



SEEWQCI

South-East to Western Europe QCI (GR – CY – BG – NL)



Securing Europe's communications through Quantum Technologies

SEEWQCI - South-East to Western Europe Quantum Communication Infrastructure

- is a cross-border initiative interconnecting the **National Quantum Communication Infrastructures (NatQCIs)** of **Greece, Cyprus, Bulgaria** and the **Netherlands**.

SEEWQCI will develop a **resilient and scalable Quantum Communication Network** by integrating **terrestrial optical fibre infrastructure** with **satellite-based Quantum Key Distribution (QKD)**, enabling the **secure transmission of sensitive data**.

The project represents the **next implementation phase of the European Quantum Communication Infrastructure (EuroQCI)**. Following the deployment of National Quantum Communication Infrastructures (NatQCIs) across Member States, the focus now moves towards

interconnecting these networks, validating interoperability, and delivering operational cross-border quantum services.

The consortium brings together **Governmental Authorities, National Security Authorities (NSAs), Security Operation Centres (SOCs), industry leaders, and Research & Technology Organisations (RTOs)** from the four participating Member States. Through this collaboration, SEEWQCI ensures that operational, security and interoperability requirements for real-world deployment are addressed.

Fully aligned with the European vision for the EuroQCI, SEEWQCI reinforces **cybersecurity resilience**, promotes **European technological sovereignty**, and advances **trusted cross-border cooperation**, contributing to a **secure and quantum-safe digital future**.

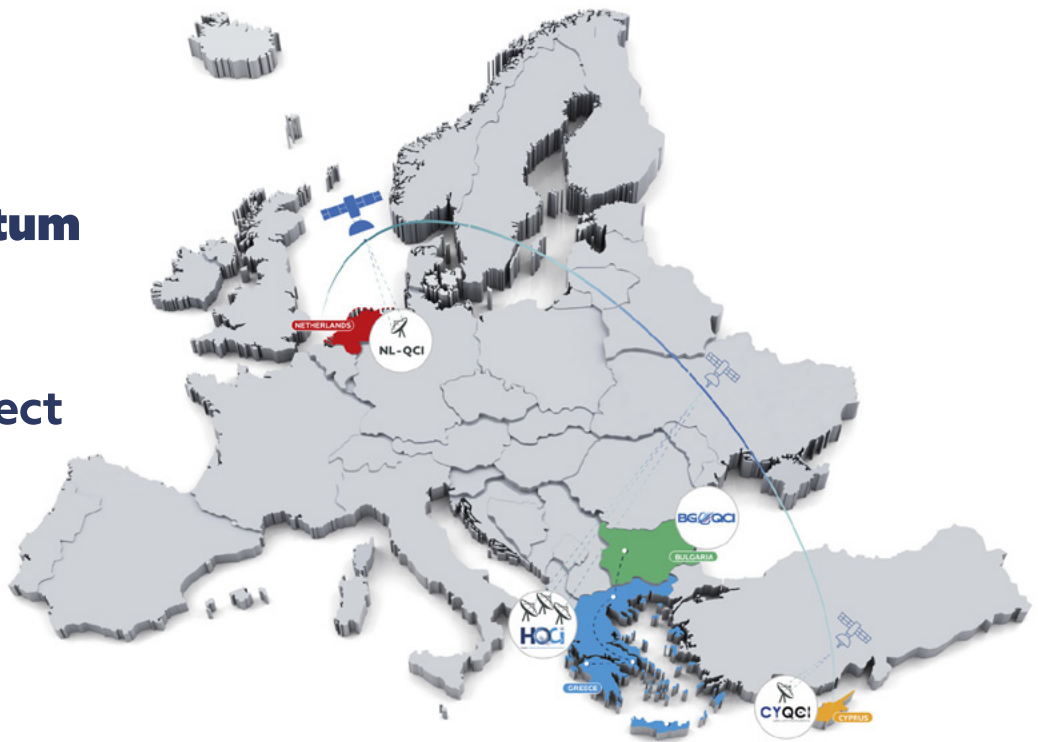


Co-funded by
the European Union

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SEEWQCI: Building a Quantum Communication Infrastructure to securely connect Greece, Cyprus, Bulgaria and the Netherlands



SEEWQCI is driven by clear strategic objectives and the active participation of the National Quantum Communication Infrastructures (NatQCIs). The project ensures the coordinated deployment, interconnection and validation of cross-border quantum communication networks among the participating Member States.

The **SEEWQCI architecture** combines **terrestrial QKD fibre networks** with **five Optical Ground Stations (OGSs)** upgraded to connect to the EAGLE-1 satellite system, enabling terrestrial, space and hybrid quantum connectivity.

