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TECH

World's First Self-Driving Taxis Hit the Road in Singapore

Singapore's nuTonomy debuts autonomous cabs, beating the likes of U.S. tech giants Uber and Google

By **JAKE MAXWELL WATTS**

Updated Aug. 25, 2016 6:51 a.m. ET

SINGAPORE—Singapore became the first country in the world to launch a self-driving taxi service on Thursday, beating ride-hailing giant Uber Technologies Inc. by mere days to public road tests of a technology that could revolutionize the transport industry.

The trial, although small, illustrates how intense the global race to develop autonomous driving vehicles has become. The field has traditionally been dominated by U.S. tech giants like Uber and Alphabet Inc.'s Google.

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Singapore's nuTonomy, founded by two researchers from the

Massachusetts Institute of Technology, said Thursday it began testing a free taxi-hailing

service in a small business district in Singapore called one-north, a campus-like space dominated by tech firms and biotechnology companies. Other tech companies including Chinese internet giant Baidu Inc. have been testing self-driving cars on the roads for years, but this is the first time the vehicles have been open to public use.

The trial was given the blessing of the Singapore government, which has long sought to turn the city-state into a hub for disruptive technology through generous financial-assistance programs and research partnerships with firms like nuTonomy.

“Quite frankly I think Uber is the Goliath and we need to show that our technology is working and getting to a level of maturity that is viable for the marketplace,” Doug Parker, chief operating officer of nuTonomy, said in an interview Thursday. “We’re in a technology race here and I think there are going to be a handful of winners.”



NuTon
omy's
test

Singapore-based nuTonomy has started testing a free taxi-hailing service in the city-state. *PHOTO: NUTONOMY*

vehicles, a Renault Zoe and Mitsubishi i-MiEV electric car, will have a computer engineer and backup human driver during the trial phase in case anything goes wrong, and can be hailed by select members of the public using a smartphone app, the company said. The one-north district is a self-contained area of about 0.8 square miles accessible by trunk roads but much quieter than most public roads in Singapore. NuTonomy said it would test its vehicles on a 6 kilometer (3.7 mile) route.

Mr. Parker said the Singapore government had laid out a series of milestones for nuTonomy to achieve before it is allowed to extend its trials to other areas of the city. He declined to provide details on those milestones, but said the next stage would be to expand the service to a neighborhood adjacent to one-north.

“We are placing a strong bet that Singapore is going to be the first country in the world to offer a consumer service” on a national scale, Mr. Parker said, adding that nuTonomy is targeting an island-wide autonomous taxi service as soon as 2018.

Yet while Singapore’s small size and tightly controlled road network make it a strong

‘We’re in a technology race here and I think there are going to be a handful of winners.’

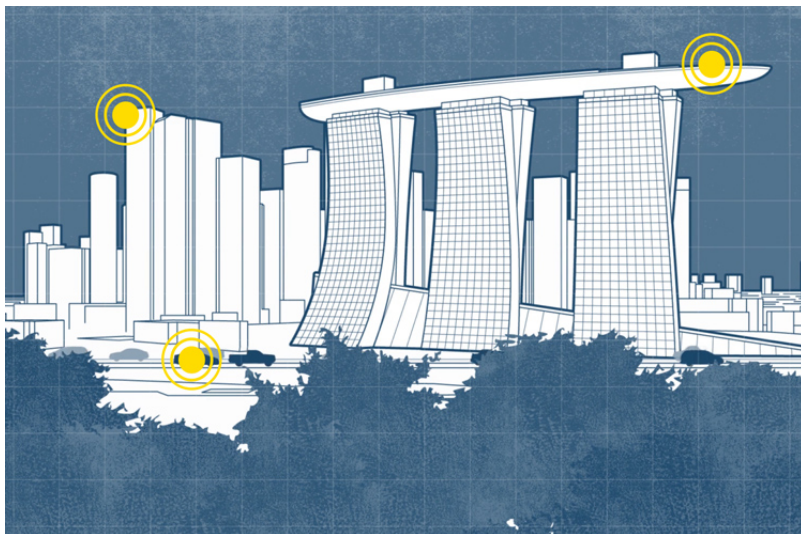
—Doug Parker, chief operating officer of nuTonomy

contender, nuTonomy is far behind the likes of Uber, Google and Tesla Motors Inc. in funding and publicity. Uber said earlier this month it will begin trials of its own self-driving vehicles in Pittsburgh by the end of August and targets as many as 100 vehicles in the coming months.

