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Quobly Forges Strategic Collaboration with STMicroelectronics to Accelerate its Quantum Processor Manufacturing for Large-Scale Quantum Computing Solutions

- *Collaboration will leverage ST's 28nm FD-SOI commercial semiconductor volume manufacturing processes to pave the way towards cost-competitive, large-scale quantum computing solutions.*

- *Quobly and ST envision the first generation of commercial products to be available by 2027, targeting applicative markets including materials development and systems modeling.*

Grenoble, France and Geneva, Switzerland – December 12, 2024 – Quobly, a cutting-edge quantum computing startup, today announced a transformative collaboration with STMicroelectronics, a global semiconductor leader serving customers across the spectrum of electronics applications, to produce quantum processor units (QPUs) at scale. By leveraging STMicroelectronics' advanced FD-SOI semiconductor process technologies, this collaboration is set to make large-scale quantum computing feasible and cost-effective, positioning both companies at the forefront of next-generation computing technologies.

Quobly aims to break the 1-million-qubit barrier by 2031, targeting applications ranging from pharmaceuticals, finance, materials science and complex systems modeling, including climate and fluid dynamics simulations. Together, the two companies aim to achieve a breakthrough in quantum computing by utilizing their common expertise in FD-SOI, driving down R&D costs, and addressing the market's demand for scalable, affordable quantum computing processors.

In the first phase of the collaboration, Quobly and ST will adapt ST's 28nm FD-SOI process to match Quobly's requirements, targeting a 100 Qubit Quantum Machine with proof of scalability beyond 100k physical qubits. ST will leverage its integrated device manufacturer model to bring Quobly its ability to bridge co-design, prototyping, industrialization and volume production at scale in 300mm fabs using FD-SOI, a technology it has developed and exploited commercially for years across automotive, industrial and consumer applications.

Maud Vinet, CEO of Quobly, expressed her enthusiasm: *"This collaboration is unparalleled in the quantum computing landscape. Working closely with STMicroelectronics will fast-track the industrialization of our quantum processor technology by several years. We are thrilled to leverage ST's semiconductor manufacturing expertise, which will speed up the development of a fully fault-tolerant quantum computer. We aim at breaking the 1-million-Qubit barrier by 2031, with applications ranging from pharmaceuticals, finance, materials science and complex systems modeling, including climate and fluid dynamics simulations.*"

Remi El-Ouazzane, President, Microcontrollers, Digital ICs and RF products Group at STMicroelectronics, said: "*Quantum computing will transform the world, starting with AI, chemistry, security and supply chain applications. This collaboration is building on ST's IDM strengths, centered around our Crolles facility, integrating together our process R&D expertise,*

our circuit design know-how and volume manufacturing. We truly believe that pairing Quobly's quantum expertise with ST's FD-SOI knowledge and manufacturing will allow to accelerate economically viable, large-scale quantum computing solutions."

"In the future, to be successful, quantum computers still need to work on SWaP-C (size, weight, power, and cost)," explains Eric Mounier, PhD Chief Analyst, Photonics & Sensing at Yole Group. *"This is also where semiconductor qubits have a big advantage in scalability by leveraging CMOS wafer-scale manufacturing. Although quantum technologies are long-term, the investment time is today. To that respect, today's collaboration agreement between STMicroelectronics and Quobly could mark a major step for cost-efficient and more scalable quantum computing processors.[1]"*

About Quobly
Quobly is a pioneer in the development of a fault-tolerant quantum computer based on semiconductor qubits. With a breakthrough method, Quobly addresses both techno-scientific challenges as well as industrial production, paving the way for mass production of the millions of qubits essential for practical, large-scale quantum computers. Based in Grenoble, the startup is the result of 15 years of collaborative research between internationally recognized RTOs, CEA Leti and CNRS. Founded in 2022, Quobly has brought together a team of experts from the semiconductor industry and distinguished researchers in quantum technologies. In 2023, Quobly made headlines with a seed round of 19 million euros, establishing a new record for seed funding of a European startup in the quantum sector. https://quobly.io/

About STMicroelectronics
At ST, we are over 50,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An integrated device manufacturer, we work with more than 200,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of cloud-connected autonomous things. We are committed to achieving our goal to become carbon neutral on scope 1 and 2 and partially scope 3 by 2027. Further information can be found at www.st.com

QUOBLY

Andrea Busch
Tel: +33 6 62 76 05 22
andrea.busch@quobly.io

STMICROELECTRONICS

INVESTOR RELATIONS
Jérôme Ramel
EVP Corporate Development & Integrated External Communication
Tel: +41 22 929 59 20
jerome.ramel@st.com

MEDIA RELATIONS
Alexis Breton
Group VP Corporate External Communications
Tel: +33 6 59 16 79 08
alexis.breton@st.com

[1] Source: Quantum Technologies 2024 report, Yole Intelligence