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Katie Burke  

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Velodyne claims the VLS-128 is the most powerful lidar sensor available on the market.

SAN FRANCISCO -- Lidar supplier Velodyne which made a name for itself with its spinning, coffee-can shaped laser sensors, has a new look.

The San Jose-based company introduced on Tuesday its latest lidar sensor for automated driving, the VLS-128. The sensor, which is shaped like a small siren, contains 128 lasers, compared with the previous model's – the HDL-64 -- 64, with 10 times higher resolution and the ability to process data without using a vehicle's onboard computer, saving compute power for other vehicle functions.

“The HDL-64 has been with us for the past 10 years,” Mike Jellen, Velodyne’s president, told *Automotive News*. “Its successor, the VLS-128, is truly a perception computer, a three-dimensional vision computer with capabilities for realtime software analysis and perception around the vehicle.”

The HDL-64 was born out of the second DARPA Grand Challenge in 2005, where teams of engineers competed to complete a course with a driverless vehicle, and was adopted by five out of the six finishing teams in the [2007 Urban Challenge](#) competition. The effectiveness of the lidar sensor in detecting 3D objects during these challenges has cemented its place in an automated driving sensor suite -- though some automakers, such as Tesla Inc., contend the [technology is not necessary](#) to achieve full autonomy.

Though lidar technology for automated driving has been around for the past decade, most sensors are [prohibitively expensive](#) for production vehicles, and may not be powerful enough to safely detect objects at high speeds. Manufacturers have been investing heavily to address this issue -- Waymo, Google’s self-driving car affiliate, [built its own sensors](#) to bring down costs -- and startups such as Quanergy, Luminar and Innoviz Technologies, have emerged with their own solutions.

Velodyne claims the VLS-128 is the most powerful lidar sensor available on the market, with the longest range at 200 to 250 meters. Jellen said the sensor was designed for mass manufacturing at its plant in San Jose, allowing it to be “attractively priced at automotive volumes.” He did not disclose exact pricing.

The sensor will begin shipping before the end of this year, and Jellen said Velodyne has already performed product demonstrations to customers. He added that the sensor can be used in advanced driver assist systems as well as Level 4 or Level 5 autonomous vehicles, which don't require human supervision.

"This technology can be applied to on-demand, autonomous vehicles, but also vehicles driven on the road today," Jellen said. "We believe it will make a material impact on people's lives in the next three to five years."

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