

SPEECH BY MR S. ISWARAN, MINISTER FOR TRADE & INDUSTRY (INDUSTRY), AT OPENING OF JTC NANOSPACE AND LAUNCH OF THE ELECTRONICS INDUSTRY TRANSFORMATION MAP ON 20 SEPTEMBER 2017, 9:00AM, AT 11 TAMPINES INDUSTRIAL CRESCENT

Distinguished Guests,

Ladies and Gentlemen.

Introduction

1. It is my pleasure today to be here with you at the opening of JTC nanoSpace. JTC nanoSpace will support the growth of our semiconductor manufacturing operations as part of our drive to grow Singapore's electronics industry.

The Singapore Electronics Industry – A Key Sector of Growth

2. In the 60s, Singapore's electronics industry consisted mainly of labour-intensive system-assembly of consumer products such as television sets and transistor radios. Over the years, the sector has evolved in tandem with advances in technology and the needs of the market. Today, the sector comprises a portfolio of high-value components, such as RF filters and semiconductor integrated circuits, which are the core components of many products that are indispensable to our daily lives. From mobile devices and cars, to automation equipment, Singapore's electronics industry is an integral part of the global supply chain for these products.
3. The electronics industry has been, and will continue to be, a key sector of growth for Singapore's economy. In 2016, electronics manufacturing accounted for 4.4% of Singapore's GDP, with \$90 billion in manufacturing output, and employment of about 70,000.

Global Trends and Growth Opportunities

4. Looking ahead, mobile devices will continue to drive growth in electronics. At the same time, we are seeing the emergence of exciting new application areas such as autonomous vehicles, artificial intelligence and healthcare, which rely heavily on electronics. Even the smart factories of the future will need more sensors and robots. These new applications will create a greater diversity of demand for electronics and require advancements in hardware. Electronics companies will thus need to broaden their capabilities and innovate to participate in these new areas.
5. Companies are also redefining their R & D models, embracing "open

innovation” to co-innovate and co-develop system solutions with their partners, and moving away from the traditional exclusively in-house approach.

6. The emergence of advanced manufacturing is not only a new growth opportunity; it will also change the way electronics companies operate and compete. Companies will gain a competitive advantage by adopting new technologies to increase productivity, reduce operating costs and optimize resources. Advanced manufacturing will also create new skilled job roles in manufacturing, such as system engineers and automation technicians.

Electronics ITM to Drive Long-Term Growth

7. Singapore must be prepared to tap into these global trends and opportunities, and I am therefore pleased to launch the Electronics Industry Transformation Map, which lays the framework to grow our electronics industry. The ITM is an inter-agency effort that has been drawn up together with industry players, unions and trade associations. Through the ITM, we expect to grow the electronics sector to have a manufacturing value-add of \$22.2 billion and introduce about 2,000 new PMET jobs by 2020.
8. The Electronics ITM sets out a two-pronged strategy to grow the industry. Firstly, Singapore will diversify into new growth opportunities in the electronics sector. Secondly, we will transform the current base of electronics manufacturing and attract new investments in high-value components.

Diversifying into New Growth Opportunities

9. To diversify into new growth opportunities, the government will strengthen the innovation ecosystem to better support companies in developing new capabilities. Our economic agencies will organize multi-party innovation platforms that will bring together MNCs, SMEs, as well as research institutions and institutes of higher learning, to collaborate and develop new solutions.
10. One example is Nanyang Polytechnic’s IoT Open Innovation Community, a network that was set up in 2015 to enable SMEs to co-innovate with technology and commercialisation partners, research institutions and other industry players. Today, there are more than 150 members on this platform, who come together to jointly develop new IoT solutions.
11. With the merger of SPRING and IE to form a new agency, Enterprise Singapore, our electronics-related SMEs and startups can look forward to better support to develop comprehensive corporate strategies. Enterprise Singapore will complement EDB’s role in driving more collaboration between MNCs, innovative start-ups, as well as large and small local enterprises. The two agencies will reinforce each other’s strengths, to enhance the competitiveness of our companies and build the Electronics industry of tomorrow.

12. Together with EDB, Enterprise Singapore will foster collaborations between MNCs, SMEs and startups, and ensure that we provide the infrastructure to better support electronics-related SMEs and startups. To catalyse these innovation collaborations, we will leverage on initiatives such as the Partnerships for Capability Transformation, or PACT, for knowledge transfer, capability upgrading and co-development of new solutions between these parties. By integrating the resources and capabilities of SPRING and IE, Enterprise Singapore can now facilitate business and partnership opportunities for our SMEs and startups locally and overseas through a single touchpoint.

