

The logo for the EM-2S product, with 'EM' in a white, bold, sans-serif font, a red dot, and '2S' in a white, outlined, sans-serif font, all set against a dark blue background.

EM-2S, wireless deck to hull communications



The EM-2S is purpose-designed to be mounted on marine vessels below the waterline providing essential communications for advanced monitoring functions.

Traditional wireless networks do not work underwater; CSignum's patented electromagnetic field signaling (EMFS) crosses the divide enabling underwater sensor data to be communicated to networks above the surface.

For the first time, the shipping industry, navies and coastguards are able to conduct comprehensive monitoring below the water, with wireless communications to the deck and networks above.

The innovative capabilities of the EM-2S ship-mounted solution provides two-way data communications to monitor various areas:

- Track propulsion system wear, strain, and efficiency to optimize performance.
- Detects and notifies of critical security threats to maritime assets
- Enables precise control and release of underwater objects
- Facilitates seamless data communication with dockside monitoring systems
- Monitors environmental conditions to ensure compliance and sustainability.

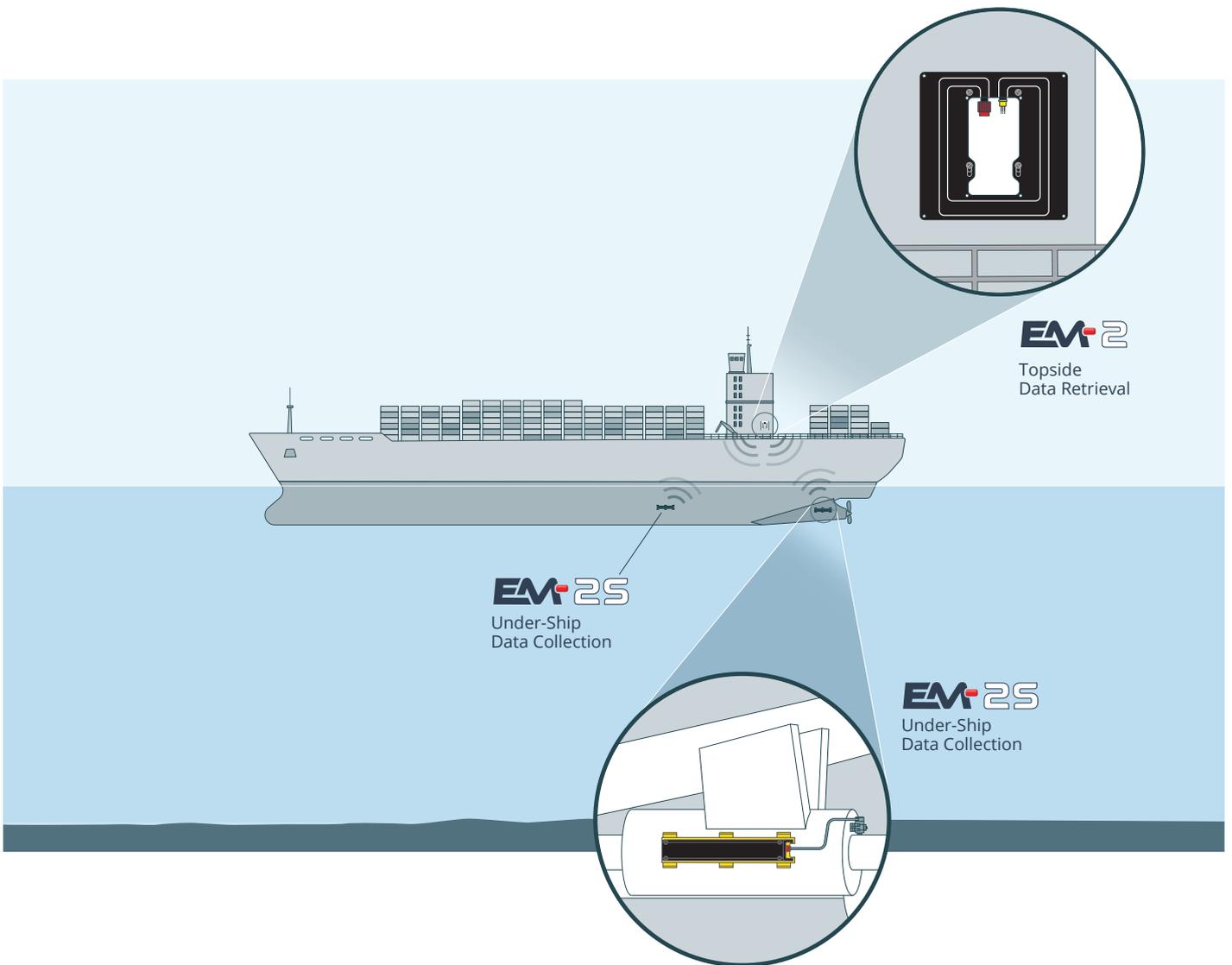
Presently, monitoring is predominantly conducted through manual inspections and such approaches lack the capability to provide continuous, real-time data, making it challenging to promptly address emerging issues.

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BENEFITS

- **Wireless Data Transmission:** Utilizing advanced electromagnetic field signaling (EMFS), the EM-2S ensures reliable data transmission from the hull-mounted sensors to a topside EM-2 unit, eliminating the need for cumbersome cabling.
- **Comprehensive Monitoring:** The EM-2S can be integrated with a variety of sensors to monitor environmental parameters and security to provide a holistic view of the ship's hull.
- **Real-Time Data:** Continuous monitoring and real-time data transmission enable proactive maintenance, reducing the risk of severe damage and costly repairs.
- **Cost Efficiency:** By reducing the need for manual inspections and minimizing installation and maintenance costs, the EM-2S offers a cost-effective solution for ship hull monitoring.
- **Minimal Environmental Impact:** The non-intrusive design of the EM-2S ensures minimal disruption to marine life and ecosystems, supporting sustainable maritime operations.
- **Retrofit Capability:** The EM-2S is the first product to offer convenient wireless retrofitting of sensors and controls, and it can be welded by commercial divers while the ship remains afloat.



The EM-2S is a game-changer for the maritime industry, providing a reliable, cost-effective, and environmentally friendly solution for under-ship monitoring. By enabling continuous, real-time data collection, we empower ship operators to address potential issues before they become major problems, enhancing operational efficiency and reducing environmental impact.

CSignum's EM-2S significantly improves monitoring by offering a wireless, cable-free solution that overcomes the limitations of traditional methods and offers a way to monitor dynamic operating conditions. flexibility for deploying sensors at underwater monitoring points.

