



# ThinkQUANTUM!

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Quantum Safe Communication  
for  
Terrestrial Networks  
Optical Ground Stations (OGS)  
and Satellites

## THE COMPANY

Born as a spin-off from the University of Padua, a pioneer institution in quantum communication, ThinkQuantum (TQ) brings to the market **over two decades of specialized development and expertise**.

TQ commercializes complete **QRNG** and **QKD** solutions for fiber, free-space and satellite domains, covering the full value chain from design to commissioning.

As a fully European company based in Italy with an Italian shareholder structure, ThinkQuantum offers a reliable European supply chain.

## QUANTUM SOLUTIONS FOR TERRESTRIAL NETWORKS

### QUANTUM KEY DISTRIBUTION PLATFORM

QUKY provides BB84-based quantum-safe cryptographic keys with high quality in terms of security (QRN2Qubit direct stream), robustness and reliability.

The system allows to easily establish intermodal connections (fiber/free-space) and to adopt optical switches to enable streamlined network infrastructures, leading to reduced costs.



**Standard:** Provides stable and highly secure QKD for reliable operation across diverse environments.

**Premium:** Offers enhanced performance for longer distances and increased secure key rates.

**Research & Education:** Designed for R&D, providing access to internal parameters and compatibility with external detectors.

### QUANTUM NETWORKING PLATFORM

Each QUKY system is equipped with integrated **Key Management System** (KMS) and **Software-Defined Networking** (SDN) capabilities.

The KMS offers compatibility with star, ring, and mesh network topologies and is integrated for interoperable QKD links, supporting standards including ETSI 04, ETSI 014, and SKIP.

## QUANTUM RECEIVERS FOR OGS & SATELLITE PAYLOADS

Actively involved in leading **European Union (EU)** and **European Space Agency (ESA)** projects, ThinkQuantum is at the forefront of developing next-generation secure space communication.

We deliver quantum state **sources for satellite** payloads and **QKD receivers for OGS**, specifically designed for seamless integration within critical mission frameworks like **Eagle-1** and **SAGA**.

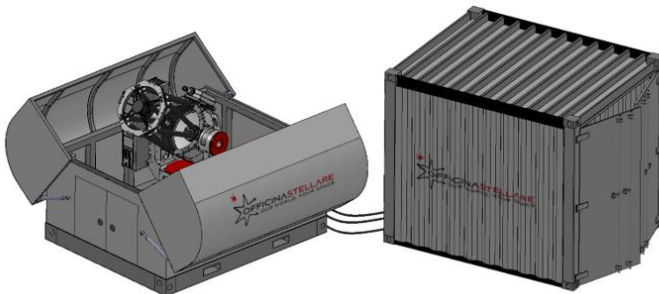
Our technology enables secure quantum communication between Satellites and Optical Ground Stations (OGS).

## OFFICINA STELLARE GROUP SYNERGY



ThinkQuantum is part of **Officina Stellare Group**, renowned globally for its technology in both critical ground-based installations and demanding satellite missions.

Officina Stellare (OS) is responsible for major European Space Agency OGSs like SAGA, HyDRON, Eagle-1, ILOGIQS (General Purpose OGS for the Italian Space Agency) and Adaptive Optics like GAOM.

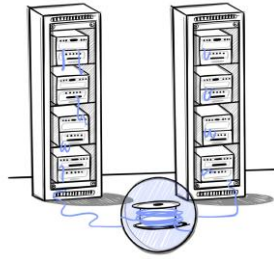


The OGS product line include Telescope, Mount, Dome, Adaptive Optics, Transmitter, Beacon, Photonics, Classical Modems, Safety And Atmospheric Monitoring

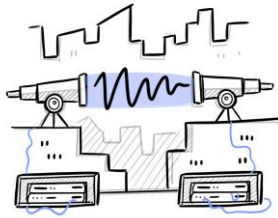
Leveraging its proven expertise on in-house design, production, integration, and testing, OS provides **turnkey** commercial **Optical Ground Stations** for Laser Communications with apertures ranging from 400mm to 1.5m

This powerful synergy within the OS Group enables to offer OGS solutions that are already complete **with integrated QKD capabilities**, providing a state-of-the-art answer to the increasing demand for secure communication across both terrestrial and space domains.

## Multi-domain Products and Solutions

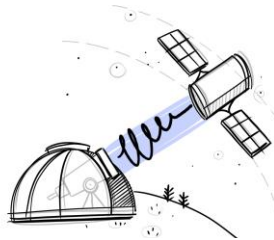


**Terrestrial Networks QKD  
over optical fibers**



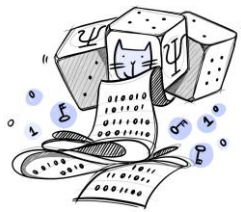
**Free-space QKD links**

**Daylight & Nighttime operation**



**Quantum Satellite Payloads**

**OGS Quantum Receivers**



**High-Speed  
Quantum Random  
Number Generation**

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