NTU and Volvo Buses to develop electric, driverless buses by 2019

Through a partnership inked on Thursday (Jan 11), Volvo will provide two 12m, 40-seater battery-powered buses, which will be fitted with autonomous driving technologies. ST PHOTO: TIMOTHY DAVID

SINGAPORE - Nanyang Technological University (NTU) and Volvo Buses will team up to develop driverless electricity-powered buses, which they target to begin testing in Singapore in early 2019.
Through a partnership inked on Thursday (Jan 11), the Swedish firm will provide two 12m, 40-seater battery-powered buses, which will be fitted with autonomous driving technologies.

The buses will have Global Positioning System and lidar (light detection and ranging) sensors, which use laser beams to map the surrounding environment and detect obstacles.

The two parties will work with Swiss-Swedish engineering group ABB to use the company's fast-charging technology to charge up the buses' batteries during layovers.

NTU and Volvo will also partner SMRT to assess buses at a depot to see if the vehicles can navigate into washing bays and park at charging stations.

The four parties – NTU, Volvo, ABB and SMRT – signed agreements to collaborate, during a ceremony on Thursday at the NTU's Research Techno Plaza. The event was attended by Swedish Ambassador to Singapore, Mr Hakan Jevrell.

The self-driving buses will first be tested in a test circuit for autonomous vehicles, located outside NTU, before they are put on the roads.

An artist impression of a Volvo electric bus being tested out at the Centre of Excellence for Testing & Research of AVs – NTU (Cetran). PHOTO: VOLVO BUSES
NTU previously said it would deploy the driverless buses on a 1.4km route between NTU and the neighbouring CleanTech Park, before possibly extending the route to the nearby Pioneer MRT station.

NTU’s vice-president for research, Professor Lam Khin Yong, said the development of a driverless bus will dovetail with the Government’s vision to have autonomous vehicles in Punggol, Tengah and the Jurong Innovation District from 2022 for commuter use.

Prof Lam said during a media briefing on Thursday: “Hopefully, this collaboration with Volvo will be one of the successful tenderers for that exercise.”

About 50 researchers and students from NTU will be roped in for the research collaboration with Volvo over a four-year period.

While Volvo provides the buses and autonomous driving technology, NTU will work with Volvo to develop software and algorithms for application in public bus transportation.

Volvo Buses' president Hakan Agnevall said Volvo is an ideal fit for Singapore's roads, as 1,800 of Singapore's 2,200 double-decker buses are currently running on Volvo chassis.

Mr Agnevall said the partnership with NTU marks the company's first foray into autonomous uses for buses and public transport.

Volvo has been involved in developing autonomous vehicles for mining, quarry and refuse collection operations.

Asked about when passengers can actually ride one of Volvo's autonomous buses, Mr Agnevall told The Straits Times that with a safety driver on board, this can happen “very soon” after tests are concluded.

NTU president Subra Suresh said in a speech at the university on Thursday: "Like NTU, Volvo embraces technological change and disruption. They are no strangers to electro-mobility with their electric and electric hybrid buses, which are already operating around the world.

"Together with NTU's expertise in engineering and mobility research, this partnership will push the frontiers of public transportation."