



Velodyne Lidar Launches Breakthrough Intelligent Infrastructure Solution

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Rutgers University Selects Velodyne's Solution as Cornerstone Technology for New Jersey Department of Transportation Smart City Project

SAN JOSE, Calif.--(BUSINESS WIRE)--May 10, 2021-- [Velodyne Lidar, Inc.](#) (Nasdaq: VLDR, VLDRW) today launched its [Intelligent Infrastructure Solution](#) designed to solve some of the most challenging and pervasive infrastructure problems. This new solution combines Velodyne's award-winning lidar sensors and [Bluecity's](#) powerful artificial intelligence (AI) software to monitor traffic networks and public spaces. It generates real-time data analytics and predictions, helping to improve traffic and crowd flow efficiency, advance sustainability and protect vulnerable road users.

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20210510005173/en/>



Velodyne Lidar launched its Intelligent Infrastructure Solution designed to solve some of the most challenging and pervasive infrastructure problems. This new solution combines Velodyne's award-winning lidar sensors and Bluecity's powerful artificial intelligence (AI) software to monitor traffic networks and public spaces. (Photo: Business Wire)

Velodyne solution after a rigorous vetting process, in which they tested other sensor solutions and competitive lidar systems.

"The acquisition and analysis of mobility data is crucial to integrating autonomous vehicles, and creating a safer pedestrian and cycling environment," said Dr. Ali Maher, professor and director, Rutgers Center for Advanced Infrastructure and Transportation. "Velodyne's Intelligent Infrastructure Solution captures data on various traffic activity including vehicles, pedestrians and bicyclists in all types of environmental conditions. We envision the solution as playing a critical role in helping us create a safer environment for all road users."

"There is a growing commitment by governments worldwide to rebuild outdated transportation infrastructure systems. Leading the way is the 2.25 trillion-dollar proposal by the Biden Administration to invest in the modernization of vehicles, roads and transit systems. As Velodyne looks at a world with connected and autonomous vehicles, we know that infrastructure will play a critical role in moving this industry forward," said Anand Gopalan, Chief Executive Officer, Velodyne Lidar. "Our solution, powered by Bluecity's AI-powered traffic monitoring software platform, will be key in the efforts to transform our roads and transportation infrastructure into smart cities, paving the way for a more sustainable, safer future."

Velodyne's Solution Transforming Infrastructure

Velodyne's Intelligent Infrastructure Solution creates a real-time 3D map of roads and intersections, providing precise traffic monitoring and analytics. It reliably collects data in any lighting or weather condition, supporting 24/7, 365 days a year operation. The solution advances safety through multimodal analytics that detect various road users including, vehicles, pedestrians and cyclists. It can predict, diagnose and address road safety challenges, helping municipalities and other customers make informed decisions to take corrective action.

The Intelligent Infrastructure Solution is more cost-effective and easier to install than radar- and camera-based systems. This lower price point is because a single lidar sensor installed on a traffic pole can cover an entire intersection or highway section compared to radar- and camera-based systems that typically need multiple sensors to cover the same area. The solution works with Velodyne's Alpha Prime, [Ultra Puck™](#), [Puck™](#) and Velarray sensors. Velodyne's lidar sensors do not identify individuals' facial characteristics, a growing concern for civic applications. Lidar has an advantage in privacy over camera-only systems because lidar does not record details like hair and skin color.

"Rogers collaborated with Velodyne and Bluecity on a traffic monitoring system in Kelowna, B.C., which was Canada's first 5G smart city project," said

The Intelligent Infrastructure Solution is available now exclusively from Velodyne. It is already deployed in multiple North America cities, including in Quebec and British Columbia, with upcoming installations in New Jersey and more deployments expected across the United States.

Velodyne also announced a sales agreement with [Rutgers Center for Advanced Infrastructure and Transportation \(CAIT\)](#) to deploy its Intelligent Infrastructure Solution equipped with Velodyne's [Alpha Prime™](#) lidar sensors. CAIT will install the solution at multiple intersections in New Brunswick, New Jersey as part of the Middlesex County – Smart Mobility Testing Ground (MC-SMTG) project in collaboration with the New Jersey Department of Transportation (NJDOT). The project will serve as a testbed for mobility data-gathering, analysis and sharing technologies that will help implement connected and autonomous vehicle systems in the future. CAIT selected the

Neel Dayal, Senior Director, Innovation and Partnerships at Rogers Communications. "The initiative showed how this lidar-based solution can track near-misses of accidents at problematic intersections. By using the solution's data, municipalities can do the critical work of improving roadway safety in a cost-effective and efficient way."

"We are excited to partner with Velodyne in order to bring to market this breakthrough solution that collects and analyzes detailed traffic data about road users while preserving anonymity and trust," said Asad Lesani, CEO at Bluecity. "We believe that Velodyne sensors are best-in-class and this solution will be a game changer for the smart city industry."

Addressing Critical Transportation Infrastructure Challenges

Velodyne Lidar's Intelligent Infrastructure Solution can be used for:

Safety Analytics. Velodyne's Intelligent Infrastructure Solution near-miss analytics can be used to predict, diagnose and address road safety challenges before the next collision happens. Today's camera-based solutions require several cameras per intersection or identified public area, which typically take longer processing times to get the final analysis. Traffic studies aren't complete if they operate only at certain hours or under certain conditions.

Traffic Efficiency and Sustainability. Velodyne's Intelligent Infrastructure Solution delivers reliable real-time traffic data to optimize traffic light timing based on congestion and throughput in all types of weather and lighting conditions. The solution can cover various road users, including vulnerable pedestrians and cyclists, whereas current technologies generally provide data for vehicles only. Also, lidar doesn't require any interaction with a person's cell phone, enabling it to accurately track people in crowded areas while preserving privacy.

Crowd Analytics. The solution can enable businesses and cities to improve revenue and infrastructure by providing foot traffic data analytics to learn about traffic patterns, congregation areas, congestion points and more. Knowing how people flow through a building and where they stop along the way is useful to designers, architects and city planners.

Vehicle to Everything (V2X) Communication. Velodyne's Intelligent Infrastructure Solution uses extracted trajectory road user data around intersections to predict potential collisions, which can be used to warn connected vehicles via V2X communications. Vehicle manufacturers can leverage the solution's analytics in combination with their on-board safety systems to reduce accident probability.

Emergency Services. Velodyne's Intelligent Infrastructure Solution detects collisions and near-miss incidents in real time to provide data to emergency response services for faster dispatch in both urban and rural environments.

Environmental Protection. Velodyne's IIS can detect wildlife crossings and help prevent collisions that often result in substantial personal, environmental and economic losses, including human injuries, fatalities, loss of wildlife and vehicle damage.

About Bluecity

Bluecity is a software company that combines artificial intelligence and lidar sensors to provide accurate, real-time traffic data for the Intelligent Transportation Systems (ITS) industry. Built by and for transportation engineers, Bluecity's solution uses deep learning to transform raw lidar data into actionable road usage and safety information. From turning movement counts, to analysis of near misses between vehicles, pedestrians, and cyclists, their system reliably detects all road users in any weather or lighting condition. With their innovative, turnkey solution, Bluecity makes cities safer and smarter. Visit bluecity.ai for more information.

About Velodyne Lidar

Velodyne Lidar (Nasdaq: VLDR, VLDRW) 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," "can," "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 uncertainties regarding government regulation and adoption of lidar, the uncertain impact of the COVID-19 pandemic on Velodyne's and its customers' businesses; 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 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; 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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