



innovation More safety for boats docked in Le Havre

The safety of vessels when they are at quayside dock, HAROPA PORT has been experimenting with the ShoreTension® system since 2021. This unique solution in France, optimizes the mooring operations during their stopovers. Thanks to the positive results, this service is now commercialized to the entire port area of Le Havre. Published on 5/04/2023 - Updated 9/02/2024



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After several months of testing, the **dynamic ShoreTension® mooring** reinforcement system has been deployed at all Le Havre terminals.

This system improves safety and strengthens the stability of ships moored along the quayside by avoiding the surging effects (the back and forth ship's movement along the quay).

Powered by solar energy, it monitors **information in real time** and allows the various port players (terminal operators, captains, dockers, pilots and harbor master's officers) to **monitor the tension exerted on the mooring line**. In case of abnormal voltage, they receive an automatic SMS allowing them to act.

- The experiments carried out from September 2021 to January 2023 have demonstrated the effectiveness of the solution :
improved berthing behaviour in all weather conditions: surge is reduced to less than one meter on all ? type of vessels ;
- improvement of the "water level alert" procedure: it aims to ensure the safety of dockside personnel ;
- reduction of the risk of mooring failure.

Since March, this service has been commercialized throughout the Le Havre port area by the Lamanage teams.



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