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## Punggol Digital District to host large-scale AI robot trials

The Straits Times (Thu - Fri), Singapore

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Sarah Koh

Eight firms, including ride-hailing giant Grab and security services provider Certis, will be leading a renewed push to deploy robots to automate cleaning, patrolling and food delivery in Singapore's largest smart robotics test bed, Punggol Digital District.

Large-scale trials are expected to start by the end of 2026 to test artificial intelligence safety measures and shape regulations for mass adoption.

Announcing this on May 20, Digital Development and Information Minister Josephine Teo said: "Robots can help our workers enhance service delivery to areas that are currently underserved."

Affirming Punggol Digital District as a frontier AI test bed, she added that the growing network of industry partners using the district's ecosystem to test and experiment helps to spread acceptance

and adoption.

"We will create an integrated data platform, design renewable test scenarios and rules that enable robots to safely operate across the district."

Mrs Teo was speaking on the first day of the Asia Tech x Summit, which is in its sixth edition, held at Capella Singapore from May 20 to 22. It is attended by global tech industry players and policymakers.

The initial eight firms working with government agencies and the Singapore Institute of Technology (SIT) on this test bed are Grab, DHL, Certis, home-grown start-up QuikBot, software firms FieldAI and Thoughtworks, along with robot-makers Slamtec and Unitree.

The robotic fleet of an undisclosed number will roam public spaces such as pedestrian paths, office building lobbies and a university campus – realistic environmental conditions that will allow autonomous robots and AI systems to be continuously tested and refined, the Infocomm Media Development

Authority (IMDA), urban planner and developer JTC and SIT said in a joint statement on May 20.

"Robotics and embodied AI mark a major shift in AI development moving beyond screen-based tools to physical systems that can perceive, reason and act in the real world," the organisations said in their joint statement. "This evolution is seen as AI's next frontier, with the potential to transform industries and reshape daily life."

Embodied AI refers to physical systems fused with AI that allow them to interact with the physical world. They include general-purpose robots, humanoid robots and autonomous vehicles.

For instance, robots that deliver food and parcels are expected to improve first- and last-mile efficiency for delivery partners. Robots that do security patrolling and cleaning will also complement human operations by working beyond office hours, patrolling hard-to-reach spaces and cleaning more

frequently.

"In turn, this will allow workers to take on higher-value roles such as supervision, operations management and service delivery," said IMDA, JTC and SIT.

For a start, robotics operators are expected to work with IMDA, JTC, SIT, Grab and DHL to co-design test bed conditions for commercially viable robotics services in public spaces. Deployed robots will be required to meet safety standards and specified operational parameters to ensure humans and robots co-exist safely.

To meet the objectives, the Land Transport Authority has given the test bed an exemption under the Active Mobility Act, so that robot operators can trial different scenarios on the district's public paths.

Punggol Digital District, which saw its first wave of tenants set up shop in 2025, already boasts an estate-wide operating system that works with all robots for navigating roads and lifts.

The Open Digital Platform,

which allows different systems to talk to one another, is currently used by the likes of dConstruct Robotics, which has been testing robots for concierge services, delivery and surveillance.

Dr Ong Chen Hui, assistant chief executive of IMDA's BizTech Group, said a cleaning robot is most useful if it can travel across multiple floors to clean the common corridors of buildings, even at night, instead of just being stuck on a ground floor.

"We want to see how far we can push the business model and service utility," said Dr Ong.

IMDA and the National Robotics Programme (NRP) will also be working to develop embodied AI use cases with software firms FieldAI and Thoughtworks.

They bring expertise in boosting a robot's ability to respond in crowded spaces and with physical objects around them, said Dr Ong.

Robotic firms Unitree, QuikBot and Slamtec will also work with IMDA and NRP to develop and trial

embodied AI use cases through SIT's Centre for Intelligent Robotics located within the district.

The aggressive robotic push partly stems from a lack of workers willing to take on front-line security roles, said Certis' group chief executive Ng Tian Beng.

Certis has already deployed robots to patrol Paya Lebar Green, where its office is located. It aims to create a system to allow its robots to "talk" to other machines, including CCTV cameras and robots from other firms. "Humans will be repositioned to do more higher-value tasks that require human judgment and empathy," Mr Ng added.

More details on trials and use cases will be shared later in the year when the test bed is launched, IMDA, JTC and SIT said in their statement.

"As AI robotic systems begin to interact directly with people, infrastructure and everyday city environments, they will collect sensor-rich data, learn from their surroundings and adapt to changing conditions, becoming more responsive and useful over time," according to the statement.

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### SUMMARIES

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