

## Elon Musk's Neuralink Brain Implant Technology Is Outdated, Says BCI Expert

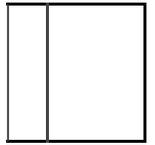
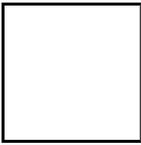
"Showing a monkey do something or a pig do something is what the research community did ten years ago," says the CEO of Blackrock Neurotech.

By [Sissi Cao](#) · 01/25/22 8:00am



Neuralink's viral monkey-playing-video-game demo is not that different than an experiment done in 2002. JEAN-FRANCOIS MONIER/AFP via Getty Images

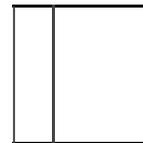
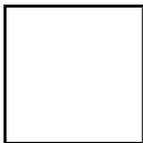
Elon Musk's neurotech startup Neuralink has touted the idea that its wireless brain chip could allow people—especially those with neurological disorders—to perform various physical tasks with just their thoughts. The implantable chip, known as a



in a series of highly publicized experiments. And the company is actively assembling a team to test it in humans. However, BCI industry insiders say that, while some aspects of Neuralink's process are quite inventive, its core tech is actually more than a decade old.

“His team's approach in some areas are very innovative. The surgical approach with robotic, for example, is brilliant. But some of the things they have demonstrated are outdated,” said Marcus Gerhardt, CEO of Blackrock Neurotech, a Salt Lake City-based medical tech company specializing in making BCI systems.

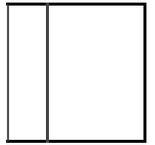
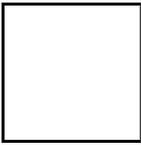
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in humans, Blackrock Neurotech has implanted BCI devices in more than 30 patients through clinical studies partnered with researchers around the world.

“Showing a monkey do something or a pig do something is what the research community did ten years ago,” Gerhardt said. “They probably feel really hardened by it, because they did this ten years ago but they didn’t get any profile. Then Elon comes along. He did it once and everybody was in awe.”

Academics have made similar comments on Neuralink’s animal experiments. In April 2021, Neuralink released a video showing a macaque monkey who had two “Link” devices implanted in his brain playing a

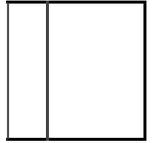
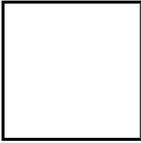


reported a similar experiment conducted back in 2002, where a group of researchers successfully got a monkey to move a cursor on a computer screen by decoding activity of a few dozen neurons in its motor cortex into a signal.

“In principle, the idea of a monkey (or a human) controlling a cursor is not new,” Anna Wexler, a professor of medical ethics and health policy at the University of Pennsylvania, told Observer in an email last spring.

“I doubt we will have accurate, mind-reading consumer devices in the near future,” Wexler wrote in an op-ed for STAT in April 2021 following Neuralink’s monkey demo.

“Neuroscience is far from understanding how the mind works—much less having the ability to decode it.”



In any case, Gerhardt sees Musk's interest in BCI as a positive sign for the field. "I'm very glad he's come to make this one of his areas of focus. Elon got us a lot of publicity and awareness. That's great for this space," Gerhardt said, adding, "He just has to come to terms with the fact that he's not No.1. I'm sure he'll manage it. He's already got two great companies out there."

**Filed Under:** Business, Startups, Technology, Elon Musk, Neuralink, Brain-Computer Interface, BCI, Marcus Gerhardt, Blackrock Neurotech

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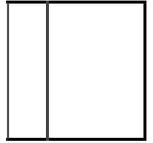
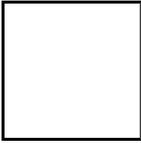
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