bitkom

Position Paper

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Recommendations on the EU Quantum Act

General Remarks

- Bitkom welcomes the European Commission's initiative to develop the EU Quantum Act. The Act is a key step in implementing the Quantum Europe Strategy and in creating the framework conditions needed for Europe to remain competitive in quantum technologies.
- The EU Quantum Act should strengthen coordinated and strategic action across Member States. It should enable commercial scaling and facilitate transfer of research outcomes into industrial use, focusing on applications, market adoption, and economic value creation. Europe must move beyond isolated demonstrators to build a unified ecosystem that drives application-centred industrial adoption, supports technological sovereignty, and delivers economic and societal value.
- The EU Quantum Act should balance Europe's technological sovereignty with continued access to global technologies by establishing proportionate, risk-based instruments for monitoring, resilience, and technology protection. It should ensure that technology protection instruments are coherent and harmonised across Member States and maintain openness for innovation and cross-border collaboration with like-minded partners.
- Through strengthened governance, alignment of national and EU measures, and support for European participation in international standardisation, the Act should provide the conditions needed to ensure interoperability, competitiveness, and the secure integration of European quantum technologies into global markets.

Pillar 1 – Research & innovation framework

- The Quantum Act should address the current fragmentation across national initiatives by establishing a unified European Quantum Roadmap and a harmonised funding architecture that aligns national and EU programmes. A public progress scorecard should track implementation, funding effectiveness and overall European alignment.

- The funding architecture should follow a full-stack approach and distinguish between research-oriented support and innovation or commercialisation activities, reflecting their different incentives and success metrics. It should also promote milestone-based funding principles to ensure support for projects demonstrating measurable progress.
- Bitkom recommends establishing a dedicated Joint Undertaking (JU) for quantum technologies to ensure coordinated action across research, industrialisation, and infrastructure. A focused JU would enable coherent governance, targeted resource allocation, and the integration of quantum-specific expertise. It should maintain close links with the Chips JU and Europe JU to avoid silos and leverage synergies.
- Additionally, the Quantum Act should foster co-funding mechanisms to reinforce national quantum calls, provided that these national calls are open, transparent, and accessible to participants from across the EU. This approach would ensure a cohesive and effective European approach, while also building on the strengths of existing national expertise.
- The Quantum Act should support the establishment of National Quantum Competence Centres and shared European R&I infrastructure hubs that provide open, cost-efficient access to development, testing and application prototyping. These centres should integrate hardware, software, and application co-design, foster cross-domain collaboration between computing, communication and sensing, and ensure early involvement of industrial users to align R&I efforts with real-world needs and market demand.
- For quantum computing, the Quantum Act should enable secure, affordable, vendor-neutral cloud access to quantum and hybrid HPC systems, allowing industry and research to use diverse platforms for development and early application testing. It should support open-source software and promote standardised, interoperable APIs and tools to facilitate collaborative community development, interoperability and scale-up across the European ecosystem.
- The Quantum Act should establish a European Quantum Benchmarking Initiative to assess and compare quantum components, platforms, and applications. The initiative should define performance metrics such as scalability, error correction, use-case maturity, IP strength and supply-chain resilience, and be designed to remain adaptable to technological developments.

Pillar 2 – Industrial capacity & investment

- The Quantum Act should facilitate Strategic Projects, including IPCEI-type schemes, which combine EU and national funding with private investment to scale industrial pilot lines, design platforms, and manufacturing infrastructure for key enabling technologies. These initiatives should follow a full-stack industrialisation approach that integrates hardware, control electronics, middleware, software, and applications, and should be open, competitive, and application-driven, with clear criteria for interoperability, scalability, and cross-border participation.

- The Quantum Act should promote a clear and balanced IP framework as an essential prerequisite for industrialisation and commercialisation. Startups must be able to retain ownership and exploitation rights over the technologies they develop, while still being able to collaborate effectively within the ecosystem. Partnership models such as joint ownership, tiered licensing or clearly defined exploitation rights should therefore be explored to support the competitive scaling of European quantum startups.
- The Quantum Act should enable the use of public procurement as a market-shaping instrument to create predictable early demand across the quantum stack. It should allow for dual-use and space-related procurement under clear eligibility and security conditions and provide mechanisms for joint EU–Member State tenders and co-financing to pool demand and accelerate deployment. The Act should also facilitate flagship industrial projects and challenge programmes that validate full-stack technologies, demonstrate maturity, and establish reference deployments across sectors.
- The Quantum Act should promote a coordinated mix of grants, venture debt, equity, and EU-level guarantees to mobilise private capital and de-risk quantum investments along the whole stack and company maturity landscape. Indirect instruments, particularly fund-of-funds structures, should be strengthened to expand Europe's venture capital capacity and support specialised quantum investors, while direct equity tools should remain available and calibrated to the specific risk profiles and long development cycles of quantum startups. EU investment instruments should complement private capital and crowd in investment rather than crowd it out.

Pillar 3 – Supply-chain resilience & governance

- The Quantum Act should establish a risk-based EU monitoring framework to identify critical dependencies in quantum technologies supply chain. Monitoring should be industry-informed, leverage existing data sources and complement existing instruments, to avoiding duplication and unnecessary administrative obligations.
- Joint EU–Member State risk assessments should be supported by structured, confidential public–private data sharing and digital analytical tools that enable timely, evidence-based identification of vulnerabilities and diversification needs while protecting sensitive business data. A coordination mechanism should link national authorities, the EU and industry stakeholders to ensure coherent monitoring efforts and effective, targeted mitigation.
- FDI screening and export-control regimes should be predictable, harmonised, and proportionate across Member States, focusing on clearly defined high-risk cases while maintaining openness to investment and collaboration with like-minded partners. Both instruments should protect sensitive quantum capabilities while not restricting early-stage development, innovation, or international cooperation, and should align with multilateral regimes and provide clear guidance for non-sensitive use cases.

Bitkom represents more than 2,200 companies from the digital economy. They generate an annual turnover of 200 billion euros in Germany and employ more than 2 million people. Among the members are 1,000 small and medium-sized businesses, over 500 start-ups and almost all global players. These companies provide services in software, IT, telecommunications or the internet, produce hardware and consumer electronics, work in digital media, create content, operate platforms or are in other ways affiliated with the digital economy. 82 percent of the members' headquarters are in Germany, 8 percent in the rest of the EU and 7 percent in the US. 3 percent are from other regions of the world. Bitkom promotes and drives the digital transformation of the German economy and advocates for citizens to participate in and benefit from digitalisation. At the heart of Bitkom's concerns are ensuring a strong European digital policy and a fully integrated digital single market, as well as making Germany a key driver of digital change in Europe and the world.

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