

## GTT pursues its developments in the field of alternative fuels with three approvals in principle from ABS and as well as a joint development project

**Paris, Singapore - September 6<sup>th</sup>, 2023.** GTT has received three Approvals in Principle (AiP<sup>1</sup>) from the classification society American Bureau of Shipping (ABS), and has signed a Joint Development Project (JDP) with this same classification society, along with the crude oil tanker company, DHT Holdings Inc., on its latest projects in alternative fuels.

The three AiPs were presented to Philippe Berterottière, Chairman and CEO of GTT, by John McDonald, Group President and COO of ABS, during the Gastech exhibition in Singapore.

These AiPs cover the following projects:

- A concept for an LNG dual-fuel Very Large Crude Carrier (VLCC) developed in collaboration with the Finnish ship designer Deltamarin, fitted with a LNG fuel tank of 12,500 m<sup>3</sup> equipped with GTT's [Mark III system](#);
- A concept for an LNG dual-fuel Suezmax tanker also developed in collaboration with Deltamarin, fitted with a LNG fuel tank of 5,500 m<sup>3</sup> equipped with GTT's [Mark III system](#);
- A concept for a [Mark III](#) LNG fuel tank with a design pressure up to 1 bar gauge (barg) for LNG fuel application.

The concepts developed by GTT and Deltamarin aim at maximising vessel autonomy through the use of a large capacity tank, which allows ship-owners and charterers to benefit from longer trade navigation with a single refuelling operation without any impact on cargo capacity. The energy efficiency of these concepts was studied with the latest simulation tools and a holistic approach, providing the lowest emissions level in this ship size class.

The 1 barg design improves operational flexibility, for many types of LNG-fuelled vessels from container ships to bulk carriers and tankers, by providing an increased pressure range in the LNG fuel tank, with longer pressure holding time (increase in pressure in the event of zero or very low consumption) and an ability to bunker and store LNG at warmer temperatures.

Furthermore, the Joint Development Project signed with ABS, and the crude oil tanker company, DHT Holdings Inc. focuses on optimising the design of the VLCC, exploring the total cost of operation with the analysis of the operating profile and fuel availability at frequently visited ports. The collaboration also

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<sup>1</sup> An Approval in Principle (AiP) is an independent assessment of a concept within an agreed framework, confirming that the design is feasible, and no significant obstacles exist to prevent the concept from being realised.

addresses topics such as LNG fuel volume, tank size optimisation and the impact on regulatory measures such as Carbon Intensity Indicator (CII).

**Philippe Berterottière, Chairman and CEO of GTT, declared:** *"Obtaining three AiPs from ABS and launching a JDP represents a significant achievement for GTT. Our innovative concepts, encompassing LNG-fuelled VLCCs, Suezmax tankers, and advanced LNG fuel tank designs, underline our dedication to advancing sustainable maritime solutions. These steps reinforce our commitment to operational excellence, with ABS as a valued partner in our journey."*

**John McDonald, Group President and COO of ABS, said:** *"LNG has significant potential to improve the emissions performance of vessels, including VLCCs. The flexibility offered by dual-fuel operations, combined with the potential to improve CII rating, could well contribute to a longer lifespan and increase attractiveness to charterers. ABS is proud to be able to use its experience to contribute to these important development projects."*

#### **About GTT**

GTT is a technological expert in containment systems with cryogenic membranes used to transport and store liquefied gases. For over 60 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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