

**SPEECH BY MINISTER OF STATE FOR TRADE AND INDUSTRY ALVIN TAN AT  
MINISTRY OF TRADE AND INDUSTRY'S COMMITTEE OF SUPPLY DEBATE  
2023 ON 28 FEBRUARY 2023**

*“Trailblazing a New Era for Manufacturing and Services”*

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Mr Chairman,

**INTRODUCTION**

1. Minister Tan reminded us to keep an eye on the future. What will our economic future look like?
2. Earlier, both Ministers offered a glimpse by outlining our trade and enterprise strategies under our Singapore Economy 2030 vision.
3. I will share about the other two pillars under this vision, which Mr Saktiandi Supaat and Ms Jessica Tan asked about.

**MANUFACTURING 2030**

4. Let's start with manufacturing.
5. Manufacturing remains the bedrock of our economy.
  - a. It forms the largest component of our economy. In 2022, it accounted for about 22 per cent of GDP and 220,000 local jobs.
  - b. Our established strength in manufacturing has allowed our economy to remain resilient during the pandemic.
6. In 2021, we launched our Manufacturing 2030 vision to grow our value-added (VA) by 50 per cent from 2020 to 2030.
7. We have made significant progress since.
  - a. In 2022, our manufacturing VA increased by more than 15 per cent from 2020. The sector also received a record S\$17 billion in total Fixed Asset Investment, driven primarily by investments in the semiconductor industry.
  - b. We expect these projects to create more than 4,600 jobs over the next five years.

- c. To have enough workers fill these newly created jobs, we will partner industry to develop a strong talent pipeline.
  - i. Our government agencies are working with Trade Associations and Chambers like the Singapore Precision Engineering & Technology Association (SPETA) and the Singapore Semiconductor Industry Association to offer quality internship opportunities for Institute of Technical Education (ITE) students to raise job awareness of and enhance students' experience in the sector.
  - ii. As of September last year, we have created 806 internship opportunities across 71 companies, exceeding our target of securing 200 internships across 50 companies by end-2022.
- d. Last year, DPM Heng and I, together with SPETA and the Institute for Human Resource Professionals launched our Manufacturing Employers' Handbook.
  - i. It provides companies with human capital best practices and tools to help them structure career progression pathways for their employees.
- 8. Despite a more challenging global environment, we plan to continue growing our manufacturing sector. How?
- 9. First, we will do even more to attract frontier investments here.
  - a. We remain an attractive manufacturing location for many best-in-class firms like BioNTech, which chose to locate here because of our strong fundamentals – our pro-business environment and strong rule of law,. We will continue to strengthen our manufacturing ecosystem and toolkits, to maintain our competitiveness.
  - b. Minister Gan announced we would extend our Pioneer Certificate Incentive, Development and Expansion Incentive, and the Investment Allowance tax incentives to end-2028. This further reinforces our commitment to strengthen incentives to attract leading edge investments here.
- 10. Prof Hoon Hian Teck asked how we are creating the manpower needed to achieve our Manufacturing 2030 vision. The short answer is we will attract more Singaporeans to the sector. How?
  - a. We piloted the Accelerated Pathways for Technicians and Assistant Engineers (Manufacturing) Grant, to help selected manufacturing companies

hire, train and offer career progression for ITE graduates to become proficient technicians in the sector.

- b. We will extend this pilot by another two years to March 2025, to allow even more companies to be onboarded.
11. Mr Liang Eng Hwa, Mr Saktiandi Supaat and Ms Jessica Tan asked about emerging sectors in Singapore and opportunities for businesses in those areas. Mr Shawn Huang is right to highlight the potential of robotics and space. We aim to be a frontrunner for tech-enabled manufacturing in areas like biotech and robotics, while exploring the space industry.

