Press release

International Opening Event for CHAMP-ION Pilot Line Brings Together Key Players in Quantum Technologies

Photo credit SAL / Sarina Dobernig.

Villach, Austria, 27 May 2026 – The CHAMP-ION consortium held its international opening event in Villach, Austria, bringing together leading stakeholders from across the European quantum technologies ecosystem. CHAMP-ION (Championing A European Advanced Manufacturing Pilot Line of Ion-Traps), a €50 million pilot line project, has been launched with co-funding from the European Union's Chips Joint Undertaking (Chips JU) and national and regional authorities of the participating Member States. The initiative aims to develop a complete European value chain for ion-trap chips, covering design, microfabrication, integration, testing, and validation. It will establish robust, repeatable manufacturing processes to transition ion-trap technologies from laboratory prototypes to industrial-scale production, targeting Technology Readiness Level 6 (TRL 6) and laying the foundation for future large-scale manufacturing. Coordinated by Silicon Austria Labs (SAL), the initiative brings together 21 partners from Austria, Germany, Finland, Italy, Portugal, and Czechia, representing a cross-sector consortium of research institutions, SMEs, industrial stakeholders, metrology institutes, and universities.

Open-Access Pilot Line for Industry and Research: Strengthening Europe's Quantum Ecosystem

Ion-trap systems are among the leading platforms for quantum computing, sensing, communication, and simulation. However, transitioning these systems from laboratory prototypes to industrial-scale production requires robust fabrication processes, standardisation, and integrated supply chains. CHAMP-ION addresses these challenges by establishing a High-Quality Pilot Line (HQ-PL) for ion-trap chips, focused on reproducibility, yield optimisation, and process stability. The pilot line will operate under an open-access, single-entry-point model, enabling industry, SMEs, startups, and research organisations across Europe to access fabrication and testing services. The facility will support multi-project wafer (MPW) runs and pilot production, helping reduce barriers to entry and accelerate technology transfer from research to industry. It will also develop standardized Process Design Kits (PDKs) and scalable integration frameworks to support increasingly complex quantum systems. By combining expertise in microfabrication, photonics, electronics, metrology, and quantum systems, CHAMP-ION aims to strengthen Europe's quantum supply chain and industrial competitiveness. The pilot line will support multiple ion-trap architectures, including surface-electrode, monolithic, stacked, and MEMS-based designs, ensuring broad applicability across quantum technology platforms.

CHAMP-ION, the European Ion Trap Pilot Line, is supported by the CHIPS JU, Horizon Europe and the National Public Authorities of the partners involved in the Framework Partnership Agreement Grant No. 101233101 and Specific Grant Agreement 1 Grant No.101288915.

Christina Hirschl, CEO of Silicon Austria Labs (SAL), said: "We are proud to coordinate CHAMP-ION as a truly European initiative that brings together leading expertise across the continent to strengthen Europe's technological sovereignty in quantum technologies. By building an open and scalable ion-trap ecosystem, we are creating the foundation for world-class quantum excellence made in Europe."

Isabel Tausendschön, CFO of Silicon Austria Labs (SAL), said: "CHAMP-ION is an important investment in Europe's future competitiveness, creating new opportunities for industrial innovation, high-value manufacturing, and resilient supply chains. Projects like this are essential to translating cutting-edge research into sustainable economic impact."

Austrian Innovation Minister Peter Hanke said: "With CHAMP-ION, Europe is demonstrating that when it comes to key technologies like quantum computing, our ambitions go beyond scientific leadership — we are actively building industrial value creation right here in Europe. Austria, through Silicon Austria Labs, Infineon Austria, Alpine Quantum Technologies (AQT), the University of Innsbruck and ParityQC, is playing a central role in this effort. CHAMP-ION strengthens our technological sovereignty, creates highly skilled jobs, and accelerates the path from cutting-edge research to industrial application. In an era of fierce global competition for the technologies of tomorrow, it is essential that Europe develops its own manufacturing capacity, more resilient supply chains, and thriving innovation ecosystems."

Pilot line capabilities and technology scope

CHAMP-ION will provide an end-to-end industrial workflow, including:

- **Device design and Process Design Kit (PDK); Microfabrication of ion-trap chips; Photonic, electronic, and MEMS integration; Metrology, testing, and validation; Pilot-scale and multi-project wafer (MPW) production runs**.
- A key objective is the development of standardized PDKs and scalable integration frameworks to ensure interoperability across industrial and research ecosystems and to support future systems with thousands of trapped ions.

Consortium

The CHAMP-ION consortium includes 21 partners:

- **Coordinator:** Silicon Austria Labs (SAL)
- **Industry partners:** Infineon Technologies Austria AG, Infineon Technologies AG, Infineon Technologies Dresden AG & Co. KG, Alpine Quantum Technologies GmbH (AQT), Parity Quantum Computing GmbH, Eleqtron GmbH, neQxt GmbH, Qudora Technologies GmbH
- **Research institutes and universities:** VTT Technical Research Centre of Finland, Universität Innsbruck, Johannes Gutenberg-Universität Mainz, Universität Siegen, Leibniz Universität Hannover, Università degli Studi di Padova, Université Palacký Olomouc, ISI Czech Academy of Sciences, International Iberian Nanotechnology Laboratory
- **Metrology Institutes:** Physikalisch-Technische Bundesanstalt (PTB), Istituto Nazionale Di Ricerca Metrologica (INRIM)
- **Innovation and coordination support:** AMIRES – Business Innovation Management Institute Z.U.

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