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PRESS RELEASE

d'Amico Group testing biofuel decarbonisation potential

d'Amico Group, TRAFIGURA, ABS, RINA, LR FOBAS, the Liberian Registry and MAN Energy Solutions team up to launch a decarbonization project with Lifecycle strategy

3rd June 2021 - In the pursuit of decarbonization in maritime transportation, d'Amico Group has brought together a Joint Industry Project (JIP) to test the biofuel blends (B30) derived from advanced second generation feedstock on board of one of its LR1 product tanker already in EEDI Phase 2.

This unique JIP, which brings together d'Amico Group, TRAFIGURA, ABS, RINA, Lloyd's Register's Fuel Oil Bunker Analysis Advisory Service (FOBAS), the Liberian Registry and MAN Energy Solutions will calculate possible CO₂ emissions reduction through a "Lifecycle strategy", using the so called well-to-wheel (WTW) analysis, from raw material acquisition to its burning while the ship is underway, to compare the performance of biofuels to traditional fossil fuels.

Moreover, the project will assess the stability and degradation of the biofuel in relation to storage time and NO_x emissions to confirm that the use of biofuel B30 will not affect the Tier II certification of the engines, and to measure the effects and improvements on EEXI and CII indexes adopted as short-term measures by the IMO.

The tests will be undertaken on d'Amico's vessels, Cielo Bianco and Cielo di Rotterdam and the low carbon alternative fuel of second generation (EU renewable energy directive (Red I/II) compliant and ISSC certified) will be supplied by leading bunkering supply company TFG Marine in the Amsterdam-Rotterdam-Antwerp (ARA) region.

This important project shows that the paradigm of different players acting separately is shifting towards a collaborative effort, working together to find the best solutions to reach joint decarbonization goals. The combined strategic vision and technical capabilities of charterers, original engine manufacturers (OEM), shipowners, fuel suppliers and regulatory bodies will allow to better exploit, study and scout all options for the decarbonization of shipping.

The pre-trial phase of the project started in March 2021 when details of the nature and composition of the biofuel blends were made available and the establishment of the protocols relating to fuel testing, inspections, NO_x measurement and the sea trials. It was also necessary to prepare the risk assessment, the MOC, to adapt the swap procedures and to develop a consistent crew training program.

The second phase, the trials on board the vessels, is scheduled for mid-June 2021, in accordance with the planned trade routes of the vessels. This phase will start as soon as the bunkering is completed, and all protocols have been defined and approved by the OEM and the class societies involved. The trial phase will monitor the behaviour of the main engine, the diesel generators and the boilers in burning the biofuel blend, to evaluate operation, performance, and fuel storage capability. NO_x will also be measured.



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In the post-trial phase, the reported emissions will be processed and analysed with particular focus on CO₂ and NO_x and their effects on the EEXI and CII, according to the existing draft guidelines.

The project ending is planned for mid July 2021.

Salvatore d'Amico, Fleet Director at d'Amico Group *"We are proud to announce that this project was decided in the "Carbon War Room" we set up in the fleet management dept. to exploit, study and scout all options for the shipping decarbonization. The room was created involving managers from different departments: Technical, HSQE, Fleet performance monitoring, New buildings supervision to gather ideas, proposals engaging the OEMs and regulatory bodies in the Company strategy."*

Cesare D'Api, Deputy Technical Director at d'Amico Group *"Shipping needs a GHG lifecycle approach to decarbonize itself. In line with our vision, we decided to do such step in the common direction to reduce the carbon foot print by assessing the biofuels as potential low carbon fuel of the future and its effect on the short terms measures adopted by the IMO. This project by confirming the technical/safety feasibility in burning the biofuel blends as "drop in" solution, will demonstrate that we have a practical and viable option for the decarbonization which can be handled easily by the crew with no impact on the Nox emissions and without any modification on board."*

Flemming Carlsen, Chief Operating Officer Product Tankers Business Unit at d'Amico Group, *"In line with our corporate mission, we are very pleased to support and closely cooperate with our leading industry partners and not least our close client Trafigura, in this trial, with the objective to help drive the development of commercially- and, not least, environmentally sustainable future fuel solutions for the shipping industry. We look forward to hearing about the findings and recommendations of the project team."*

Georgios Plevrakis, ABS Director, Global Sustainability *"Carbon-neutral biofuels could offer significant benefits to the marine sector's drive to decarbonize operations. This trailblazing project will make a vital contribution to our understanding of the potential of biofuels in shipping, its implications for equipment and their impact on decarbonization efforts. ABS is investing significantly in services to speed the decarbonization of shipping and is committed to supporting the industry in the safe adoption of alternative fuels. This JDP is the latest evidence of our commitment, and we are delighted to be able to use our extensive practical experience to support our JIP partners."*



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Giosuè Vezzuto, EVP Marine at RINA Services “We understand the need for solutions that bring immediate results in reducing CO2 emissions. This trial is proof that the industry as a whole is committed to act and make the transition effective immediately, while working on totally carbon free fuels. Biofuels could be one of the solutions to update the existing fleet between now and 2030”.

