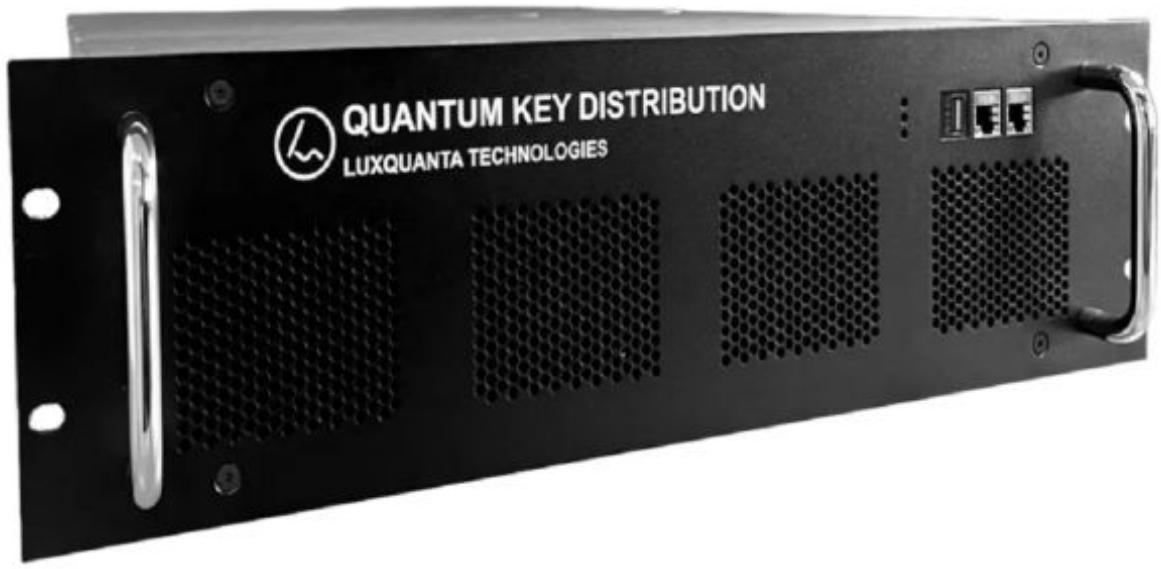

LuxQuanta launches first product system

NOVA LQ? is based on Continuous Variable Quantum Key Distribution (CV-QKD) technology

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LuxQuanta, a deep-tech company that spun-out of ICFO in 2021 with the mission of delivering an unprecedented way of securing communications and data, now presents its **first product system, NOVA LQ?, which is based on Continuous Variable Quantum Key Distribution (CV-QKD) technology**.

This type of QKD uses quantum states of light, such as the amplitude and phase, to generate and deliver ultra-secure shared keys between remote network nodes. Quantum Key Distribution, also known as Quantum Cryptography, leverages the unique properties of Quantum Physics to provide an unbreakable defense against quantum computers and malicious hackers. Any attempt of interception will inevitably introduce noise into these quantum states, allowing the technology to detect the intruder. NOVA LQ? uses coherent detection techniques and fully mature components developed for the telecommunications industry. With its high secret key rate performance and reliability, NOVA LQ? stands out as an

excellent solution for secure communication, compatible with conventional telecommunication technologies and capable of being integrated into existing optical fiber links without the need for dedicated optical fibers.
The company's mission is to integrate innovative and secure quantum products and systems into conventional communication infrastructures. Its team, composed of engineers and physicists with decades of multidisciplinary experience in Quantum Technologies, Optical Telecommunications, FPGA programming, microelectronics and software development, is constantly on the look-out for scientific collaborations with other companies and research institutes to spur the development of a quantum cryptography ecosystem in Europe and the deployment of an ultra-safe European Quantum Network.
LuxQuanta's technology is based on the research carried out in the Optoelectronics group, led by ICREA Professor at ICFO Dr. Valerio Pruneri, a founding member of the company. Drs Sebastian Etcheverry (CTO) and Saeed Ghasemi (head of the Signal Processing Unit,) co-founders of LuxQuanta, helped develop prototypes of the technology during their time as postdoctoral researchers in the group. **ICFO has recently been named recipient of the 2022 National Innovation Award for the creation of a science-based company for the launch of LuxQuanta**, and is everyday more enthusiastic as the company demonstrates its very high potential for impact.
LuxQuanta received investment from industry leaders, including Corning and GTD, that played an important role in establishing the company as a unique provider of quantum-safe security solutions for current communication infrastructures. Likewise, its launch came as the result of a fruitful collaboration between ICFO and the Ministry of Digital Policies of the Government of Catalunya in which LuxQuanta successfully demonstrated the use of QKD systems in the transmission of critical information along a distance of more than 30km, connecting ICFO, in Castelldefels, and CTTI, in Barcelona. Both ICFO and LuxQuanta are currently coordinating national EuroQCI programs in Spain, with the objective of collaborating with each other and with the other national programs in designing and deploying a secure quantum communication infrastructure that will connect the cities of Barcelona and Madrid. All national programs around Europe will be executing the same tasks to achieve, in the long run, a secure quantum network spanning the whole EU, including its overseas territories.

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LuxQuanta will be present at Mobile World Congress 2023 in the **European Quantum Space-Hall 4, Stand 4A10**, a space that will showcase the most recent and important advances in quantum technologies for the digital market as well as the immersive and connectivity industry.
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