



DPM Heng Swee Keat at Vibrant Partnerships Enabling Robotics In How We Live, Work & Play



DPM Heng Swee Keat | 28 May 2022

Speech by Deputy Prime Minister and Coordinating Minister for Economic Policies Heng Swee Keat at “Vibrant Partnerships Enabling Robotics In How We Live, Work & Play” on 28 May 2022.

Mr Cheng Wai Keung,
Chairman, SingHealth

Prof Ng Wai Hoe,
CEO, Changi General Hospital

Mr Aylwin Tan,
Chief Customer Solutions Officer, CapitaLand Investment

Fellow East Coast Advisers,

Mr Philip Yeo,
Chairman, Vibrant @ East Coast Workgroup

Ladies and Gentlemen,

A very good morning to all of you! When you think of the world's most automated countries, Singapore may not intuitively come to mind. Actually, Singapore is the second most automated country in the world, coming after South Korea, with more than 600 industrial robots per 10,000 workers. The number of industrial robots in the world may not seem large – numbering 3 million last year, compared to the more than 3 billion people employed worldwide. But industrial robots are increasing at a very fast pace. The numbers doubled over the past five years.

With the Fourth Industrial Revolution, we must not only expect more robots, but much greater integration of technology with our daily lives. Machines will replace manual handling of simple or repetitive tasks, freeing up humans to take on more complex endeavours. With an ageing and eventually shrinking workforce, automation and robots can reduce our manpower needs. Machines will no doubt disrupt some occupations. But new and better jobs will emerge, including some which are unheard of today. Workers who embrace technology and learn to work alongside machines, can take on higher skilled opportunities at better wages.

There are many aspects of the Fourth Industrial Revolution that we will need to adapt to. When I was the Minister for Education, I used to ask students – do you want to be the person who is replaced by the robot, or the person who invents and programmes the robot? Of course, they all want to be the latter. We must enable our companies and workers to pursue excellence in robotics and automation. For this reason, one of our national priorities under the Research, Innovation, and Enterprise 2025 plans is in robotics. One important element is the man-machine interface. We must create a safe and efficient working environment where industrial robots work alongside workers, and move around in their midst. This requires many stakeholders, across different industries, to work together to address this common challenge. We see such collaborations taking place around the world, and also here in Singapore and in East Coast.

Robotics @ CGH

Robotics is an area of excellence that Changi General Hospital or CGH is pursuing. As the anchor hospital in East Coast, CGH leverages robotics and automation extensively to improve the quality of healthcare. Cleaning robots greet you with a smile along the corridors, drones inspect the buildings' façade, whilst automated guided vehicles deliver thousands of meals, linen, and consumables every day to patients across the hospital. Clinical robots work with our therapists to help patients recover from stroke whilst social robots guide patients with dementia in their therapy, with good clinical outcomes. As importantly, healthcare workers are used to seeing and interfacing with robots. Patients and visitors are also used to robots operating in their midst.

But as we introduce more robots to carry out an expanding range of tasks, the complexity of coordinating their deployment in a dynamic operating environment increases very significantly. Imagine robots on the move – they not only have to avoid colliding into one another, they also have to avoid the many people – some pushing prams, wheelchairs and carts, walking along the same corridors. The Centre for Healthcare Assistive and Robotics Technologies, or CHART, at CGH therefore developed the world's first Robotic Middleware for Healthcare. This was done in partnership with MOH, engineering firm HOPE Technik, Open Source Robotics, and the National Robotics Program. In addition, to guide robot manufacturers and building owners in deploying multiple robots in smart buildings, the Technical Reference 93, or TR93, was commissioned by the National Robotics Programme. Under the auspice of the Singapore Standards Council overseen by Enterprise Singapore, a multi-stakeholder working group was co-convened by CGH and HOPE Technik to develop a new standard for architecture and harmonized data exchanges between robots, lifts, and automated doorways. These standards allow for the safe, efficient, and integrated deployment of robots in our buildings. I congratulate Wai Hoe and the CGH team for your pioneering effort, and your pursuit of excellence. These efforts also point to how the spirit of partnership enables us to achieve much more than what we individually could. And I am glad that the spirit of partnership is also strong in East Coast.

Vibrant @ East Coast

I am to be happy to be here today to launch yet another new partnership as part of the East Coast Vibrant Community Footprints. We launched this movement last year, to bring together our institutions, companies, and communities to improve the lives and lived experience of residents in East Coast. Despite COVID-19, we built good momentum. Today's launch is yet another milestone in this journey. CGH and CapitaLand Investment are two founding partners of Vibrant @ East Coast. Their two industries cannot be more different, yet both are committed to innovation. CGH is advancing innovation at CHART and other labs. CapitaLand established the Smart Urban Co-Innovation Lab @ East Coast. It's another milestone when two of our founding partners join forces with a third collaborator, lift manufacturer KONE, to testbed the deployment of multi-function robots with lifts using the TR93 standard. One of the testbed sites is at Heartbeat @ Bedok, where we are today. CGH and KONE have successfully integrated robots with a next generation lift in this building. Another location is at The Galen at Science Park 2, which is operated by CapitaLand. This testbed allows companies to “plug and play” their own technologies and test the integration with lifts. I am happy to note that over 25 companies – including robot makers, lift and door manufacturers, and facilities managements – have indicated their interest to be part of this project. This will give greater confidence on the deployment and scalability of solutions developed.

Conclusion

I encourage more companies to be part of these testbeds, and welcome residents and students to observe technology at work and how robots can improve our lives in significant ways. Ultimately the pursuit of technology is not an end in itself, but a means to innovate and create better lives and livelihoods for our people. I hope that everyone of you will embrace technology, and in your own ways, contribute to creating a more vibrant East Coast. In turn, the innovations that we pursue here can be useful elsewhere in Singapore and around the world. And I hope to see more collaborations, within and across industries, to fully unlock the potential of technology to do good.

Congratulations once again to CGH, CapitaLand Investments, and KONE. I look forward to seeing more robots deployed around us – in East Coast and in Singapore – in a safe and integrated way that will improve lives and create better livelihoods. Thank you very much.

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