



MEDIA RELEASE

Singapore, 11 September 2023 | **For Immediate Release**

Singapore Hosted the World's First Bulk Liquefied Hydrogen Carrier, *Suiso Frontier*, to the Port of Singapore

Singapore welcomed the world's first bulk liquefied hydrogen carrier, *Suiso*¹ *Frontier*, on 31 August 2023. The vessel was berthed at the Shell Energy and Chemicals Park Singapore on Pulau Bukom from 1 September to 7 September 2023.

2. Mr Teo Chee Hean, Senior Minister and Coordinating Minister for National Security, Mr Chee Hong Tat, Acting Minister for Transport, Mr Teo Eng Dih, Chief Executive of the Maritime and Port Authority of Singapore (MPA), and key representatives from various government agencies and industry partners were hosted to separate visits onboard *Suiso Frontier* during her stay in Singapore. The visitors were briefed on the design and safety features of the vessel.

3. Designed and manufactured by Kawasaki Heavy Industries (KHI), *Suiso Frontier*, is operated by Shell under the CO₂-free Hydrogen Energy Supply-chain Technology Research Association (HySTRA) project funded by the Japanese government and various partners. The vessel can carry up to 1,250 cubic metres of liquefied hydrogen at -253 degrees Celsius in the state-of-the-art storage tank. The vessel completed its maiden voyage between Australia and Japan in February 2022 and, after a refit period, is now in the next phase of the demonstration which aims to assess performance, reliability, and integrity of the vessel's system through more load-unload cycles as well as provide more operational experience. Please refer to the Annex for the specifications of *Suiso Frontier*.

4. Mr Teo Eng Dih, Chief Executive of MPA, said, " Singapore announced our National Hydrogen Strategy in late 2022. The properties of hydrogen, and its potential to be produced at scale using renewable sources, makes hydrogen a potential fuel to support the energy transition to a low and zero carbon future. MPA is actively studying the use of hydrogen and its carriers as a marine fuel and welcomes the collaboration with industry players such as Kawasaki Heavy Industries and Shell, as well as our work with our research community such as the A*STAR Institute of High Performance Computing, to bring the *Suiso Frontier* to Singapore. This vessel visit has helped to

¹ *Suiso* is Japanese for hydrogen.

inform the development of safety and operational procedures, and also support further feasibility studies and preparations for the deep-sea transportation and receipt of liquefied alternative fuels.”

5. Mr Shigeru Yamamoto, Executive Officer Deputy General Manager, Hydrogen Strategy Division, Kawasaki Heavy Industries, Ltd., said, "We strongly believe that an international supply chain of liquefied hydrogen by marine transportation is essential to realise a carbon-neutral world. The world's first liquefied hydrogen carrier, *Suiso Frontier*, showed to the world that cryogenic liquefied hydrogen can be transported by ship. We are confident that liquefied hydrogen will attract even more attention from around the world in the future."

6. Mr Nick Potter, General Manager of Shell Shipping and Maritime for Asia Pacific and the Middle East, said, "Transportation through deep-sea shipping is one of the critical steps essential for unlocking the use of hydrogen as a future zero carbon fuel. The *Suiso Frontier* represents a key milestone in demonstrating the technical feasibility of liquefied hydrogen shipping and Shell's maritime leadership in this area. Shell also remains committed to the safe and efficient operations of the vessel."

<End of Release>

About the Maritime and Port Authority of Singapore (MPA)

MPA was established on 2 February 1996 with the mission to develop Singapore as a premier global hub port and international maritime centre, and to advance and safeguard Singapore's strategic maritime interests. MPA is the driving force behind Singapore's port and maritime development, taking on the roles of port authority, maritime and port regulator and planner, international maritime centre champion, national maritime representative and a champion of digitalisation and decarbonisation efforts at regional and international fora such as at the International Maritime Organization. MPA partners industry, research community and other agencies to enhance safety, security and environmental protection in our waters, facilitate maritime and port operations and growth, expand the cluster of maritime ancillary services, and develops maritime digitalisation and decarbonisation policies and plans, R&D and manpower development. MPA is responsible for the overall development and growth of the maritime domain and Port of Singapore. In 2022, Singapore remained one of the world's busiest transshipment hubs with a container throughput of 37.3 million 20-foot equivalent units (TEUs).

For more information, please visit <https://www.mpa.gov.sg>

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