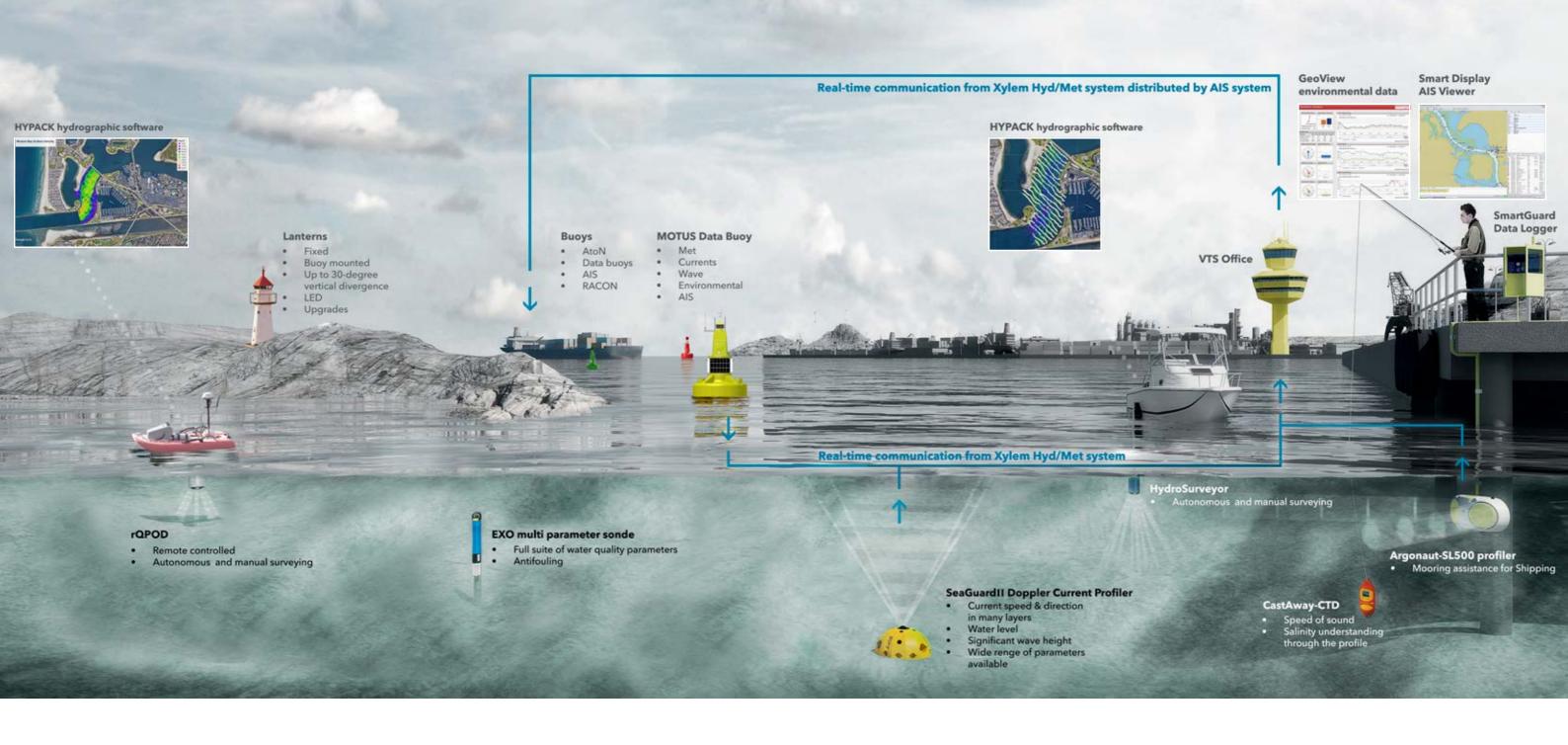




# Complete Monitoring Solutions FROM SHORE TO DEEP OCEAN

## **MONITORING & SAFETY AT EVERY POINT**

Our integrated systems offer complete solutions for oceans, coasts, ports & harbors. Xylem solves logistical, environmental, compliance & security issues around the clock, even when you can't be there.





