

New research centre in NTU to further drive robotics' role in S'pore's development



Manpower Minister Tan See Leng (second from right) at a demonstration booth during the launch of the new research centre. ST PHOTO: SYAMIL SAPARI



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SINGAPORE - Automation and robotics will be needed to supplement Singapore's eventual shrinking workforce - which is why the country should focus on the development of robotics technologies, said Manpower Minister Dr Tan See Leng on Monday (Aug 15).

Three key groups - researchers, companies and workers - can seize opportunities arising from the growth of robotics, he added at the opening of a \$45 million research centre at Nanyang Technological University (NTU).

The Centre for Advanced Robotics Technology Innovation will delve into robotics research to be applied in logistics, manufacturing and eldercare.

Dr Tan said it is important for researchers to develop projects that can be applied in industry and work closely with companies, even as the Government identifies robotics as a national priority in its research and development plan.

"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.

Companies should continue to keep up their pace of automation, even as Singapore moves towards normalcy, he said.

The Covid-19 pandemic has spurred the demand for robotic technologies and automation of processes, he added, and robots have been deployed worldwide to help fight the crisis, to alleviate the load on healthcare systems for instance.

"Here in Singapore, as our labour market grew tighter, our companies also found new and innovative ways to operate on 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, like 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.

The new centre, housed at the NTU School of Electrical and Electronic Engineering, will draw on the expertise of scientists at various research centres in NTU, such as those that focus on systems intelligence and smart mobility.

The NTU scientists will also work with researchers from the National University of Singapore (NUS) and Agency for Science, Technology and Research. Some of the centre's ongoing work on robotic companions for humans is done at NUS.

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

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

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 face manpower crunches after the 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 like 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.

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