



ICFO awarded the 2022 National Innovation Award for the creation of a science-based company

The award from the Department of Research and Universities of the Government of Catalonia and the Foundation for Research and Innovation of Catalonia (FCRi) recognizes the creation of ICFO's technology spin-off, LuxQuanta

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The Department of Research and Universities of the Government of Catalonia and the Foundation for Research and Innovation of Catalonia (FCRi) have announced the highest recognition for the creation of a science-based company, honoring ICFO for its technology spin-off company, LuxQuanta.

ICFO, a CERCA center conducting frontier research center, holds technology transfer as one of its core missions and is strongly committed to ensuring that advances from its laboratories benefit society. Silvia Carrasco, the Director of the Knowledge and Technology Transfer (KTT) Unit at ICFO comments *½*We are very happy and proud of this award. We have created

eleven spin-off companies at ICFO that employ around 100 people right now. LUXQUANTA is the perfect example of our vocation to conduct frontier research with the potential to innovate on a global scale and then to bring these innovations to society, generating jobs, wealth and economic growth directly for Catalonia?

LuxQuanta was constituted in May 2021 after incubating in ICFO's KTT LaunchPad. The company works on the development and commercialization of quantum key distribution systems (QKD) for cryptography, which offer an additional layer of security for the communications of public and private entities. LuxQuanta's technology is based on the research carried out in the Optoelectronics group, led by ICREA Professor at ICFO Dr. Valero 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. This is effectively an award for our ability to connect the world of fundamental research with product development and eventually industry, and to create innovations that can later benefit society, explains Prof Pruneri.

LuxQuanta has a promising future. Not long after its constitution in 2021 LuxQuanta received investment from industry leaders, including Corning and GTD, that represents an important step forward in establishing the company as a unique provider of quantum-safe security solutions for current communication infrastructures. In addition, thanks to a fruitful collaboration with the Ministry of Digital Policies of the Government of Catalunya, last year 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.

In addition, the European Commission has recently launched the European Quantum Communication Infrastructure (EuroQCI) Initiative. As such, both ICFO and LuxQuanta have been selected as coordinators of 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.

Vanesa Diaz, LuxQuanta's CEO, is equally thrilled with ICFO's award and the direction of the company. This award affords our company great visibility nationally and in Europe. Quantum communications are still a bit of an unknown when compared to computing. At this moment as we find ourselves consolidating our first commercial adventures, letting people know that we exist, that we have cutting-edge technology that can protect their future communications, is of vital importance to us.

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The research that gave rise to LuxQuanta received support from the European Regional

Development Funds allocated to the Generalitat de Catalunya for emerging technology clusters devoted to the valorization and transfer of research results (QuantumCAT 001-P-001644, and InnoDelta- 001-P-002223), from the Department of Digital Policies and Public Administration of the Generalitat de Catalunya (Criptografia Quanta en Comunicacions Critiques), from the Spanish Ministry of Economy, Industry and Competitiveness through the Severo Ochoa Distinction of Excellence, the European Commission through the H2020 FET Flagship on Quantum Technologies (CiViQ - No 820466), the Barcelona and Castelldefels City Councils, and the *la Caixa* Foundation.



All winners at the 2022 Premi Nacional at award announcement



Silvia Carrasco, KTT director at ICFO and Vanesa Diaz, CEO LuxQuanta



Silvia Carrasco, Valerio Pruneri, and Vanesa Dias comment on this award