



(GIST EUROPE)

GIST Europe Q1 Report 2026

Prepared by: GIST Europe Team

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Report Highlights: Europe is accelerating toward a sovereign Quantum Valley by 2026, supported by the forthcoming European Quantum Act and upgraded EuroHPC infrastructure for quantum and AI. The ecosystem is bolstered by robust startup funding and the new European Quantum Skills Academy to close talent gaps. Simultaneously, the EU Chips Act drives massive semiconductor manufacturing investments at hubs like IMEC and CEA-Leti to enhance capacity. GIST Europe continues to bridge these technological advancements with India to foster global talent and collaborative innovation.

MESSAGE TO THE READERS

The **Global Indian Scientists and Technocrats Forum (GIST)** is a prominent platform established to bridge the gap between the Indian diaspora of scientists and technocrats and the development needs of India.

It was formally launched on December 26, 2010, by the late **Dr. A.P.J. Abdul Kalam** and operates under the patronage of **Vijnana Bharati (VIBHA)**, one of India's largest science movements.

GIST Europe is a key regional chapter of the Global Indian Scientists and Technocrats (GIST) Forum.

Under different initiatives to connect to the stakeholders in academia, industry and intergovernmental platforms, we disseminate current trends in key technology development, policy changes in EUROPE through vision reports.

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QUANTUM TECHNOLOGY

2.1 Overview

The last few months have marked a critical transition for European quantum technology, moving from strategic planning to concrete legislative and infrastructural deployment. As of January 2026, the European Union is accelerating its efforts to unify a fragmented national landscape into a sovereign "Quantum Valley" to compete with the U.S. and China.

2.2. Policy & Regulatory Milestones

Horizon Europe 2026-27 Work Programme: Published on December 11, 2025, this programme allocates part of a €14 billion fund specifically for "Quantum Flagship" initiatives. Key upcoming calls include the 'Grand Challenge on Quantum Sensors for Inertial Navigation' and Large-Scale Photonic Quantum Computing Platforms.

European Quantum Act Preparation: Following the closing of the call for evidence on December 15, 2025, the European Commission is currently synthesizing feedback to draft the formal Quantum Act, expected in Q2 2026. The act will provide a legal framework to scale industrial capacity and secure supply chains.

2.3. Infrastructural Developments

EuroHPC Framework Overhaul: On January 20, 2026, the EU approved a major update to the European High Performance Computing Joint Undertaking (EuroHPC JU). This amendment expands the mandate to include dedicated "AI gigafactories" and integrated quantum accelerators, positioning supercomputing as the heart of Europe's hybrid classical-quantum architecture.

Quantum Internet Breakthrough: In late January 2026, European researchers announced significant progress in creating a network device that serves as a fundamental building block for a viable quantum internet, facilitating distributed processing across multiple nodes.

Quantum Communication (EuroQCI): Preparations are currently intensive for the launch of Eagle-1, the first European quantum key distribution (QKD) satellite, scheduled for later in 2026 to provide a space-based backbone for secure communication.

2.4. Ecosystem & Skills Initiatives

European Quantum Skills Academy: Advanced planning for this virtual academy is underway for a full 2026 launch. It aims to address a critical shortage of applied skills in quantum software engineering and cybersecurity.

Startup Funding: Despite high research output, analysts in December 2025 warned that Europe still only attracts 5% of global private quantum investment. To counter this, the Scaleup Europe Fund has begun mobilizing direct investments into the sector this month.



2.5. Quantum and Startup Ecosystem

Subsection Author: Dr. Deepika Poonia (GIST NL)

The quantum ecosystem in the Netherlands and Europe has developed into one of the world's leading innovation networks for quantum technologies. The Netherlands plays a prominent role through initiatives such as Quantum Delta NL, which connects universities, research institutes, startups, investors, and industry partners to accelerate the development of quantum computing, quantum communication, and quantum sensing technologies. Dutch research centers, including QuTech and TNO, contribute cutting-edge research and support the commercialization of quantum innovations. Across Europe, the ecosystem is strengthened by large-scale collaborations such as the European Quantum Flagship, a multi-billion-euro program aimed at positioning Europe as a global leader in quantum technology. European companies are advancing quantum hardware, software, cybersecurity, and networking solutions, while governments continue to invest in talent development, infrastructure, and cross-border collaboration.

2.6 Startup ecosystem in Netherlands

In the Netherlands, many startups are being formed in the past years and are funded by the government who work on the following applications using quantum technologies, mentioned below:

Quantware: QuantWare develops superconducting quantum processors (QPUs), the computational core of quantum computers. QuantWare's hardware is used for applications

such as drug discovery, materials science, optimization, financial modeling, and machine learning. In June 2025, the company announced an additional \$4.5 million investment, bringing its oversubscribed Series A round to \$27 million. The funding is being used to expand fabrication capabilities and accelerate the development of large-scale quantum processors.

