

2022 March 31 13:32

## NTU Singapore to develop technologies to extract hydrogen from liquid organic hydrogen carriers

Nanyang Technological University, Singapore (NTU Singapore) is developing new technologies for the extraction of hydrogen from liquid organic hydrogen carriers, with the support of National University of Singapore (NUS) and industry collaborators in Singapore and Japan - including Chiyoda Corporation, PSA Corporation, Sembcorp Industries, City Energy, Jurong Port, Singapore LNG corporation and Mitsubishi Corporation - to power Singapore's green energy future, according to the company's release.

Liquid organic hydrogen carriers are flexible media for the storage and transportation of renewable energy. The research project thus has the potential to allow for more efficient and economical transport of hydrogen, which can in turn contribute to the expansion of global hydrogen supply chains.

The project was mentioned by Singapore's Trade and Industry Minister, Mr Gan Kim Yong, during this year's Committee of Supply (COS) debate in Parliament, where he highlighted that the project aims to contribute to the design of a cost-effective hydrogen supply chain network for Singapore. The collaboration is made possible by a grant awarded under the Low-Carbon Energy Research Funding Initiative (LCER FI), which was started by the Singapore Government to support research, development, and demonstration projects on low-carbon energy technology solutions.

Consortium of companies to support research and commercial development Chiyoda Corporation, which is headquartered in Japan, will serve as NTU's key partner in the project, and will offer technical contribution based on their proprietary dehydrogenation catalyst technology, SPERA Hydrogen™, to the University to be developed and implemented on a national scale.

\In addition, the Japanese government is supporting Singapore's energy transition by leveraging on Japanese companies' technologies such as Chiyoda's SPERA Hydrogen under the Asia Energy Transition Initiative. The project builds on previous work by the group of companies, along with researchers from NTU and the NUS. Together, the group of companies have been developing a more cost-effective way to implement and operate a hydrogen supply chain, following a Memorandum of Understanding (MOU) among the consortium in March 2020. Under the collaboration, the consortium of companies aims to accelerate the commercial usage of hydrogen in Singapore, with a goal of also semi-commercialising the technology by the year 2025, and full commercialising by 2030.