

PRESS RELEASE

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TRIPARTITE COLLABORATION FOR A REMOTE CONTROLLED DYNAMIC POSITIONING SYSTEM



A long lasting collaboration

As a renowned equipment manufacturer specializing in DP multi-purpose vessels, SIREHNA plays a major role in ensuring the best possible performance of JIFMAR's dynamic positioning (DP) systems.

For over 12 years, our combined expertise has allowed us to progress rapidly and continuously innovate. During the past decade, SIREHNA has equipped 10 vessels in JIFMAR's fleet with DP1 and DP2 systems, all certified by BV.

In 2022, based on SIREHNA's expertise and know-how in unmanned surface vessels (USV), remote controlled system, and maritime surveillance, JIFMAR commissioned SIREHNA to develop a "plug & play" remote controlled system for DP SIREHNA, in response to the requirements of one of its clients.

This system is intended to control the JifSurveyor from a shore-based center without any crew on board, using a robust satellite connection provided by the French company THALOS.

By combining the advantages of precise positioning and remote supervision, this technology offers numerous benefits in terms of maritime safety and operational efficiency. Among the 10 vessels in JIFMAR's fleet equipped by SIREHNA, the remote solution has been implemented on the JifSurveyor, a 33-meter vessel equipped with a DP1 Dynapos AM/AT BV dynamic positioning system and an autopilot.

*DP: Dynamic Positioning



The concept of remotely controlled ships

Inspired by BV standards 'NI 641' and 'NR 681' and leveraging its experience gained from previous projects (including the [remotely controlled system](#) of the VN REBEL, the first unmanned vessel to obtain a navigation permit in France), the [remote dynamic positioning DP system](#) implemented by SIREHNA on the JifSurveyor has enabled:

- Crewless navigation from a shore-based center anywhere in the world,
- Ensuring navigation safety,
- Conducting vessel operations remotely.

Secured teleoperation relies on several key systems:



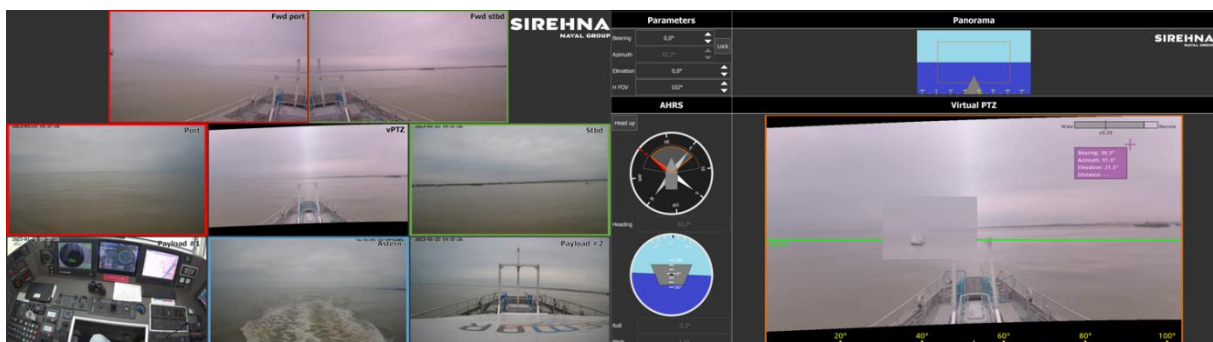
Firstly, an advanced, high-performance, and **BV-certified DYNAPOS AM/AT & TCS dynamic positioning system**, as well as an autopilot.

This system allows for precise and stable maintenance of the vessel's position and orientation, as well as vessel control during transit phases.

The company THALOS has deployed a reliable and secure satellite communication configuration on board the vessel.

A dual high-speed primary link, a backup link, and THALOS' OceanBox gateway have ensured data transmission between the vessel and the shore-based control center, ensuring constant connectivity and real-time transmission of critical information.

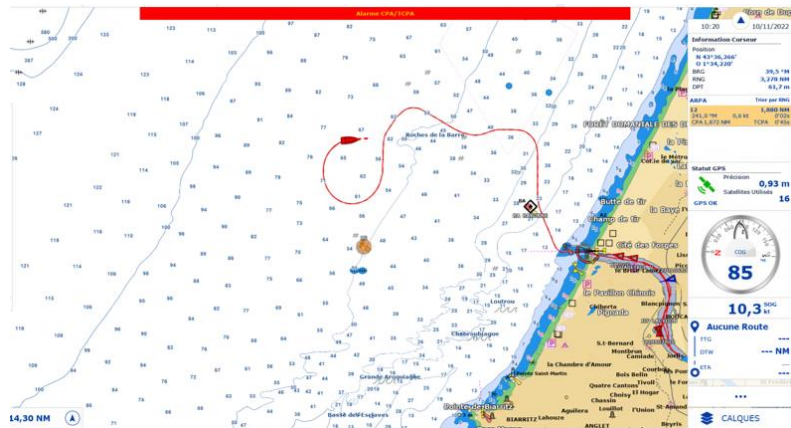
In the context of securing crewless navigation, maintaining a clear and comprehensive view of the environment from the shore-based center was a key requirement.



