



Press Release

Geneva, November 18th 2020

ID Quantique and Korea Electric Power Research Institute (KEPCO) announce they have completed the construction of the first power communication network secured by quantum cryptography in Korea

ID Quantique (IDQ), the world leader in Quantum Safe security solutions, and Korea Electric Power Research Institute (KEPCO) announce they have established a power communication network that features quantum cryptography. Quantum Key Distribution (QKD) is being used to secure a 40km section of network between Anmyeon substation and Taeon substation in South Chungcheong Province. Designed to prevent hacking or cyber-attacks, this is the first implementation of QKD on an optical ground wire (OPGW) to secure the network in Korea.

In a digitally connected world, power generation and utilities companies form an essential part of our critical national infrastructure. High speed communications networks are used to connect assets to real-time command and control systems. A prime target for cyber-terrorists, these networks require optimal security to protect the integrity, confidentiality and authenticity of data.

The impact of a successful attack on utility networks could be catastrophic, from preventing community access to essential services to crippling national healthcare and public transport systems. In extreme cases, they could have a profound economic impact and even pose an existential threat. As the risks associated with securing critical infrastructure are great, they are justifiably drawing the attention of cybersecurity experts.

ID Quantique's QKD system is being used to guarantee stability through the 'unreplicable principle' that arbitrary quantum states are not perfectly duplicated. In addition, when an eavesdropper acquires information in the middle of a track, a change in quantum state is caused by an "overlapping of photons," which changes the communication content, allowing users to observe the eavesdropping. The Korea Electric Power Research Institute is now planning to develop quantum cryptography between KEPCO's ICT Naju Data Center and ICT's Daejeon Data Center in 2021.

"In the future, if smart grids where electricity producers and consumers exchange information are expanded, the security of power communication networks will become even more important" said an official at the Korea Power Institute. "We will do our best to develop technologies to strengthen the security of power grids in the future."

"Alongside government and financial services network data, we see critical infrastructure as a key area for cyber-attacks" said Grégoire Ribordy, CEO and co-founder of ID Quantique. "It is essential that such infrastructures remain secure, even in an era, when quantum computers put current cryptographic techniques at risk. We believe that quantum cryptographic solutions have a very important role to play in this context."

About KEPCO

Korea Electric Power Corporation (KEPCO) was founded in 1898 (as Hansung Electric Power Company) under the Korea Electric Power Corporation Act to facilitate development of electric power sources, satisfy the nation's electric power supply and demand and contribute to the development of national economy in Korea.

KEPCO engages in businesses to achieve the objectives, which include: development of electric power resources; generation, transmission, transformation and distribution of electric power; and marketing, research, technological development, overseas business, investment, corporate social responsibility and use of its property with regard to electric power.

For more information, please visit home.kepco.co.kr

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 organizations 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.

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