### Biotechnology

12. Our biotech sector may be nascent, but we expect it to grow by 8 per cent annually.
13. Ms He Ting Ru asked about the opportunities and support to further develop this sector. We are doing so in several ways.
- a. First nurturing our talent pipeline :
    - i. A\*STAR's Singapore Therapeutics Development Review (STDR) initiative & Technology for Enterprise Capability Upgrading (T-Up) programme is one such thing; and
    - ii. Since 2003, more than 950 A\*STAR Research Scientists and Engineers have been seconded to support over 850 local SMEs in product development under T-Up. Of this pool, close to 70 of them seconded to over 45 biotech related companies and 16 have joined the companies full-time at the end of their T-Up projects.
    - iii. One example is A\*STAR Scientist is Dr Lionel Low, who was seconded in 2019 to Tessa therapeutics. Through Dr Low's T-Up project, he successfully engineered novel tumour-specific chimeric antigen receptor cells for cancer therapy, which enhanced the company's cell therapy pipelines. Dr Low has since joined Tessa Therapeutics full-time as Director of Research and Development.
    - iv. Minister Tan also announced that we are expanding our Innovation & Enterprise Fellowship Programme (IFP) to include public sector partners like the Experimental Drug Development Centre.

- b. Second, we are growing our biotech venture ecosystem by working with venture capitalists to channel more investments to Singapore-based biotech startups.
  - i. In 2021 and 2022, Enterprise Singapore's SEEDS Capital invested S\$70million and catalysed another \$300million from 40 private equity and VC funds into 70 deep-tech startups. While Startup SG Tech extended S\$10million funding to 30 projects.

### Robotics

- 14. Just as our biotech sector is showing promise, we are also making strides in robotics.
  - a. Singapore has the second-most robot-intensive manufacturing sector in the world, just after South Korea.
  - b. Our manufacturing, construction and healthcare sectors here use robots to improve productivity, safety and quality.
  - c. In manufacturing and construction, robots can ease on-site manpower constraints.
    - i. For instance, construction company *Gammon* uses *Spot* – a four-legged robot built by *Boston Dynamics* – to scan sections of mud and gravel at construction sites to check work progress.
- 15. We will strengthen our national robotics ecosystem through our National Robotics Programme (NRP).
  - a. Last month, Minister Tan and I celebrated NRP's 6<sup>th</sup> anniversary at SUTD, with startups and industry players. There is great energy and promise in our robotics sector.
- 16. Our biotech and robotics solutions have applications for the silver industry too, a sector Ms Sylvia Lim asked about.
  - a. For example, Alexandra Hospital successfully trialled *Florence* – a robotic nursing assistant co-created with NCS – to perform tasks, including taking vital signs of patients at their bedside and delivering medication and items. This frees up time for our nurses to perform other value-added tasks for their patients.

- b. *MiRXES*, a home-grown A\*STAR spin off firm, focuses on early detection of cancer using its proprietary microRNA platform. *MiRXES* launched GASTROClear in 2019, the world's first approved molecular blood test for stomach cancer which has been used by over 30,000 patients to help detect early-stage cancer before an endoscopy is prescribed. EnterpriseSG's Scale-up programme has helped *MiRXES* internationalise and expand to North- and South-east Asia in 2022.
- c. These firms are doing good work to help address the challenges in ageing societies like ours and in many parts of the world. We will continue to help them thrive in this emerging global silver industry.

### Space

- 17. We have seen how tech-enabled manufacturing solutions improve lives in the silver industry. This also inspires us to explore new frontiers like the space industry.
- 18. We thank Mr Shawn Huang for acknowledging the space industry's growth potential. In fact, we have been gradually growing our space industry since the early 2000s.
  - a. Today, the global space industry is valued at over US\$400 billion. It is set to increase to over US\$1 trillion by 2030.
  - b. In 2013, we established our national space office – the Office for Space Technology & Industry (OSTIn). OSTIn brings together players from different disciplines to build our nascent space ecosystem and develop emerging and disruptive technologies.
  - c. We have good local capabilities in satellite engineering, remote sensing and satellite communications, and have launched over 15 satellites so far.
    - i. *DSO National Laboratories* collaborated with OSTIn, local space research partners and international industry partners, to launch our first locally developed Synthetic Aperture Radar microsatellite into space last year.
  - d. We can also apply space-based technologies to other sectors such as aviation and maritime.
- 19. Our space industry has also created attractive jobs and anchored foreign companies here.

- a. Today, we have approximately 2,000 professionals and researchers in our space sector, and more than 60 local and international space companies based here.
  - b. At the Global Space & Technology Convention organised by *Singapore Space & Technology Limited* two weeks ago, Minister Iswaran announced that *Mangata Networks*, a satcom company, is establishing its maritime global headquarters here, and will create at least 160 new and exciting local jobs.
20. Our space industry is fuelled with potential and as I see our students strolling in, please come and join our space sector and join our rocketship.

