

GSAB2 - GRIMALDI SATELLITE BERTHING 2 LAUNCHED

The evolution of the successful GSAB project, assigned to the Italian shipping group by the European Space Agency, aims at improving the efficiency, safety and eco-sustainability of manoeuvres in port.

Naples, 27 May 2024: On 14 May 2024, the GSAB2 (Grimaldi Satellite Berthing 2) project started. This is the evolution of the previous GSAB project, which had been assigned to the Grimaldi Group by the European Space Agency (ESA) within its Navigation Innovation and Support Program (NAVISP) in 2022, and whose aim was to develop and validate the first assisted guidance system with satellite technology for docking manoeuvres of large PCTC (Pure Car & Truck Carrier) vessels.

After the success of GSAB, the new project will verify the suitability of the designed system to achieve the Autonomy Level 2 as defined by Lloyd's Register: this condition is met when all actions at ship level are taken by a human operator on board the vessel, but decision support tools can present options or otherwise influence the actions chosen. In addition, GSAB2 will study the prerequisites for reaching the Autonomy Level 3, where decisions and actions at ship level are performed autonomously with human supervision.

The Grimaldi Group company Grimaldi Deep Sea S.p.A. will coordinate an international team with Kongsberg, a leading technology corporation based in Norway which specializes in the design of processing and signal reception technology, and RINA Services, the RINA Group company in charge of testing, inspection, classification and certification activities, that will make its expertise available to the project together with RINA Germany. Additionally, the Grimaldi Group will collaborate with Italy's Radiolabs Consortium which will take care of the design, execution and validation of the system in real-world operating conditions.

GSAB2 will adopt the latest innovations on satellite-based multi-sensor technologies, studied and developed as part of GSAB, and will contribute to improve the efficiency of manoeuvres in port while further increasing their safety while reducing CO₂ emissions, in line with the Grimaldi Group's strategy towards a greener and safer maritime transport. In addition, GSAB2 will also develop advanced algorithms based on Artificial Intelligence as well as an interface for the functions of the Ship Automation system.

Based on the excellent results from GSAB, Grimaldi Deep Sea S.p.A. intends to develop and test an advisory system to achieve safe and efficient berthing operations of large vessels, mainly focussing on the following features: vessel positioning navigation and timing for autonomous sailing and operation; berth planning for manoeuvring and sailing into and out of ports; advisory system for optimal sailing in confined port areas; Situational Awareness System; user interaction.

In addition, the GSAB2 team will study the prerequisites for reaching the Autonomy Level 3 by establishing an exhaustive set of requirements and verification criteria. This phase will involve a joint HAZID (Hazard Identification) study of an autonomous berthing operation, the development of Key Enabling Technologies, the analysis and definition of the user interaction philosophy and visualization, the identification of prerequisites for equipment and of requirements for interfaces for an autonomous control system.

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The Grimaldi Group, headquartered in Naples, operates a fleet of over 130 vessels and employs approximately 18,000 people. Wholly owned by the Grimaldi family, it is a multinational logistics Group specialised in the operation of roll-on/roll-off vessels, car carriers and ferries. It comprises seven shipping companies, namely: Grimaldi Deep Sea, operating in the transport of rolling cargo and container on the Atlantic routes and between the Mediterranean and West Africa; Grimaldi Euromed, specialized in the transport of rolling freight in Europe, in the Motorways of the Sea and in the transport of passengers in the Mediterranean with the Grimaldi Lines brand; Atlantic Container Line, which offers transport services for containers and rolling cargo between North America and North Europe; Malta Motorways of the Sea, whose vessels connect Malta to the main ports in the Mediterranean; Minoan Lines, operating in Greek cabotage for the transport of freight and passengers; Finnlines, operating in freight and passengers transport in the North and Baltic Sea; Trasmed GLE, active in the transport of freight and passengers between mainland Spain and the Balearic Islands.

The maritime connections are the core of an advanced logistics chain, which includes port terminals and road transport companies. The over 20 port and terminals owned/operated by the Grimaldi Group are located in 13 countries around the world: Italy, Spain, Greece, Germany, Sweden, Finland, Denmark, Ireland, Belgium, Egypt, Cameroon, Nigeria, Benin. Most of these terminals are fitted with Pre-Delivery Inspection (PDI) facilities, warehouses and workshops.