



**19 May 2026**

**TCOMS and NUS AI Institute partner to advance AI-enhanced Design Synthesis and Cognitive Operations of Maritime and Marine & Offshore systems with Seatrium as first industry collaborator**

**(SINGAPORE)** The Technology Centre for Offshore and Marine, Singapore (TCOMS) and the National University of Singapore Artificial Intelligence Institute (NAII) have launched “CATALYST – Catalysing Artificial Intelligence (AI) for Stress Testing and Advanced Learning for Marine & Offshore SYSTEMs” with support from Enterprise Singapore (EnterpriseSG). EnterpriseSG jointly conceptualised CATALYST with TCOMS and NAII, recognising the transformative impact of AI for the Marine & Offshore Energy sector. The launch took place on 19 May 2026 at the RECHARGE Wind Power Summit 2026 Asia-Pacific in Singapore, where the ceremonial Letter of Award was signed by EnterpriseSG’s Assistant Managing Director of Manufacturing, Mr Wong Zeng Yi, CEO of TCOMS, Professor Chan Eng Soon, and Director of NAII, Professor Mohan Kankanhalli. The signing ceremony was witnessed by Chairman of EnterpriseSG, Mr Lee Chuan Teck, President of NUS, Professor Tan Eng Chye, and Deputy President (Research and Technology) of NUS and Co-Chair of TCOMS Board of Directors, Professor Liu Bin.

Following the signing, TCOMS and NAII also signed a Memorandum of Understanding (MOU) with Seatrium, represented by Executive Vice President (Cyber Information Technology and Operational Technology) Mr Lim Shih Hsien, and witnessed by Mr Chris Ong, CEO of Seatrium.

The CATALYST programme seeks to strengthen Singapore’s role as a regional hub by advancing AI-enabled solutions for Maritime and Marine & Offshore systems in complex ocean environments. CATALYST will shorten testing and design cycles for vessels and offshore structures through an AI-Assisted Virtual Testing Environment (VTE), which serves as a platform for industry players to learn, discover and stress-test their latest products in a sandbox environment – a potential gamechanger allowing rapid performance assessment, multiple concurrent iterations, and significantly lower development time and cost compared to conventional design-to-testing process. Beyond design, AI-enabled digital twins can also be deployed during operations and maintenance to simulate extreme conditions and generate real-time, actionable insights from asset data, enabling predictive maintenance and downtime optimisation.

Building on this capability, the CATALYST collaboration with Seatrium will focus on accelerating the application of AI in design synthesis and cognitive operations of Maritime and Marine & Offshore systems. By using AI to predict ocean conditions and platform motions, floating wind systems can be proactively controlled to operate within safe limits with maximised performance. Complementing this with AI-assisted VTE and



Design & Optimisation Toolkits will shorten engineering and development cycles and lower development costs. In addition, an AI-Enabled Digital Twin to derive adaptive insights to facilitate and support operation control strategies, maintenance planning, and asset integrity management. This integrated approach is expected to accelerate design cycles, strengthen design confidence, as well as support faster and more cost-effective deployment of solutions.

Combining Seatrium's domain expertise in floating offshore wind with AI-driven virtual testing and advanced analytics – from predicting ocean conditions and optimising platform performance to accelerating engineering design – the collaboration aims to optimise design validation, strengthen system robustness, and support more efficient deployment.

Mr Lee Chuan Teck, Chairman of EnterpriseSG, said “AI has the potential to transform how the Marine & Offshore Energy industry works by accelerating development cycles, reducing costs, and improving operational efficiency. The partnership between TCOMS and NAI is a strong example of industry-research collaboration in action, and we look forward to CATALYST delivering tangible outcomes for the industry. EnterpriseSG will continue to support such industry-research collaborations to encourage more companies to explore how AI can help them stay competitive.”

Professor Tan Eng Chye, President of NUS, said: “NUS is delighted to join forces with TCOMS on the CATALYST programme, in close partnership with leading industry players such as Seatrium and drawing on the expertise of the NUS AI Institute. By combining our strengths in artificial intelligence and engineering, we are developing advanced digital tools that boost innovation and enhance reliability in the maritime sector. Our goal is to enable faster, more cost-effective design cycles and operations, and in turn, support Singapore's growth as a global hub for advanced offshore solutions.”

Mr Chris Ong, CEO of Seatrium said: “CATALYST is an important step towards bridging advanced research with the realities of complex offshore applications. This collaboration integrates advanced digital capabilities into offshore engineering, extending our proven EPC capabilities with complementary future-ready software and systems. Through our longstanding partnership with NAI and TCOMS, we will accelerate the translation of critical and cutting-edge technologies into deployable solutions. This will elevate our nation's offshore ecosystem, ensuring its global relevance amidst a rapidly evolving landscape.”

Professor Chan Eng Soon, Chief Executive Officer of TCOMS, said “TCOMS is pleased to collaborate with NAI in the CATALYST programme to enhance the



adoption of AI by the industry for design synthesis and cognitive operation of Maritime and Marine & Offshore systems, and strengthen Singapore's role as an international hub for advanced engineering solutions. We also look forward to working closely with Seatrium, our first CATALYST industry partner, to integrate AI in the design, development and operational cycles of future products and solutions.”

