



Quantum communication and cryptography



- International level -



IEC/ISO JTC 3 – Quantum technologies

Scope (extract)	Standardization in the field of quantum technologies.	
Committee information	Published standards	1
	Standards under development	16
Major “IEC/ISO JTC 3” standards		
Standards under development	IEC/ISO TR 63760	Quantum technologies – Quantum communication – Influence of transmission media on the implementation of quantum communication
	IEC/ISO 63607 ED1	Quantum technologies – Terminology and quantities – General quantities
	IEC/ISO 63655 ED1	Quantum technologies – Terminology and quantities – General vocabulary

- European level -



ETSI/ISG QKD – Quantum Key Distribution

Scope (extract)	To develop GSs (ETSI Group Specifications) describing quantum cryptography for ICT networks. Quantum Key Distribution is the essential credential in order to use quantum cryptography on a broad basis. It is the main task of the QKD ISG to specify a system for Quantum Key Distribution and its environment	
Committee information	Published standards	17
	Standards under development	12
Major “ETSI/ISG QKD ” standards		
Published standards	ETSI GS QKD 020 V1.1.1 (2026-06)	QKD; Protocol and data format of REST-based Interoperable Key Management System API
	ETSI GS QKD 016 V2.1.1 (2024-01)	QKD; Common Criteria Protection Profile - Pair of Prepare and Measure Quantum Key Distribution Modules
	ETSI GS QKD 018 V1.1.1 (2022-04)	QKD; Orchestration Interface for Software Defined Networks
Standards under development	GS QKD 005	QKD; Protocol structures and security proofs Revision
	GS QKD 004	QKD; Application Interface
	GS QKD 015	QKD; Control Interface of Software Defined Networks
	GR QKD 017	QKD; Analysis of QKD Network architectures
	GR QKD 019	QKD; Design of QKD interfaces with Authentication
	GS QKD 023	QKD; Monitoring Interface and Data Model

ETSI/TC CYBER/WG QSC – Quantum-Safe Cryptography

Scope	The primary responsibilities of this working group are to make assessments and recommendations on the various proposals from industry and academia regarding real-world deployments of quantum-safe cryptography, including practical properties, security properties, appropriateness of certain quantum-safe cryptographic primitives to various application domains.	
Committee information	Published standards	24
	Standards under development	6

Major “ETSI/TC CYBER/WG QSC ” standards

Published standards	ETSI TR 104 239-2 V1.1.1 (2026-06)	QSC; Secure Implementation Guidance for Key Encapsulation Mechanisms and Digital Signature Schemes; Part 2: ML-KEM
	ETSI TS 104 145 V1.1.1 (2026-06)	QSC; Quantum-Safe Enterprise Transport Security (QSETS)
	ETSI TR 104 239-1 V1.2.1 (2026-05)	(QSC); Secure Implementation Guidance for Key Encapsulation Mechanisms and Digital Signature Schemes; Part 1: General
	ETSI TS 103 744 V1.2.2 (2026-02)	QSC; Quantum-safe Hybrid Key Establishment
Standards under development	TR 104 317	QSC; Quantum-safe signatures and PKI considerations
	DTR/CYBER-QSC-0034	
	TR 104 239-4	QSC; Secure Implementation Guidance for Key Encapsulation Mechanisms and Digital Signature Schemes;
	DTR/CYBER-QSC-0027-4	
	TR 104 298	QSC; The Private Information Retrieval Ecosystem: Use Cases, Threats, and Future Direction
	DTR/CYBER-QSC-0033	



CEN/CLC/JTC 22 – Quantum technologies

Scope (extract)	The JTC shall produce standardization deliverables in the field of quantum technologies.	
Committee information	Published standards	4
	Standards under development	18

Major “CEN/CLC/JTC 22 ” standards

Standards under development	prCEN/CLC/TR XXX	Gap analysis of current quantum communication and quantum cryptography standards
	prCEN/CLC/TR XXX	Design aspects of quantum communication networks
	prCEN/CLC/TR XXX	QKD and PQC – An equitable analysis and comparison of both technologies
	prCEN/CLC/TR XXX	Gaps in IT security evaluation of QKD systems and networks

- National level -



ILNAS/NSC 03 – Quantum technologies

Scope	NSC 03 is a national standardization commission that offers Luxembourgish market players a unique platform to follow and participate in standardization work in the field of quantum technologies. Through the Commission, national organizations are able to access and participate in the work of IEC/ISO JTC 3 and CEN/CLC/JTC 22.	
Committee information	National delegates	14