



# New research centre to help drive robotics development

\$45 million facility at NTU aims to apply tech to logistics, manufacturing and eldercare



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A new \$45 million research centre at Nanyang Technological University (NTU) will draw on the expertise of various scientists and delve into robotics research to be applied in logistics, manufacturing and eldercare.

Scientists at the Centre for Advanced Robotics Technology Innovation, housed at the NTU School of Electrical and Electronic Engineering, will also collaborate with researchers from the National University of Singapore (NUS) and Agency for Science, Technology and Research to develop projects in robotics technologies.

The centre, supported by the National Research Foundation, has more than 20 research staff, with the number expected to grow to 50 by next year when it reaches full capacity. It will also have about 20 PhD students.

Speaking at its opening yesterday, Manpower Minister Tan See Leng said automation and robotics will be needed to supplement Singapore's shrinking workforce - which is why the country has to focus on the development of robotics technology.

"This will help our companies to create new and transformative products and services, enhance Singapore's competitiveness and create good, value-added, high-paying jobs for Singaporeans," noted Dr Tan, who is also Second Minister for Trade and Industry.

Dr Tan said three key groups - researchers, companies and workers - can seize opportunities arising from the growth of robotics, and added that it was important researchers develop projects that can be applied to industry and work closely with companies, even as the Government identifies robotics as a national priority in its research and development plan.

The centre is led by NTU electrical and electronic engineering professor Xie Lihua. Its co-directors are two robotics experts - Professor Chen I-Ming from NTU and Professor Cecilia Laschi from NUS.



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It has 14 ongoing projects, with three more on the way.

Prof Xie said the three research areas identified are important for Singapore and they each face a manpower crunch after the Covid-19 pandemic.

Adopting robotics in manufacturing and logistics can boost productivity, he added.

In eldercare, Prof Laschi said one area it is exploring is giving robots learning capabilities using machine learning, so that they can master new skills and forms of interactions with humans.

In one logistics project, Professor Wang Danwei is working on developing an autonomous navigation system for vehicles used in places such as ports and warehouses to move containers or goods around.

Separately, Professor Hu Guoqiang is developing solutions to allow robots and humans to work together more efficiently and safely in manufacturing processes like precision engineering.

"The goal is for robots to carry out the tedious tasks that humans don't want to do themselves, and work with humans, not to replace them," he said.

Dr Tan said in his speech that the pandemic has spurred demand for robotics technologies and automation of processes, and robots have been deployed worldwide to help fight the crisis, such as alleviating the load on healthcare systems.

"Here in Singapore, as our labour market grew tighter, our companies also found new and innovative ways to operate with a leaner workforce, by depending on automation and technology," he noted.

Workers, too, can pursue good jobs in the robotics sector, said Dr Tan, as the Government supports them in upgrading their skills.

"I understand the anxieties that some workers might have about whether they would be replaced by robots in their jobs," he added, acknowledging that some jobs, such as those involving highly repetitive and labour-intensive tasks, will be disrupted.

"But this will also free up workers to take up other more productive and value-added jobs, for example, in operating and maintaining robots," he said, encouraging workers to undergo training in new skills.

COMPLEMENTARY ROLE


### The goal is for robots to carry out the tedious tasks that humans don't want to do themselves, and work with humans, not to replace them.

PROFESSOR HU GUOQIANG, WHO IS DEVELOPING SOLUTIONS TO ALLOW ROBOTS AND HUMANS TO WORK TOGETHER MORE EFFICIENTLY AND SAFELY IN MANUFACTURING PROCESSES.



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