

MOTUS Buoy Network in North Africa

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Aanderaa, a Xylem brand, has provided environmental information to users all over the world for decades. Over the last years, the MOTUS Buoy has become a popular platform to collect information to aid mariners and researchers in understanding the environment. Although there has been investment in coastal infrastructure in many countries globally, Morocco is becoming one of the countries with the most expansive monitoring network in the world. The robust environmental Motus Buoy allows Morocco to collect high accuracy and reliable meteorological and oceanographic data and provide this real-time to coastal users.

One year ago, the first Aanderaa [MOTUS Buoy](#) was deployed outside Port Asilah in North Africa to monitor ocean waves and provide the local fishers and recreational boat owners with real-time data. This buoy is getting accompanied by thirteen MOTUS Wave Buoys this year, which are currently in production. They will be delivered to Agence Nationale des Ports (ANP) in Morocco via their local selling partner Soremar. ANP brings the port community of Morocco together around common goals and is working actively to create a competitive port built on sustainability and ensuring the safety of its services. All buoys will be deployed by the Soremar Group outside eleven busy ports in Morocco. These buoys are equipped with the [Aanderaa SmartGuard Datalogger](#), an [Aanderaa MOTUS Wave Sensor](#), and communication via a VHF transmitter and 4G modem.

So why were MOTUS Wave Buoys selected over smaller dedicated wave buoys

An essential advantage of the MOTUS Wave Buoy is that the buoy can easily be upgraded with additional sensors later and thus making the buoy more flexible as needs change. As a result, the buoy can be used in various locations with different payloads, such as current direction and speed, water quality sensors, and meteorological sensors in the mast.

Although wave data was the primary need for the users in Morocco, there are already additional plans to extend the buoys with sensors giving information about the current in the area. Providing a good overview of the currents affecting vessels entering the ports is vital and supports ANP's goal of being safe and efficient. Here, the Aanderaa Doppler Current Sensor gives surface-level current speed and direction measurements, whereas a current profiler provides information further down in the water column.



Mr. Lahoucine Bengara with the Port of Asilah buoy before deployment.



4 of the 13 MOTUS Wave Buoys to ANP in Morocco in production.

Furthermore, the buoys can measure environmental parameters such as conductivity/salinity, turbidity, and oxygen with smart sensors from Aanderaa. Integrating the SmartGuard Datalogger and Aanderaa sensors can be done without any heavy datalogger programming. If new sensors are Aanderaa sensors, they have coefficients stored in the sensor and are automatically recognized by the datalogger when connected. If additional sensors are from other vendors, the SmartGuard Datalogger interface guides the user to incorporate these onto the buoy as well.

Ports act as magnets for related industries and generate economic growth and prosperity. However, their activities can have a considerable impact on the environment. For sustainable development to be achieved, environmental considerations should be incorporated into the port management structure. Such considerations require a structured approach towards managing the environment, and we are pleased that Marocco is taking their responsibility seriously.



Port of Asilah buoy deployed.

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