

FGQT Q02: Work Programme - Call for Participation

Call for contributions: What, when and where to standardize quantum technologies

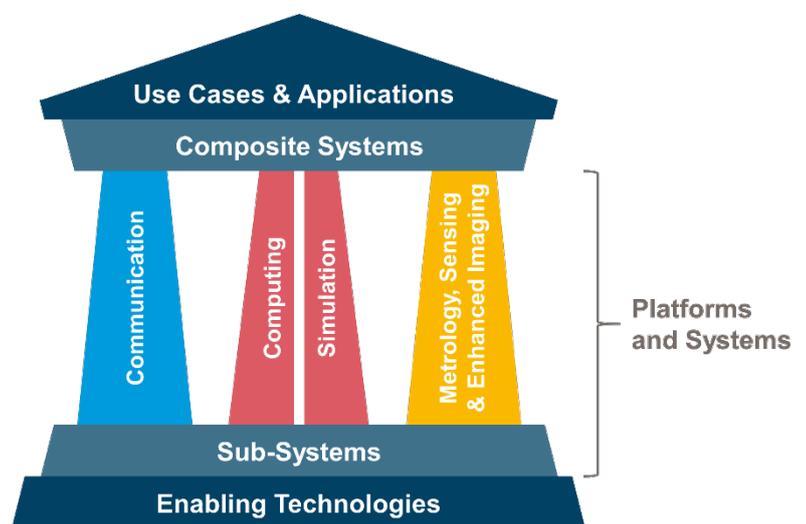


Quantum Technologies (QT) form a quickly emerging field capturing the attention of major actors in different branches of society. As QT research is very capital intensive, the idea of QT standardization and the question to what extent and when it might be favorable or needed, starts to occupy center stage in the perception of main stakeholders. Future developments in this field are still uncertain. Research infrastructures may see the first standards relevant to Quantum Technologies. Supply chains are emerging, including solutions for building, characterizing, and benchmarking of QT components and subsystems, as well as for hardware and software control of QT setups that naturally require standardization. Simultaneously, some QT applications already achieve higher technology readiness levels: quantum key distribution, quantum sensing and quantum computing solutions are starting to become commercially available, the practical realization of these again requiring standardization.

The European standards developing organization CEN-CENELEC has kicked off the Focus Group on Quantum Technologies (FGQT) mid-2020 to coordinate and support the development of relevant standards. The FGQT is developing its QT standardization roadmap (publication planned for mid 2022) to systematically address ongoing and prospective standardization efforts. This activity evolves in conjunction with an identification of relevant use cases, potential QT-related transactions and supply chains, and specifically includes an analysis of aspects of QTs that would benefit most from standardization, and within which time frame. The FGQT coordinates this activity in Europe but aims at interaction with other standards developing organizations and QT-alliances, including ETSI, ITU-T, ISO/IEC, IEEE, IRTF, QUIC etc. Another objective of the FGQT is the definition of terms-of-reference that would trigger the actual standards development in technical committees.

One of the challenges the FGQT has identified, is the potential complexity of QT-related applicability and supply chains. For example, many QT components can be applied to a wide variety of use cases in multiple technological sub-domains.

Simultaneously, many specific QT applications may be embedded in integral infrastructures, oriented towards different final use case domains. Some respective requirements and specifications may be generic, whereas other may be very specific. The FGQT has developed a "Greek-temple-of-QT" model to help structuring these analyses and discussions. For a more detailed description see FGQT's document "[FGQT Q03 Towards Standardization for Quantum Technologies](#)".



This is a call for contributions to the FGQT. Are you based in Europe? Are you working in a QT-related research area or in enabling technologies, where guidelines and standards could save your organization time and money for developing your QT research infrastructure? Are you developing components, products, or services, where guidelines and standards could help structure your market relevance and improve coordination with your stakeholders? Are you looking for a neutral place to coordinate with others in your and related QT fields? Or do you have a vision on QT markets, use cases, supply chains and standards that you want to share with the world? Then please consider joining the FGQT!

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More information and contact:

<https://www.cencenelec.eu/areas-of-work/cen-cenelec-topics/quantum-technologies/>