The city of Pittsburgh is significantly larger than the one-north district of Singapore and would allow Uber to collect more data to advance its technology than its Singapore-based rival. Uber already has a network of more than 1.5 million active drivers worldwide offering ride-hailing taxi services.

A spokesman for Uber didn’t have immediate comment.

Interactive: Singapore’s ‘Smart Nation’



The Singapore government is testing an ambitious range of ‘smart city’ technologies to aid city planners.

Other firms, most notably Alphabet’s Google, have already clocked millions of miles on public roads with their autonomous vehicles. NuTonomy’s

own vehicle drove repeatedly around one-north on Thursday, avoiding pedestrians and illegally parked vehicles without difficulty, though its motion was at times jerky and braking harder than necessary or excessively cautious.

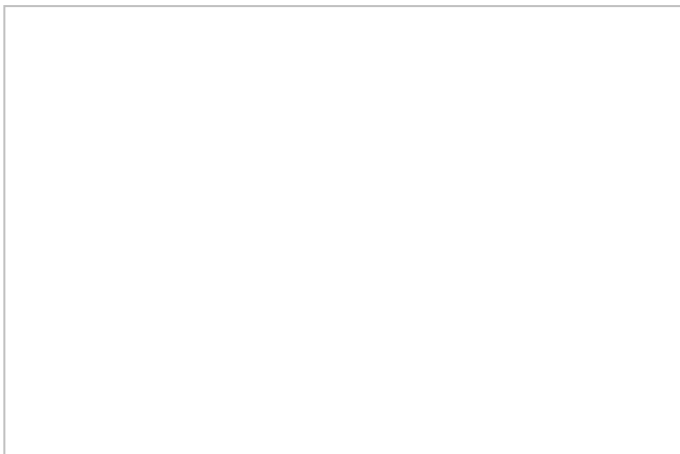
For many of these firms, regulation, not technology, is their biggest challenge. Autonomous vehicles are pitched as safer and more reliable than human drivers, but many people say they distrust machines because they aren't capable of making moral or instinctive decisions as a human may do. Some industry observers say autonomous driving technologies are years away from public use for these reasons.

There have been some high-profile accidents involving autonomous or semiautonomous vehicles, such as a fatal one earlier this year in Florida involving Tesla's driver assistance software.

NuTonomy's Mr. Parker said one of the trial's goals is to introduce the public to the new technology. "We don't want it to be scary," he said.

