





PIONEER CORPORATION

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Pioneer Initiate Trial Run of Autonomous Shuttle Bus with 3D-LiDAR Sensor in Singapore

Tokyo, Japan —Pioneer Corporation announced today that it and MooVita Pte Ltd (hereinafter "MooVita") will initiate a trial run of an autonomous shuttle bus equipped with Pioneer's 3D-LiDAR sensor within the facility area of Ngee Ann Polytechnic, a higher education institution in Singapore. Through this trial run, the two companies will aim to commercialize services of autonomous driving level 4.



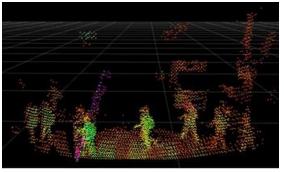


[Autonomous shuttle bus with Pioneer's 3D-LiDAR sensor]

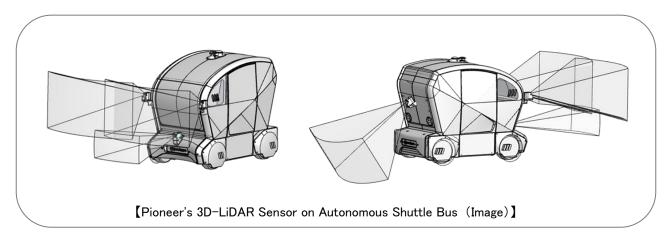




[Trial run of autonomous shuttle bus within the facility area of Ngee Ann Polytechnic]



[3D point cloud data collected by Pioneer's 3D-LiDAR sensor]



MooVita is a startup company founded by ex-employees of A*STAR, the Agency of Science, Technology & Research in Singapore, which promotes developments of autonomous driving technologies. It has developed its autonomous driving business in Malaysia and India as well as in Singapore.

The 3D-LiDAR sensor uses laser beams to measure distances to objects accurately and grasps information on distances and surroundings in real time and in three dimensions. It is regarded as an essential device for vehicle use for level 3 and higher autonomous driving. Pioneer is developing a high-performance, downsizing, lower price 3D-LiDAR sensor using a MEMS mirror, aiming for mass production in the 2020s. Since late September 2018, Pioneer has started shipping three types and four models of 3D-LiDAR sensors with a different measurement distance and field of view to various companies in Japan and overseas. And using these models, Pioneer will develop a high accurate "Object Detection algorithm" and "Localization algorithm."

http://autonomousdriving.pioneer/en/

Pioneer will provide the knowledge and technologies concerning 3D-LiDAR sensors and algorithm, while MooVita will advance the development of autonomous driving solutions. Both companies will contribute together to the early practical implementation of autonomous driving and autonomous driving services.

[About MooVita]

Founded in 2016, MooVita is a high-tech startup specialised in providing autonomous driving solutions. The company is headquartered in Singapore with offices in Malaysia and India. MooVita is founded by a passionate team who are one of the first teams to put autonomous vehicles on Singapore public roads. MooVita is developing complete "Autonomous Driving Software Solutions for Urban cities." For more information about MooVita, visit: http://www.moovita.com

[About Ngee Ann Polytechnic]

https://www.np.edu.sg/Pages/default.aspx