Ocean & Coastal Market & Product Updates

Jon Fajans, Ocean & Coastal Applications Manager

Xylem Analytics, Americas

October 5-8, 2025

Aanderaa Delivery Times

- DCS/DCPS: production capacity has increased. We have reduced the delivery times by approx 8-10 weeks and expect to reduce this further in coming months.
- Salesforce MANC rating discipline
  - key input to demand meetings (production forecasting)
  - All opportunities >50% MANC enter planning
  - Quote layout = ADI **

DCS	8 weeks
DCS Blue	8 weeks
DCPS	8 weeks
SeaGuard II	8 weeks
RCM Blue	8 weeks
In-line DCS	8 weeks
MOTUS	From stock
Smart sensors	4-6 weeks
MOTUS Buoys	10-14 weeks

New Applications and Upcoming Releases

OMNI Turbidity Sensor

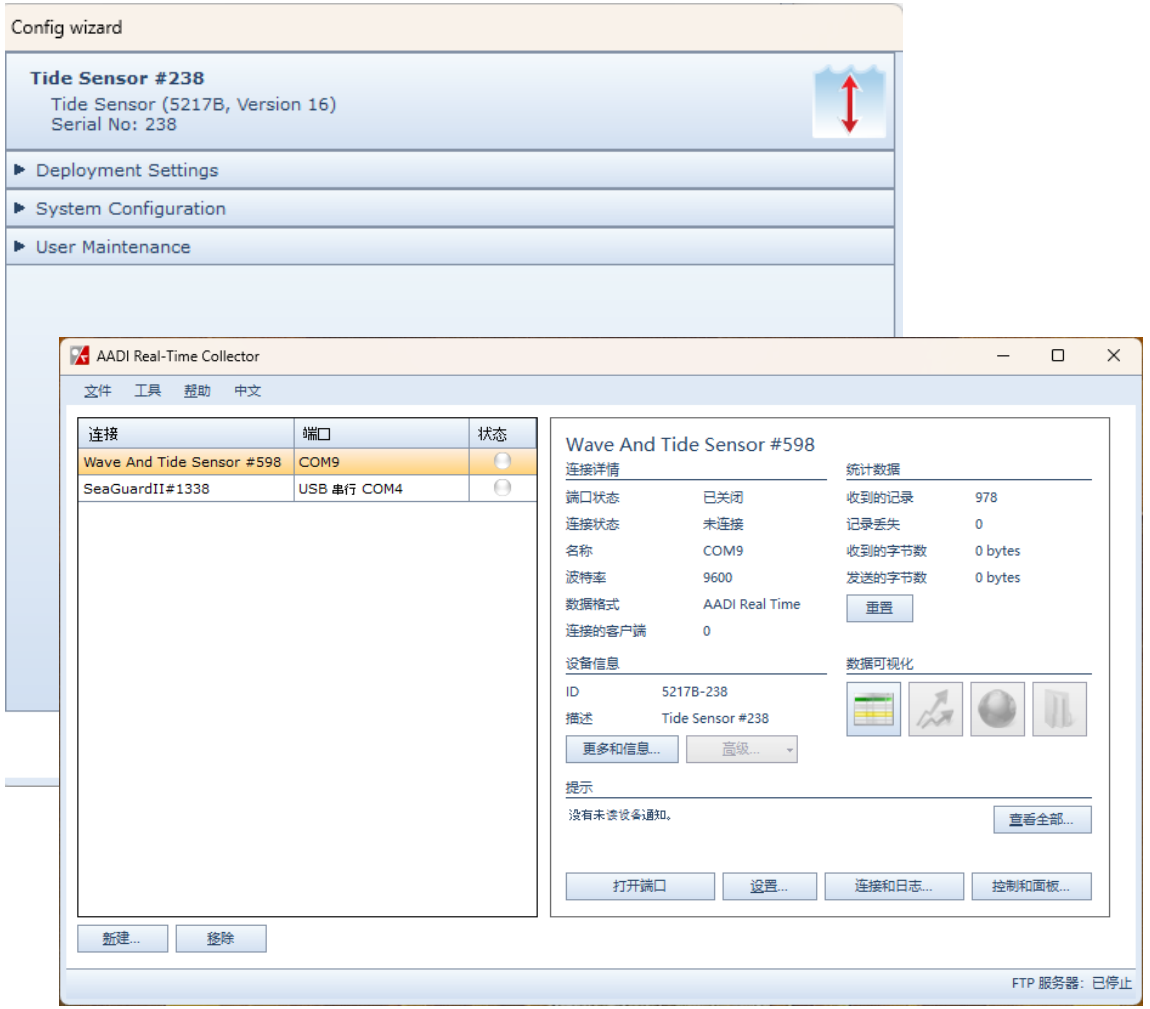
- Auto-range 0-2500 NTU
- New part number
- Previous versions (4296) still supported but discontinued – upgradeable
- Field tested and proven but not yet production ready
- R&D resources to be allocated after existing project completed
- Likely released with SmartGuard+ or soon after

