

# New research centre to spur 5G tech in built environment

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There are now robots that clean a building's vertical facade, as well as technologies that enable targeted disinfection and intelligent waste monitoring and collection.

Drones are also being tapped to check for leaks and cracks.

A new research centre at the National University of Singapore (NUS) is now developing the technology to control these and other digital functions on a single platform.

The Centre for 5G Digital Building Technology will work with industry experts to accelerate digitalisation and adoption of 5G technologies in Singapore's built environment sector.

Associate Professor Shah Kwok Wei, who leads the centre's 5G research thrust, said: "One of the applications which the centre has embarked on is to use a 5G digital twin platform to virtually replicate physical buildings to enable facility management specialists to better visualise, manage and control their property assets in real time."

This single "digital twin" platform works by producing a 3D virtual replica of a building and its functions.

The centre, which was launched

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yesterday, sits under NUS' College of Design and Engineering.

The university said it has already inked an agreement with 12 organisations to collaborate on digital building technology.

The organisations include the Singapore Land Authority, telco M1 and facilities management company CBM, as well as various tech solutions providers like Nokia.

The partnership has enabled the new centre to combine separate technologies such as Internet-of-Things sensors, robotics, video analytics, cloud computing, augmented reality and virtual reality into the single "digital twin" platform.

The new centre aims to play an important role in Singapore's digital research transformation as the country pushes to offer islandwide 5G coverage by 2025, NUS said.

The centre will also provide students and industry professionals with opportunities to apply digital building technologies for hands-on demonstrations.

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sights on becoming a leading centre in digital building technology through "high-impact research, broad-based education and implementing best practices".

It noted that innovations in digital building technology will provide a boost to the construction sector as they will result in cost reductions, higher quality of work, improved safety, and better performance of facilities.

The centre is housed within Singapore's first newly built net-zero energy building, called SDE4, which is under the same college.

Researchers will be able to test and develop 5G technologies, which typically consume a large amount of energy, within a sustainable net-zero environment, NUS said.

Associate Professor Evelyn Teo, who is the centre's director, added that the centre's position within a net-zero energy building will allow it to study and create smarter systems that are more energy efficient.

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