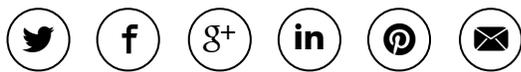


Equipped with Velodyne LiDAR'S HDL-32E 3D Sensor, Hi-Tech Robotic Systemz's Novus Drive Debuts as India's First Driverless Shuttle

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Fourteen-Seat Autonomous Vehicle Ferries Passengers During 2016 Auto Expo Motor Show in Delhi

MORGAN HILL, CA (PRWEB) JULY 14, 2016

Helping guide India's first driverless shuttle, [Velodyne LiDAR](#) today announced that it has provided its HDL-32E real-time 3D LiDAR sensor to Hi-Tech Robotic Systemz, developer of the 14-seat Novus Drive autonomous vehicle.

Built in Gurgaon, 20 miles south of New Delhi, the Novus Drive shuttle debuted at the recent 2016 Auto Expo Motor Show in Delhi, ferrying visitors from one pavilion to another. The Novus Drive achieves full autonomy through its on-board 32-channel Velodyne LiDAR sensor, stereo vision cameras, GPS inertial navigation system, and machine-driven algorithms for path planning and obstacle detection/avoidance. The vehicle is the first of its kind manufactured in India.

Novus Drive is capable of sensing the surrounding environment while performing intelligent maneuvers for autonomous navigation and passenger interaction. Using a tablet mounted on the vehicle, passengers can set destination goal points and check details of destination drop-off locations on configurable cached maps. Once a destination is entered, the vehicle begins its journey. The shuttle can be summoned with a mobile app, which also enables destination selection and seat reservations. A "snooze button" makes the vehicle stop, and audiovisual alerts are available in case of emergency.

"Novus Drive effectively knows where it is at all times – that's the beauty of this implementation," said Anuj Kapuria, Director and CEO, Hi-Tech Robotic Systemz. "Velodyne's LiDAR sensor maps the entire environment and creates a 3D reconstruction from which the shuttle can make decisions for autonomous navigation. At the same time, stereo camera vision creates video feeds with in-depth information for



Equipped with Velodyne LiDAR's HDL-32E sensor, Novus Drive shuttle from Hi-Tech Robotic Systemz

determining traversable and non-traversable paths. With this kind of detailed data, Novus Drive can reach its destination with ease, pausing and moving according to the route and actual road congestion."

"Novus Drive points the way toward future passenger shuttle-type operations, especially those that don't require build-out of an extensive infrastructure," said Wei Weng, Velodyne Asia Sales Director. "Velodyne LiDAR has become the de facto standard for autonomous vehicles and we're delighted to have assisted Hi-Tech Robotic Systemz in its initial outing at the Auto Expo Motor Show, in an environment that was as 'real world' as it gets. Our LiDAR technology is consistently reliable, whatever the conditions."

The Novus Drive was designed for commuting in a variety of controlled environments -- large campuses, trade fairs, theme parks, healthcare communities for the elderly and, in time, smart cities.

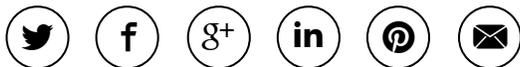
About Hi-Tech Robotic Systemz

Established in 2004, Hi-Tech Robotic Systemz is a pioneering company in the field of unmanned systems development, artificial intelligence and computer vision in India. In a short duration of our existence we have been able to build a substantial base on core technologies & have been able to develop patented products. The Hi-Tech Robotic Systemz currently has three major business divisions: Automated Guided Vehicles, Industrial Automation and Defence Robotics. Automated Guided Vehicles is an indigenous development of The Hi-Tech and is proud to be the only Indian company with AGVs to have successfully delivered more than 60 vehicles for a variety of applications and industries.

About Velodyne LiDAR

Founded in 1983 and based in California's Silicon Valley, Velodyne LiDAR Inc. is a technology company known worldwide for its real-time LiDAR (light detection and ranging) sensors. The company evolved after founder/inventor David Hall competed in the 2004-05 DARPA Grand Challenge using stereovision technology. Based on his experience during this challenge, Hall recognized the limitations of stereovision and developed the HDL-64 Solid-State Hybrid LiDAR sensor. Velodyne subsequently released its compact, lightweight HDL 32E sensor, available for many applications including UAVs, and the new VLP-16 LiDAR Puck, a 16-channel real-time LiDAR sensor that is both substantially smaller and dramatically less expensive than previous generation sensors. Market research firm Frost & Sullivan has honored the company and the VLP-16 with its 2015 North American Automotive ADAS (Advanced Driver Assistance System) Sensors Product Leadership Award. Since 2007, Velodyne LiDAR has emerged as the leading developer, manufacturer and supplier of real-time LiDAR sensor technology used in a variety of commercial applications including autonomous vehicles, vehicle safety systems, 3D mobile mapping, 3D aerial mapping and security. For more information, visit <http://www.velodynelidar.com>. For the latest information on new products and to receive Velodyne's newsletter, [register here](#).

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