The Quantum Communications Infrastructure Declaration

The European Commission signs the declaration with member states.

June 14, 2019

On June 13 and 14, the 8th edition of the Digital Assembly took place in Bucharest, Romania. The event, co-organised by the Commission and the Romanian Presidency of the Council of the European Union, brought together representatives of EU Member States with stakeholders from industry, academia and civil society. Among discussions and exchange of views focused on how to accelerate the digital transformation and ensure that the EU remains globally competitive, a joint declaration signed by several Member States to work together to build a Quantum Communication Infrastructure (QCI) was one of key initiatives of the event.

Spain was one of the seven member states to sign the declaration, represented by Mr. Carlos Romero Dupla, Telecommunications and Media Attache at the Permanent Representation of Spain to the EU in Brussels. With this declaration, the EU plans on developing and deploying

the infrastructure aimed to become the backbone of the future Quantum Internet.

The QCI will represent the next generation of ultra-secure communications in Europe, allowing information to be transmitted and stored ultra-securely, linking critical data and communication assets all over the continent. It will use Quantum Key Distribution (QKD), a technology that leverages the principles of quantum mechanics to perform cryptographic tasks. QCI will consist of systems on earth and in space, allowing secure transmission of data to cover very long distances across Europe, thus, boosting Europe's capabilities in cybersecurity and communications.

Thanks to their history and expertise in quantum technologies and quantum communications, Spanish research centers and companies have positioned themselves as major players in the launch and execution of the first phase of the Quantum Flagship and will extend this to the QCI initiative.

ICREA Prof. at ICFO Valerio Pruneri, coordinator of the CiViQ project from the Quantum Communications pillar of the Quantum Flagship, has also been designated to become one of the two representatives of Spain for the Quantum Communication Infrastructure, together with Juan Jose Garcia Ripoll from CSIC. Pruneri's role will be to propose ways for institutions, companies and technology developers to reinforce current national quantum infrastructures, connecting nodes by using terrestrial and space links to create a secure national network. He will also search to liaise with national stakeholders, as well as become the link between these and the European Commission.

The national initiative will focus on working with large industries, specialized in telecommunication, electronics and software sectors both on ground and in space to integrate quantum cryptography and other quantum communication technologies into their products. It will also aim to include spin-offs in quantum technologies to enhance the European autonomy in such area.

ICREA Prof. at ICFO Valerio Pruneri