High-Level Board Report

Setting Priorities in the next MFF for the Quantum Technologies Field



High-Level Board Report to EVP for Setting Priorities in the next MFF for the Quantum Technologies Field

This report brings together the key insights, proposals, and strategic directions developed by the High-Level Board (HLB) over several months, consolidating inputs from the wider community as well as from various panels and boards. It reflects the HLB's views on the priorities that should be addressed in the next MFF to help ensure European leadership in quantum technologies. Building on discussions on the future Quantum Act, Europe's quantum strategy, and the broader ecosystem needed to support the quantum value chain, it provides a coherent foundation for shaping policy, governance, infrastructure, skills, and industrial development.

The tables in this report are structured to distinguish between general principles and near-term recommendations. The general principles set out the broader orientation for the future policy framework, while the near-term recommendations translate that orientation into more operational actions for the next phase. The near-term recommendations are organised under the three pillars identified by the HLB — Quantum Europe R&D, Quantum Made in Europe, and Safe and Secure Quantum Europe — to reflect the main strategic dimensions of the future framework. Items are presented in different categories — baseline/core, top priority, high priority, and supporting — to reflect the degree of prioritization recommended by the Board. This structure is intended to provide a clear and practical reading of the HLB's views, while showing how the different elements contribute to a coherent overall approach for the next MFF.

General Principles

PROCESS BASELINE	**Bespoke governance**	The Quantum Act should be a **standalone initiative**.
	Performance-based prioritisation	Allocate resources based on **technology maturity and performance**, with a system to **select winners** over time. Avoid ideological or premature choices.
	Simplicity, speed and transparency	Avoid unnecessary complexity. Streamline mechanisms and enable fast decision making. Ensure **clear governance and traceable decisions**.
	Openness and collaboration	Enable European collaboration as well as international collaboration (e.g., with US, Japan) and **break silos and encourage collaboration across national programs**.
	Fair and bias-free evaluation	Ensure that evaluation and selection procedures in EU-supported quantum programmes are based on technical due diligence and prevent structural biases that may exclude excellence. Transparent criteria and monitoring should ensure participation reflects the full diversity of the qualified talent pool without unnecessary administrative burden.
	Evidence-based adaptive governance	Combine **data-driven governance** with flexibility. Use value-chain intelligence and real-time data, with review checkpoints every 18–24 months to recalibrate.
	Unified EU-level coordination	One **single Commissioner** should have lead responsibility to avoid internal DG fragmentation.
TOP PRIORITY	**Clear strategic focus & Comprehensive Reform**	Europe must be **strategic and selective**, integrating education, research, innovation, and investment into a coherent framework. Avoid fragmentation and dilution by focusing on a phased set of strategic pillars.
HIGH PRIORITY	**Boost internal demand**	Create the European Quantum Single Market as the largest, uniform market for quantum technology in the world.
	Global leadership mindset	Set the ambition high — **Europe must aim for global leadership** in specific quantum niches.
	Inclusive and diverse	Ensure **women and underrepresented groups** are part of the vision.
	Talent Attraction (Choose Quantum Europe)	Europe must **attract, retain, and develop talents** through infrastructure, career pathways, mobility schemes, and coherent market rules.

General Principles

SUPPORTING

Subsidiarity & Internal Market Coherence	Use EU funds to **top up national investments** rather than replace them. Align fragmented Member State priorities, create internal demand, and establish EU–MS alignment mechanisms (joint roadmaps, fora).
Link to AI and adjacent tech	Quantum shouldn't exist in a silo. Leverage synergies with **AI, space, HPC**, and other adjacent technologies.
Infrastructure & Pillar-based structure	Build EU quantum infrastructures at scale and structure the Quantum Act around key pillars: infrastructure, supply chain security, market creation, and governance. Ensure federated access models link national facilities into an EU-wide framework.
Do Good with Quantum	Ensure quantum technologies are leveraged for **societal benefit**, setting a model that can extend to other fields.
Inclusive and sustainable leadership	Encourage inclusive leadership and healthy research environments in quantum R&I projects as factors supporting talent retention, organisational resilience, and long-term system performance.
Strategic Autonomy & Industrial Sovereignty	Protect Europe's autonomy first by building competitiveness, and then by IP protection, industrial involvement, secure supply chains, and differentiated export controls.

