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## **Boosting innovation in Digital Design and Advanced Manufacturing: Sembcorp Marine and A\*STAR deepen R&D collaboration**

- ***Sembcorp Marine and Singapore's Agency for Science, Technology and Research ink Master Research Collaboration Agreement***
- ***Agreement includes setting up joint laboratory at Sembcorp Marine Tuas Boulevard Yard to expand capabilities in Digital Design and Advanced Manufacturing for offshore and marine sector***

**Singapore, Feb 13, 2020:** Sembcorp Marine and the Agency for Science, Technology and Research (A\*STAR) have signed a Master Research Collaboration Agreement (MRCA) to jointly pursue innovation in Digital Design and Advanced Manufacturing. With this agreement, the partners aim to shorten the development cycle and time-to-market of new offshore, marine and clean energy solutions achieved through their research efforts.

Under the MRCA, Sembcorp Marine and A\*STAR will set up Joint Lab@TBY, a research laboratory and work space at Sembcorp Marine Tuas Boulevard Yard that will facilitate the test-bedding and commercialisation of new Digital Design solutions, Advanced Manufacturing capabilities and other Industry 4.0-related technologies in a real-world environment.

Digital Design solutions to be explored include novel designs that support the development of offshore wind energy and risk mitigations in liquefied natural gas (LNG) storage and transportation.

Joint Lab@TBY also seeks to augment local Advanced Manufacturing capabilities in the following areas:

- Large format additive manufacturing technology;
- Automated robotic welding for complex offshore structures;
- Automated non-destructive testing (NDT); and
- Smart factory floor monitoring and control.

Speaking at the MRCA signing ceremony today, Sembcorp Marine President and CEO Mr Wong Weng Sun said the partnership with A\*STAR will greatly enrich Sembcorp Marine's efforts to develop cutting-edge, cost-competitive and greener engineering solutions.

Mr Wong said: "Innovation is a core enabler at Sembcorp Marine and we're constantly looking at new ways to boost our engineering capabilities, production capacity and

efficiency. Given the rapid technological disruption and rising environmental consciousness in the global markets, we must continuously push the innovation envelope and deliver sustainable solutions that keep us relevant to our customers. Partnering a top-class research organisation like A\*STAR will help Sembcorp Marine achieve these vital objectives and stay ahead of the technology curve.”

Mr Wong said Tuas Boulevard Yard, with its operations and ongoing construction projects, will provide Sembcorp Marine and A\*STAR researchers a real-world environment to experiment, test-bed and validate new technologies. “In this conducive environment, we are confident the Joint Lab@TBY team can deliver effective digital design and advanced manufacturing solutions fruitfully,” he said.

Since 2013, Sembcorp Marine, A\*STAR and various other stakeholders have been working together on research projects such as green shipping and workshop automation under individual agreements. The MRCA allows Sembcorp Marine to team up with multiple A\*STAR research entities under a common framework. This arrangement will smoothen the execution of future R&D collaborations, attract participation from more organisations, and enable the cross-fertilisation of unique insights and ideas to create impactful solutions.

Mr Wong added: “Sembcorp Marine views the MRCA not only as a natural progression of our long-standing working relationship with A\*STAR, but also as an example of how the public and private sectors can work with each other towards highly rewarding research outcomes. We are honoured to have A\*STAR on board our R&D journey.”

Mr Frederick Chew, Chief Executive Officer of A\*STAR, said: “A\*STAR is committed to strengthen support for local enterprises such as Sembcorp Marine, one of the key players in Singapore’s Offshore and Marine ecosystem. Sembcorp Marine is a long-time partner, and our collaborations have led to positive outcomes for industry and the economy. This MRCA to co-innovate in digital design and advanced manufacturing takes our partnership to a new level.”

Recent projects between Sembcorp Marine and A\*STAR included the development of 3D printing and Industrial Internet of Things (IIOT). Through these collaborations, Sembcorp Marine last year received certifications qualifying its 3D printing procedures for making and restoring parts used in construction and repair projects, and completed the proof of concept for applying IIOT to improve the precision of steel-plate tracking at its fabrication workshop.

Sembcorp Marine and A\*STAR have also embarked on projects in optimising engineering designs for gas hybrid tugs, gas containment systems and performance-based assessment for gas leaks and dispersion.

### **Notes to Editors**

To download accompanying images in high resolution, please click [here](#).



*From left to right: Sembcorp Marine President & CEO Mr Wong Weng Sun; Sembcorp Marine Head of R&D Mr Simon Kuik; Professor Tan Sze Wee, Assistant Chief Executive, Science and Engineering Research Council, A\*STAR; and Mr Frederick Chew, CEO, A\*STAR*

### **About Sembcorp Marine**

Sembcorp Marine provides innovative engineering solutions to the global offshore, marine and energy industries, drawing upon more than 50 years of track record. Our customers include major energy companies, drilling contractors, shipping companies as well as owners and operators of floating production units. We focus on four key capabilities, namely: Rigs & Floaters; Repairs & Upgrades; Offshore Platforms; and Specialised Shipbuilding.

We operate shipyards and other facilities strategically located in Singapore, Indonesia, the United Kingdom, Norway and Brazil.

Discover more at [www.sembmarine.com](http://www.sembmarine.com).

### **About the Agency for Science, Technology and Research (A\*STAR)**

The Agency for Science, Technology and Research (A\*STAR) is Singapore's lead public sector R&D agency, spearheading economic-oriented research to advance scientific discovery and develop innovative technology. Through open innovation, we collaborate with our partners in both the public and private sectors to benefit society.

As a Science and Technology Organisation, A\*STAR bridges the gap between academia and industry. Our research creates economic growth and jobs for Singapore, and enhances lives by contributing to societal benefits such as improving outcomes in healthcare, urban living, and sustainability.

We play a key role in nurturing and developing a diversity of talent and leaders in our Agency and research entities, the wider research community and industry. A\*STAR's R&D activities span biomedical sciences and physical sciences and engineering, with research entities primarily located in Biopolis and Fusionopolis. For ongoing news, visit [www.a-star.edu.sg](http://www.a-star.edu.sg).

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