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## Annex



**Caption: Signing of ceremonial Letter of Award in Singapore by the Assistant Managing Director of Manufacturing from EnterpriseSG, Mr Wong Zeng Yi, CEO of TCOMS, Prof Chan Eng Soon and Prof Mohan Kankanhalli, Director of NUS AI Institute, on 19<sup>th</sup> May 2026 in the presence of Chairman of EnterpriseSG, Mr Lee Chuan Teck, President of NUS, Professor Tan Eng Chye and Deputy President (Research and Technology) of NUS and Co-Chair of TCOMS Board of Directors, Professor Liu Bin at the RECHARGE Wind Power Summit APAC 2026 event.**

**Seated (L–R):** Mr Wong Zeng Yi, Assistant Managing Director of Manufacturing, EnterpriseSG; Prof Mohan Kankanhalli, NUS AI Institute Director; Prof Chan Eng Soon, CEO, TCOMS

**Standing (L–R):** Mr Lee Chuan Teck, Chairman, EnterpriseSG; Professor Tan Eng Chye, President, NUS; Professor Liu Bin, Deputy President (Research and Technology), NUS and Co-Chair of TCOMS Board of Directors

Picture of MoU signing between TCOMS, NUS AI Institute and Seatrium on 19 May 2026, at the RECHARGE Wind Power Summit 2026 Asia-Pacific event in Singapore.



**Caption: At the RECHARGE Wind Power Summit Asia Pacific 2026 in Singapore, TCOMS, NUS AI Institute and Seatrium signed an MoU under the CATALYST programme to advance AI-enhanced Design Synthesis and Cognitive Operations of Maritime and Marine & Offshore systems**

**Seated (L–R):** Mr Lim Shih Hsien, Executive Vice President, Cyber IT&OT, Seatrium; Prof Mohan Kankanhalli, Director, NUS AI Institute, and Prof Chan Eng Soon, CEO, TCOMS

**Standing (L–R):** Mr Chris Ong, CEO, Seatrium; Mr Lee Chuan Teck, Chairman, Enterprise Singapore; Prof Tan Eng Chye, President, National University of Singapore; and Prof Liu Bin, Deputy President (Research and Technology), National University of Singapore, and Co-Chair of TCOMS Board of Directors



## About TCOMS

The Technology Centre for Offshore and Marine, Singapore (TCOMS) is a national R&D centre dedicated to the Marine & Offshore Engineering, Maritime and other Ocean sectors. We integrate research and industry expertise to co-create innovative concepts and solutions to address real world challenges. A core feature of TCOMS is the state-of-the-art ocean basin research facility which is equipped with advanced wave and current generation systems to simulate the physical ocean environment and complex scenarios that marine platforms and ships operate in. TCOMS's research capabilities are augmented by the latest supercomputing capabilities of the National Supercomputing Centre (NSCC) Singapore. These allow our researchers to evolve coupled numerical-physical modelling capabilities to better understand complex marine environments and enable companies enhance the design and performance of their solutions. TCOMS is a joint venture between the Agency for Science, Technology and Research (A\*STAR) and the National University of Singapore (NUS).

You can learn more about TCOMS at [www.tcoms.sg](http://www.tcoms.sg).

## About NAI

The NUS AI Institute (NAII) is dedicated to establishing a transformative AI ecosystem that focuses on research excellence and fosters entrepreneurship for the public good in Singapore and the World. Established in March 2024, the university-level platform institute brings together AI researchers across the whole of NUS, and encompasses basic and applied research in AI, alongside studies of the societal implications of AI.

For more information about NAI, please visit [ai.nus.edu.sg](http://ai.nus.edu.sg)

## About Seatrium Limited

Headquartered and listed in Singapore, Seatrium Limited is a leading provider of specialised engineering solutions for the global offshore, marine, and energy sectors. Seatrium plays a pivotal role in delivering offshore energy infrastructure assets globally that is the backbone of some of the world's essential energy systems.

With over 60 years of proven expertise, Seatrium operates across 15 countries through an integrated network of advanced yards, engineering and technology centres; supported by a diverse and dedicated workforce of more than 24,000 employees.

Seatrium's diversified business positions it to play a critical role in the global energy transition. Its core business segments mainly include Oil & Gas Newbuilds and Conversions; Offshore Wind; Repairs & Upgrades. Its expanding product portfolio includes FPSOs, FPU's, Offshore Converter Platforms and a wide range of offshore installation vessels, amongst others.



Longstanding customer relationships with the world's largest energy majors, asset operators and owners, and Transmission System Operators underscore Seatrium's ability to consistently deliver high standards of safety, quality and timeliness.

Amidst the global energy transition, Seatrium has robust capabilities in developing new technologies and solutions (such as Carbon Capture & Storage and New Energies). Guided by a culture of innovation; and core values prioritising people, safety and sustainability; Seatrium strives to create enduring value for all stakeholders, engineering towards a sustainable energy future.

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