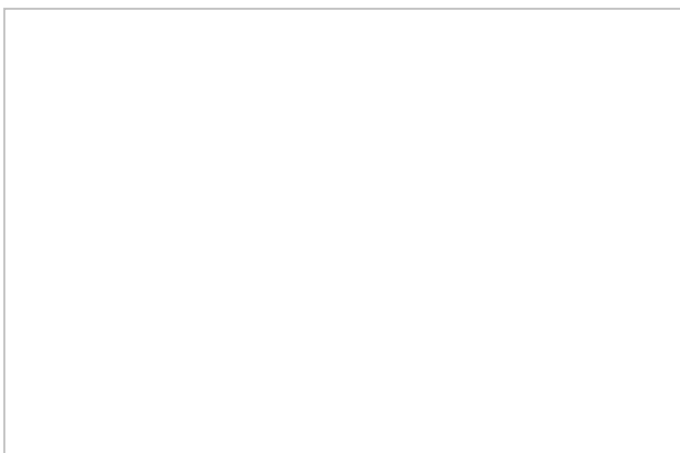
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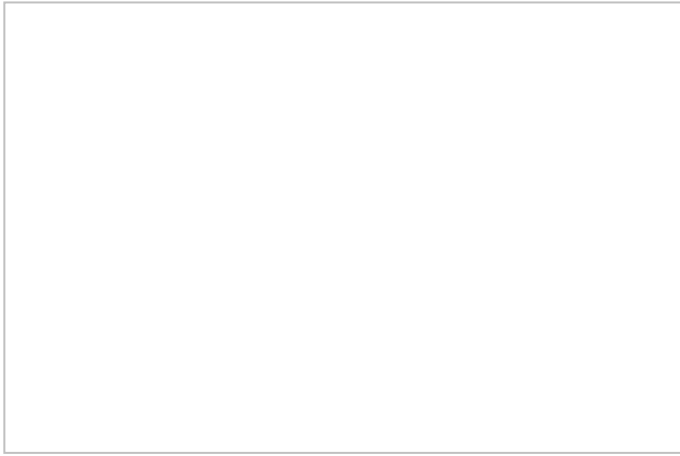
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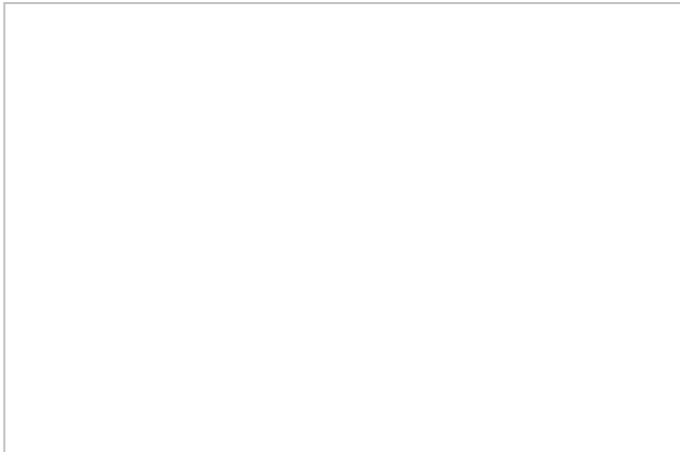
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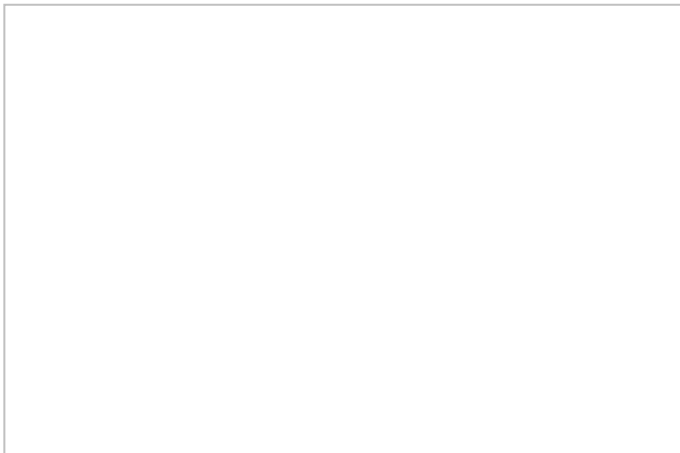
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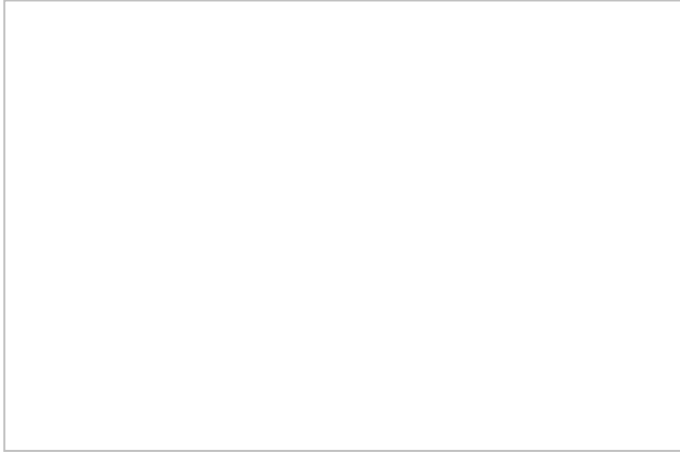
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