HellasQCI - Quantum Communication Infrastructure for Greece

HellasQCI Community Joint Statement

Enabling Quantum Secure Communications, Innovation, and Cyber Resilience in Greece

1. Introduction and Strategic Context

HellasQCI constitutes Greece's National Quantum Communication Infrastructure (NatQCI) and a key national contribution to the European Quantum Communication Infrastructure (EuroQCI). Beyond the technical deployment of quantum secure networks, the long-term success and sustainability of HellasQCI depend on the existence of a structured national community capable of actively using, testing, evolving, and exploiting the network's capabilities.

The HellasQCI Community is conceived as a national, multistakeholder ecosystem bringing together public authorities, national security bodies, critical infrastructure operators, industry, academia, startups, and SMEs. Its objective is to facilitate the diffusion and adoption of quantum communication technologies across Greece, consolidate national expertise, and promote the uptake of secure, interoperable, and futureproof communication solutions aligned with European priorities.

This Joint Statement reflects the shared understanding among participating stakeholders regarding the strategic value of a structured national community, the influence of HellasQCI in shaping Greece's upcoming National Quantum Strategy (as presented and supported in the QCI Days 2025 event), the role of HellasQCI as both an operational and experimental platform, and the importance of sustained training and capacity building in the domain of quantum secure communications.

To support visibility and engagement, a dedicated community page has been developed within the HellasQCI portal, serving as a central entry point for information, updates, and resources.

In the framework of HellasQCI
EuroQCI
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2. Formation of the HellasQCI Community

The HellasQCI project kick-off in January 2023 marked the formal alignment of governmental stakeholders, national security authorities, academic institutions, and industrial partners around a common vision for quantum secure communications. This early engagement ensured that cybersecurity requirements, operational constraints, and innovation objectives were embedded from the initial phases of infrastructure deployment.

Community building was further strengthened through a series of structured national training programmes organised in Athens (September 2023), Crete (September 2024), and Thessaloniki (November 2025). These activities addressed policy and governance aspects, cybersecurity integration, technical deployment and operation of Quantum Key Distribution (QKD) systems, interoperability challenges, and the role of experimental infrastructures, including optical ground stations and space-based QKD technologies. The trainings targeted public sector operators, cybersecurity professionals, researchers, engineers, and industrial stakeholders, fostering a shared technical and operational understanding across regions and sectors.

In April 2025, the QCI Days event served as a national focal point for the HellasQCI Community, bringing together Greek and European stakeholders, showcasing deployment progress and experimental capabilities, and reinforcing Greece's active role within the wider EuroQCI ecosystem.

3. Role of an Experimental Quantum Communication Infrastructure

A core pillar of the HellasQCI Community is the availability of an experimental quantum communication infrastructure accessible to both public and private sector entities. This infrastructure enables the testing, validation, and benchmarking of QKD and hybrid QKD – Post Quantum Cryptography (PQC) solutions under realistic operational conditions. The experimental environment supports interoperability testing, network orchestration, and the demonstration of secure communication use cases relevant to governmental bodies and critical infrastructure operators. It allows stakeholders to move beyond theoretical research and isolated pilots by experimenting with real operational constraints, security policies, and performance requirements in a trusted national setting.

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4. Supporting Innovation and Industrial Development

The HellasQCI Community actively supports the development of a national quantum communications value chain. By providing access to advanced infrastructure and research capabilities, HellasQCI enables Greek academic institutions to translate research outcomes into deployable technologies, supports startups and SMEs in developing and maturing quantum-secure solutions, and allows industrial actors to codevelop interoperable products aligned with national and European requirements. This collaborative framework strengthens national synergies, encourages cross sector partnerships, and promotes the uptake and commercialisation of quantum communication technologies within the Greek economy.

Beyond technology development, this multi-stakeholder ecosystem is expected to generate measurable impact on the Greek economy by enabling new high-value products and services, strengthening competitiveness, and supporting skilled job creation across the quantum-secure communications value chain. At the same time, it signals to the European Union that Greece is moving towards utilising the quantum technologies—advancing from readiness and pilots to coordinated adoption, industrial capacity, and long-term strategic participation in Europe's quantum-secure digital future.

5. Training and Capacity Building

Quantum secure communications require sustained investment in skills, expertise, and operational readiness. The rapid evolution of quantum technologies, combined with the anticipated impact of quantum computing on existing cryptographic systems, makes continuous training a strategic necessity. HellasQCI therefore treats capacity building as a permanent and structured process. In addition to in person training activities, a dedicated digital training platform provides continuous access to educational material, recorded sessions, technical documentation, and best practices. This blended approach strengthens national preparedness, ensures the secure operation of quantum communication infrastructures, and creates skilled professionals in quantum and postquantum security technologies.

6. Contribution to Cybersecurity and Critical Infrastructure Protection

HellasQCI directly addresses national and European cybersecurity priorities at a time when the protection of sensitive data and critical digital infrastructure has become a strategic imperative. The increasing sophistication of cyber threats, together with the foreseeable impact of quantum computing on classical cryptography, makes the transition to quantum-secure communications an urgent requirement.

Quantum technologies are essential for safeguarding governmental and national security communications and for enabling the secure interconnection of critical infrastructures, including energy, transport, healthcare, and financial systems. By combining infrastructure deployment, experimental validation, continuous training, and coordinated stakeholder engagement, the HellasQCI Community forms a strategic pillar of Greece's cybersecurity architecture and contributes to European digital sovereignty objectives.

7. Looking Ahead: Governance, Policy, and Future Development

As quantum communication technologies mature and gain strategic importance, the long-term success of HellasQCI depends on the continued strengthening of its organisational, policy, and technical foundations. Looking ahead, the HellasQCI community recognises the value of establishing a structured governance model that ensures balanced representation of governmental bodies, national security authorities, critical infrastructure operators, academia, research institutions, and industry, enabling inclusive participation, effective coordination, and coherent decision-making.

In parallel, the community highlights the need for a forward-looking policy roadmap supporting the adoption and operational integration of quantum communication technologies such as QKD, in tandem with PQC solutions. Such a roadmap should align with national cybersecurity priorities and European strategic objectives, with the Greek National Quantum Strategy providing the overarching framework. The HellasQCI community can contribute to refining this strategy and supporting the definition of concrete implementation actions.

Finally, the sustained evolution of the HellasQCI experimental infrastructure remains a strategic priority. Developing a roadmap for future phases, including testbed extensions, advanced experimentation environments, and additional real-world use cases, will ensure that the infrastructure continues to support research, innovation, training, and operational validation while contributing to the broader EuroQCI vision.

8. Conclusion

This Joint Statement confirms the shared commitment of stakeholders to the HellasQCI Community as a core element of Greece's National Quantum Communication Infrastructure. The Community is recognised as a key mechanism for ensuring the active use, continuous testing, and progressive evolution of the infrastructure in line with operational and strategic needs.

Through coordinated engagement, experimentation, and capacity building, the HellasQCI Community is expected to maximise the long-term value and strategic impact of Greece's quantum communication capabilities, supporting a secure, resilient, and trusted digital future.