



Press Release

GTT, Alwena Shipping and CHI Zhoushan, receive Approval in Principle from Bureau Veritas for a new retrofit concept combining LNG fuel conversion and vessel jumboization for very large container ships

Paris and Beijing – March 1st, 2022. During a ceremony at Bureau Veritas (BV) headquarters based in Paris La Défense, GTT, a technological expert in membrane containment systems, Alwena Shipping, a naval consultancy and engineering firm, and COSCO Shipping Heavy Industry (Zhoushan) Co., Ltd (CHI Zhoushan) shipyard, have received an Approval in Principle (AiP) from the classification society Bureau Veritas (BV) for a new concept, combining LNG retrofit and jumboization, applied to large container ships.

GTT carried out the LNG [Mark III](#) membrane tank design while its integration into the ship was designed and validated by Alwena Shipping. CHI Zhoushan shipyard validated the operational aspects of the project, including the work sequence, planning and workforce resources.

The length increase of the ship (or jumboization), combined with the LNG conversion of the propulsion and electrical generation systems enables a reduction in the operating costs of the ship, which limits the financial impact of the immobilization period required for the retrofit operation.

LNG propulsion offers ship-owners a solution to comply with the environmental regulations being adopted by the IMO by 2045. In comparison with a conventional fuel-powered container ship, the converted vessel reduces CO₂ emissions by around 23% over an 83-day Europe-Asia return trip (port calls included).

The work carried out within the Joint Development Program (JDP) between GTT, Alwena Shipping and CHI Zhoushan supports the technical, operational and commercial design of the conversion and jumboization operation, while also proposing a competitive industrial plan.

The result of this joint work shows the way to contribute to decarbonize part of the container ship fleet currently in operation.

BV confirmed the conception of the retrofit, as well as the layout of the LNG Fuel Containment System and Gas Fuel Supply System supported by an auxiliary safety system in accordance with IGF Code and BV Rule NR 529. After reviewing the modifications to the vessel and the description of the associated operations, Bureau Veritas Marine & Offshore gave its AiP on the concept on January 11th, 2022.

Philippe Berterottière, Chairman and CEO of GTT, said: *“This retrofit and jumboization project applied to very large container vessels is part of the GTT strategy to contribute to the maritime industry decarbonisation by leveraging its technical know-how. After the successful LNG exoskeleton retrofit of the*



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Brussel Express¹, GTT proposes here a model enabling to finance the conversion operation by a vessel cargo capacity increase.”

Ludovic Gérard, President of Alwena Shipping, said: *“This project is remarkable in many ways: while switching to a transition fuel offering reductions in CO₂, particulate and NOx emissions, this concept approved by Bureau Veritas also extends the life of the vessels converted and increases container capacity thus contributing to reducing the tension on the container transport markets.”*

Gong Weibing, Vice General Manager of CHI Zhoushan, said: *“We are pleased that CHI Zhoushan is able to offer solutions to upgrade vessels and reduce their environmental impact. This project is a competitive achievement as well as an important step forward on the journey towards carbon neutrality. The retrofit & jumboization will enable a safer, greener, more efficient, and more sustainable shipping business.”*

Laurent Leblanc, Senior Vice President Technical & Operations at Bureau Veritas Marine & Offshore, commented: *“Retrofit is part of the options to be considered by ship-owners and operators. It can be a cost-effective option. I am proud BV could support this project, which is fully aligned with our ambition to enable the industry to tackle the energy transition in a safe and efficient manner.”*

About GTT

GTT is the technological expert in membrane containment systems dedicated to the transport and storage of liquefied gases. For more than 50 years, GTT has been designing and marketing advanced technologies for better energy performance. GTT technologies combine operational efficiency and safety to equip LNG carriers, floating units, onshore tanks, as well as multi-gas transport vessels. The Group also offers systems for using LNG as fuel, as well as a wide range of services, including digital solutions in the area of Smart Shipping. GTT is also present in hydrogen through its subsidiary Elogen, which designs and assembles electrolyzers intended in particular for the production of green hydrogen.

GTT is listed on compartment A of Euronext Paris (ISIN code FR0011726835, Ticker GTT) and is part of the SBF 120 and MSCI Small Cap indices.

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About Alwena Shipping

Based in Marseille with an office also in Shanghai and Papeete, Alwena Shipping is a French consulting company providing shipowner and shipping stakeholders their expertise and knowhow in projects management such as vessels retrofits, new build, energy efficiency optimization and interim management.

For more information, please visit our website: www.alwenashipping.com and on [LinkedIn](#)

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¹ <https://gtt.fr/news/gtt-notified-hudong-zhonghua-design-lng-fuel-tank-part-retrofit-hapag-lloyd-mv-sajir-container>



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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.

For more information, visit www.bureauveritas.com, and follow us on Twitter (@bureauveritas) and LinkedIn.

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About CHI Zhoushan

COSCO SHIPPING Heavy Industry (Zhoushan) CO., LTD. is located on Liuheng Island of Zhoushan Islands New Area, the first national new area featuring marine economy. CHI Zhoushan was established on 8th June, 2004 and affiliated to COSCO SHIPPING HEAVY INDUSTRY CO., LTD. under CHINA COSCO SHIPPING CORPORATION LIMITED, is among the most promising enterprising yards with endeavouring spirit.

The company takes a path of science and technology, lays emphasis on technological R&D, always insists on technological innovation, new product R&D, and cooperates with noted design companies such as Wartsila, KOMAC, OMT and SDARI to carry out R&D and manufacturing of vessels and marine engineering products with high added-value. More information on: <http://en.chi.coscoshipping.com>

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