

CONSORTIUM



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**PORTUGUESE QUANTUM COMMUNICATIONS
INFRASTRUCTURE**

**ENABLING THE
FUTURE SECURITY**



Co-funded by
the European Union



EuroQCI

This project has received funding from the EU's Digital Europe Programme under the project "Portuguese Quantum Communication Infrastructure" (PTQCI, grant agreement No 101091730).

The PTQCI will safeguard sensitive data and critical infrastructures by integrating quantum-based cryptographic systems into existing communication infrastructures



ABOUT

The **Portuguese Quantum Communication Infrastructure (PTQCI)** is the **Portuguese first land segment** of the **European Quantum Communication Infrastructure (EuroQCI)**.

PTQCI should enable the deployment of **highly secure services based on Quantum Key Distribution (QKD)**.

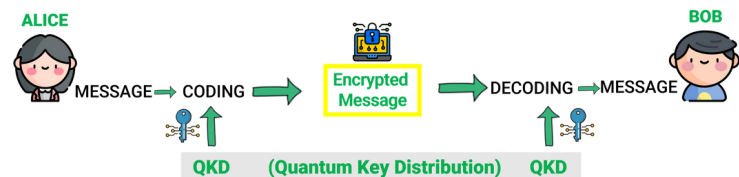
QUANTUM CRYPTOGRAPHY

Quantum cryptography uses the principles of **quantum physics** to support cryptographic services.

QKD

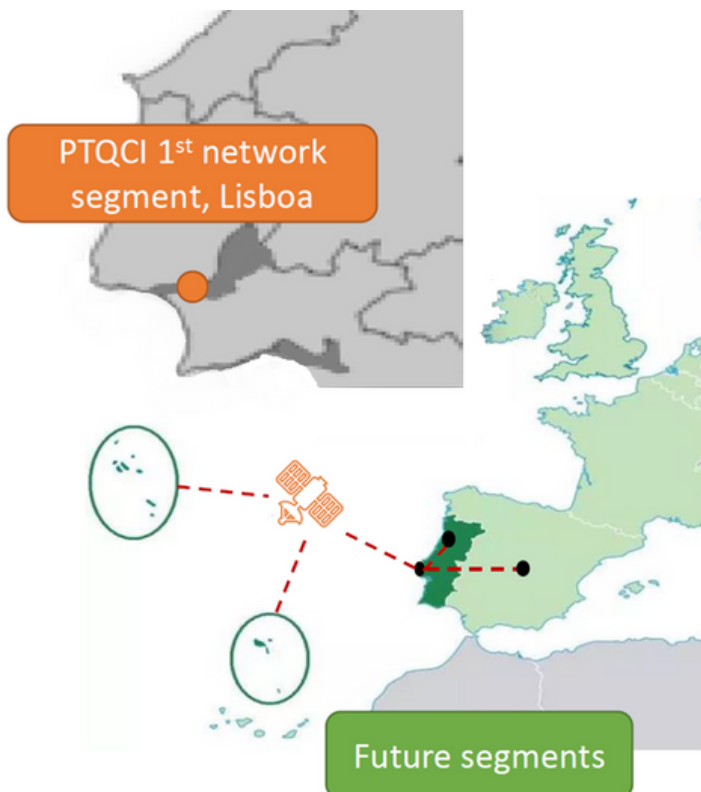
Quantum key distribution (QKD) is a **new paradigm for secure key exchange**. QKD uses quantum resources to exchange cryptographic keys without using asymmetric cryptographic algorithms.

QKD is robust to quantum computer attacks. Moreover, QKD can distribute **symmetric keys, enabling future-proof secure communication services**, and **oblivious keys, enabling future-proof secure computing services**.



OBJECTIVES

- Designing, implementing, and testing an operational quantum network between public authorities.
- Implement in parallel a testbed network to test new technologies preparing the roadmap of PTQCI.
- Run a series of use cases to demonstrate the real potential of quantum technologies.
- Promote training and education activities in quantum technologies.



USE CASES



RESEARCH



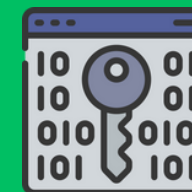
SECURED HEALTH CARE INFORMATION



AUTHORITIES



DEFENSE & MILITARY



KEY WRAPPING

EuroQCI - The European Quantum Communication Infrastructure. The European Commission is working with all 27 EU Member States, and the European Space Agency (ESA), to design, develop, and deploy a pan-European quantum secure network composed of a terrestrial segment relying on fiber communications networks linking strategic sites at national and cross-border levels, and a space segment based on satellites.

PETRUS prepares for a fully functional and harmonized EuroQCI by covering all relevant fields, coordinating national QCIs, using EU-27 components, and adhering to European accreditation and certification policies.