

New study by GTT, Lloyd's Register and Shell concludes that predictive technology could extend tank inspection intervals on LNG carriers

Paris – 5 March 2024. A study led by GTT Group, Lloyd's Register and Shell International Trading and Shipping Company Limited concludes that inspection intervals for LNG carrier membrane tanks could be safely extended thanks to monitoring technology and predictive maintenance.

The International Gas Carriers (IGC) Code and IACS UR Z16 rules require Liquefied Natural Gas (LNG) carrier cargo tanks to be inspected internally every five years. This joint study explored whether this interval could be extended in the framework of an alternative survey plan (ASP) with consideration to the implications on the associated risk profile. The project group conducted a thorough analysis of LNG tanks and related system design and their operation, with consideration of potential damage mechanisms, the potential consequences and their detectability. The study concludes that the inspection period extension is possible with little adaptation of the design, as well as an adequate monitoring of the cargo tank and ship-specific hazard and operability (HAZOP).

The "Sloshing Virtual Sensor", a Ascenz Marorka technology at the heart of the study

Ascenz Marorka, a subsidiary of the GTT Group, performs tank monitoring to support inspection interval extension using its "[Sloshing Virtual Sensor](#)" technology. This unique and proven digital solution, [which has already been adopted by owners](#), uses the GTT-designed tank digital twin, together with real-time operational data. It enables the assessment of sloshing activity in vessels and the monitoring of their critical integrity parameters. Ship-owners and charterers can therefore optimize tank maintenance while, at the same time, comply with strict safety standards, improving operational flexibility and obtaining significant cost-savings.

Anouar Kiassi, Managing Director of Ascenz Marorka, said: *"This study, jointly conducted with industry leaders, is an important milestone in our on-going efforts to improve LNG carrier design and operations. We are proud that our cutting-edge digital technology, Sloshing Virtual Sensor, a combination of artificial intelligence and GTT Group's expertise, contributes to supporting this evolution in the LNG industry. We believe that this solution has the potential to become an industry standard in the years to come."*

Andy McKeran, Chief Commercial Officer of Lloyd's Register, said: *"We worked with Shell and GTT to ensure this application meets the highest safety standards of the industry. We are very privileged to introduce a solution that improves fleet operations and availability in a world where energy security is of paramount importance."*

About GTT

GTT is a technology and engineering group with expertise in the design and development of cryogenic membrane containment systems for use in the transport and storage of liquefied gases. Over the past 60 years, the GTT Group has designed and developed, to the highest standards of excellence, some of the most innovative technologies used in LNG carriers, floating terminals, onshore storage tanks and multi-gas carriers. As part of its commitment to building a sustainable world, GTT develops new solutions designed to support ship-owners and energy providers in their journey towards a decarbonised future. As such, the Group offers systems designed to enable commercial vessels to use LNG as fuel, develops cutting-edge digital solutions to enhance vessels' economic and environmental performance, and actively pursues innovation in the field of zero-carbon solutions. Through its subsidiary, Elogen, which designs and manufactures proton exchange membrane (PEM) electrolyzers, GTT is also actively involved in the green hydrogen sector.

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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