Transforming and Growing Electronics Manufacturing

13. Singapore will also continue to attract high value-add activities and capture new growth areas. Given the short product life cycles in Electronics, we must be prepared to invest early in building infrastructure to support investments. JTC nanoSpace is a prime example of this. The facility is strategically located within Tampines Wafer Fab Park and offers a plug-and-play, quick-start solution that meets the requirements of semiconductor operations. EDB and JTC have secured ams¹ Sensors Asia, a global leader in sensors manufacturing, as the anchor tenant for nanoSpace. Singapore will continue to invest in nextgeneration infrastructure solutions to attract MNCs and grow local companies.
14. Another important effort is to improve the productivity of the current manufacturing base in Singapore. Hence, we will continue to support companies to improve their manufacturing efficiency and adopt advanced manufacturing technologies. To do this, the quality and professionalism of the supporting industry partners, such as cleanroom specialists and consultants, will also have to be further strengthened. We aim to upgrade all of our manufacturing plants in Singapore to be best-in-class compared to their global operations.

Ensuring Good Jobs for Singaporeans

15. The transformation of the electronics industry will bring about new and exciting job opportunities. And, we must equip Singaporeans with the requisite skills to take up these opportunities. I am thus pleased to announce the launch of the Skills Framework for Electronics. This is an integral part of the Electronics ITM, developed by SkillsFuture Singapore, Workforce Singapore and the economic agencies, together with industry stakeholders such as employers, industry associations, unions, and the institutes of higher learning.
16. The Skills Framework provides key information on the electronics sector, career pathways, occupations and job roles. It also identifies emerging skills and

¹ ams stands for Austria Mikro Systeme.

competencies for the sector in the areas of Robotics and Automation, Artificial Intelligence and Data Analytics, which the local workforce in the electronics sector would need to acquire to be future-ready.

17. WSG has several programmes under the Adapt and Grow initiative to support these efforts. One such programme is the Professional Conversion Programme, or PCP, which aims to equip mid-career PMETs with new capabilities to embark on careers in the electronics industry.
18. I would also like to announce the launch of two new PCPs for this sector, the PCP for Electronics Engineer and the PCP for Electronics Assistant Engineer. These are in addition to the four PCPs already rolled out in 2016 to reskill PMETs for the Wafer Fabrication and Assembly & Test sectors, which have since benefited close to 130 PMETs.
19. One of the PCP beneficiaries is Mr Kok Heng Choon, who is in his 50s and was previously working as a freelance consultant in the professional services sector. Through the PCP for Wafer Fab Engineer, Mr Kok was employed by SSMC (*Systems on Silicon Manufacturing Co. Pte Ltd*²), and has since been reskilled as a Technical Manager. Now, he oversees a team of 8 process engineers for wafer fabrication operations.
20. Ms Ng Mei Zhen is another beneficiary of the PCP for Wafer Fab Engineer. Previously a research project officer in a local university, she wanted a more hands-on work environment and decided to embark on a career switch to join a new industry. Through the PCP, Ms Ng is now a Senior Process Engineer with GLOBALFOUNDRIES, equipped with new skills and she has enjoyed a pay raise. My heartiest congratulations to Mr Kok and Ms Ng and we wish them every success in their new careers.
21. I am glad to note that WSG will be working with EDB to organize a career fair next week on 26 September at the Lifelong Learning Institute at Paya Lebar. More than 600 jobs will be on offer at the career fair to support the hiring demands in the electronics industry. I would like to take this opportunity to thank the companies that are participating at the career fair, and encourage more companies to participate in future editions.

SSIA as a Key Partner for Industry Transformation

22. As we transform the Electronics industry to be ready for the future economy, collaboration between the stakeholders – companies, TACs, unions, research

² A major wafer fabrication MNC.

institutes, training providers and government agencies will be critical to bring about the outcomes that we seek. EDB, together with Enterprise Singapore, will work with the Singapore Semiconductor Industry Association, or SSIA, as a key partner for industry development. In support of the Electronics ITM, SSIA has set out a three-year plan to transform its charter and expand its resources to better support the industry. SSIA has already taken an active role in key industry programmes, such as serving as the administrator for WSG's PCP. The association has also embarked on a leadership programme to groom the next generation of Singaporean leaders for the industry. We look forward to working together with SSIA, under this renewed charter, for the growth of the electronics industry in Singapore.

Conclusion

23. With the strong support of electronics companies, and other industry stakeholders, I am confident that the transformation of Singapore's electronics industry will succeed. I would like to congratulate JTC on the opening of JTC nanoSpace and welcome ams Sensors Asia to continue growing and expanding its presence in Singapore. Thank you.