Real-Time Collector

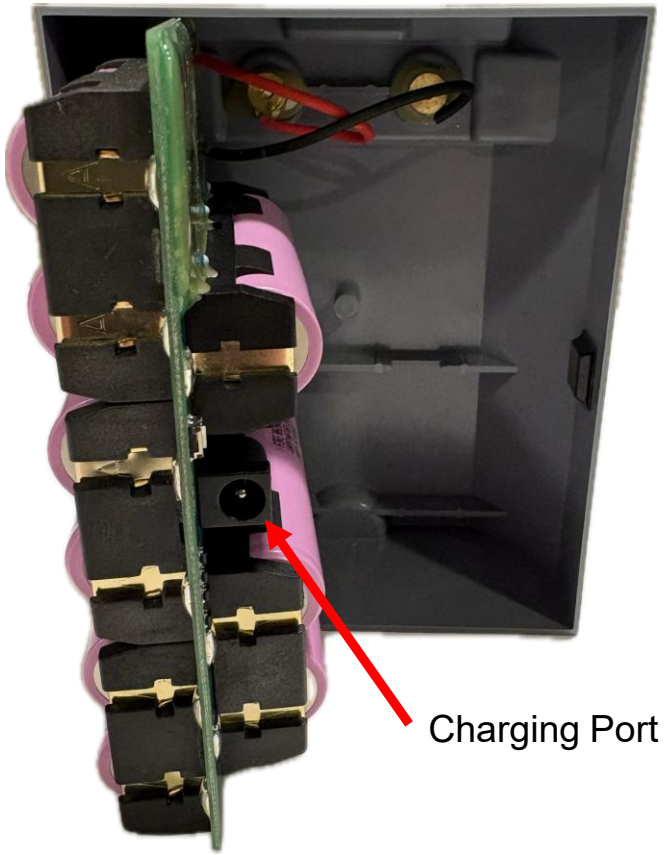
The new license free Real-Time Collector (RTC) is getting closer to release, and we expect it to be released within a few weeks.

New features in RTC:

- Chinese language
- All Configuration shown in one picture
- Remember config from previous connection
- Possible to see config without stopping recorder
- Warning when new version is available



New Rechargeable Li Battery Cassette for SGII & RCM Blue



Takes 9 18650 Li Cells, Charging Port, Protected, Less than ½ the cost of 3908 Li Cassette

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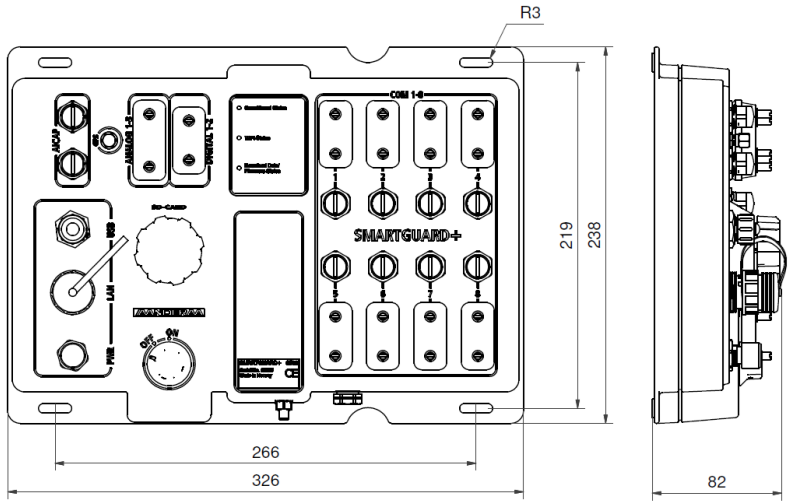
SmartGuard+

