Ford and Baidu Invest US$150 Million in Velodyne Lidar Technology

Velodyne LiDAR, a global leader in Lidar technology, has completed a combined US$150 million investment from co-investors Ford and China's leading search engine company Baidu. The investment will allow Velodyne to rapidly expand the design and production of high-performance, cost-effective automotive Lidar sensors. This will accelerate mass adoption in autonomous vehicle and Advanced Driver Assistance Systems (ADAS) applications and therefore accelerate the critical, transformative benefits they provide.

Over the last decade, Velodyne has developed four generations of hybrid solid-state Lidar systems incorporating the company's proprietary software and algorithms that interpret rich data gathered from the environment via highly accurate laser-based sensors to create high-resolution 3D digital images used for mapping, localisation, object identification and collision avoidance. Velodyne's Lidar solutions are capable of producing 300K to 2.2 million data points per second with a range up to 200 metres at centimetre-level accuracy. The company's high-performance Lidar technology has been recognised by global automotive OEMs and rideshare customers as a critical element enabling the development of fully autonomous vehicles.

How Ford's self-driving car sees the world using Lidar, according to Ford AV director Randal Visintainer

Critical sensor

Lidar continues to prove itself as the critical sensor for safe autonomous vehicle operation, said David Hall, founder and CEO of Velodyne LiDAR. This investment will accelerate the cost reduction and scaling of Velodyne's Lidar sensors, making them widely accessible and enabling mass deployment of fully autonomous vehicles. He stated that Velodyne is determined to help improve the goal of safety for automotive vehicles as soon as possible, as well as empower the efficiency that autonomous systems offer.

From the very beginning of Ford's autonomous vehicle programme, the car manufacturer saw Lidar as key enabler due to its sensing capabilities and how it complements radar and cameras, said Raj Nair, Ford executive vice president, product development and chief technical officer. Ford has a long-standing relationship with Velodyne and this investment is a clear sign of the company's commitment to making autonomous vehicles available for consumers around the world.

Evolution of Ford Velodyne Lidar Sensors

Improving China's traffic

Baidu also shares Velodyne's vision to promote safety for autonomous vehicles on a global scale, and in particular in Baidu's home market in China, where Baidu is already testing its fleet of autonomous vehicles. Baidu is developing autonomous vehicles with the intention to increase passenger safety and reduce traffic congestion and pollution in China, said Jing Wang, senior vice president and general manager of the Autonomous Driving Unit of Baidu. Baidu's investment will accelerate the efforts in autonomous driving with what are the best Lidar sensors available today and advance Velodyne's development of increasingly sophisticated Lidar sensors.

Velodyne expects an exponential increase in Lidar sensor deployments in autonomous vehicles and ADAS applications over the next several years, driving high revenue growth. To fulfil the high demand for Velodyne's products, the company will continue to expand its resources across engineering, operations and manufacturing. In connection with this minority investment round, the Company plans to expand its board of directors to include two independent industry executives. Velodyne remains focused on strengthening its leadership in Lidar technology development and product commercialisation, working with top automotive OEM and rideshare partners to improve global transportation safety and efficiency.
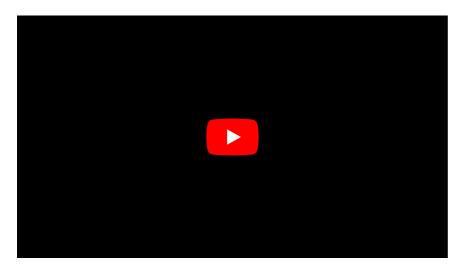
Generating 700K Data Points Per Second

Image courtesy: Ford.