

First 5G public sector trials rolled out in Sentosa

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A driverless road sweeper in Sentosa that can be remotely controlled, in case of an emergency, by an operator located about 20km away in Jurong West is one of the new applications tapping 5G mobile networks that the Government is testing in the resort island.

It is among the first set of 5G public sector trials in Sentosa announced yesterday by Minister for Communications and Information Josephine Teo.

This 5G@Sentosa project is led by the Government Technology Agency (GovTech), Sentosa Development Corporation and telco Singtel.

"As part of our continuing efforts to pioneer bold ideas, we have transformed Sentosa, itself an innovative resort island, into a 5G test bed for the public sector," said Mrs Teo virtually at the Mobile 360 Asia Pacific conference.

The trials allow public agencies to track the capabilities of 5G for various smart nation applications, with the goal of rolling them out on the mainland in the next five years.

Some applications could offer manpower savings, improve safety at worksites and deliver services to people more easily.

"5G... provides a superior connectivity channel to handle large amounts of data in real time without compromising the quality of the data transmitted," said Mr Lim Chinn Hwa, GovTech's senior director for smart nation platform solutions, at a press conference.

A 5G network is said to be 10 times faster than 4G and has more bandwidth, which means that more

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Remote-controlled road-sweeper tests could ultimately save manpower



A member of Nanyang Technological University's tele-ops research team demonstrating during a media preview in Sentosa on Monday how a driverless road-sweeping vehicle can, in an emergency, be controlled by an operator at a different location via a tele-operation system. ST PHOTO: MARK CHEONG

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devices can be connected to it.

As 5G has lower latency than 4G, response times on 5G can be two times faster, according to Singtel, so high-resolution videos can be streamed in real time with almost no lag, compared with 4G.

So far, 10 trials are under way in Sentosa, with most having started in August. The Government aims to have 15 trials by public agencies by the end of the year, and at least 30 by the first half of 2023.

The Infocomm Media Development Authority will be working with Singtel to identify companies that can offer potential 5G solutions for government agencies to support the Sentosa trials.

On choosing Sentosa for the tests, Mr Lim said the island is a "microcosm of Singapore and provides a defined environment for government agencies to study and trial (5G) use cases proficiently".

Sentosa is almost entirely covered by Singtel's 5G network for the trials, except for a few areas where tests are not being done.

Singtel, StarHub and M1 have started rolling out 5G networks with about 50 per cent coverage across the country now. Nationwide coverage is expected by 2025.

The remote-controlled road-

sweeper tests, conducted by the National Environment Agency and Nanyang Technological University (NTU), could pave the way for several vehicles to be deployed with just one remote operator as the safety emergency driver for all. This could help save on manpower.

The vehicle can send video feeds to an operator located at NTU, for instance, so he can see in real time what is in front of it when taking control of it. This can be done almost instantly with 5G but not 4G.

One 5G application tested by Nanyang Polytechnic and GovTech could benefit consumers. It involves digital signboards that act as retail kiosks, allowing people to browse products on the signboards and buy them directly.

Consumers may also be able to "try on" virtual clothes, using such signboards as a mirror.

One problem with using Wi-Fi and 4G in such retail kiosks is that they present cyber-security risks, but 5G has data-protection mechanisms that make purchases made over it more secure.

The Government's 5G tests in Sentosa complement private-sector 5G trials. Besides Sentosa, IMDA said three other test beds for 5G applications – Maritime Drone Estate, the Smart Urban Co-Innovation Lab and Pixel – will now be open to all businesses.

All four were previously limited to selected private sector partners.

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