

**SPEECH BY MR S. ISWARAN,
MINISTER FOR TRADE & INDUSTRY (INDUSTRY),
AT THE LAUNCH OF THE MARINE & OFFSHORE ENGINEERING
INDUSTRY TRANSFORMATION MAP IN CONJUNCTION WITH
THE ASSOCIATION OF SINGAPORE MARINE INDUSTRIES' 50TH
ANNIVERSARY
ON 22 FEBRUARY 2018
AT THE TRADE ASSOCIATION HUB**

Mr Abu Bakar Bin Mohd Nor, President of the Association of Singapore Marine Industries (ASMI)

Mr Tommy Goh, President of the Shipbuilding and Marine Engineering Employees' Union (SMEEU)

Members of ASMI, SMEEU, Distinguished Guests,

Ladies and Gentlemen.

INTRODUCTION

1. It is my pleasure to join the Marine & Offshore Engineering (M&OE) community on the occasion of ASMI's 50th Anniversary. ASMI was established in 1968 as the Singapore Association of Shipbuilders and Repairers with 10 members. It has since grown to more than 250 members today, operating in domains like shipbuilding and repair, rig building and marine equipment. My heartiest congratulations to ASMI on your 50th anniversary, and a job well done.

SINGAPORE'S M&OE INDUSTRY TODAY

2. ASMI's journey mirrors the broader development in Singapore's M&OE industry over the past five decades. The industry has grown from its humble beginnings with four domestic marine firms, to today's

ecosystem of more than 1,000 small and medium-sized enterprises (SMEs), anchored by world-leading homegrown companies and multinational corporations.

3. In 2016, the industry contributed S\$3.6 billion to Singapore's gross domestic product, S\$12.3 billion to Singapore's total manufacturing output, and employed more than 23,000 locals.

CONTINUED SUPPORT FOR NEARER TERM CHALLENGES

4. The sector has been through a difficult time over the past three years, with oil prices falling from the highs of US\$112 per barrel in 2014 to below US\$30 in early 2016. While prices have recovered to some extent, oil companies remain cautious in their exploration and production (E&P) activities. McKinsey estimates that capital expenditure on E&P has shrunk by 45% over the past five years, which has adversely affected our M&OE industry. To preserve core capabilities that have been nurtured over the decades, the government introduced interim measures to support our M&OE companies and workers.
5. SPRING Singapore reintroduced the Bridging Loan while IE Singapore enhanced the Internationalisation Finance Scheme (IFS) in 2016. The aim was to help Singapore-based M&OE companies gain access to working capital and financing to support their operations. The two schemes, which are administered in partnership with local financial institutions, have catalysed nearly S\$700 million in loans to more than 100 unique borrowers; 80% of them are SMEs.
6. Our industry associations and unions such as ASMI and SMEEU, have also done their part to help redeploy affected employees to new

jobs and functions, including adjacent industries. For example, SMEEU has partnered the Employment and Employability Institute to facilitate such job placements.

7. Looking ahead, global energy consumption is expected to continue increasing, which will help re-balance supply and demand in the oil & gas market. And the industry can be cautiously optimistic about its longer-term prospects, if we can deepen our capabilities to seize opportunities on the horizon.

LONGER TERM OPPORTUNITIES

8. One key opportunity is in digitalisation, which is transforming all industries. Digital technologies such as data analytics and artificial intelligence can help M&OE companies improve their operational efficiency, develop cost-effective solutions and generate new revenue streams.
9. Another opportunity lies in diversification into new growth areas, such as Liquefied Natural Gas (LNG) and offshore renewables. Global expenditure on LNG is expected to exceed US\$280 billion by 2021. Similarly, the global offshore wind market is projected to exceed US\$130 billion by 2023.
10. There is scope for our M&OE companies to venture into these new areas, and our large local enterprises (LLEs) like Keppel Offshore & Marine (KOM) and Sembcorp Marine have already started doing so. In October last year, KOM leveraged its existing capabilities to carry out complex offshore conversion projects and deliver the world's first converted Floating Liquefaction Vessel. Given their prominent position in the global M&OE eco-system, our LLEs can lead the way

in restructuring and diversifying. At the same time, there is also a pressing need for our SMEs to build up their capabilities, so that they too can benefit from these trends.

M&OE ITM WILL ENABLE THE INDUSTRY TO EMERGE STRONGER FROM THE OIL & GAS DOWNTURN

11. The M&OE Industry Transformation Map (ITM) is a roadmap to drive transformation and capture long-term growth opportunities. It is the collective effort of the M&OE Industry Tripartite Committee comprising government agencies, trade associations and chambers (TACs), unions and industry leaders. Through the ITM, we expect the M&OE industry to contribute S\$5.8 billion to our GDP and introduce around 1,500 new jobs by 2025.

12. Let me briefly touch on the ITM's strategies.

DRIVING TRANSFORMATION BY BUILDING CAPABILITIES FOR THE FUTURE

13. First, to ensure that our M&OE industry remains globally competitive, we will help our companies build up their capabilities and enhance their productivity by supporting investments in advanced manufacturing. The Government has identified advanced manufacturing as a key growth area, and committed S\$3.2 billion to research and development in advanced manufacturing and engineering under our Research, Innovation and Enterprise 2020 plan.

