

Tesla eyes 'robotaxis' by 2020 with new self-driving technology (Update)

April 22 2019



Tesla CEO Elon Musk maintained that the electric carmaker had developed the "best" computer chip for autonomous driving

Tesla said Monday it is expecting to deploy self-driving "robotaxis" by 2020 as it unveiled its upgraded technology for driverless vehicles.

Chief executive Elon Musk told an investor presentation he expected regulator approval in some jurisdictions for autonomous ride-hailing that could use some of the Teslas on the road if their owners agree to share the vehicles.

"I feel very confident in predicting autonomous robotaxis next year," Musk told the event, saying he expected the plan to operate on a model similar to that of Uber or Airbnb.

He said Tesla would be adding a rideshare app and that owners who chose to participate in the network could benefit from that.

"The fundamental utility of the vehicle increases by a factor of five" with a rideshare system, he said.

Musk commented on the robotaxi plan after the company unveiled computer hardware for "full self-driving" capabilities—part of its strategy to bring autonomous cars to the mainstream.

Tesla already enables partial autonomy for its cars, but the road to full autonomy faces considerable legal and regulatory hurdles.

The chip announcement comes as Tesla races with Waymo, Uber and traditional automakers to bring autonomous vehicles to market.

Musk said its custom-designed chip for the vehicle, which he called the best available, was a significant milestone in self-driving.

"At first, it seems improbable—how could it be that Tesla, which has never designed a chip before, could design the best chip in the world?" he said.

"But that is objectively what has occurred."

The new chip is being installed in all its vehicles, clearing the way to improve its software and "neural networks" that will effectively drive the autonomous vehicles.

"All Tesla cars being produced have all the hardware necessary... for full self driving," Musk told the event.

"All you need to do is improve the software."

Despite Tesla's claims, its electric vehicles are not using the standard definition of "level 4" autonomy that would handle all functions with a human on standby or "level 5" autonomy that would need no human.

Musk said he expected that with Tesla technology, drivers "would not need to touch the wheel" sometime early next year and that he hoped for regulatory approvals in some areas later in 2020.

He maintained that Tesla's approach using data from its vehicles on the road was better than those of its rivals, which rely on simulations.

"We have quite good simulation too, but it does not capture the long tail of things that happen in the real world," Musk said.

"The real world is really weird and messy."

Musk also argued that the neural network technology, based on artificial intelligence, was better than the Lidar systems used by rivals that are based on light pulses.

Musk said his space exploration firm SpaceX uses Lidar for some purposes but that "in cars it's pretty stupid, it's expensive and unnecessary."

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Citation: Tesla eyes 'robotaxis' by 2020 with new self-driving technology (Update) (2019, April 22) retrieved 4 December 2023 from

<https://techxplore.com/news/2019-04-tesla-autonomous-chip.html>

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