

## GTT receives Approval in Principle from Bureau Veritas for the design of a LNG-fuelled & “NH3 Ready” Very Large Crude Carrier

**Paris - September 28<sup>th</sup>, 2022.** GTT received an Approval in Principle (AiP) from Bureau Veritas for a LNG-fuelled and NH<sub>3</sub><sup>1</sup>-ready Very Large Crude Carrier (VLCC) design. This approval is part of a joint development project, started in 2021, and successfully carried out by China Merchants Energy Shipping Co, Ltd, TotalEnergies, Dalian Shipbuilding Industry Co. Ltd. (DSIC), and Bureau Veritas (BV).

This new concept of VLCC is a breakthrough innovation, with the relocation of the fuel tank below the main deck to avoid exposure to bad weather, the risk of piracy, while lowering centre of gravity of the propulsion systems. It integrates GTT's [Mark III membrane](#) containment technology and the LNG storage tank is compatible with liquid ammonia fuel, giving the owner and charterer greater operational flexibility.

The tank capacity of this new VLCC is flexible, from 9,000 to 14,000 cubic meters. It also complies with the strength requirements for both LNG and ammonia fuels. As ammonia is heavier than LNG, the structure of the tank has been strengthened to support the loads induced on the vessel and the tank.

The minimum endurance with LNG fuel is 23,000 nautical miles and 17,000 nautical miles for ammonia at design condition.

In addition to its operational benefits, the new LNG-fuelled and NH<sub>3</sub>-ready VLCC concept complies with key environmental requirements. Its Energy Efficiency Design Index (EEDI) is more than 40% under the BaseLine, its Nitrogen Oxides (NOX) emissions meet the IMO's Tier III requirements, and its Carbon Intensity Index (CII) is projected to be rated A by 2030.

**Jean-Baptiste Boutillier, Vice-president Development, Innovation, Technical Strategy of GTT, declared:** *“We are very proud to have developed this new generation of LNG fuelled and NH<sub>3</sub> ready VLCCs thanks to the expertise of the market's key players. This technology illustrates GTT's ambition to support, with its innovation, the maritime industry in facing the challenges of energy transition. This concept of multi-fuel VLCC with enhanced endurance not only enables safer and more efficient operations, but also offers greater bunkering flexibility for shipowners and charterers towards a carbon-free future.”*

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<sup>1</sup> NH<sub>3</sub> : Ammonia.

**Alex Greg-Smith, Senior Vice President Chief Executive, Marine & Offshore North Asia and China, Bureau Veritas, declared:** *“BV is very proud to have been a significant part in this LNG Dual Fuelled and Ammonia Prepared VLCC, alongside Dalian Shipbuilding Industry, China Merchant Energy Shipping, TotalEnergies and GTT. I would like to thank all parties for their trust, and BV is honored to support the project from its inception providing full plan approval and design support, and we are happy to help advance innovation that is much needed to achieve a low-carbon future”*

#### **About GTT**

GTT is a technological expert in containment systems with cryogenic membranes used to transport and store liquefied gases. For over 50 years, GTT has been designing and providing cutting-edge technologies for a better energy performance, which combine operational efficiency and safety, to equip LNG carriers, floating terminals, land storage, and multi-gas carriers. GTT also develops systems dedicated to the use of LNG as fuel, as well as a full range of services, including digital services in the field of Smart Shipping. The Group is also active in hydrogen through its subsidiary Elogen, which designs and assembles electrolyzers notably for the production of green hydrogen.

GTT is listed on Euronext Paris, Compartment A (ISIN FR0011726835 Euronext Paris: GTT) and is notably included in SBF 120, Stoxx Europe 600 and MSCI Small Cap indices.

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