### **SERVICES 2030**

21. We have made good progress for Manufacturing 2030, including in biotech, robotics and space. As we program our satnav back to Earth, let's land on Services 2030 – which is our plan to grow our services sector.
22. Mr Derrick Goh asked how we have been helping our SMEs digitalise.
23. Our Services 2030 vision is to grow our services sectors by making them more digital and sustainable, and to anchor Singapore as a leading, vibrant hub for businesses, lifestyle and tourism.
24. By 2030, we aim to entrench Singapore as a:
- a. Hub of firms – where we continue to attract Multi-National Enterprises and Large Local Enterprises to use Singapore as a base for their Global-Asia operations;
  - b. Hub of flows – where we strengthen our position as a global trading, financial and lifestyle hub, build on our networks of international trade agreements to connect Singapore and Southeast Asia to the world, and further our Digital and Green Economy Agreements;
  - c. Hub of talents – where we build a strong Singaporean workforce and continue attracting global talent.
25. Let me elaborate using three sub-sectors:
- a. Professional Services;
  - b. Tourism; and
  - c. Green Economy.

## Professional Services

26. Minister Gan spoke of how our refreshed Professional Services Industry Transformation Map (ITM) will help our professional services firms transform so that Singapore remains a hub for firms.
27. From 2020 to 2025, we expect our Professional Services sector to achieve VA growth of 3 per cent to 4 per cent per annum to S\$27 billion, and create 3,800 additional PMET jobs annually for locals.
28. To achieve this, our Professional Services ITM 2025 will focus on three areas:
  - a. Strengthen Singapore's appeal to regional and global headquarters;
  - b. Encourage digital adoption and improve productivity; and
  - c. Redesign jobs and upskill our workforce.
29. First, we will strengthen Singapore's appeal as a business hub for companies to build their headquarters here.
  - a. Headquarters create meaningful jobs for Singaporeans in various areas including corporate functions such as marketing, legal and finance & accounting. We have a pool of ready talent to provide these services.
30. We are already attracting leading global firms because of the strong fundamentals I mentioned earlier.
  - a. To help existing headquarters in Singapore improve their in-house corporate functions, EDB has designed two online assessment tools for Marketing and also Finance & Accounting.
    - i. These resources help companies assess their corporate functions and recommend ways to transform job roles.
31. EDB's Corporate Venture Launchpad also help Singapore-based companies nurture new venture concepts here.
  - a. SembCorp Industries Ltd has benefitted from this programme and spun off new ventures.
  - b. Last year, we injected an additional \$20 million into this scheme to onboard more firms and start new ventures.

32. Second, we will help our professional services SMEs become more digital.
  - a. If you are a professional services SME, please continue to use our Productivity Solutions Grant and Enterprise Development Grant, and platforms like IMDA's Chief Technology Officer-as-a-Service.
33. Third, we will help our companies create jobs and upskill our workforce to meet the rising demands in sustainability.
  - a. EDB is partnering consulting and engineering services firms to set up regional sustainability Centres of Excellence. These centres will groom talent, develop sustainability expertise, and drive R&D capabilities and activities for Southeast Asia.
  - b. Our *DesignSingapore Council* has also developed the Good Design Research Initiative, to help designers and firms like *Ginlee Studio* and *bioSEA* design for environmental impact.
34. We will also help Singaporeans take on new jobs in the professional services sector by reskilling and redeploying workers through initiatives like our Career Conversion Programmes.
  - a. For example, if you are looking to upskill and explore new roles in the accountancy sector, you can approach the Accountancy Careers Hub to pick up new skills and receive sectoral career guidance to advance your career within the industry.
35. With these ITM 2025 building blocks in place, our professional services sector is looking professional and bright!

### Tourism

36. Just as our Professional Services sector is distinguishing itself globally, a vibrant tourism scene will also differentiate us from other business hubs.
37. In the next decade, we will build our tourism sector in three ways:
38. First, we will continue to refresh and invest in new products and events.
  - a. Our tourism sector received just over \$2 billion of new investments and reinvestments last year, even during the pandemic. This reflects strong



confidence in our competitiveness as a top tourism destination and ensures we continue to have new and updated hotels, attractions and events.