#### MARINE TRANSPORT **OBSERVATORY**

#### WEATHER MONITORING

# Multi-sensor current meters & profilers



#### AANDERAA SEAGUARDII DCP WAVE



The SeaGuardII DCP is a Doppler Current Profiler with multi-sensor capability and a typical range of 30-80m. Its unprecedented flexibility makes it the perfect instrument to address different application scenarios by configurating it with up to three profiles simultaneously, either instrument or surface referred.

#### **Key Features**

- Improved acoustic transducer head, user selectable broadband or narrowband, single ping standard deviation better than 3.0 cm/s (with a 2m cell size in broadband) and tilt compensation for each ping
- Low power consumption (i.e. 20 months deployment with a 30 minutes sampling interval)
- Connection to all Aanderaa Smart Sensors, integration of third party analog and serial sensors with power control
- Enhanced real time functionality
- Automatic selection of the best 3-beams combination in case of obstructions in one beam



## SONTEK-SL SIDE-LOOKER DOPPLER CURRENT METER

The SonTek-SL (Side-Looker) is a longterm monitoring solution available in three models. This system provides the highest quality Doppler velocity data without requiring the user to become an expert on Doppler technology.

#### **Key Features**

- Water Velocity, Level and Profiling •
- Compact, Hydrodynamic Design •
- Acoustic-Pressure "Duo" Water Level (3G models only)
- Wave Spectra Option



## AANDERAA RCM BLUE AND SEAGUARD RCM

The RCM Blue is a self-recording singlepoint current meter offering Bluetooth for communications and data retrieval. The SeaGuard RCM is a single-point current meter with multi-sensor and real time capability offering additional flexibility. Both instruments use the ZPulse Doppler Current Sensor for improved data quality.

#### **Key Features**

- Low current drain and large battery capacity for long-term deployment
- Multiparameter capability using Aanderaa plug-and-play smart sensors and up to 4 analog third party sensors and real time communication (for SeaGuard only)
- Handle more than 50° tilt and still ensure high quality measurements



## SONTEK ARGONAUT-XR

The Argonaut-XR offers exceptional value for near shore deployments in less than 40m of water. Designed specifically for mounting on the bottom of a channel or harbor, the XR features a special mode that automatically adjusts one of its measurement cells for changing water level.

#### **Key Features**

- Current Profiling •
- Simple setup and deployment
- Affordable wave measurement
- "Auto Tide" feature adapts to changing water levels

## SONTEK ADVOCEAN-HYDRA **3D VELOCITY METER**

The Argonaut-ADV takes SonTek's renowned ADV technology and makes it practical and affordable for coastal deployments. Its low velocity/shallow water capability make it the ultimate solution for marsh and wetland studies.

#### **Key Features**

- Low velocity with resolution of 0.0001 m/s
- Shallow water (down to 2-3 cm with 2-D probe option)
- •
- •
- High battery capacity for long deployments





- RS-232 and SDI-12 output standard Distance-to-boundary monitoring

#### SONTEK HYDROSURVEYOR®

The SonTek HydroSurveyor® is a 5-beam ADP designed to collect bathymetric, water column velocity profile, and acoustic bottom tracking data as part of a hydrographic survey.

#### **Key Features**

- Sound speed integration and interpolation (with CastAway-CTD)
- Speed over ground (Acoustic Bottom Tracking)
- 5-beam depth soundings (50° swath)
- Water column velocity (currents) mapping

# **Smart Water Quality Sensors**

# **Controllers, Buoys & Software**



## **AANDERAA SMART SENSORS**

Connected to SeaGuard, SeaGuardII or SmartGuard by the AiCaP bus, the Aanderaa Smart Sensors can be easily exchanged both in house and in the field.

#### **Available sensors**

- Motus Wave Sensor •
- Doppler current sensor
- Oxygen Turbidity sensor •
- Pressure, Tide and Wave
- Conductivity and Temperature



#### AANDERAA PRESSURE, TIDE & WAVE



Sensors designed for use on Aanderaa data loggers as well as in other measuring systems.