Near-term recommendations

Pillar 1. Quantum Europe R&D

CORE	**Roadmaps & Governance Alignment**	Consolidate and fast-track EU roadmaps, clarify roles between EU and Member States,
TOP PRIORITY	**Talent Pipeline & Skills Mapping**	Expand education and training pathways, recruit young people, fund industrial PhDs/fellowships, and carry out an EU-wide competence mapping exercise on the basis of which new talent programmes will be initiated with the purpose of filling the gaps and fortifying European strongholds.
HIGH PRIORITY	**National engagement for inclusive participation**	Ensure that each Member State can benefit from EU-wide quantum programmes when supported by a corresponding national programme, enabling all countries to participate meaningfully in the European quantum ecosystem.
	Coordination Instruments	Transparently identify implications of implementation under a JU and improved/ alternative solutions for the longer term, starting in the next MFF.
	Quantum Software Adoption, Integration & Grand Challenges	Accelerate industrial uptake of quantum software by funding targeted use-case pilots, aligning EU and national programmes for interoperability, and launching Software Grand Challenges with milestone-based funding. Reserve EuroHPC capacity for software development and emulation, and develop a scalable European software stack with modular, open interfaces across the quantum stack.
SUPPORTING	**Bottom-Up R&I and Early-Stage Innovation Acceleration**	Support bottom-up research and early-stage innovation by ensuring access to specialised infrastructures before pilot lines, and foster direct collaboration between developers and industrial/public users to accelerate validation and scale-up of quantum solutions.
	Evidence-based monitoring of inclusion and participation	Establish an expert-based Quantum Representation Board to monitor participation across geography and gender, identify structural barriers to talent circulation, and provide recommendations to EU quantum governance bodies.
	Inclusive participation across the European quantum ecosystem	Address structural and regulatory barriers that limit the participation of excellent institutions in Widening countries, including constraints on co-financing and funding flexibility. Promote the integration of strong partners from these countries in European quantum consortia while maintaining excellence as the primary selection criterion.
	Choose Quantum Europe (Portal & Instruments)	Establish a portal for awareness, mobility, and opportunities; introduce retention grants, visa fast-tracks, joint PhDs, and reskilling programs.

Pillar 2. Quantum Made in Europe

CORE	**Finance & Scale-Up Support**	Expand EIC scaling funds, attract European (cross-national) VC, improve access to growth-stage financing (M&A, IPOs) and assist consolidation where appropriate.
	Pan-European Consolidation & Cross-Border Investment Framework	Promote cross-border growth and consolidation of quantum startups by enabling pan-European VC syndication, reducing national fragmentation in scale-up financing, and supporting EU-level instruments that encourage mergers, alliances, and joint ventures across Member States. Provide structured guidance to startup leaders on the benefits of consolidation to strengthen competitiveness, resilience, and market access.
	Reduce Structural Barriers to a European Quantum Single Market	Identify and address structural obstacles that prevent startups and SMEs from scaling across borders, including national investment protection rules, market fragmentation, and uneven access to infrastructure. Support harmonised frameworks for cross-border operations, shared facilities, and common IP strategies to accelerate formation of a European Quantum Single Market.
HIGH PRIORITY	**Strategic Investment in Enabling & Non-Computing Tech**	Invest in cryo-electronics, photonics solutions for quantum, quantum materials, and broaden to software, sensing, and communications.
SUPPORTING	**Infrastructure Access for SMEs & Startups**	Ensure SMEs and startups can access EU quantum facilities; subsidise access through voucher schemes like “Quantissimo.”
	Market Stimulation & Industrial Demand	Stimulate demand via innovation challenges, targeted state aid, tenders for startups, and industrial early adopter engagement in a truly cross-EU way and not in MS silos.
	Quantum Industrialisation Pathways & Systems Foundries	Leverage the new Quantum Chips Industrialisation Roadmap to launch a focused and well-funded Chips Act 2.0 supporting Europe’s most mature quantum chip technologies, and establish Quantum Systems Foundries to scale industrial assembly, packaging, and testing. Launch the European Quantum Standards Roadmap (2026) and incentivise startup and scale-up participation in standards development.

Pillar 3. Safe and Secure Quantum Europe

TOP PRIORITY	**Secure & Resilient Supply Chains**	Secure access to critical raw materials, diversify suppliers, stockpile, and harmonise export controls.
HIGH PRIORITY	**EU-wide Legal Framework for Quantum Sovereign Growth, IP Protection & Consolidation**	Establish an EU-wide framework to provide legal certainty in protecting EU-developed IP, supporting European funding for commercialisation and scale-up, and enabling cross-border consolidation that strengthens competitiveness, resilience, and strategic autonomy.
SUPPORTING	**Application Pilots & Dual-Use Projects**	Launch calls with non-quantum industries (pharma, finance, energy) and stimulate dual-use via defence budgets.