- b. We will also partner world-class event organisers and frontload our investments to build a strong leisure and business events pipeline that appeal to different interests and sectors.
    - i. This year, we welcome international leisure events such as *Van Gogh: The Immersive Experience* and *Sneaker Con Southeast Asia* debuting here, and the return of top-end business events like *Gastech Exhibition & Conference*.
    - ii. As SportSG announced last November, Singapore will also host the inaugural Olympic Esports Week in June. This has the potential to grow Singapore as an eSports Hub, attracting investments, creatives and talents in an emerging sector.
39. Second, we will continue to build our tourism businesses' tech capabilities and workforce.
- a. We will partner industry to create virtual experiences and experiment with extended and augmented reality to complement real-world offerings.
    - i. STB and Gardens by the Bay are currently trialling the *Lost Fairy*, an augmented reality storytelling experience. Visitors at the Floral Fantasy are transported into a magical fantasy world, providing a refreshing and gamified visitor experience.
  - b. We will also continue to help our tourism sector use tech to raise their productivity.
  - c. By end-March, 90 hotels, covering about 40 per cent of Singapore's hotel room stock would have adopted self-check-in solutions that are integrated with STB's E-Visitor Authentication system. The system uses facial recognition technology to authenticate guests' identities, verify the validity of their stay, and automatically transmit relevant data to the Immigration & Checkpoints Authority. Guests will experience a more seamless check-in process with waiting time shortened by up to 70 per cent.
  - d. We also continue to prepare our tourism workers for post-pandemic recovery. Our Enhanced Training Support Package provided close to 60,000 training places by end-2021. When borders reopened last year, STB and NTUC's e2i launched our Tourism Careers Hub to provide career coaching, and

employment and training support for tourism workers. As of end-2022, more than 500 workers were placed into our tourism sector.

40. Third, we have ambitions to be a globally known sustainable urban destination.
- a. Last Friday, SM Teo spoke about our industry sectoral roadmaps that guide companies in their sustainability journey, including for tourism and Ms Foo Mee Har asked about developing sustainability roadmaps.
  - b. We launched our Hotel and MICE Sustainability Roadmaps to help both sectors build new green skills and track their carbon footprint.
  - c. Tech has also played a part in greening our tourism sector.
    - i. For example, *Pontiac Land Group* partnered a local startup under our Singapore Tourism Accelerator to pilot a user-interface platform that integrates data on energy, water, waste and carbon emissions across *Pontiac Land's* four properties in Singapore and helps them monitor their sustainability efforts.
41. And with that, I am proud to announce that Singapore has recently been certified as a sustainable destination based on the Global Sustainable Tourism Council's Destination Criteria. What does this mean?
- a. This certification validates our policies in stewarding Singapore to become a sustainable urban destination by 2030, in line with our Singapore Green Plan 2030.
42. I am also happy to share that Sentosa Development Corporation will be making our Lazarus Island a light touch destination over the next three years, where visitors can experience its rustic charm while minimising their impact to biodiversity and the environment.
- a. We will start this April, by launching *Tiny Away Escape @ Lazarus Island* by *Big Tiny*, comprising five eco-tourism accommodation units on the island. *Big Tiny* operates sustainably through using renewable energy, energy efficient appliances, and a biodigester which converts food from waste to compost on-site within 24 hours.
  - b. In the coming months, we will also launch other offerings at Lazarus Island like non-motorised water activities and glamping. So come visit us.
43. I hope our continued investment in our tourism businesses and workforce, and focus on sustainable tourism, will give Mr Edward Chia confidence that our

tourism businesses are well-equipped to thrive. We expect international visitor arrivals to return to pre-pandemic levels of about 19 million as early as 2024.