SIREHNA's environment perception system, incorporating a set of cameras, enables the creation of a stabilized panoramic strip (360° panoramic vision) and offers high-resolution "navigation binoculars" functionality to assist the operator in surface monitoring (confirming the presence of vessels, obstacles, and weather conditions).

SIREHNA has also integrated a decision support function into its system to gather and merge information from the vessel's ARPA and AIS.

Based on this information, the system evaluates real-time collision risks, allowing the remote pilot to make quick and informed decisions to avoid potential collisions and ensure the vessel's and the marine environment's safety.



With these advanced capabilities, onshore operators can analyze real-time data, anticipate hazardous situations, and take appropriate preventive measures.

Lastly, two essential modes for securing remote navigation have been developed to manage failure scenarios such as communication loss ("Fail Safe") or propulsion failure ("Emergency Stop") until operations are resumed.



Communication system

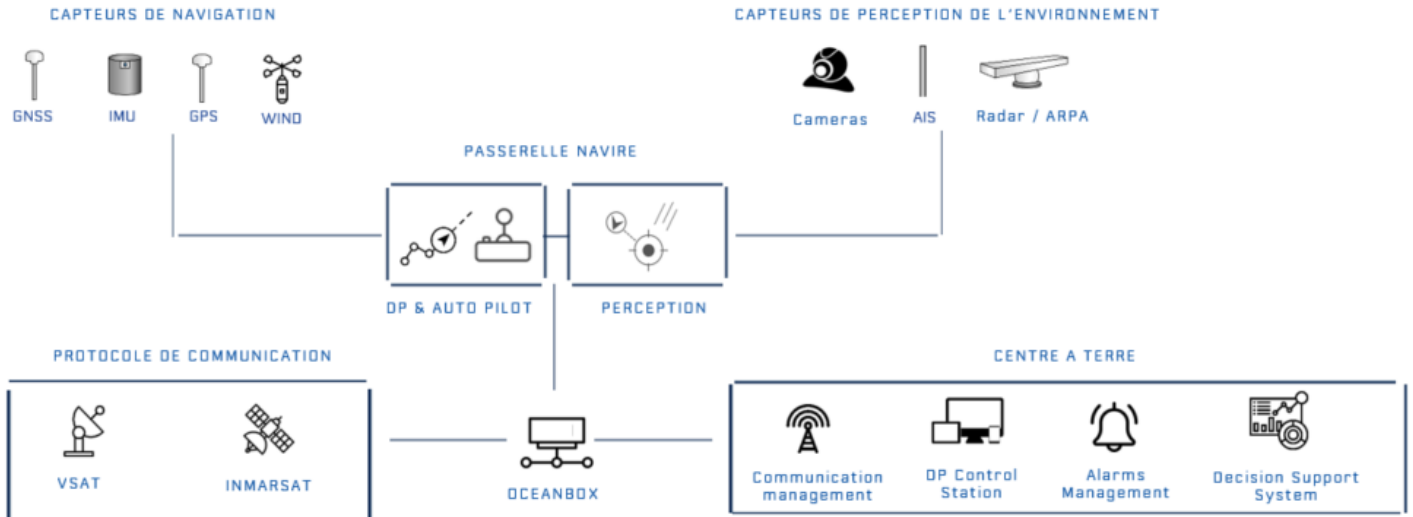
The communication system between the vessel and the shore-based center, provided by the French company THALOS specializing in maritime communications, incorporates a high-speed, robust, and stable communication solution between the vessel and the land, enabling smooth transmission of essential information for vessel operation and navigation safety.

The systems developed by SIREHNA are optimized for satellite communication constraints (bandwidth, low latency) and effectively reduce implementation costs.





System architecture



Thanks to its historical expertise, SIREHNA has successfully developed, mastered, and positioned itself as an expert in dynamic platform control and DP equipment. SIREHNA's culture and its commitment to develop the civil and military maritime sector through innovation have naturally led to the development of new, innovative, and high-performance technological components based on its know-how.

Through this, SIREHNA has developed remote controlled systems for vessels, obstacle detection and avoidance, panoramic surveillance, and maritime monitoring.

By successfully integrating these different subsystems both on board and onshore, SIREHNA has enabled the JifSurveyor to successfully carry out its operational mission on behalf of its client.

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