New and improved datalogger from Aanderaa



New Features:

- Smaller – extended version is no longer available/necessary
- WiFi
- GPS
- Bluetooth
- Flexible Serial Ports – RS-232/RS-422/RD-485
- Analog – 4-20v/0-5v
- Increased SD card storage
- Increased internal storage
- USBC
- Wider Supply Voltage
- Relay Output
- New color to distinguish from the old version

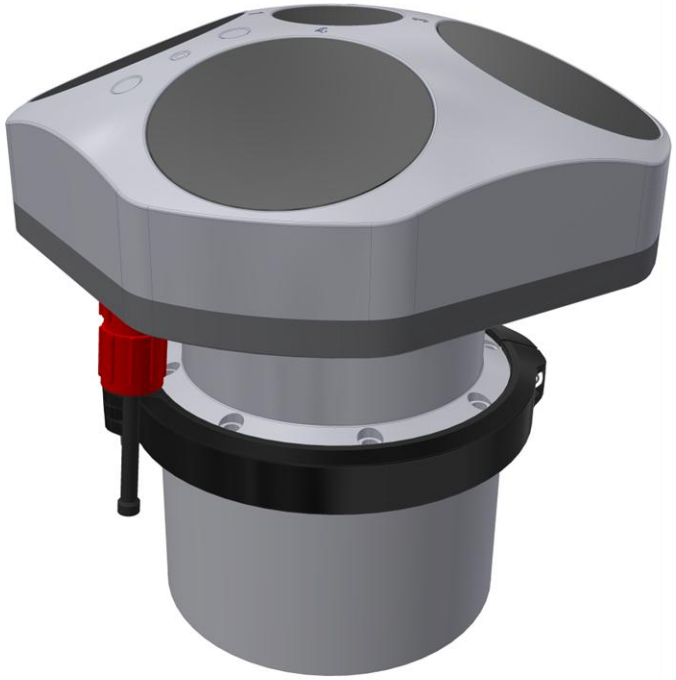
Existing SmartGuard

Aanderaa 250 ADCP

Key Features

Features:

- Rechargeable battery solution
- Extremely power efficient
- Best range in its class - super capacitors
- Central beam for surface detection and waves
- 250 kHz frequency, high-precision broadband, robust narrow band for dynamic environments
- Pressure and Temperature included
- AiCaP connection to new SeaGuard for Water Quality
- WiFi connectivity for configuration and data download
- Internal storage capacity including raw data storage, in parallel with internally-processed data



Next developments:

- Smaller cell-size
- Automatic turbulence calculations
- 5-th beam inclusion

Key value propositions

Building on DCPS successes

existing DCPS advantages

+

increased range

+

improved connectivity & power options

competitive advantages focused on user needs

AutoBeam: If object (mooring chain/float/animal) is obstructing one of the beams, the three remaining are used for current calculations.

FlexiColumn: In upward facing applications, built-in pressure sensor measures the distance to the surface, enabling simultaneous surface referenced and instrument referenced current meaurement:

1. Surface current (cm thick layer)
2. Currents in multiple layers, referred to the surface
3. Currents in multiple layers, referred to the instrument

Incurs no additional power usage. Valuable in applications like; aquaculture, surface transport, currents around the bottom of

MotionComp: Fourth-generation Doppler current sensing technology featuring automatic dynamic tilt and heading compensation. It delivers high-quality current measurements from moving/tilting platforms. When used in combination with AutoBeam, it ensures full measurement range.

Smart Data: The instrument delivers processed engineering data. Tilt, heading & sound speed compensated vector averaged current in real-time. Real-time data control ensures efficient bandwidth use without losing insight.

See data sheet and Aanderaa app notes for more detailed explanation of features.

Aanderaa 250 ADCP Project status

- The profiler was initially tested in Norway last Fall.
- Mechanical design is completed including li-ion battery container.
- Existing bottom frame will be modified to be used on 250 ADCP.
- A buoy solution using DB1750 will be completed likely by installing from underneath into the moon pool.
- A new in-line frame will be designed to accommodate the sensor and battery extensions.
- Target is OI March release for SmartGuard+ and 250 kHz

YSIT GOES Satellite Transmitter

METEOROLOGICAL MEASUREMENTS
Wind, atmospheric pressure, air temperature, humidity.

