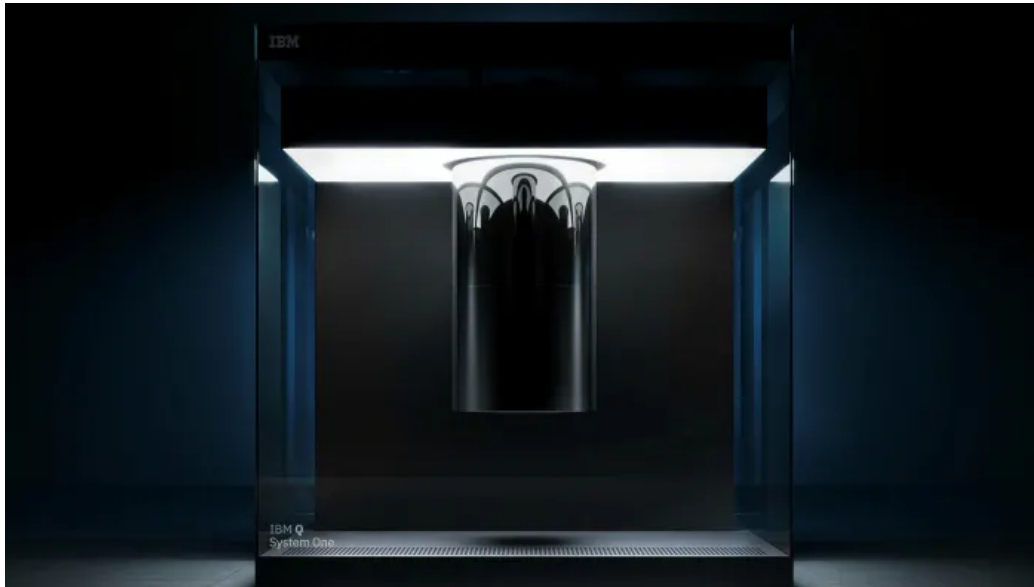


Quantum technologies

IBM to build Europe's first quantum computer in Germany

Researchers keen to use the technology without sending data to the US



The Q System One computer will be operational at a site near Stuttgart from early next year © IBM

Joe Miller in Frankfurt MARCH 13 2020

IBM will build Europe's first quantum computer in Germany, allowing researchers to harness the technology without falling foul of the EU's increasingly assertive stance on data sovereignty.

The state-backed Fraunhofer research institute will act as the gatekeeper for the US tech company's 9ft-tall Q System One computer, which will be operational at a site near Stuttgart from early next year.

"Quantum computing has the potential to analyse the complex systems in business and industry, to unravel molecular and chemical interactions, to solve complicated optimisation problems and to make artificial intelligence significantly more powerful," said Professor Reimund Neugebauer, Fraunhofer's president.

While quantum computing is still several years away from being in widespread use, researchers are experimenting with a number of applications.

Last year, researchers at Mercedes-Benz maker Daimler used IBM's quantum computers to help them design next-generation lithium batteries for electric vehicles by simulating the complex chemistry of the cells.

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IBM already allows companies and scientific bodies to run algorithms on its US-based quantum computers, via the cloud. But anxiety over a tightening of data sovereignty laws by Brussels means that many European organisations are reluctant to transmit sensitive information across the Atlantic.

Having an EU-based quantum computer will “help shape the future of our European society”, said Martin Jetter, the chairman of IBM Europe.

The collaboration between IBM and Fraunhofer followed a conversation between German chancellor Angela Merkel and outgoing IBM chief executive Ginni Rometty at the World Economic Forum in Davos last year. Ms Merkel, who initially expressed a belief that quantum technology was “so far down the road”, was soon convinced of the need to base a computer in Europe, according to Matthias Hartmann, former chief executive of IBM in Germany.

The German government, which has pledged to invest €650m in quantum computing, has said the technology is “extremely relevant to security policy”, particularly in the field of cryptography.

“The federal security agencies and German Armed Forces therefore consider active, needs-oriented funding for research, innovation and development in the field of quantum technology to be of particular importance,” it said in 2018.

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