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Quantum Technologies Standardization

October 2025

Workshop

QuTechSpace



Funded by
the European Union

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WHY DO BUSINESSES GET INVOLVED IN STANDARDISATION?

Standardisation: A Key Market Instrument for Business Growth

Enable
Innovation 

Fair
Competition 

Free Trade 

Market
Access 

Strategic 

JTC-22 WORKING GROUP 3 (WG 3) – QUANTUM COMPUTING & SIMULATION

Main Work Items Overview



LAYER MODEL OF QUANTUM COMPUTING

Milestone Achieved: First
Standardisation Report
published by JTC-22
(September 2025)



HYBRIDIZATION OF QUANTUM COMPUTING (ongoing)

➤ *Germany, Italy, France, Spain,
the UK, Denmark, the
Netherlands, Austria*



PERFORMANCE BENCHMARKS OF QUANTUM COMPUTING APPLICATIONS (ongoing)

➤ *France, Italy, the UK, the
Netherlands, Germany*



Cryogenic Solid-State Quantum Computing

➤ *Italy, Austria, Germany, the
Netherlands, Denmark*

MAXIMISING THE IMPACT OF JTC-22 – WG 3 STANDARDISATION EFFORTS

Issues at Stake & Constraints

'Jungle of
Standards'

Lack of Active
Industrial
Expertise

Lengthy
Processes

Market Lock-Ins

Quantum
Market
Relevancy

MAXIMISING THE IMPACTS OF JTC-22 – WG 3 STANDARDISATION EFFORTS

Levers for Action (1/2)

Foster Effective Alignment between EU & International Committees

- Why: To ensure European standardisation activities with a significant stakeholder recognition serve as **the basis for international standardization activities**

Streamline Standardization Processes

- Why: To enable an efficient and active participation of industry, especially startups with limited resources.

MAXIMISING THE IMPACTS OF JTC-22 – WG 3 STANDARDISATION EFFORTS

Levers for Action (2/2)

Reflect on Sustainability Criteria for Quantum Computing Standards

- Why: to build a **competitive edge** based on sustainable international quantum computing standards based on EU values

Focus Efforts on the Next Quantum Computing Market Reality: FTQC

- Why: To match the R&D market reality and guarantee quantum computing standards are market and industry relevant once issued.

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THANK YOU!

Alexandra Paul

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