Luminar starts shipping lidar for Volvo EX90 – while readying its next-gen sensor

Luminar is shipping out orders of its lidar sensors to Volvo as the automaker is preparing to start production of its EX90 electric vehicles, the company said today. Volvo will use the laser sensor to enable safety and self-driving features in the EX90, making it the "first global consumer vehicle to standardize this technology," Luminar notes in a press release.

The news comes during a "Luminar Day" webcast, where the company is also announcing a new next-generation "Halo" lidar sensor – one that's designed for mainstream adoption, including in affordable vehicles, at half the cost of its current system.

The order of lidar sensors to Volvo, which Luminar notes is worth $4 billion, comes after Volvo announced last year that it had to push production start of the EX90 to early 2024. At the time, the automaker cited the need for further "software testing and development." At the time, Luminar stated Volvo's delay was unrelated to its sensors.

Luminar's lidar tech sits on top of the vehicle like a visor and uses lasers to create a 3D environment around it. The placement allows the sensor to sort of blend into the roofline; however, the company's current "Iris" sensors are still a bit obvious when looking at its partner vehicles like the EX90 and new Mercedes Benz racing vehicles.

With Luminar's new Halo sensor, the company is shrinking the

overall size of the unit so it adds less than one inch of height to the roof of cars, weighs under one kilogram, and only uses about 10 watts of power.

Halo will use four next-generation chips from Luminar Semiconductor Inc., which it says will enable four times performance improvements, three times the reduction in size, and twice the thermal efficiency compared to Iris. Luminar is moving forward with 1550nm lidars, stating it wants to “avoid future performance and power consumption issues associated with 905nm.”

Luminar says it is also continuing safety testing and validation of its lidar technology. The company worked with Swiss Re to measure how lidar can reduce the severity of accidents and found that its tech resulted in about 27 percent reduction in accidents and about 40 percent reduction in severity compared to the top-performing vehicles with camera and radar-based systems.

Luminar is also partnering with physics simulator software company Applied Institution to conduct virtual testing and validation of collected lidar data, which can reduce validation costs compared to real-world testing.

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