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# Quantum-Computing Startup IonQ Plans Public Debut in \$2 Billion SPAC Merger

IonQ is competing against several big tech companies set on commercializing the technology



Peter Chapman, chief executive of IonQ.

PHOTO: IONQ

By [Sara Castellanos](#)

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Quantum-computing startup IonQ Inc. plans to merge with blank-check firm dMY Technology Group Inc. III, which would make it the first publicly traded company specifically focused on commercializing quantum-computing hardware and software.

College Park, Md.-based IonQ on Monday said it intends to file paperwork in about a week with the Securities and Exchange Commission to go public on the New York Stock Exchange through a special-purpose acquisition company deal valuing the combined entity at about \$2 billion. The deal will need approval from the SEC and SPAC shareholders.

“It is kind of a groundbreaking moment in history,” said Peter Chapman, chief executive of IonQ and formerly director of engineering for [Amazon](#). com Inc.’s Amazon Prime business.

IonQ is competing against several companies, such as [International Business Machines Corp.](#) , [Microsoft Corp.](#) , [Alphabet Inc.](#)’s Google and D-Wave Systems Inc., trying to commercialize quantum computing using various technological approaches. No scalable, commercial-grade quantum computer has been built yet.



A prototype chip package that uses the same technology as IonQ’s existing systems and will be integrated into a quantum-computing device about the size of an Xbox game console.

PHOTO: IONQ

“The race for quantum computing is real,” said Matthew Brisse, research vice president at tech research firm [Gartner Inc.](#) “We’re seeing quantum [computing] come out of the labs and get into the digital economy.”

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By 2023, 20% of global organizations, including governments and companies, are expected to budget for quantum-computing projects, up from less than 1% in 2018, according to Gartner.

SPACs are an increasingly popular source of financing for companies, including those with little to no revenue looking to go public. Since the start of last year, investors have poured more than \$130 billion into SPACs, [The Wall Street Journal reported Feb. 26.](#)

If the deal goes through, IonQ will have raised \$734 million in funding since its founding in 2015, including \$300 million through its planned merger with dMY Technology III and another \$350 million in private investment funding from [Hyundai Motor Co.](#) ; Breakthrough Energy Ventures, an investment organization led by Bill Gates and focused on mitigating the effects of climate change; and others. The company also has raised \$84 million in venture-capital funding.

Quantum computers aim to harness the power of quantum physics to sort through a vast number of possibilities within a fraction of a second to come up with a probable solution. The technology could speed up calculations related to finance, drug and materials discovery, artificial intelligence and others, and [crack many of the defenses](#) used to secure the internet.

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The money raised from the transaction will be used to help IonQ manufacture a quantum-computing machine that works at room temperature and is about the size of an Xbox videogame console, Mr. Chapman said. That would be significantly smaller than early-

stage machines on the market today, without requiring the supercooling necessary to achieve quantum mechanical effects.

IonQ expects the device to be completed in 2023.

IonQ's technological approach involves commercializing university lab research on trapped ions, which naturally exhibit the quantum mechanical effects needed for the machines to work, Mr. Chapman said.

The company has given about 20 million software developers access to its current early-stage quantum-computing device through partnerships with cloud-computing service providers Amazon Web Services and Microsoft. It expects to generate more than \$1 million in revenue this year, Mr. Chapman said.

Blank-check company dMY was established last year and is co-headed by Niccolo de Masi, formerly chief executive of videogame company Glu Mobile Inc., which is being acquired by Electronic Arts Inc.

He called it a no-brainer to work with IonQ, in part because of the talent the company has been able to attract.

IonQ, which has about 60 employees, recently hired Dave Bacon as vice president of software. He formerly led Google's quantum-computing software team.

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