AIDS TO NAVIGATION
Radar reflector, Lanterns, AIS Transponders

REAL-TIME DATA DELIVERY
Hydrosphere, general interface to 3rd party data delivery solutions

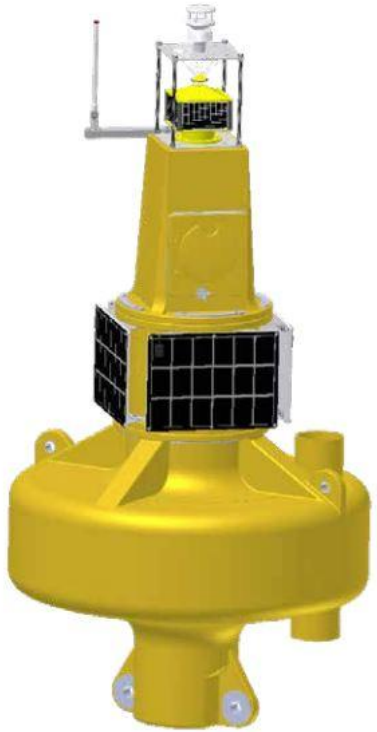
WAVE MEASUREMENTS
Wave direction, wave height, external or internal compass, correction for buoys made of magnetic material.

WATER QUALITY SENSORS
Dissolved Oxygen, pH, Temperature, Conductivity, Salinity, Turbidity, Chlorophyll, Blue-Green Algae and Hydrocarbons

DATA MANAGEMENT
SmartGuard, 3rd party logger

TELEMETRY OPTIONS
4G modem, AIS, VHF/UHF, radio, iridium, GOES

CURRENT DIRECTION AND SPEED
Broadband Doppler Current Profiler, Z-pulse single point current sensor



- 1750/SmartGuard+ config out of Norway
- Buoy installation on site
- Shore integration at YSI/ISS

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Sofar Ocean OEM Partnership

What we have done so far ☺,

and what is coming…..

- 4830 DCS Integration (120 units/yr)
- 5990UB CT Integration (50-60 units/yr, Nov 25)
- YSI EXO3 SDI-12 (1 app so far ☺)
- YSIP for EXO2/3 (NDA in place) ??
- Sales Agreement Emerging Markets

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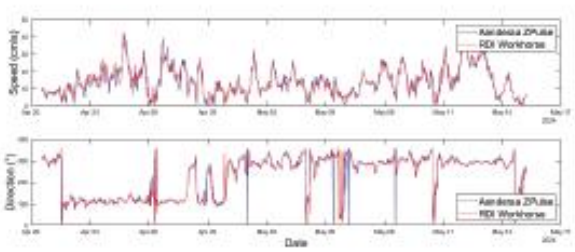
Let's Solve Water

Real-Time Currents Made Easy

Aanderaa Doppler Current Sensor (DCS) Integration with Sofar Ocean Spotter Platform

NEWSFLASH

Aanderaa's Doppler Current Sensor (DCS) has been integrated with Sofar Ocean's Spotter Platform, adding subsurface current measurement capabilities to this affordable, hand-deployable system that delivers wave, wind, sea surface temperature and atmospheric pressure data in real time. The value of this integrated system for real-time current measurements is underscored in a report that compares recorded measurements from a diver-deployed bottom-mounted Acoustic Doppler Current Profiler (ADCP) with the real-time data collected by a Spotter. The accuracy of the current measurements from the two devices at the targeted depths was indeed "spot on," as seen in the figure below.



The DCS moves around on Spotter's Smart Mooring while the ADCP is fixed at the bottom. As with all Aanderaa current sensors, single point or profiling, the DCS automatically compensates every single acoustic ping for changes in tilt and heading. This explains the high quality of data regardless of whether the DCS is deployed on moving surface platforms or on vibrating moorings. The DCS has successfully been used to measure particle concentrations, detect moving animals, and has proved its accuracy in multiple tow tank tests.

