

GTT receives Approval in Principle from Bureau Veritas for the design of an LNG dual-fuel Very Large Crude Carrier

Paris – May 8th, 2023. GTT has obtained, in Shanghai, an Approval in Principle (AiP) from Bureau Veritas for the design of a Liquefied Natural Gas (LNG) dual-fuel Very Large Crude Carrier (VLCC). This approval is part of a Joint Development Project (JDP), started in May 2022, and successfully carried out by Shanghai Waigaiqiao Shipyard (SWS), a world-renowned and leading shipyard in the construction of tankers, and Bureau Veritas (BV), a world leader in inspection and certification services.

SWS has designed a state-of-the-art vessel, including optimised hull lines and equipped with GTT's high-technology system for LNG cargo containment, enabling safe and flexible carbon-neutral shipping. The great operational flexibility offered by this new 10,000 m³ capacity fuel tank concept allows ship-owners and charterers to make round trip voyages between the Middle East, Asia, and Europe with a single LNG bunkering operation. The fuel tank has been located below the main deck to avoid exposure to bad weather and the risk of piracy, while lowering the centre of gravity of the propulsion systems. It features [Mark III](#) membrane containment technology, developed by GTT.

In addition to its operational benefits, the new LNG dual-fuel VLCC concept complies with the main environmental requirements. Its Energy Efficiency Design Index (EEDI¹) outperforms regulatory requirements (more than 37% below the reference line²), its Nitrogen Oxide (NO_x) emissions meet the International Maritime Organisation Tier III requirements and its Carbon Intensity Index (CII³) is projected to be rated "A⁴", which is the best rating.

Adnan Ezzarhouni, General Manager of GTT China, declared: *"We are delighted that Bureau Veritas, with which GTT has a long-standing close partnership, has granted us this AiP. Following our successful references in the field of LNG-fuelled container and cruise vessels, we are pleased to offer this LNG membrane tank solution suitable for the tanker market."*

Alex Greg-Smith, Senior Vice President Chief Executive, Marine & Offshore North Asia and China, Bureau Veritas, declared: *"Our knowledge of LNG as a fuel was mobilised from the design phase of this dual-fuel VLCC. From plan approval to vessel classification, Bureau Veritas experts played*

¹ The EEDI (Energy Efficiency Design Index), defined by the International Maritime Organization, is an energy efficiency index that must be met for newly built ships.

² The reference line is a value that represents the minimum fuel consumption expected for a ship of similar size and type.

³ CII: Carbon Intensity Index. It is an indicator of carbon intensity, defined by the International Maritime Organization, which is emitted in grams of CO₂ based on deadweight tonnage and distance travelled. It measures how efficiently a ship transports goods or passengers. Since January 1st, 2023, ship-owners are required to start collecting data in order to obtain a ship rating from 2024.

⁴ The CII is rated from A to E (A being the best rating).

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a key role in ensuring this sophisticated tanker can take to the seas safely. Dual-fuel carriers pave the way for the future of the maritime energy transition. A new generation of VLCCs will contribute both to decarbonisation of the maritime sector as a whole and to the reduction of Scope 3 emissions in countless other sectors.”

Li Jianing, Director of Shanghai Waigaiqiao Shipyard R&D Dept., declared: *“We are pleased to bring this promising new solution to the market, which offers ship-owners enhanced flexibility and safety, while being fully compliant with the latest environmental regulations. This development is a concrete achievement as well as an important step forward on the journey towards carbon neutrality”*

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 electrolysers 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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About SWS

Founded in 1999, Shanghai Waigaoqiao Shipbuilding Co., Ltd. (hereinafter to be named as “SWS”) is a subsidiary of China CSSC Holding Ltd., a publicly listed company controlled by China State Shipbuilding Corporation limited (CSSC). Until now, SWS has been one of the most large-scale, modernized, professional and influential shipbuilding enterprises in the industry.

The main business scope of SWS covers the design and manufacture of merchant vessels, offshore products, marine equipment, etc. SWS has outstanding design and construction capability in the fields of marine and offshore products like Large Cruise Ships, Capesize Bulk Carriers, Very Large Crude Oil Carriers (VLCCs), Aframax Oil Tankers, and Suezmax Oil Tankers, Ultra Large Container Vessels (ULCVs), Very Large Gas Carriers (VLGCs), the Floating Production Storage and Offloading (FPSO), semi-submersible/ Jack-up Drilling Rigs, and PSV etc.

By the end of Jan. 2023, SWS had delivered a total of 535 various merchant vessels and offshore products, and continuously leads the development trend of global offshore engineering equipment.

For more information, visit <https://www.chinasws.com/>

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About Bureau Veritas

Bureau Veritas is a world leader in laboratory testing, inspection and certification services. Created in 1828, the Group has close to 80,000 employees located in nearly 1,600 offices and laboratories around the globe. Bureau Veritas helps its 400,000 clients improve their performance by offering services and innovative solutions in order to ensure that their assets, products, infrastructure and processes meet standards and regulations in terms of quality, health and safety, environmental protection and social responsibility.

Bureau Veritas is listed on Euronext Paris and belongs to the CAC 40 ESG, CAC Next 20 and SBF 120 indices. Compartment A, ISIN code FR 0006174348, stock symbol: BVI.

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