

**SPEECH BY MINISTER S ISWARAN, MINISTER FOR TRADE AND INDUSTRY
(INDUSTRY) AT THE SINGAPORE INTERNATIONAL ROBO EXPO (SIRE) 2016 ON
TUESDAY, 1 NOVEMBER 2016, 9.10AM AT MARINA BAY SANDS CONVENTION
CENTRE**

Mr Oliver Tian, President of the Singapore Industrial Automation Association (SIAA),

Mr Leck Chet Lam, Managing Director, Experia Events Pte Ltd,

Distinguished Guests,

Ladies and Gentlemen,

Good morning.

Introductory remarks

1. I am pleased to join you today at the Singapore International Robo Expo (SIRE) 2016.

2. The theme of this Conference “Forging the Future of Robotic Solutions” is apt and timely. As Singapore makes the transition towards an innovation-driven economy, it will be even more important for our companies to embrace technological solutions to enhance their productivity and competitiveness.

Technological trends such as robotics are creating new opportunities for our economy.

3. Technological trends, such as robotics, present new opportunities for our economy as a whole, and for our companies in particular.

4. **Opportunities in manufacturing.** Advanced manufacturing technologies, such as robotics, additive manufacturing and the Industrial Internet of Things (IIoT), will profoundly alter the manufacturing sector. According to a study by the Boston Consulting Group¹, the adoption of robotics has the potential to raise output per worker by up to 10 to 30% by 2025, and lower manufacturing labour costs by 16% on average in major export economies.

5. Robotics may diminish the need for certain job types but will also create new job opportunities in the manufacturing sector. One example is the upgrading of machine operators to become robot coordinators, who will be responsible for overseeing and maintaining a fleet of robots. By streamlining labour requirements and freeing up

¹ With adoption of robotics, output per worker could rise by estimated 10-30% over and above productivity gains from other measures by 2025, depending on the industry and country. Cost of manufacturing labour could be 16% lower, on average, in the world’s 25 largest goods-exporting nations. Source: Takeoff in Robotics Will Power the Next Productivity Surge in Manufacturing”, BCG, Feb 10 2015.

resources, robotics will also help address Singapore's manpower constraints and boost productivity amidst a tight labour market.

6. **Opportunities in services.** Robotics will also transform our services industries. For example, robotics is enabling the development of smart supply-chain solutions for the Logistics industry. Robotics solutions also present significant benefits for our Healthcare industry, both in terms of greater productivity as well as better patient care outcomes. Last year, we launched the Centre for Healthcare Assistive and Robotics Technology (CHART) in Changi General Hospital to drive the innovation and deployment of new healthcare robotics solutions. These solutions will help meet Singapore's needs in aged care and also alleviate manpower constraints.

7. The adoption of robotics is accelerating globally, and Singapore is starting from a position of strength. We are the regional robotics application hubs for two top industrial robot Original Equipment Manufacturers (OEMs), ABB and Universal Robots, and we have a strong base of robotics system integrators. In addition, according to the International Federation of Robotics (IFR), the rate of installation of industrial robots in Singapore exceeds the global average². The 2010-2015 Compound Annual Growth Rate (CAGR) for the installation of new robots in Singapore was approximately 20%, while the global CAGR over the same period was approximately 16%.

8. Given its significant potential, the Government will continue to support robotics, both as a growth vertical, and as an enabler to transform existing sectors.

The Government will continue to support our companies and workforce to adopt new technologies as part of our industry transformation efforts

Investments in Advanced Manufacturing

9. We will continue to invest in advanced manufacturing technologies and support their adoption by companies. Under the Research, Innovation and Enterprise 2020 (RIE 2020) plan, the government has set aside S\$3.2 billion to invest in Advanced Manufacturing & Engineering (AME), with a focus on four cross-cutting technological enablers: Robotics and Automation, Additive Manufacturing, Digital Manufacturing and Advanced Materials.

10. One key programme supported by RIE is the National Robotics Programme (NRP), a S\$450 million initiative to drive the end-to-end development, test-bedding and deployment of robotics. The programme will support public-private partnerships among research performers, companies and public agencies to undertake R&D and pilot relevant technologies in targeted areas. The programme will also promote collaborations between technology providers and local system integrators to develop standard scalable solutions for our SMEs.

11. Another programme is the S\$400 million Automation Support Package (ASP) announced in Budget 2016, which aims to help companies scale-up the deployment of

² Source: International Federation of Robotics (IFR) World Robotics (Industrial 2016) Report

automation solutions to improve their operational efficiency. The ASP complements existing schemes including SPRING's Capability Development Grant, which supports the first-time implementation of automation solutions by SMEs, such as self-ordering kiosks and robotic arms in production lines.

Partnerships with Trade Associations & Chambers (TACs)

12. Partnerships with TACs are an important aspect of our industry transformation efforts. TACs understand and represent the interests and needs of their respective industries. They can serve as catalysts and multipliers to drive technology adoption and innovation among our local SMEs. For instance, the Singapore Industrial Automation Association (SIAA) plays an important role by organising outreach seminars, overseas study trips and collaborations with overseas automation associations to promote the exchange and sharing of best practices in technology adoption among local companies.

Skills Development

13. To benefit from the new job opportunities made available by technological developments, our workers will need to deepen their technical competencies and learn new skills. To support this, the Government is providing a range of training programmes and courses that Singaporeans can tap on.

14. For example, in February 2016, Workforce Singapore (WSG) launched a series of advanced manufacturing masterclasses covering topics such as additive manufacturing and advanced robotics. The masterclasses have since benefited more than 250 local Professionals, Managers, Executives and Technicians (PMETs), and supported their upskilling for better jobs in advanced manufacturing. This is complemented by skills training under the Workforce Skills Qualification (WSQ), such as the WSQ Diploma in Mechatronics at the Singapore Institute of Manufacturing Technology (SIMTech), which teaches the application of industrial robots in the manufacturing environment.

15. Under the national SkillsFuture initiative, the government will continue to support Singaporeans in developing the skillsets needed to take on good jobs of the future.

16. These efforts to support the growth of companies, through technology and innovation, partnerships and skills development, will be coordinated under the Industry Transformation Maps (ITMs) announced in Budget 2016. Under the ITMs, the Government is working closely with the industry and other stakeholders to transform each of our key industries.

Companies must adopt an open mind-set and adapt to technological changes.

17. This suite of government programmes can serve as a useful form of support, but the Government cannot transform our industries alone. Companies must play their part by adopting an open mind-set and embracing the need for change.

18. One example is Ugene Lab, a local SME providing industrial and microbiological testing services, which partnered a Japanese automation consultancy³ to co-create a customized robotics system to automate microbiological testing. With this new system, the company can perform up to 35% more tests with the same number of staff, and with increased accuracy. The company overcame its manpower shortage, increased its sales, and scaled up its capacity to meet the growing demand for food safety testing in the region. The company was also able to re-deploy staff to carry out more skilled tasks in new activities to grow its business, such as hygiene audits, environmental testing and water testing for leading food manufacturers, restaurants and hotels. I look forward to more companies following Ugene Lab's example and breaking new ground with their business models and processes.

Closing Remarks

19. Let me conclude by expressing my confidence that if the Government, industry and other stakeholders, including the TACs, continue to work closely together, we will be able to seize opportunities from technology developments and position our economy well for the future.

20. It is now my pleasure to officially declare the opening of Singapore International Robo Expo 2016. I wish everyone a productive and enjoyable event. Thank you.

³ The Japanese automation consultancy is Heads System Asia Pte Ltd.