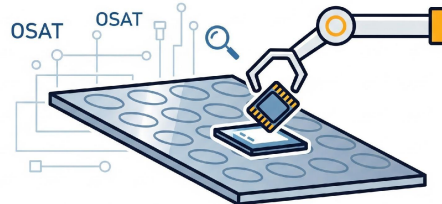
Qblox: Qblox develops the control electronics and software stack required to operate quantum computers. Its systems generate and process the highly precise signals needed to manipulate and read quantum bits (qubits). In June 2024, Qblox raised \$26 million in Series A funding. The round was led by Quantonation and the Invest-NL Deep Tech Fund, with participation from QDNL Participations and the European Innovation Council (EIC). The investment is supporting the company's international expansion and the development of scalable quantum control solutions

QuiX Quantum: QuiX Quantum is one of the Netherlands' leading quantum computing startups and a pioneer in photonic quantum computing. Unlike companies that use superconducting circuits or trapped ions, QuiX builds quantum processors based on photons (particles of light). It received € 15 million Series A funding from Invest-NL and European Innovation Council (EIC).

Orange Quantum Systems: Orange Quantum Systems (OrangeQS) focuses on automated testing and characterization platforms for quantum chips. As quantum hardware becomes more complex, efficient testing is essential to ensure performance and manufacturing quality. In 2026, the company raised € 12 million, one of the largest early-stage quantum financing deals in the Dutch ecosystem (Dutch investors).

Q*bird: Q*Bird develops quantum-secure communication technologies based on Quantum Key Distribution (QKD), particularly Measurement-Device-Independent QKD (MDI-QKD). Its products are designed to protect critical communications infrastructure against both classical and future quantum cyberattacks. In January 2026, Q*Bird secured one of the most significant Dutch quantum funding awards to date through the EIC Accelerator, receiving €2.5 million in grant funding and €5 million in equity investment. The funding will support scaling of its quantum-secure networking technology and expansion of production capabilities.

SEMICONDUCTOR MANUFACTURING TECHNOLOGY



With the advancements in AI (Artificial Intelligence), the focus on semiconductor manufacturing technology has become inevitable. Bangalore, Karnataka has been called as the Silicon Valley of India. It is the hub for circuit design talents. The designed circuits are manufactured at the foundries elsewhere. Recently with the progress of ISM 2.0 (Indian Semiconductor Mission 2.0), more attention is given in bring-up for greenfield foundries (TATA Electronics, HCL-Foxconn), OSATs (Tata AT & Test (Assam), Micron (Gujarat), CG Power OSAT, Kaynes Semiconductor (Karnataka)) and to establish other manufacturing eco-system. Yet, the real talents for semiconductor manufacturing have been lacking at the universities (Bachelor's or Master's level). As one of the objectives of GIST Europe, is to develop semiconductor talents across India at various universities.

3.1. Manufacturing Ecosystem in Europe

1. **IMEC, Leuven [Belgium]** – Inter Microelectronics Center, Belgium Recently (Feb.2026), IMEC announced a NanoIC pilot line with the expansion of 2000m² cleanroom at the Leuven headquarters for getting the N2 and beyond technologies to the world. For the same, it has bagged an record high funding of €2.5 billion from EU chips act. NanoIC also launches A14 logic and eDRAM memory PDK.
 2. **CE-LETI, Grenoble [France]** CEA-Leti in Grenoble is currently experiencing a major, publicly funded expansion of its research capabilities, driven by the EU Chips Act and national investments, with a focus on advanced semiconductor manufacturing, artificial
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intelligence (AI), and photonics. Recent news (early 2026) highlights the inauguration of a new 300 mm cleanroom and major research partnerships with industry leaders with €830 million of funding.

3. **TNO – Holst Center [Netherlands]** Holst Centre, a joint R&D initiative by TNO and imec, receives funding from the Dutch and Flemish governments, the National Growth Fund, and a Gates Foundation grant for healthcare sensing. Major research activities and recent news include integrated photonics, flexible electronics, next-generation Li-ion batteries, the launch of a new Photonics Lab, and a cross-border hydrogen collaboration.
 4. **Global Foundries, Dresden [Germany]** GlobalFoundries is investing around €1.1 billion to expand its Dresden wafer fabrication capacity, aiming to boost output to over 1 million wafers per year by late 2028 and solidify its position as Europe's largest contract fab. This expansion (often referred internally as Project SPRINT) is supported by German federal and Saxony state funding under the EU Chips Act/Important Projects of Common European Interest (IPCEI), with the European Commission recently approving related state aid totaling several hundred million euros.
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