Press Release

GTT and SDARI obtain Approval in Principle (AiP) from DNV for a new design of large Bulk Carrier integrating an LNG fuel tank with increased autonomy

Paris – March 23rd, 2021. GTT and the ship designer SDARI[1] have received Approval in Principle (AiP) from the classification society DNV for a new technical solution applied to LNG fueled Bulk Carriers (Newcastlemax type[2]) fitted with GTT membrane tank. GTT designed the tank up to the supporting steel wall and its integration into the vessel was studied by SDARI.

This AiP confirms that the membrane fuel tank solution complies with safety regulations and is technically feasible onboard of LNG fueled Bulk Carriers. This design improvement offers increased autonomy and drastically reduces sulphur and greenhouse gas emissions compared to a standard Newcastlemax design. Furthermore, it offers great flexibility as vessel can sail a Brazil-China round trip with a unique LNG bunkering. This reliable solution, with optimal LNG storage, does not affect the available cargo space nor the vessel's accommodation.

GTT, SDARI and DNV studied, among other things, the structural arrangement of the LNG tank above of the engine room, the dimensioning of the LNG injection system from the tank to the engines, as well as the interface of the LNG Bunker station. Aspects relating to naval architecture, such as damaged stability, were also reviewed by DNV.

Philippe Berterottière, Chairman and CEO of GTT, said: "*GTT's teams are once again demonstrating the excellence and performance of the technological solutions developed by the Group, whose mission is to support our customers facing the many challenges of the energy transition. We are all very proud to be able to bring to ship-owners today, following DNV's approval, a new bulk carrier solution that is both competitive and sustainable.*"

Morten Løvstad, VP and Global Business Director- Bulk Carriers of DNV, said "*This new design is yet another proof of the many innovations taking place to facilitate decarbonisation within the transportation of dry bulk cargo. It is the first AiP issued by DNV for the use of membrane technology.as fuel tank onboard bulk carriers, and forms an important milestone."*

Wang Gangyi, the Chief Engineer of SDARI, said: "*SDARI is delighted to receive this Approval in Principle from DNV. This type of* vessel *is another R&D achievement that combines the latest technology in the market enabling future shipping in line with carbon peak and carbon neutral targets."*

[1] Shanghai Ship Design and Research Institute
[2] A class of bulk carriers of the size required to enter the port of Newcastle in Australia. This port is the largest coal exporter in the world.

Technology for a Sustainable World

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About GTT

GTT (Gaztransport&Technigaz) is a technology and engineering company expert in containment systems with cryogenic membranes used to transport and store liquefied gas, in particular LNG (Liquefied Natural Gas). For over 50 years, GTT has been maintaining reliable relationships with all stakeholders of the gas industry (shipyards, ship-owners, gas companies, terminal operators, classification societies). The company designs and provides technologies which combine operational efficiency and safety, to equip LNG carriers, floating terminals, and multi-gas carriers. GTT also develops solutions dedicated to land storage and to the use of LNG as fuel for the vessel propulsion, as well as a full range of services.

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

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About DNV

DNV is the world's leading classification society and a recognized advisor for the maritime industry. We enhance safety, quality, energy efficiency and environmental performance of the global shipping industry – across all vessel types and offshore structures. We invest heavily in research and development to find solutions, together with the industry, that address strategic, operational or regulatory challenges.

For more information, visit www.dnvgl.com

About SDARI

Established in 1964, SDARI (Shanghai Merchant Ship Design and Research Institute), member of CSSC (China State Shipbuilding Corporation Limited), stands out as China's first merchant ship design institute with the vast variety of ship types, world's leading technical edge, the most innovative and stable technical team along with the largest market share in domestic China. We provide all-round technical services ranging from Feasibility Study, Conceptual Design, Basic Design, Detail Design to Production Design. We develop a total of more than 1,200 different vessels include Bulk Carriers, Container Vessels, Liquid Cargo Ships, Ore Carriers, RORO/ROPAX and MPVs, Specialized Engineering Vessels, Offshore Support Vessels, Offshore Engineering Vessels and Offshore Platforms. We also offer equipments including Digital Operation Support System (DOSS), Loading Computer (Smart Load), Energy-saving Devices and so on.

For more information, visit www.sdari.com.cn