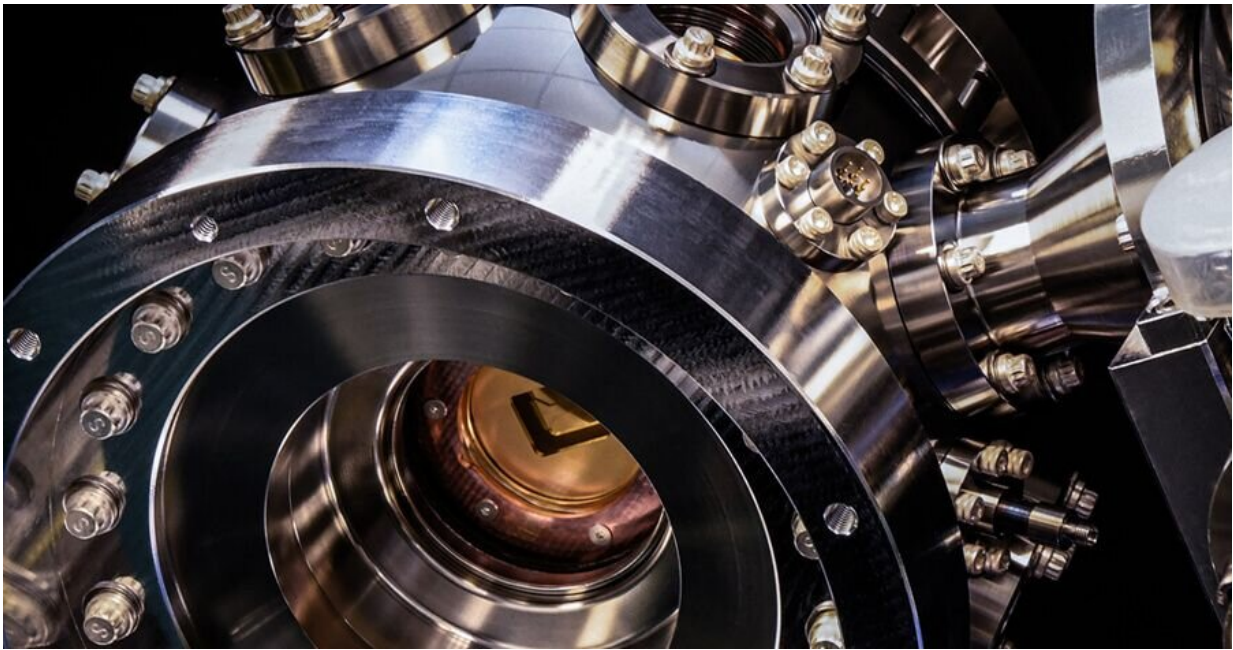


Honeywell claims to have built the highest-performing quantum computer available

June 22 2020, by Bob Yirka



Credit: Honeywell International

Multinational conglomerate Honeywell International Inc. is claiming to have built the highest-performing quantum computer available today. It made the announcement in a blogpost on its website. The company further claims that its H0 quantum computer has a quantum volume score of 64—making it twice as powerful as any other quantum computer available.

Because they are still in their infancy, quantum computers are difficult to compare—thus, it is difficult to tell which of two machines is more powerful. It was for this reason that IBM came up with the quantum volume as a metric—it is a number calculated by taking into account several features of a quantum computer, starting with its number of qubits—other factors include measurements of errors, crosstalk and connectivity. Unsurprisingly, the prior record was held by IBM, which built a quantum computer with a quantum volume of 32.

Honeywell's H0 computers make use of an ion-trap-type chamber that contains the qubits. The company describes the chamber as approximately the size of a basketball—one with portals on its face to admit laser light. Inside is a vacuum that is kept near absolute zero (-441F). Electric fields levitate the atoms and lasers are used to carry out operations. The company notes that there is also a lot of hardware surrounding the chamber that controls and supports its operations—they occupy a table 20 feet long and five feet wide.

Honeywell used to be a well-known name in the [computer business](#), making very large mainframe machines in competition with IBM and a few other players. But management chose to sell its technology to competitors and to leave the computer-building business, opting to place more of its focus on aerospace technology. In recent years, however, the company has taken a strong interest in designing and building quantum computers. They now have 120 people working on quantum computers in two divisions and have set the goal of increasing the power of their quantum computers by a factor of 10 every year for at least the next five years. The [company](#) also has quantum machines that are commercially available for use by interested parties.

More information: [www.honeywell.com/en-us/newsro ... tum-computer-is-here](http://www.honeywell.com/en-us/newsroom/quantum-computer-is-here)

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