Singapore self-driving test centre has mock skyscrapers, simulated rain

"Before you are ready to go to the public roads, we test them there to see if they are actually ready," said Leong De Boer, programme director at the centre.

"The test is being utilized as part of a government programme that could eventually see them deployed in the city, according to a local media, while cars and buses are also being tested, and trials of delivery robots will soon start in the area.

"Ordinarily Singapore is looking to secure autonomous technology companies looking to test their vehicles in its jurisdiction, where many new city centers are crowded and traffic congested. The government has put the test as it wants to attract more foreign firms and because it sees the technology as useful for public transport and delivery services. The first trial of an autonomous car on public roads took place in 2015. In 2018, US software firm Nutonomy launched driverless taxi trials in public in Singapore, becoming the first company in the world to do so.

Authorities aim to deploy autonomous public transport in three areas by 2022, and in October announced it was expanding the area where self-driving vehicles can be tested to 1,000 km² of public roads.

Self-driving vehicles will mainly be used in the public transport network for tasks such as shuttling people to stations and stops from their homes or workplaces, said Sudhak Mohanakumar, an NTU professor involved in the autonomous vehicle programme.

Mr De Boer from the CITRAN centre said authorities were working on ensuring the correct regulations, such as traffic laws, are in place for self-driving vehicles.

Countries where private companies are taking the lead risk having "wonderful technology but not being able to ramp it up" in the market because of the absence of rules, he added.

"Our priority is safety, and Singapore is taking it very seriously," said Leong De Boer. Some of the tests are limited to areas where self-driving vehicles can be tested, he added.

"It would be very difficult to lead in the entire industry simply because the nation is small," said Xu Min, associate professor of strategy at Singapore Management University instead.

"It is a journey that may take 10 to 20 years, but it is inevitable," NTU's Professor Mohanakumar said.