



# ‘World’s first’ autonomous electric buses to hit road in Singapore

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Nanyang Technological University Singapore (NTU Singapore) and Volvo Buses have launched what they claim to be the world’s first full size, autonomous electric bus.

The 36-seat single-deck bus, which will soon begin trials at the NTU Smart Campus, is part of the university’s partnership with the Land Transport Authority (LTA) to develop and conduct autonomous vehicle bus trials for fixed route and scheduled services.

Spanning 12 meters long, the single-deck Volvo 7900 Electric bus can accommodate nearly 80 passengers. The zero-emissions vehicle also requires 80% less energy than a same-sized diesel bus.



The bus also comes equipped with a Volvo Autonomous Research Platform software that is connected to key controls such as its navigation system and multiple sensors. Among them, light detection and ranging sensors (LIDARS), stereo-vision cameras that capture images in 3D, and an advanced global navigation satellite system that uses real-time kinematics, Singapore Business Review reports.

NTU and Volvo officials say this is like any global positioning system (GPS) but uses multiple data sources to give pin-point location accuracy of up to one centimeter.

The system is also hooked up to an “inertial management unit”, which acts as a two-in-one gyroscope and accelerometer, measuring the lateral and angular rate of the bus. This will improve its navigation when going over uneven terrain and around sharp bends, ensuring a smoother ride.

Plans are in place to test the bus at NTU and to subsequently extend the route beyond the NTU campus. As part of the public trials, Singapore’s public transport operator SMRT will play a key role in determining the roadworthiness of autonomous vehicles on public roads.

A second autonomous 12-meter Volvo 7900 Electric bus will undergo tests at a bus depot managed by SMRT.

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