14. For instance, Sembcorp Marine is partnering our local research institutes, the National Additive Manufacturing Innovation Cluster and A*STAR's Singapore Institute of Manufacturing Technology, as well

as multinational corporation, DNV GL, to use its Tuas Boulevard Yard as a test bed for laser-aided additive manufacturing. This technology offers increased flexibility in translating designs into products, and will help reduce production lead-time for newbuild vessels. SPRING Singapore has also helped Mencast Energy, a local SME, invest in automation to enhance processes for blasting, cleaning and painting of oil storage tanks. Mencast Energy is working with SPRING to explore more automation opportunities in other areas of its business. By embarking on the advanced manufacturing journey, Mencast Energy has positioned itself well to seize new business opportunities, and serves as a model for many more SMEs to do so.

15. Second, as new and transformative digital technologies emerge, we will help companies develop next-generation solutions that enable remote monitoring, enhance predictability and support decision-making.
16. We will support the in-house Research & Development (R&D) initiatives of companies, as well as public-private R&D collaborations through research institutes such as the Technology Centre for Offshore and Marine Singapore (TCOMS). TCOMS, which is a joint initiative of A*STAR and the National University of Singapore, will integrate public research and industry expertise to co-develop innovative concepts and infrastructure for Marine & Offshore operations. One example is the Deepwater Ocean Basin, which will be capable of simulating harsh ocean environments at depths of up to 3,000 meters, and will facilitate the development of innovative concepts such as intelligent floating platforms and ships, autonomous systems, marine robotics and subsea systems.

17. The establishment of TCOMS was a S\$107 million investment back in 2016, when the outlook for the industry was uncertain. It underscored the Government's commitment to preserve and build upon the design and engineering capabilities of our M&OE industry.

PURSUING GROWTH IN THE REGION

18. Third, we will help companies access regional business opportunities in new growth areas, such as LNG and offshore renewables.
19. We will do this by connecting companies with stakeholders and resources, and supporting business partnerships with companies in overseas markets.
20. For example, IE Singapore has been working with local company NauticAWT since 2015 to venture beyond its traditional oil and gas domain into the renewable energy space. With IE Singapore's assistance, the company completed its first offshore wind project in China, and is now exploring similar business opportunities in other parts of Asia.

CREATING NEW AND EXCITING JOB OPPORTUNITIES FOR SINGAPOREANS

21. As the M&OE industry transforms, our workers in the sector will also need to upgrade and reskill themselves for the new jobs and functions.
22. I am therefore glad to launch today the Skills Framework for Marine & Offshore. The Skills Framework was developed by employers, industry associations, unions and education providers, together with SkillsFuture Singapore (SSG), WSG, EDB and SPRING Singapore.

It provides key information on trends, career pathways, occupations and job roles, highlights the skills and competencies needed in growth areas such as digital products and services, and offshore renewables. It will complement the SkillsFuture Series, which is a curated list of training programmes in emerging skills such as cyber security and data analytics. SMEEU will be engaging employers with the Skills Framework, to help companies design progressive human resource management initiatives and talent development plans.

23. For ITE students and those with relevant experience who are keen to join the M&OE industry, the Institute of Technical Education will offer its new Work-Learn Technical Diploma in M&OE from this April. On top of the SkillsFuture Earn and Learn Programme (ELP) in Marine Production and Marine Design, new ELPs will be rolled out this year in areas such as robotics, automation and the Industrial Internet of Things.
24. For PMETs, WSG has also rolled out three Professional Conversion Programmes (PCPs) for the M&OE industry to help mid-career workers enter the M&OE industry. In fact, since October 2016 WSG has helped reskill more than 300 PMETs through the PCPs for Marine Engineers, Assistant Engineers and Technicians, with the support of ASMI as the programme manager.

M&OE INDUSTRY WILL NEED TO TRANSFORM AND GROW TOGETHER

25. These initiatives to build deep capabilities, pursue emerging growth areas and create new jobs, are all geared towards helping our

companies and workers transform and succeed. However, to succeed, our transformation journey needs the collective will and support of all our companies, industry associations, unions, and workers.

26. It is therefore fitting that I have the opportunity today to also officiate at the establishment of the M&OE ITM Programme Office. The M&OE ITM Programme Office, led by ASMI, will help execute the various initiatives outlined in the ITM. The Programme Office will work with M&OE companies, especially SMEs, to drive the adoption of productivity solutions, encourage innovation efforts and address future manpower needs. It is an excellent example of how TACs, unions, companies and Government agencies can partner each other to transform the industry.

IDENTIFYING SYNERGIES ACROSS THE MANUFACTURING CLUSTER

27. The launch of the M&OE ITM rounds off all the ITMs that are grouped under the Future Economy Council Manufacturing sub-committee cluster, which includes Precision Engineering, Electronics, Energy & Chemicals, and Aerospace.
28. These ITMs were grouped into a cluster to identify synergies across adjacent industries and value chains. One outcome of this effort is the Singapore Smart Industry Readiness Index, which was launched in November last year. The Index is an assessment tool that companies can use to better understand and apply Industry 4.0 concepts to their businesses. EDB has been conducting workshops for companies on the use of the Index, and I urge our companies to take full advantage.

CONCLUSION

29. In closing, I would like to once again congratulate ASMI again on your 50th anniversary. I would also like to thank ASMI, SMEEU, as well as our other industry stakeholders for your strong support and valuable inputs in developing the M&OE ITM. M&OE is a pioneer industry that has also been one of Singapore's most resilient, having weathered multiple downturns in the past, and always emerging stronger. We look forward to working closely with all of you to build and sustain a resilient, innovative and competitive M&OE industry in Singapore.
30. Thank you.