Mock skyscrapers, simulated rain at Singapore self-driving test centre

( AFP) - The road sweeper and a grail buggy move around the track with ease, store their bricks on a pedestrian steps out and navigates sharp turns.

Welcome to Singapore’s self-driving test centre, complete with traffic lights and mock skyscrapers, which is at the heart of the city’s push to build a hub for autonomous technology.

However, while authorities are keen to tap a global drive by auto giants and startups to develop vehicles, the industry must still prove it is safe and persuade people to use the technology.

The two-hour (90-minute) ride has track with sharp turns, traffic lights, a slope, and a bus stop to simulate real driving conditions. Shuttle boxes are also expected to emulate how high risks could potentially block sensitive signals to self-driving machines.

The CETRAN, center, run by Nanyang Technological University (NTU), even has a rain-making machine that simulates frequent tropical downpours in the Southeast Asian city-state of 5.7 million people.

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

All companies must put their cars through the centre’s testing and certification programmes before they are allowed to hit public roads.

The sweeper is being tested as part of a government plan that could eventually see them deployed in the city, according to local media, while cars and buses are also being tested, and trials of delivery robots will soon take place.

Ordinarily Singapore is seeking to how autonomous tech companies looking to test their vehicles in Asia, where many other major cities are chaotic and traffic-clogged.

The government has led the drive, as it seeks to attract more foreign firms and because it sees the technology as useful for public transport and delivery services.

The first trials of an autonomous car on public roads took place in 2015.

In 2016, 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 2021, and in October announced it was expanding the area where self-driving vehicles can be tested to 1,000 km (625 miles) of public roads.

Self-driving vehicles will mainly be used to transport people, with tasks such as shuttling people to stations and shops from their homes or workplaces, said Subodh Mishra, an NTU professor involved in the autonomous vehicle programme.

De Boer from the CETRAN centre said authorities were working on enrolling the current 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 launch it in the market because of the absence of rules, he added.

There are still many roadblocks ahead, however.

Safety remains a major concern for the industry worldwide — in 2018, a self-driving Uber car was involved in a crash that killed a woman in Arizona.

All trials in Singapore still require a safety driver and most vehicles are not yet ready to cope with the regular tropical downpours.

And the tiny country remains behind other markets, such as the US, where self-driving ride services are in various stages of deployment.

"It would be very difficult to lead in the whole industry simply because the notion is used," said Guoli Chen, associate professor of strategy at French Business School INSEAD.

The key challenge may be persuading members of the public to hop aboard self-driving vehicles, and experts say the technology will have to be introduced in stages.

"It’s a journey that may take 10 to 20 years, but I think it’s inevitable," NTU’s Mishra said.

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