Infrastructure Highlights

South-East to Western Europe terrestrial corridor:
Greece ↔ Bulgaria

Satellite connectivity:
Greece ↔ Netherlands ↔ Cyprus

Hybrid terrestrial-satellite connectivity:
Bulgaria ↔ Netherlands ↔ Cyprus via Greece

5 Optical Ground Stations:
Greece: Helmos, Holomontas, Skinakas
Cyprus: Kakoratzia, Netherlands: Noordwijk

SEEWQCI Objectives & Key Actions:

- 1 Objective 1 – Develop the South-East Europe Terrestrial QKD Corridor**
Deploy a **cross-border terrestrial quantum backbone** of approximately **1,100 km**, linking **Greece to Bulgaria**. Greece forms the gateway of a future **Balkan quantum corridor**, enabling the progressive expansion of secure communications towards the rest of Europe.
- 2 Objective 2 – Establish Satellite & Hybrid Quantum Connectivity**
Establish **satellite & hybrid quantum connectivity**, deploying **5 Optical Ground Stations (OGSs)** in **Greece** (Helmos, Holomontas, Skinakas), **Cyprus** (Kakoratzia) and the **Netherlands** (Noordwijk), and enabling **6 cross-border links** (space links: GR–NL–CY, hybrid links: BG–NL–CY via GR) aligned with the **EAGLE-1 mission**.
- 3 Objective 3 – Key Management & Network Orchestration**
Deploy an ambitious **KMS** and **orchestration scheme** enabling **seamless** and **interoperable key exchange** across NatQCIs and EuroQCI CEF projects.
- 4 Objective 4 – Cross-Border Demonstrations**
Validate real operational readiness through **29 quantum-secure use cases** across **more than 30 trusted nodes**, involving governmental users, National Security Authorities and operators of critical infrastructures.
- 5 Objective 5 – Cooperation with EuroQCI Stakeholders**
Enhance **coordination with the European Commission**, the **European Space Agency**, the **EAGLE-1 mission** and **IRIS²-related initiatives**, supporting harmonised deployment, interoperability and European cooperation. **SEEWQCI** has already secured **Letters of Support** from **more than 10 EuroQCI CEF Projects** and established **cooperation channels** with **over 25 Member States**, demonstrating **broad European alignment and commitment**.
- 6 Objective 6 – Alignment with EU-QCI Requirements**
Ensure **compliance with EU security, governance and standardisation frameworks**, preparing the transition towards production-grade governmental quantum communication services.

National QCI involved & SEEWQCI Connectivity

SEEWQCI interconnects and expands existing **NatQCIs**, building on current deployments and enabling future **terrestrial, satellite** and **hybrid Quantum links** within the **EuroQCI**.

From National Deployments to the European Phase

The transition to **SEEWQCI** marks the **evolution of National Quantum Communication Infrastructures** from domestic capability towards **fully operational cross-border services**.

In Greece, **HellasQCI** expands its terrestrial backbone from 650 km to nearly 800 km, while its Optical Ground Stations at Helmos, Skinakas and Holomontas become integrated with the EAGLE-1 space segment.

In Bulgaria, **BGQCI** progresses from a national 285 km deployment to the establishment of the first terrestrial quantum link with Greece, while also

gaining access to satellite-enabled connectivity towards Cyprus and the Netherlands through the Greek gateway.

In Cyprus, **CYQCI** extends its fibre infrastructure to additional national end-users and upgrades the Kakoratzia Optical Ground Station for direct participation in EAGLE-1 services.

In the Netherlands, the Eagle 1 ground station in Noordwijk will connect **NL-QCI** to the wider Europe via space, expanding the reach of the first users to pan-European distances.

Together, these upgrades transform national systems into interoperable components of a broader European quantum communication architecture.

SEEWQCI Partners & Supporting Organisations

SEEWQCI is implemented by a strong **consortium of 15 core partners**, complemented by **7 supporting organisations** across **Greece, Cyprus, Bulgaria** and the **Netherlands**.

Supporting organisations include **Governmental Authorities, National Security Authorities, Security Operations Centres (SOCs), Research & Technology Organisations** and **industrial actors**.

This broad participation demonstrates firm political commitment and deep cross-border engagement in line with EuroQCI objectives.

5 Ministries

GR: MinDig, MFA

CY: DMRID, MoD

NL: MFA

5 National Security Authorities (NSAs)

GR: KETYAK (NIS), HNDGS (Army), POLICE

NL: AIVD | **CY:** CYNSA

4 Security Operation Centers (SOCs)

GR: KETYAK | **CY:** DSA

NL: MFA | **BG:** ISBG

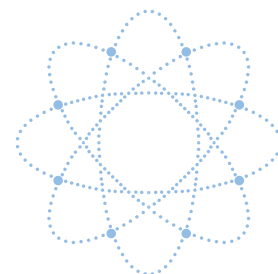
9 Research and Technology Organisations (RTOs) & Research & Innovation (R&I)

GR: GRNET, HSC, NOA, FORTH, AUTH

CY: CUT | **NL:** TNO, QDNL | **BG:** QUASAR

3 Industrial Partners

BG: NCOM, CORRCONS | **CY:** CYTA



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Be part of **Europe's Quantum Communication future.**

Stay informed with the **latest project updates, key events** and opportunities to engage.

Subscribe to our newsletter, **follow us** on social media, and stay informed and connected with the **SEEWQCI ecosystem.**

The SEEWQCI Project - 101249531 is coordinated by GRNET S.A., under the support of Hellenic Ministry of Digital Governance and Artificial Intelligence, and co-funded by the Connecting Europe Facility (CEF) Programme within the EuroQCI initiative.

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