



Intelligent Solutions

Sensors to monitor the marine environment

The protection of sensitive marine environment requires regular monitoring that can provide dynamic, up-to-date and accurate data. Accurate and dynamic up-to-date data is essential for marine research, legislative requirements, dredging and marine based construction.

Meritaito has harnessed developments in wireless ICT and battery technology to create intelligent solutions for environment monitoring using remote sensors.

Project-based or permanent continuous monitoring solutions

For marine based infrastructure developments, Meritaito Intelligent Solutions can provide remote sensor monitoring for the entire project lifecycle. On-site monitoring can start from pre-construction through all the phases of a construction project and continuing to post project monitoring as required.

A Meritaito monitoring network can meet the needs of universities, environmental authorities and weather forecast services for project related or continuous monitoring.

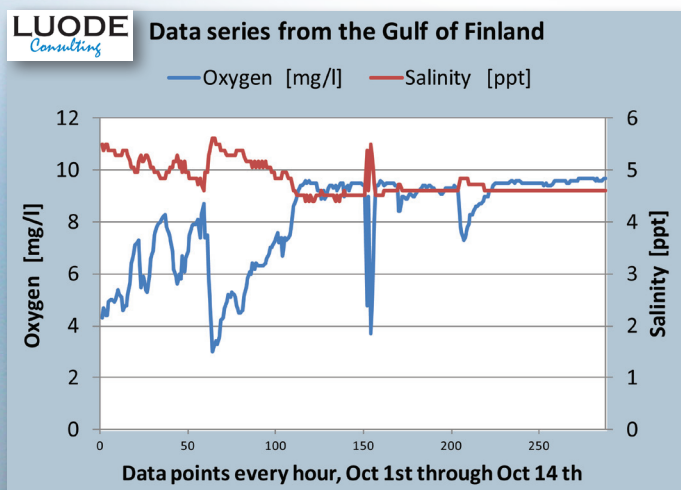
Real-time environment data direct to your desktop

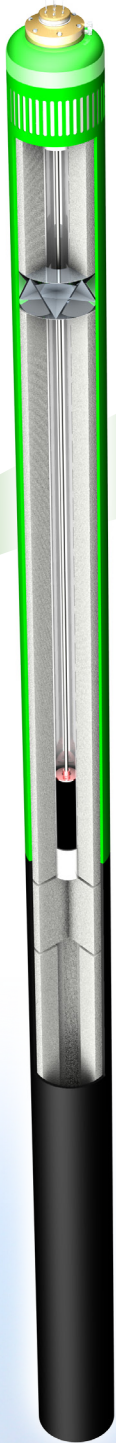
Real-time dynamic data is transmitted continuously from Meritaito's Smart Buoys, 24/7 to our web-server from where it can be delivered to where you need it most. The frequency of the monitoring service can be adjusted according to your requirements.

A wide range of factors can be monitored

Meritaito's Smart Buoys can be equipped with a wide range of sensors. Examples include:

- Water temperature
- Oil spill detection
- Oxygen content
- Algae status
- Turbidity
- Salinity





Intelligent Fairways

On-site dynamic data supports safer navigation

While weather conditions can be forecast and also observed on board a vessel, many physical attributes of the sea are well-nigh impossible without proper on-site monitoring.

Wave height, water level and currents play an important role in safe navigation. Mariners know that these factors can vary significantly depending on wind direction, archipelago, shape of the coast line as well as the topography of the sea bottom.

Real-time dynamic data delivered to where you need it

Smart Buoys used along the fairway can provide critical navigation data continuously. Dynamic data can be transmitted to the desktop of port operators, ship brokers or maritime authorities. Dynamic real-time data can also be transmitted to Vessel Traffic Service Centers (VTS) and even direct to vessels through the VTS+ route.

Some of the common sensors used on intelligent fairways are:

- Direction and strength of current
- Tides and water level
- Wave height
- Water temperature
- Location of the buoy
- Status of lantern light and battery

Intelligent fairways improve productivity

On site navigation data along the fairway can be used to optimize ship loading. Maximizing ship loads reduces logistics costs and increases the throughput of the fairway. It contributes to the economic pay-back of the fairway investment.

Smart Buoys can be fitted with sensors that monitor the status of the buoy itself. This helps maritime authorities to monitor the status of the fairway and control fairway maintenance.

Smart Buoy can withstand severe winter conditions

Meritaito has manufactured plastic buoys since 1976. The buoys consist of a through-colored highly durable extruded polyethylene plastics tube structure that withstands the most demanding weather conditions.

The buoys meet the international standards set by the IALA (International Association of Lighthouse Authorities). The full range of buoys can be made (lateral, cardinal, special) and equipped with lighting systems and light symbols according to customer specifications.



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