News

Volvo and Singapore University NTU Unveil World's First Full Size Autonomous Electric Bus

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Volvo Buses and Nanyang Technological University (NTU) in Singapore have demonstrated the world's first 12-metre autonomous electric bus. The Volvo bus will soon begin trials on the NTU campus.

GOTHENBURG, Sweden, March 5, 2019 /CNW/ - The 85 passenger Volvo 7900 Electric bus is equipped with sensors and navigation controls that are managed by a comprehensive artificial intelligence (AI) system. Ensuring maximum safety and reliability, the AI system is also protected with cyber security measures to prevent unwanted intrusions.

The Volvo bus has undergone preliminary rounds of rigorous testing at the Centre of Excellence for Testing and Research of Autonomous vehicles (CETRAN).

Plans are in place to test the bus on NTU campus and to extend the route beyond the university.

The fully autonomous electric bus provides a quiet operation with zero emissions. It requires 80 per cent less energy than an equivalent sized diesel bus.

This is Volvo's first autonomous fully electric bus in public transportation.

Håkan Agnevall, President Volvo Buses, said, "Our electric bus featuring autonomous technology represents an important step towards our vision for a cleaner, safer and smarter city. The journey towards full autonomy is undoubtedly complex, and our partnership with the NTU and LTA is critical in realizing this vision, as is our commitment to applying a safety first approach."

The bus comes with a Volvo autonomous research software that is connected to key controls and multiple sensors. NTU researchers have enhanced it with an AI system that communicates with sensors, enabling the bus to operate autonomously.

This includes light detection and ranging sensors (LIDARS), 360-degree cameras and an advanced global navigation satellite system that uses real-time kinematics. This is like any global positioning system (GPS), but uses multiple data sources to give pin-point location accuracy up to one centimetre.

The system is hooked-up to an "inertial management unit", measuring the bus's lateral and angular rate. This will improve the bus's navigation when going over uneven terrain, ensuring a smooth ride.

Volvo Buses is one of the world's leading bus manufacturers, with a strong focus on vehicles and systems for long-term sustainable public transport. Volvo Buses is part

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