

## PRESS RELEASE

# QUID: THE IMPLEMENTATION OF QUANTUM COMMUNICATION NETWORK IN ITALY BEGINS

*A consortium of companies, research institutions, and universities has been selected by the European Union to design and implement the future Italian infrastructure that will protect sensitive data by adding an additional layer of security based on quantum physics.*

*Turin, June 06, 2023*

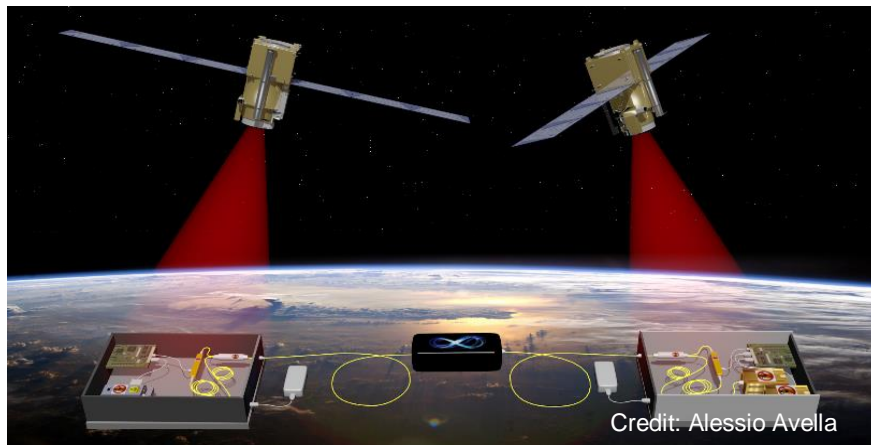
The QUID Project (Quantum Italy Deployment) is the Italian implementation of the European Quantum Communication Infrastructure (EuroQCI), promoted by the European Commission with the aim of creating a European infrastructure for quantum communication.

During the project, existing communication infrastructures, both in fiber optics and in free-space, will be integrated and equipped with Quantum Key Distribution (QKD) systems, covering a significant part of the national territory. At the same time, QUID promotes the development of Italian companies that produce systems and services for quantum communication for various user cases.

The main objective of QUID is the development of nodes in metropolitan quantum communication networks (QMANs), interconnected through the Italian Quantum Backbone, an infrastructure that covers the Italian territory and distributes time and frequency standard signals with unprecedented stability and accuracy, using commercial optical fibers. Quantum key distribution between nodes will be performed within each QMAN using discrete variable QKD systems. Distances beyond the metropolitan range will be covered using "trusted" nodes or innovative Twin-Field QKD techniques (with "untrusted" nodes).

QUID will also connect important sites for bridging fiber optic communication with the European QCI's space segment.

In addition to these infrastructure-related activities, QUID places great emphasis on the development of methods for the optimal delivery of quantum communication services.



Furthermore, QUID allows for the development of innovative QKD techniques, aiming to increase the key rate, to exploit new types of optical fibers and to explore free-space transmission.

The QUID consortium brings together leading Italian companies in the field, major research institutes involved in both terrestrial and space-based quantum communication segments, and universities dedicated to innovation and education.

The presence of companies that produce QKD devices, manage terrestrial and space telecommunications networks and services, and provide integrated cybersecurity solutions will facilitate the integration of QKD systems into communication networks across the national territory.

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The consortium, led by **Istituto Nazionale di Ricerca Metrologica (INRiM)**, includes:

- **Consiglio Nazionale delle Ricerche (CNR);**
- **Agenzia Spaziale Italiana (ASI);**

- **Cohaerentia;**
- **Thales Alenia Space - Italia;**
- **QTI;**
- **Leonardo;**
- **ThinkQuantum;**
- **TIM;**
- **Telsy;**
- **Telespazio;**
- **Consorzio TOP-IX;**
- **Politecnico di Milano;**
- **Università degli Studi dell'Aquila;**
- **Università La Sapienza;**
- **Università degli Studi di Napoli Federico II;**
- **Università degli Studi di Padova;**
- **Università degli Studi di Trieste.**



**MEDIA CONTACTS**

## **INRiM - Istituto Nazionale di Ricerca Metrologica**

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EuroQCI

<https://digital-strategy.ec.europa.eu/en/policies/european-quantum-communication-infrastructure-euroqci>

Programme

[Digital Europe Programme \(DIGITAL\)](#)

Work programme part

[Digital Europe Work Programme 2021-2022](#)

Call

[EU Secure Quantum Communication Infrastructure \(DIGITAL-2021-QCI-01\)](#)