

ICFO receives the 2022 National Innovation Award for creation of LuxQuanta

Silvia Carrasco, Vanesa Diaz, and Valerio Pruneri accept the distinguished award in a ceremony organized by the FCRi and the Generalitat de Catalunya

June 21, 2023

It was with great honor that ICFO's Director of Knowledge and Technology Transfer (KTT) **Dr. Silvia Carrasco**, ICREA Prof. at ICFO **Dr. Valerio Pruneri**, and LuxQuant CEO, **Vanesa Diaz** mounted the stage at the award ceremony organized by the Foundation for Research an Innovation of Catalonia (FCRi) and the Government of Catalonia to accept the 2022 Nationa Innovation Award for the creation of a science-based company, LuxQuanta

In the ceremony that took place last night at the Teatre Nacional de Catalonia, the **President of the Generalitat de Catalunya, Pere Aragones, and the Conseller for Research and Universities and Chair of ICFO's Board of Trustees, Joaquim Nadal,** presented ICFO with this prestigious award, along with the recipients of the National Research Award (Jaume Ventura),

the National Research Award for Young Talent (Julia Vergara-Aert) and awards in the categories of Scientific Patronage (Fundacion BBVA), Scientific Communication, (Fundacio La Marato de TV3 for the program i¿½La Marato de TV3), and Public-Private partnershi s (i¿½UPF-CaixaBank-Economia en temps reali ?½). Dr. Carrasco received the award, commenting that **LuxQuanta is a spectacular example from within the group of companies that have spun-out of ICFO to date of what is possible in Catalonia: to create unique and competitive high technology / deep-tech projects on a global scale, to attract talent and also to attract investment**.i¿?

LuxQuanta, ICFO's tenth spin-off company, 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 addition 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. Valerio Pruneri, a founding member of the company. Drs Sebastian Etcheverry (C O) and Saeed Ghasemi (head of the Signal Processing Unit,) co-founders of LuxQuanta, hel ed develop prototypes of the technology during their time as postdoctoral researchers in he gro

p. LuxQuanta is off to a particularly promising start. Not long after its constitution, hey received investment from industry leaders, including Corning and GTD, representin an important step forward in establishing the company as a unique provider of quantum- afe security solutions for current communication infrastructures. In addition, thanks to a frui ful collaboration with the Ministry of Digital Policies of the Government of Catalunya, in 2 22, LuxQuanta successfully demonstrated the use of QKD systems in the transmission of crit cal information along a distance of more than 30km, connecting ICFO, in Castelldefels, and CTTI, in Barcelona. In February 2023, the company announced the launch of its f rst commercial product systeNOVA LQ? -based on Continuous Variable Quantum Key Distribution (CV-QKD) technology, standing 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.

ICFO continues to collaborate closely with LuxQuanta, notably in the European Quantum Communication Infrastructure (EuroQCI) Initiative as coordinators of national EuroQCI programs in Spain. Both are playing leading roles in national collaborations 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.

While acknowledging the exciting potential of LuxQuanta that was the impetus for the National Award for Innovation, Dr Carrasco concluded her acceptance assuring that ICFO i¿½

will continue to work hard to make this dream of creating jobs with high added value possible in Catalonia, and contribute to an economy based on knowledge, together with all our colleagues in the Catalan research system.i¿

? _____

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 Quantica 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 i¿½la Caixai¿½ Foundation.



