

Flexible MOTUS Buoys chosen by major dredging operator

Dredging, breakwater building, and coastal construction, all depend on up-to-date information about the sea state and environmental conditions on site. However, each job has slightly different needs for monitoring.

Major dredging companies have long used different buoys for measuring directional waves, currents and environmental data such as turbidity and oxygen. With the new MOTUS Wave Buoy, dredgers are finding their monitoring needs covered by one buoy solution. Designed to vary the payload while compensating the buoy motion with built-in parameters, the MOTUS Buoys, can be configured with different sensor packages without jeopardizing the accuracy of the wave and current measurements. We are happy to announce that a major dredging company now has chosen the MOTUS Wave Buoy Solution for their dredging operations.

MOTUS Wave Buoy Solution

Emilie Dorgeville, Product Manager for the MOTUS Wave Direction Sensor, explains more about what the MOTUS Wave Buoy Solution has to offer: "A focus for our development has been to measure accurate currents and waves from a navigational buoy. The MOTUS Wave Direction Sensor packages have been tested for over a year to ensure the accuracy and robustness of the solution. The result is better than anticipated, and we are now able to measure research grade results for both wave height and direction as well as currents from our 1.75m buoy."

Versatile Platform Tailored to any Project

Aanderaa has developed a buoy concept in collaboration with their Xylem Analytics (XA) sister companies Tideland and YSI to offer a complete package for measuring currents, waves and environmental parameters from the same buoy with all major products from XA. These



products have individually strong track records, but are now also part of the [MOTUS Wave Buoy solution](#). Included are market leading products such as the YSI EXO2/EXO3 Multiparameter Sonde, the Doppler Current Profiler Sensor 600kHz, the MOTUS Wave Direction Sensor from Aanderaa and the Tideland buoy SB 138P.

MOTUS for Dredging Operations

The MOTUS solution solves a number of challenges for the dredging industry. Waves limit the type of operations that can be executed during building of breakwater constructions. When large rocks are positioned to form the breakwater, vessels depend on calm sea with limited wave activity. Both the wave height and the wave direction will play a role in planning the daily operations in the field.



Aanderaa® DCPS
Doppler Current Profiler Sensor



Tideland®
SB 138P



YSI® EXO2 & EXO3
Multiparameter Water Sondes



Aanderaa®
MOTUS Wave Sensor

The MOTUS solution provides them with an overview of both the swell and the wind driven wave spectrum, which influence their operations in different ways. Dredgers monitor the waves in the area continuously with their real-time data solution, providing the local conditions at the breakwater building sites in different user interfaces and devices. Crew and vessels are then dispatched when the conditions are favorable and the operations can occur with high focus on health, environment and safety.

During more traditional dredging operations, the same setup can be used to monitor the environmental developments on site while the dredging activities occur. Here turbidity and oxygen are focus parameters to ensure the suspension of dissolved material and the possible low oxygen conditions are understood. Current is also becoming a common parameter to monitor the transport of dissolved materials due to the dredging activities.

Major dredging companies now utilize the MOTUS solution for both the environmental parameters and the currents. For the environmental parameters, the YSI EXO3 with a built-in wiper has become the preferred solution. It can be positioned on the MOTUS Wave Buoy in one of the moonpools that are included in the buoy. For currents, there are two options: a Single Point Aanderaa Current Meter measuring close to the surface, or an Aanderaa DCPS Profiler Sensor measuring from the buoy and down. Using a combination of the two is also possible, providing a complete picture of the current in the entire water column. With the built-in rapid compensation for tilt and direction of the buoys, the resulting accuracy is high for these solutions.

The MOTUS Buoy Solutions provide the dredging industry with flexible solutions with multi-use buoys that can be setup to fit each job's individual demands from one flexible buoy.

For more information and questions please contact us at aanderaa@xylem.com.

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