Marine professionals can add up to two current sensors to their Spotter, which ships pre-built for easy deployment. Users can remotely access current measurements through Sofar's Spotter Dashboard and export it via an API, allowing for more synchronized and efficient ocean data collection. Industry experts praise this innovation for its ease of use, reliability, and value for operations, such as fish farming.

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Selling Tools

Data Sheets, Flash Cards,

Training Videos

Asset Improvements – datasheet updates

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- Click on the product type
- Click on Documents tab
- Select appropriate Data & Spec Sheet
- Latest versions always on website
- Training Videos related to product or application can also be found here

https://www.Aanderaa.com/document-archive

Data sheets and Manuals for obsolete equipment.

Selling Guide-International Version Coming 2026

2025 Aanderaa Selling Guide

Version 2

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Conductivity Sensor 5990 (RS-232)

Description

A compact fully integrated sensor for measuring the electrical conductivity of seawater. The sensor is based on an inductive principle. This provides for stable measurement without electrodes that are easily fouled and may wear out in the field. The range is 0 to 7.5 S/m. Three accuracies are available, and these sensors are 208 point calibrated. The new temperature response time is <1.2 seconds. This version has a wet-mate 8 pin Subconn connector.

Standard outputs:

- RS-232

Specs

- Normal Accuracy - ±0.005 S/m
- High Accuracy - ±0.0018 S/m
- Ultra-High Accuracy- ±0.0004 S/m

Please note: No cable is included as standard. If required, choose from one of the optional features.

Options for 5990 Conductivity Sensor

Choose a Sensor

Normal Accuracy ±0.005 S/m		
0975990A	300m Conductivity Sensor	$ 4,305.00
0975990A IW	3000m Conductivity Sensor	$ 4,440.00
0975990A DW	6000m Conductivity Sensor	$ 4,504.00
High Accuracy ±0.0018 S/m		
0975990B	300m Conductivity Sensor	$ 4,430.00
0975990B IW	3000m Conductivity Sensor	$ 4,567.00
0975990B DW	6000m Conductivity Sensor	$ 4,631.00
Ultra-High Accuracy ±0.0004 S/m		
0975990C	300m Conductivity Sensor	$ 4,555.00
0975990C IW	3000m Conductivity Sensor	$ 4,695.00
0975990C DW	6000m Conductivity Sensor	$ 4,767.00

Choose a Cable

Configuration Cable w/DB9 for PC RS232 or Free End Integration Cable		
0975335	1.5m MCIL8F SubConn to DB9 config cable	$ 576.00
0975335F	3m MCIL8F SubConn to DB9 config cable	$ 619.00
0975335M	5m MCIL8F SubConn to DB9 config cable	$ 637.00
0976332M	5m MCIL8F SubConn to Free End	$ 724.00
0976332	10m MCIL8F SubConn to Free End	$ 758.00
0976332A	20m MCIL8F SubConn to Free End	$ 922.00

Seaguard II Data Collection Platform

Purpose	6220	6221	6222	6230	6231	6232	6260	6261	6262
Multiparameter with Currents	x	x	x						
Multiparameter without Currents (add 4443A)							x	x	x
Basic with Currents (up to 2 additional sensors)				x	x	x			
Real-time Output (requires cable and uses 1 port)	x	x	x				x	x	x
Output: AiCaP/RS-232/RS-422	x	x	x	x	x	x	x	x	x
Includes Handle	x	x	x	x	x	x	x	x	x
0-300m	x			x			x		
0-3000m		x			x			x	
0-6000m			x			x			x
8,000-11,000m Hadal Units w/DCS & O2									

Options for Seaguard II Data Collection Platform

SGII Multiparameter for Currents (DCS or DCPS) and 3+ Sensors		
0976220	300m SGII SW (logger, hub card, RTC, pressure case, stud, handle)	$ 8,832.00