Thomas Klenum, Senior Vice President, Maritime Operations of LISCR, “With the forthcoming EEXI and CII requirements expected to be adopted by IMO with entry into force 1/1/2023 biofuel is one of the most viable solutions available. Therefore, the Liberian Registry is very pleased to participate together with d’Amico and the other high-quality stakeholders in this JIP to test the 2nd generation of biofuel blends in our joint pursuit towards zero emission shipping. International collaboration between high quality stakeholders is the key to unlock the decarbonization potential for new technologies and alternative fuels, and this JIP initiated by d’Amico is an excellent testimony to this fact.”

Jamie Torrance, Head of Distillate & Fuel Oil Trading for Trafigura, “As one of the world’s largest commodity trading and logistics companies we are committed to reduce maritime carbon emissions, including by investing in the development and supply of transitional fuels such as biofuels. TFG Marine, Trafigura’s joint venture marine fuel supply business with Frontline and Golden Ocean, is already successfully demonstrating the safe and effective use of biofuels in the Amsterdam-Rotterdam-Antwerp (ARA) region through sea trials and laboratory testing, and will take an active role in this joint industry project to test the B30 biofuel blend derived from advanced second generation feedstock.”

Kjeld Aabo, Director New Technology 2 stroke promotion at MAN Energy Solutions, “Basically MAN-B&W 2 stroke engines is designed for also being able to operation on Biofuels. Separate biofuel specifications and guidance for fuel treatment on-board is followed to make the transition from VLSFO to VLSFU and B30 as smooth as possible.”

Naeem Javaid, Global Operations Manager – Lloyd’s Register FOBAS, “We are thankful to be part of the testing in the Joint Industry Project (JIP) arranged by d’Amico Group. We are excited to be part of this project and look forward to working with d’Amico in its efforts to reduce the carbon footprint of its operations by using biofuels. Biofuels are drop in fuels with no modification to system and equipment being required, making them a potential option as a transition fuel to support the decarbonisation of the maritime industry.”

Ends –



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d'Amico Group is a leading Italian family-run shipping company operating on a global scale. The core business is focused on the management and operation of dry cargo and product tankers vessels, also providing international shipping services. d'Amico has an advanced technical department made up of highly qualified personnel offering maintenance services on the ships. d'Amico Group has always been committed to its client needs. Operational safety and concern for the environment represent its core values, with the continuing professional development of the team and investment in a substantial state of the art and eco-friendly fleet which are amongst the top priorities. Learn more about d'Amico Group on www.damicoship.com.

ABS, a leading global provider of classification and technical advisory services to the marine and offshore industries, is committed to setting standards for safety and excellence in design and construction. Focused on safe and practical application of advanced technologies and digital solutions, ABS works with industry and clients to develop accurate and cost-effective compliance, optimized performance and operational efficiency for marine and offshore assets.

RINA provides a wide range of services across the Energy & Mobility, Marine, Certification, Real Estate & Infrastructure and Industry sectors. With net revenues in 2020 of 495 million Euros, over 3,900 employees and 200 offices in 70 countries worldwide, RINA is a member of key international organizations and an important contributor to the development of new legislative standards. www.rina.org

The Liberian Registry has a long-established track record of combining the highest standards of safety for vessels and crews with the highest levels of responsive and innovative service to owners. Moreover, it has a well-deserved reputation for supporting international legislation designed to maintain and improve the safety and effectiveness of the shipping industry and protection of the marine environment. www.liscr.com

Lloyd's Register is a global professional services organisation specialising in engineering and technology solutions. Our experts advise and support clients to improve the safety and performance of complex projects, supply chains and critical infrastructure. We help to keep the world moving safely, efficiently and sustainably. Lloyd's Register is the world's first marine classification society, created more than 260 years ago to improve the safety of ships. Now our technical expertise is offered in more than 70 countries, by more than 6,000 employees. The surplus we generate funds our shareholder, Lloyd's Register Foundation, a global charity whose mission is to enhance the safety of life and property. Our independence means we provide reliable, impartial and informed advice. All of this helps us stand by the purpose that drives us every single day, working together for a safer world. www.lr.org

Trafigura is one of the largest physical commodities trading groups in the world. Trafigura sources, stores, transports and delivers a range of raw materials (including oil and refined products and metals and minerals) to clients around the world and has recently established a power and renewables trading division. The trading business is supported by industrial and financial assets, including a majority ownership of global zinc and lead producer Nyrstar which has mining, smelting and other operations located in Europe, Americas and Australia; a significant



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shareholding in global oil products storage and distribution company Puma Energy; global terminals, warehousing and logistics operator Impala Terminals; Trafigura's Mining Group; and Galena Asset Management. With circa 850 shareholders, Trafigura is owned by its employees. Over 8,500 employees work in 48 countries around the world. Trafigura has achieved substantial growth over recent years, growing revenue from USD12 billion in 2003 to USD147 billion in 2020. The Group has been connecting its customers to the global economy for more than two decades, growing prosperity by advancing trade. Visit: www.trafigura.com

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.

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