is expected to replace existing security solutions in all mission critical areas at risk of data hacking, including national defence, government, finance and utilities. Under the agreement, the companies will also cooperate in the area of Quantum Random Number Generator (QRNG), a technology necessary for applying quantum cryptography technologies to IoT devices. ID Quantique launched last year the world's smallest (5x5mm) Quantum Random Number Generator.

"Quantum cryptography will play a critical role in securing data and communications, both in backbone networks up to the edge, in an era where the quantum computer will render vulnerable much of today's cryptography," added Dr. Grégoire Ribordy, CEO and co-Founder of IDQ. "This concrete achievement with Nokia and SK Telecom brings us a step towards wide scale quantum communications deployments."

"Quantum Cryptography is a core technology in building a safe communications network in the 5G era," said Park Jin-hyo, chief technology officer and head of ICT R&D Center of SK Telecom. "Based on cooperation with Nokia, SK Telecom and ID Quantique will lead the development and commercialisation of quantum cryptography technologies."

"With ID Quantique's quantum cryptography technologies, we have secured the basis for building the most secure network security solution," said Andrew Cope, Head of Market Unit Korea, Nokia. "We will respond proactively to rapidly growing demands of the cyber security market with these technologies and solutions."

About ID Quantique

Founded in 2001 as a spin-off of the Group of Applied Physics of the University of Geneva, ID Quantique is the world leader in quantum-safe crypto solutions, designed to protect data for the future. The company provides quantum-safe network encryption, secure quantum key generation and Quantum Key Distribution solutions and services to the financial industry, enterprises and government organisations globally. IDQ's quantum random number generator has been validated according to global standards and independent agencies, and is the reference in highly regulated and mission critical industries – such as security, encryption, critical infrastructure and IoT – where trust is paramount.

Additionally, IDQ is a leading provider of optical instrumentation products, most notably photon counters and related electronics. The company's innovative photonic solutions are used in both commercial and research applications.

IDQ's products are used by government, enterprise and academic customers in more than 60 countries and on every continent. IDQ is proud of its independence and neutrality, and believes in establishing long-term and trusted relationships with its customers and partners.

For more information, please visit www.idquantique.com or contact marketing@idquantique.com.

About SK Telecom

Established in 1984, SK Telecom is the largest mobile operator in Korea by both revenue and number of subscribers. As of December 2017, the company holds around 50 percent of the market, with 30.2 million mobile subscribers including 22.87 million LTE subscribers. It has reached KRW 17.520 trillion in revenue in 2017. SK Telecom has led the advancement of mobile technologies ranging from 2G to 4G, and is currently setting important milestones in its journey to 5G. The company is not only leading innovation in the field of mobile network, but also providing IoT, media, home and platform services. SK Telecom is determined to play a significant role in the Fourth Industrial Revolution by achieving innovations and promoting shared growth with other players in the industry.

For more information, please visit www.globalskt.com or contact sktelecom@bm.com.

About Nokia

Nokia creates the technology to connect the world. Powered by the research and innovation of Nokia Bell Labs, Nokia serves communications service providers, governments, large enterprises and consumers, with the industry's most complete, end-to-end portfolio of products, services and licensing.

Nokia adheres to the highest ethical business standards as Nokia creates technology with social purpose, quality and integrity. Nokia is enabling the infrastructure for 5G and the Internet of Things to transform the human experience.

For more information, please visit www.nokia.com or contact press.services@nokia.com.