



Big Data Exchange, National University of Singapore and Sembcorp Marine to Explore Development of Sustainable Ocean Data Centres

Partnership Aims to Develop Proof-of-Concept and Pave the Way for Offshore Data Centres that Address Land Scarcity and Energy Efficiency Challenges in Singapore

SINGAPORE, 22 September 2021 – [Big Data Exchange \(BDx\)](#), a Pan Asian data centre cluster, [National University of Singapore's Faculty of Engineering \(NUS Engineering\)](#), and [Sembcorp Marine](#) have signed a Memorandum of Understanding (MOU) to explore the feasibility of developing groundbreaking sustainable ocean data centres. This strategic alliance also seeks to address the growing climate and sustainability challenges facing the data centre industry and environment.

Under this MOU, each party will contribute a unique element to advance the development of sustainable ocean data centres:

- BDx will provide the data centre arrangement as well as the technical proposal and operational strategy;
- NUS Engineering will supply its cooling technology along with metrics for meeting relevant energy efficiency targets; and
- Sembcorp Marine will contribute an offshore platform solution

“Advancing the sustainability goals of our customers and uncovering new innovative ways to bring sustainability to the data centre industry is becoming increasingly important for BDx,” states Mr Braham Singh, BDx CEO. “We have an ongoing commitment to this and we’re proud to work with NUS Engineering and Sembcorp Marine to begin the important work of creating a more sustainable future for our industry.”

As a leading global university, NUS is committed to developing solutions that promote environmental sustainability across different areas, including developing innovations for green data centre operations.

“The growing demand for cloud computing, 5G, artificial intelligence and the Internet of Things has intensified the need for high-performance data centres that can be operated in an environmentally-responsible manner,” says Associate Professor Lee Poh Seng from the NUS Department of Mechanical Engineering, and Executive Director of the Energy Studies Institute at NUS. “We are pleased to study the feasibility of deploying our patented liquid cooling technology for this exciting development of offshore data centres that could be powered and cooled using seawater, the world’s most abundant resource. We look forward to working with BDx and Sembcorp Marine to bring about tangible benefits for both the digital economy and the environment.”

Headquartered in Singapore, Sembcorp Marine provides innovative engineering solutions to the global offshore, marine and energy industries. Committed to sustainability, Sembcorp Marine actively reduces its carbon footprint across its operations and develops innovative and green solutions to meet international standards, regulatory requirements, global environmental concerns and customers’ sustainability needs.

“With growing awareness of climate change and a paradigm shift in energy consumption towards renewable sources, it is imperative for organizations to collaborate with one another and think out of the box to advance sustainable solutions and business models,” says Mr Wong Weng Sun, Sembcorp Marine President and CEO. “Leveraging our innovative design expertise for the offshore, marine and energy industries, Sembcorp Marine is excited to partner BDx and NUS Engineering to contribute to the sustainable evolution of the data centre industry.”

To counter the increasing environmental impact of data centres globally, BDx, NUS Engineering and Sembcorp Marine will also promote joint research and development activities of mutual interest and benefit in the areas of sustainable ocean data centres.



Signatories for the MoU (clockwise from top-left): BDx CFO Mr Vijay Tripathi, NUS Engineering Deputy Dean Professor Teo Kie Leong and Sembcorp Marine Head of R&D Mr Simon Kuik

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About Big Data Exchange (BDx)

Big Data Exchange (BDx) is a Pan-Asian data center cluster with sites throughout Hong Kong, mainland China and Singapore. Its unique hybrid cloud, connectivity and colocation solutions offer unparalleled security and reliability for the mission-critical IT infrastructure of its local and global clientele. As a carrier-neutral provider, BDx delivers a secure hybrid ecosystem with innovative connectivity solutions to enterprises, OTTS, financial services and more. With its automated modules, BDx allows enterprises to manage physical racks with the same ease as working in public clouds, as well as an unmatched level of customization. BDx was founded in 2019 and maintains headquarters in Hong Kong. To learn more, visit www.bdxworld.com or follow BDx on [Twitter](#) and [LinkedIn](#).

About National University of Singapore (NUS)

The National University of Singapore (NUS) is Singapore’s flagship university, which offers a global approach to education, research and entrepreneurship, with a focus on Asian perspectives and expertise. We have 17 faculties across three campuses in Singapore, with more than 40,000 students

from 100 countries enriching our vibrant and diverse campus community. We have also established our NUS Overseas Colleges programme in more than 15 cities around the world.

Our multidisciplinary and real-world approach to education, research and entrepreneurship enables us to work closely with industry, governments and academia to address crucial and complex issues relevant to Asia and the world. Researchers in our faculties, 30 university-level research institutes, research centres of excellence and corporate labs focus on themes that include energy; environmental and urban sustainability; treatment and prevention of diseases; active ageing; advanced materials; risk management and resilience of financial systems; Asian studies; and Smart Nation capabilities such as artificial intelligence, data science, operations research and cybersecurity.

For more information on NUS, please visit www.nus.edu.sg.

About Sembcorp Marine

Company Registration Number: 196300098Z

Sembcorp Marine provides innovative engineering solutions to the global offshore, marine and energy industries. Headquartered in Singapore, the Group has close to 60 years of track record in the design and construction of rigs, floaters, offshore platforms and specialised vessels, as well as in the repair, upgrading and conversion of different ship types. Sembcorp Marine's solutions focus on the following areas: Renewables, Process, Gas, Ocean Living and Advanced Drilling Rigs.

Sembcorp Marine's customers include major energy companies, owners of floating production units, shipping companies and cruise and ferry operators. They are supported by four commercial units: Rigs & Floaters; Repairs & Upgrades; Offshore Platforms and Specialised Shipbuilding.

Sembcorp Marine operates shipyards and other facilities in Singapore, Indonesia, the United Kingdom, Norway and Brazil.

Discover more at www.sembmarine.com.

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