#### **Key Features**

- Calibration coefficients stored internally
- Accuracy: 0.01% FSO
- Range: 0-6000m
- Low maintenance needs
- Low current drain

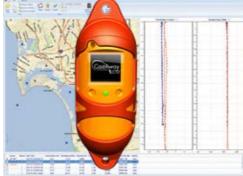


#### YSI EXO MULTI-PARAMETER WATER SONDES

The EXO multi-parameter water quality sondes are developed by YSI for challenging marine and freshwater conditions.

#### **Kev Features**

- Digital smart sensors for CT, Depth, Optical DO, pH, Turbidity and more
- Best-in-class anti-fouling wiper (EXO2 & EXO3) for extended deployments
- SmartQC ensures good • calibration and sensor performance
- Internal batteries and large memory for autonomous logging up to 4 Hz
- Seamless integration into comprehensive array of environmental monitoring systems



#### SONTEK CASTAWAY-CTD

#### A hand deployable conductivity, temperature, and depth instrument for hydrographic profiling.

An integrated LCD screen displays an intuitive user interface for deployment and immediate review of collected data including both statistics and profile plots.

#### **Key Features**

- Salinity accuracy: 0.1 PSU
- Temperature accuracy: 0.05°C •
- Integrated GPS position
- Real-time display screen



## AANDERAA OXYGEN OPTODE

Designed to measure absolute oxygen concentration and air saturation. The Optode has been used to measure dissolved oxygen for years without drift.

#### **Key Features**

- Response time <8 sec (63%) •
- High accuracy
- Not stirring sensitive • (it consumes no oxygen)
- Lower fouling sensitivity



#### **TIDELAND SB138P**

The Sentinel<sup>®</sup> buoy utilises the benefits of the latest in materials, manufacturing processes and technology. Providing a rugged, lightweight buoy with exceptional station-keeping and long life, while reducing the long term maintenance expense typically associated with floating aids to navigation.

#### **Key Features**

- Uv-stabilised
- Divided into three
- Matching or alternating •
- Long-term strength and security
- Power •
- Navaid section



#### MOTUS DIRECTIONAL WAVE SENSOR

The MOTUS Wave Sensor is an integrated part of MOTUS Tideland SB 138P buoy but also suitable for other third party buoys. The sensor processes wave data and is configurable to present parameters and wave spectrum directly. The sensor can be connected to a SmartGuard using the CANbus based AiCaP protocol or third party logger using RS232.

# **AANDERAA GEOVIEW**

Aanderaa GeoView is a web based display solution for environmental data display and is part of the Aanderaa Real-Time Solution. This gives the user vast opportunities for interfacing meteorological, oceanographpic, or other environmental research equipment in a networked solution giving access to data real-time.

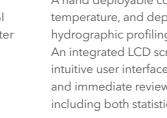
#### **Key Features**

- Web based application showing real-time data in a standard browser
- Display of both real-time and historical data in graphs • Data storage and retrieval from
- included database •

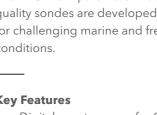
#### **Key Features**

- Configurable compensation algorithm for installation outside of buoy center.
- Built-in solid state 9-axis accelerometer/gyroscope magnetometer.
- •
- Wide range of parameters. Customer configurable •
- separation frequency between wind and swell waves.











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- Zoom on time scale to study a subset of the data for a certain parameter



## AANDERAA SMARTGUARD

The Aanderaa SmartGuard is the sensor and instrument hub for ocean, lake, reservoir, estuary and river hydrometric stations. It is designed for ease of integration into a single Aanderaa observatory node with new and existing sensor technologies via self-describing XML data output formats. SmartGuard interfaces with all Aanderaa atmospheric and in water sensors, along with a comprehensive array of 3rd party sensors.

#### **Key Features**

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- Tailored for smart Met stations
- Flexible and easy set-up configuration
- Fits Aanderaa Smart Sensors including • serial and analog sensors from any other vendors
- Real-time data through serial, LAN • or USB connection with internal storage on SD card

Options for external compass

## Xylem |'zīləm|

The tissue in plants that brings water upward from the roots;
a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

#### For more information on how Xylem can help you, go to www.xylem.com



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