

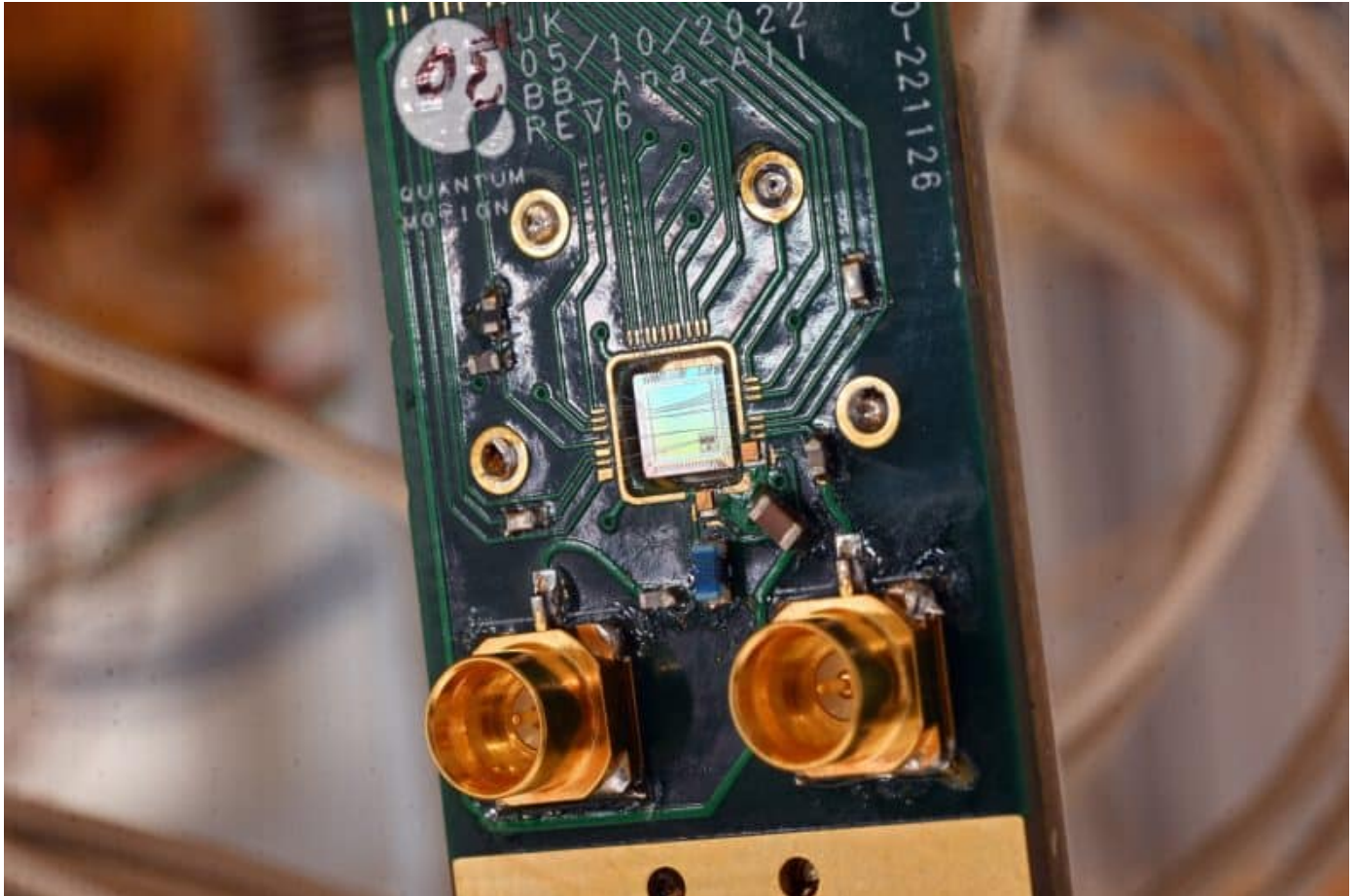
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Sony announces venture into quantum computing via UK firm Quantum Motion

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Money matters: Sony Innovation Fund along with other investment groups have provided \$42m to the UK quantum computing firm Quantum Motion (courtesy: Quantum Motion)

The Japanese electronics giant [Sony](#) has announced its first steps into quantum computing by joining other investment groups [in a £42m venture](#) in the UK quantum computing firm [Quantum Motion](#). The move by the investment arm of Sony aims to boost the company's expertise in silicon quantum chip development as well as to assist in a potential quantum computer roll-out onto the Japanese market.

Quantum Motion was founded in 2017 by scientists from University College London and the University of Oxford. It already raised a total of £20m via "seed investment" in 2017 and a "series A" investment in 2020. Quantum Motion uses qubits based on standard silicon chip technology and can therefore exploit the same manufacturing processes that mass-produces chips such as those found in smartphones.

A full-scale quantum computer, when built, is likely to require a million logical qubits to perform quantum-based calculations, with each logical qubit needing thousands of physical qubits to allow for robust error checking. Such demands will, however, require a huge amount of associated hardware if they are to be achieved. Quantum Motion claims that its technology could tackle this problem because it develops scalable arrays of qubits based on CMOS silicon technology to achieve high-density qubits.

The company will use money from [Sony Innovation Fund](#) as well as other investors such as Bosch Ventures, Porsche SE and Oxford Science Enterprises to build on the firm's recent work. In 2020, for example, Quantum Motion [managed to isolate a single electron](#) and



measure its quantum state for a record-breaking nine seconds, while last year it showed how it could [quickly characterize thousands of multiplexed quantum dots](#) that had ben fabricated in a chip factory.

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Despite being new to quantum computing, Sony's investment will now give it access to expertise in quantum chip design and manufacturing. It is also an entry point into the Japanese market, which is expected to become one of the biggest for quantum computing. Quantum Motion chief executive [James Palles-Dimmock](#), who is a physicist by training, says the company is delighted to have Sony Innovation Fund as an investor as it will help the firm to scale the development of silicon-based quantum computers.

- [IBM wants to build a 100 000 qubit quantum computer by 2033](#). It will reach its goal by working with the University of Tokyo to develop and scale quantum algorithms and by starting to build a viable supply chain. IBM will also work with the University of Chicago to bridge quantum communication and computation via classical and quantum parallelization as well as by adding quantum networks.

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