With its combined range, resolution and field of view, Velodyne Lidar’s Alpha Prime™ is a sensor specifically made for autonomous driving in complex conditions for travel up to highway speeds. As a result of over ten years of lidar development and learning, the Alpha Prime is a sensor specifically made for autonomous driving in complex conditions for travel up to highway speeds. The combined range, resolution and field of view in one sensor is designed to be a catalyst to drive the autonomous strategies of automotive and robotaxi companies, as well as advanced driver assistance systems (ADAS).

The elegantly designed Alpha Prime can support navigation in critical environmental perception challenges. It delivers a 360° horizontal/40° vertical field of view, range of 300 meters, and high resolution and point density at full frame rate. The synergy of these capabilities in a single device can enable autonomy under a wide range of environmental and lighting conditions.

The Alpha Prime offers high resolution along with robust reflectivity returns, simplifying detection and tracking of vehicles, pedestrians and other obstructions. The Alpha Prime provides industry-leading sensor-to-sensor interference mitigation, advancing the elimination of lidar crosstalk and environmental noise. It also delivers power efficiency and thermal performance without the need for active cooling.

The Alpha Prime has demonstrated stability, reliability and resilience in rigid automotive-grade testing and validation. Velodyne has multiple global manufacturing sources that meet automotive industry production standards. Using proprietary manufacturing processes, the company can produce high-quality sensors at volume to address customer needs.

Among the robotaxi companies that are using Alpha Prime is Voyage.

“Voyage has developed and deployed self-driving cars super-charged by Velodyne’s lidar technology,” said Oliver Cameron, Voyage Co-Founder & CEO. “Our team was amazed by the advancements in the Alpha Prime and are continually impressed by Velodyne’s string of innovations.”

Alpha Prime also supports a wide variety of other applications, including mobile mapping, robotics, security and more.

Superior Low Reflectance Object Detection

The Alpha Prime enables autonomous operation within a broad range of settings, including urban and highway environments. It produces detection of dark or low reflectance objects at long distances, such as tires, dark vehicles, low reflectivity pavement and low visibility pedestrians. The sensor also delivers advanced negative obstacle perception, such as potholes and cracks in the road.

In contrast to the Alpha Prime, camera sensors suffer in low lighting conditions, struggle with optical illusions and require relatively complex computations to provide distance measurements. Looking at another sensor type in comparison with lidar, radar has lower resolution (>10 centimeters+), so a radar’s 3D image is fuzzy. Radars also have difficulty detecting stationary objects and are not generally capable of accurate object detection.

Advancing Safety
The Alpha Prime sensor produces millions of data points per second, enabling precise, reliable navigation in real time to detect objects, vehicles and people that might pose a collision threat. The Alpha Prime can help autonomous vehicles navigate roadways at various speeds, traveling in a range of conditions such as rain, sleet and snow. Equipped with the Alpha Prime, autonomous vehicles can safely and efficiently navigate in unfamiliar and dynamic environments.

Specifications
For more information and product specifications, please click here: Alpha Prime.

About Velodyne Lidar
Velodyne Lidar (NASDAQ: VLDR) ushered in a new era of autonomous technology with the invention of real-time surround view lidar sensors. Velodyne is the first public pure-play lidar company and is known worldwide for its broad portfolio of breakthrough lidar technologies. Velodyne's revolutionary sensor and software solutions provide flexibility, quality and performance to meet the needs of a wide range of industries, including autonomous vehicles, advanced driver assistance systems (ADAS), robotics, unmanned aerial vehicles (UAV), smart cities and security. Through continuous innovation, Velodyne strives to transform lives and communities by advancing safer mobility for all. For more information, visit www.velodynelidar.com.

Forward Looking Statements
This press release contains "forward looking statements" within the meaning of the "safe harbor" provisions of the United States Private Securities Litigation Reform Act of 1995 including, without limitation, all statements other than historical fact and include, without limitation, statements regarding Velodyne's target markets, new products, development efforts, competition. When used in this press release, the words "estimates," "projected," "expects," "anticipates," "forecasts," "plans," "intends," "believes," "seeks," "may," "will," "should," "future," "propose" and variations of these words or similar expressions (or the negative versions of such words or expressions) are intended to identify forward-looking statements. These forward-looking statements are not guarantees of future performance, conditions or results and involve a number of known and unknown risks, uncertainties, assumptions and other important factors, many of which are outside Velodyne's control, that could cause actual results or outcomes to differ materially from those discussed in the forward-looking statements. Important factors, among others, that may affect actual results or outcomes include Velodyne's ability to manage growth; Velodyne's ability to execute its business plan; uncertainties related to the ability of Velodyne's customers to commercialize their products and the ultimate market acceptance of these products; the uncertain impact of the COVID-19 pandemic on Velodyne's and its customers' businesses; uncertainties related to Velodyne's estimates of the size of the markets for its products; the rate and degree of market acceptance of Velodyne's products; the success of other competing lidar and sensor-related products and services that exist or may become available; Velodyne's ability to identify and integrate acquisitions; uncertainties related to Velodyne's current litigation and potential litigation involving Velodyne or the validity or enforceability of Velodyne's intellectual property; and general economic and market conditions impacting demand for Velodyne's products and services. Velodyne undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

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