

Tesla reaffirms computer vision commitment despite regulator encroachment

Article

The news: At its second annual “AI Day,” Tesla announced that it is developing a “D1” chip for its Dojo supercomputer, reaffirming its commitment to using only computer vision for

driverless vehicles and removing its dependence on lidar.

- The “D1” chip sifts through massive troves of data collected from Tesla camera sensors and trains its AV neural network.
- Tesla director Ganesh Venkataramanan said the company is moving towards owning and creating as much of its tech stack as possible.

More on this: More quixotically, Tesla also said it’s developing a bipedal humanoid AI robot codenamed “Optimus.” Tesla did not share a use case for the robot, but **said** it could perform tasks either unsafe or too “repetitive” for humans.

- The company has **experience** in robotics, deploying self-navigating Autonomous Indoor Vehicles in its Gigafactory.
- It’s part of a push to be seen as “much more than an electric car company,” **per** TechCrunch.

How we got here: Tesla **announced** it was building a supercomputer to train its AV neural networks in June this year.

The elephant in the room: Tesla’s commitment to computer vision-based autonomous driving occurred under the shadow of mounting regulatory and legal pressure.

- Earlier this week, **The National Highway Traffic Safety Administration (NHTSA)** **launched** a probe into Tesla’s Autopilot driver assistance feature.
- Just days later, two senators **sent** a letter to FTC Chairwoman **Lina Khan** asking the agency to determine whether or not the company engaged in deceptive advertising of the feature.

What’s next: Tesla could be on a collision course with regulators over its decision to continue training its neural network on open roads, without large public buy-in.

- Safety advocates sounded the alarm on Tesla’s Full-Self Driving (FSD) feature, **saying** it’s not ready for mass use and endangers the lives of others who did not consent to Tesla testing the feature on public roads.
- Meanwhile, CEO Elon Musk has essentially confirmed these concerns, recently **advising** Tesla drivers to “be paranoid,” saying FSD “may do the wrong thing at the worst time.”

With all this in mind, the NHTSA may ramp up efforts to regulate where and how Tesla can test its new driver assistance updates, which could potentially slow down the volume of raw data

the company can use to train its neural network.

Forecast Sales of Vehicles by Autonomous-Driving (AD) Features, 2020, 2025 & 2030

% of total vehicle sales

2020	
Level 2 entry	23%
Level 2 advanced entry	1%
Total	24%
2025	
Level 2 entry	47%
Level 2 advanced entry	12%
Level 3 highway pilot	4%
Total	63%
2030	
Level 2 entry	39%
Level 2 advanced entry	17%
Level 3 highway pilot	5%
Level 4 highway pilot	3%
Total	64%

Source: McKinsey, "Private Autonomous Vehicles: The Other Side of the Robo-Taxi Story," Dec 1, 2020

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