

Tesla Inks Deal With Samsung to Develop New Nano Chip for Autonomous Cars



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Tesla is partnering with Samsung Electronics to develop a 5-nanometre semiconductor for fully autonomous vehicles, Korean media reports.

The Californian electric carmaker rolled out its Full Self Driving (FSD) software to a small number of private Tesla car owners for beta testing in late 2020, but it is already making plans for its next generation of autonomous vehicles.

Tesla is working towards a future of self-driving vehicles in which CEO and co-founder Elon Musk envisions millions of “robo-taxis” providing transport to those who can’t drive or who don’t want to own a car, and a source of revenue to those that own the cars.

Core to this is “4D” sensing which will enable Tesla’s FSD product to better predict and navigate the trajectories of moving obstacles such as other vehicles and pedestrians.

Samsung’s new expanded partnership with Tesla will see new 5-nanometre chips using a high-tech extreme ultraviolet (EUV) process rather than the argon fluoride (ArF) exposure process it currently applies to the 14-nm chips it already supplies to Tesla.

According to Korean news source [Asiae](#), Samsung Electronics’ foundry division is currently conducting research and development on 5-nm class system semiconductors to be mounted on Tesla autonomous vehicles.

The 5-nm semiconductor applied with the extreme ultraviolet (EUV) process is a high-tech product that only a small number of companies, such as Samsung Electronics and [Taiwan Semiconductor Manufacturing Company \(TSMC\)](#), can produce.

These will be used in the Tesla infotainment (IVI) product family, which utilises semiconductors such as processors, neural network processing units (NPU), security integrated circuits, memories, and display driving chips (DDI).

Ultimately, it is these AI chips that are regarded as a core technology to enable a vehicle to reach fully autonomous driving by processing information input from sensors, lighting, and communication in the vehicle and providing it to the screen.

In particular, the performance of chips installed in IVI is expected to become more important as companies pre-empt the development of 6G beyond the spread of 5G globally.

To this end, in late 2020 Samsung Electronics reorganized its organisational structure, such as relocating its manpower in the advanced driving assistance system (ADAS) field related to autonomous driving to the IVI field for vehicles.

If it succeeds in mass production of Tesla-oriented products, it will be able to win the attention of other automakers and outsmart TSMC in [Taiwan](#) which unveiled the world's first 7nm vehicle design platform in May 2020.

For Tesla, securing the use of the new 5-nm AI chips would constitute another step forwards in its goal to introduce widespread self-driving electric vehicles.

Read the [original article](#) on The Driven.