

# PRESS RELEASE

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## Curtain up: Fraunhofer and IBM to unveil quantum computer

**In the digital presence of Chancellor Dr. Angela Merkel, Federal Minister of Education and Research Anja Karliczek and Minister-President of Baden-Württemberg Winfried Kretschmann, on June 15 leading figures from Fraunhofer and IBM will officially unveil Germany's first IBM Quantum System One to the public. With 27 qubits, this is currently the most powerful system anywhere in Europe.**

Sustainable transport, faster development of new materials and pharmaceutical products, more efficient analysis of complex financial flows – these are just some of the areas in which quantum computers will be opening new doors in the future. The aim, between now and then, is to develop the quantum algorithms that will allow this to happen. Once introduced, the system will be the first secure research platform available to companies and institutions for building and expanding their expertise and trying out quantum-based computing strategies with their applications in mind. Together with IBM, the Fraunhofer-Gesellschaft operates the quantum computer in Ehningen close to Stuttgart. Importantly: All processed project and user data remain in Germany at all times and the IBM Q System One is operated in accordance with German data protection law.

“There is a huge interest, both in industry and the world of research, in bringing quantum computing into use as a future key technology for securing competitiveness and technological sovereignty. With our platform, we offer large corporations, SMEs, start-ups and research institutions the chance to build their expertise and test new potential applications and business models,” says **Prof. Reimund Neugebauer, President of the Fraunhofer-Gesellschaft**. And he is sure: “The trailblazing initiative of Fraunhofer-Gesellschaft and IBM for applied quantum computing in Germany and in Europe will create new opportunities for developing quantum computing strategies and application technologies for sustainable value creation.”

“I couldn't be more excited about the availability of the IBM Quantum System One in Germany, which is the most powerful quantum computer in Europe,” said **Dario Gil, Senior Vice President and Director of IBM Research**. “The system is engineered for stability, robustness and reliability, which has the capacity to run quantum programs incredibly fast powered by a hybrid cloud architecture. I am confident this work between Fraunhofer and IBM will help to establish new communities of discovery across Europe to solve major business and societal problems.”

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## **Contribution to a German quantum-technology ecosystem**

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The state of Baden-Württemberg greatly supports the Fraunhofer-IBM initiative and will provide up to 40 million euros by 2024. Most of this will be for joint projects of the Fraunhofer Competence Center Quantum Computing in Baden-Württemberg in cooperation with universities, non-university research organizations and associated industry partners.

Winfried Kretschmann, Minister-President of Baden-Württemberg, says: “Quantum technologies are the key to the future. Those who master quantum technologies dominate the two megatrends of our time: digitalization and decarbonization. Thus, they hold the key to economic prosperity and technological sovereignty. The quantum computer in Ehningen, Baden-Württemberg, contributes to a German quantum-technology ecosystem with an international impact. We combine scientific excellence and economic clout for enormous potential and possibilities: Quantum technology enables us to stabilize critical infrastructures, to use smart algorithms for manufacturing and logistics and to model batteries and fuel cells. This project is a milestone on the path to the quantum state of Baden-Württemberg.”

“Our goal is to enable Baden-Württemberg, as a leading industrial and innovative region in Europe, to play a major role in creating added value with quantum computing” adds Dr. Nicole Hoffmeister-Kraut, the state's Minister of Economics. “As both providers and users, companies and start-ups from Baden-Württemberg are set to participate in the upcoming global market for quantum-technology products, systems and solutions. Hosting the first and most powerful European quantum computer is a tremendous success and an important signal. Our high-performance network, which consists of excellent research institutions, internationally leading players from the high-tech industry and innovative start-ups, can act as an excellent driver here. At the same time, the center offers a great opportunity to train specialists in this pioneering technology, which will enable them to successfully develop innovations.”

## **Access through the Fraunhofer Competence Network Quantum Computing**

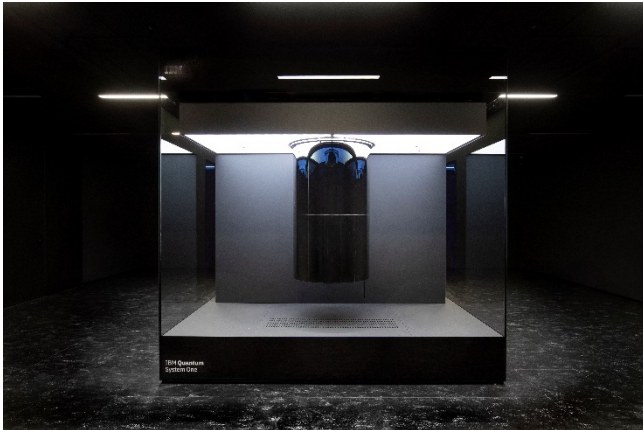
The Fraunhofer Competence Network Quantum Computing is the central point for getting access to the quantum computer. To access the computer, companies need a license agreement with Fraunhofer. The price structure is based on a monthly ticket. This arrangement means that users can also obtain short-term, flexible access for testing and assessing the technology.

### **Click here for the live stream:**

<https://video.ibm.com/channel/ZDUjcdmAAMq>

Click here to learn more about the Competence Network: [www.quantencomputing.fraunhofer.de](http://www.quantencomputing.fraunhofer.de)

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**Fig. 1** The IBM Quantum System One in Ehningen is the most powerful system in Europe. Industrial companies and research organizations can now develop and test applied quantum software and expand their expertise under German law. © IBM Research

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