### Green Economy

44. Our efforts now to green our tourism sector is part of our larger plan to tackle climate change.
45. We remain committed to achieve net zero emissions by 2050 and have taken decisive steps towards our climate goals. Which brings me to our Green Economy.
46. Prof Koh Lian Pin asked about the transition framework for companies in emissions-intensive trade-exposed sectors.
  - a. The framework aims to help our businesses transition into low-carbon operations, while mitigating the risk of carbon leakage, which could happen when companies shift operations to other jurisdictions with lower or no effective carbon prices.
  - b. I would like to assure Prof Koh that the allowances will only be for a portion of companies' emissions. It will be determined based on:
    - i. Internationally recognised efficiency benchmarks, where available; or
    - ii. The facilities' decarbonisation plans that are aligned with our net zero commitments.
  - c. We are engaging affected companies on details of the transition framework, including how to apply efficiency benchmarks. We will finalise these details ahead of changes to the carbon tax regime taking place in 2024.
47. Ms Foo Mee Har, Ms Jessica Tan and Prof Koh asked how we are helping our businesses as they transition to a low-carbon future and equipping our workforce for jobs in the green economy. Members also asked how we are helping our SMEs embark on decarbonisation carbon accounting and sustainability reporting.
48. We aim to transform our economy, work with the international community to achieve our collective climate targets, and remain relevant in a low-carbon future. Our Green Economy Strategy will help our businesses do so. Let me elaborate.
49. First, as we digitalise our economy, we are also greening our businesses and industries.

- a. We will extend the enhanced support under our Enterprise Development Grant (EDG) for sustainability projects, to encourage more local companies to identify and seize opportunities in the green economy. Sustainability projects will continue to receive funding support of up to 70 per cent for three more years. Other projects under EDG will revert to a support level of up to 50 per cent from April this year, along with the Productivity Solutions Grant and Market Readiness Assistance.
- b. Sustainability reporting is increasingly important for companies to be able to demonstrate their sustainability performance and commitment to the environment.
  - i. Consumers and investors want greater transparency through sustainability disclosures. They are more conscious of the environmental and social impact of their products and investment.
  - ii. Companies can start by measuring carbon emissions, which will enable them to monitor, improve and subsequently report their sustainability impact.
- c. So if you are an SME keen to measure your carbon emissions, please explore EnterpriseSG's Productivity Solutions Grant which will fund pre-specified digital carbon accounting solutions. EnterpriseSG and IMDA will also continue to explore ways to support more advanced solutions through IMDA's Advanced Digital Solutions scheme. We will release more details for both schemes in 2H 2023.
- d. EnterpriseSG will also work with Accounting and Corporate Regulatory Authority (ACRA) and industry partners to develop programmes to help enterprises embark on sustainability reporting.
- e. We will also help our businesses strengthen their knowledge on sustainability through new courses and playbooks.
  - i. EnterpriseSG will develop new Enterprise Sustainability Programme (ESP) thematic courses in topics like Decarbonisation and Sustainable Finance, and expand the number of ESP Foundational Course partners. We will announce new course providers and commence the new courses in 2Q 2023.
  - ii. To complement this, EnterpriseSG will also develop playbooks for businesses to learn more about sustainability topics and how to take steps to become more sustainable.

- f. Ms Foo Mee Har also suggested building knowledge-sharing platforms. She would be pleased to know that EnterpriseSG will set up a sustainability website for enterprises to access resources about sustainability, including government sustainability support measures.
50. Ms Foo also suggested helping companies test-bed new ideas and experiment with new technologies.
- a. In November, we launched our Green Economy Regulatory Initiative (GERI) to speed up innovation in the green economy. We have more details there. .
  - b. Mr Derrick Goh asked how we are positioning Singapore as a leading international green hub.
    - i. We are building our credentials as a carbon services and trading hub.
    - ii. We are now home to more than 80 organisations providing carbon services – the highest concentration of service providers in Southeast Asia.
    - iii. We partner other countries to develop trusted and robust international markets for carbon credits. This will increase investments, create jobs in the green economy, and support global decarbonisation efforts.
    - iv. These efforts will make us a credible sustainability services hub, with a strong ecosystem for carbon services, green finance, sustainability reporting and professional services.
51. Finally, we will continue to prepare our workers for the green economy, a point Ms Mariam Jaafar raised.
- a. Minister Gan announced the new Green Skills Committee.

## **CONCLUSION**

52. Mr Chairman, our journey may be fraught with challenges but filled with opportunities. As we write the next chapter of our economic story, we must build on our existing foundations, and yet be bold enough to trailblaze new industries in this new era that DPM Wong talks about.
53. Our edge in digitalisation and sustainability will help us achieve our Manufacturing and Services 2030 visions. This will enable our businesses to

capture new markets and position Singapore as the gateway to Southeast Asia, creating good jobs and opportunities for Singaporeans.

54. While we attract new investments here, we must also help our local and heartland enterprises compete globally. Next, MOS Low Yen Ling will share how we will support our enterprises to weather the economic challenges and move forward together.