



NXP, eleQtron and ParityQC Reveal their First Quantum Computing Demonstrator for the DLR Quantum Computing Initiative

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- NXP, eleQtron and ParityQC present the first full-stack, ion-trap based quantum computer demonstrator made entirely in Germany
- It was commissioned by the DLR Quantum Computing Initiative (DLR QCI) to expand the quantum expertise of its partners from research and industry
- DLR will make the demonstrator accessible to industry players and academia to strengthen the quantum ecosystem and boost knowledge around quantum computing

HAMBURG, Germany, May 30, 2024 (GLOBE NEWSWIRE) -- NXP Semiconductors N.V. (NASDAQ: NXPI), eleQtron and ParityQC, working together in the [QSea consortium](#) of the [DLR Quantum Computing Initiative \(DLR QCI\)](#), today revealed the first full-stack, ion-trap based quantum computer demonstrator made entirely in Germany. It will enable early access to real quantum computing resources and thus help companies and research teams leverage the advantages of quantum computing in applications such as climate modeling, global logistics and materials sciences. The new quantum computer demonstrator is located in Hamburg, further strengthening the city's role as an important technology and research location in Germany.

A broader understanding of the capabilities of quantum computing is required for this technology to be effective in solving complex challenges. The DLR QCI aims to build the necessary skills by creating a quantum computing ecosystem in which economy, industry and science cooperate closely to fully leverage the potential of this groundbreaking technology.

Quantum computers, with their exceptional computing power, will tackle complex problems crucial for societal advancement, such as weather modeling, medication development, and logistics optimization, and are expected to change the cybersecurity landscape. Despite the rapid evolution of quantum computers over the past years, the path towards industrialization remains challenging, as the industry lacks respective competencies.

NXP, eleQtron and ParityQC bring together leading knowledge of quantum computing, software and long-standing industry expertise to develop and build the first ion-trap based quantum computer demonstrator made entirely in Germany. It combines eleQtron's MAGIC hardware, ParityQC architecture and NXP's chip design and technology, and is complemented by a digital twin. This will allow for rapid innovation, design decisions and implementation, as the QSea I demonstrator will evolve to a quantum computer including a modular architecture, scalable design and error correction capabilities. The forthcoming phase of the QSea project will therefore focus on making the quantum computer increasingly powerful and industry-ready.

The demonstrator is set up at the DLR QCI Innovation Center in Hamburg and will be made available to industry partners and DLR research teams by the DLR QCI. With this collaboration, the three partners and the DLR QCI aim to foster and strengthen the development of an advanced quantum computing ecosystem in Germany. This will also support the strategic efforts of Germany and the European Union to strengthen digital sovereignty in this critical technology area.

Quotes

Lars Reger, CTO at NXP Semiconductors

"Hamburg is one of our most important R&D locations. We are proud that, together with DLR and our partners eleQtron and ParityQC, we are able to present the first ion-trap based quantum computer demonstrator developed entirely in Germany. We are convinced that industry and research communities in Hamburg and throughout Germany will benefit from this project. It will help to build up and expand important expertise in quantum computing, to use it for the economic benefit of us all, and also to further strengthen our digital sovereignty in Germany and the EU."

Jan Leisse, Co-Founder & CEO at eleQtron

"We at eleQtron believe that quantum computing will change our world for the better. The DLR Quantum Computing Initiative has the potential to become something truly great, and our pioneering MAGIC-based quantum computer lays the foundation for a vibrant ecosystem. As Germany's first quantum computing hardware company, we are proud to bring research excellence into the real world."

Dr.-Ing. Robert Axmann, Head of DLR Quantum Computing Initiative (DLR QCI)

"To achieve a leading international position in quantum computing, we need a strong quantum computing ecosystem. Only together will research, industry and start-ups overcome the major technological challenges and successfully bring quantum computers into application. The QSea I demonstrator is an important step for the DLR Quantum Computing Initiative and for Hamburg. It enables partners from industry and research to run quantum algorithms on real ion trap qubits in a real production environment for the first time. This hands-on experience will enable them to leverage the advantages of quantum computers and become part of a strong and sovereign quantum computing ecosystem in Germany and Europe."

Wolfgang Lechner & Magdalena Hauser, Co-CEOs at ParityQC

"With the purchase of quantum computers by the DLR QCI, financed by the BMWK, Germany is consolidating its leading role in quantum computing. This is a critical pathway towards the successful commercialization of world-leading research and the creation of a sustainable quantum ecosystem that allows companies to scale and stay in Europe. As a quantum architecture company, we enable hardware developers to build highly scalable quantum computers and we are proud to be able to do this with our excellent partners in this consortium."

About NXP Semiconductors

NXP Semiconductors N.V. (NASDAQ: NXP) is the trusted partner for innovative solutions in the automotive, industrial & IoT, mobile, and communications infrastructure markets. NXP's "Brighter Together" approach combines leading-edge technology with pioneering people to develop system solutions that make the connected world better, safer, and more secure. The company has operations in more than 30 countries and posted revenue of \$13.28 billion in 2023. Find out more at www.nxp.com.

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NXP-Corp
NXP-IoT

A photo accompanying this announcement is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/2dd02509-3376-4471-a75b-66b42ba15c14>



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Source: NXP USA, Inc.