0976221	3000m SGII IW (logger, hub card, RTC, pressure case, stud, handle)	$ 11,534.00
0976222	6000m SGII DW (logger, hub card, RTC, pressure case, stud, handle)	$ 12,821.00
0975630	Hadal SGII for DCS and O2 Only 8,000m-11,000m	Call for price
SGII Basic for Currents (DCS or DCPS and 1 pressure sensor)		
0976230	300m SGII SW (logger, RTC, pressure case, stud, handle)	$ 7,482.00
0976231	3000m SGII IW (logger, RTC, pressure case, stud, handle)	$ 10,108.00
0976232	6000m SGII DW (logger, RTC, pressure case, stud, handle)	$ 11,585.00
SGII Basic (No Current Sensor, 2 AiCap Sensors)		
0976260	300m SGII SW (logger, RTC, pressure case, center plug, handle)	$ 7,155.00
0976261	3000m SGII IW (logger, RTC, pressure case, center plug, handle)	$ 9,626.00
0976262	6000m SGII DW (logger, RTC, pressure case, center plug, handle)	$ 11,011.00
0974443A	High Power Hub Card (required add on for multiple sensors and signal out)	$ 1,540.00
SGII Directional Wave Package (must order all parts)		
0976220	300m SGII SW (logger, hub card, RTC, pressure case, stud, handle)	$ 8,832.00
0975400	300m DCPS SW, AiCaP + RS232	$ 10,956.00
0975218A	90m Wave/Tide Pressure Sensor, AiCaP + RS32	$ 3,235.00
0975759	Acoustic Wave Firmware (for the 3400)	$ 5,229.00

*Remember to add DCS or DCPS to 6220 series or 6230 Series

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Applications:

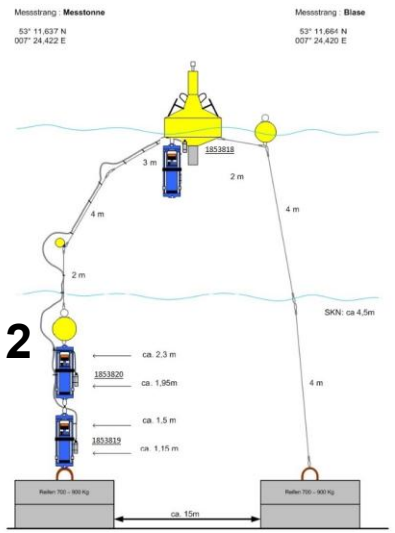
- Sediment Transport
- Replacement of Argonaut XR in river flow monitoring
- Wireless data transmission in challenging environments
- Diver collected water quality
- New AUV for water quality

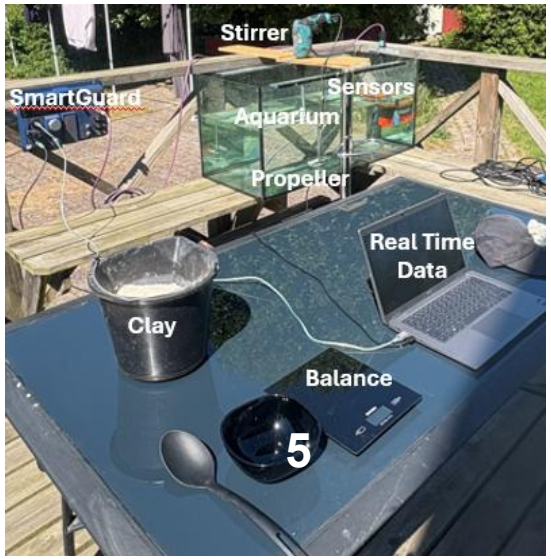
Detection of high particle concentrations & fluid mud: Summary from field and laboratory studies

Background: In many applications; navigational fairways, dredging, mining, trawling, sediment avalanches it is of interest to detect and quantify fluid mud with concentrations of up to 100 g/l. Could a multi-sensor approach be used?

This is a presentation of experiences learned from 5 experiments:

1. **Multi week deployment by WSA**, Germany, in River Ems, close to river mouth, Emden, **one instrument**. 2009
2. **Multi week deployment by WSA**, Germany, in **River Ems**, **3 instruments**, 2 closer to bottom.(buoy diagram) on-going
3. **Multi week deployment by WSA**, Germany, in **River Ems, 3 instruments**, 2 closer to bottom. **Solitax reference instrument**. 2015
4. **Instrument profiling in the river Ems**, Germany with BfG/WSA. 2023
5. **Aquarium experiments** with industrial clay (0.2 um) gradual increase to about 40 g/l. 2025





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WSA mission

Keeping ship lanes open

- Measurements
- Modeling
- Planning
- Dredging

180 SeaGuard instrument in 2010

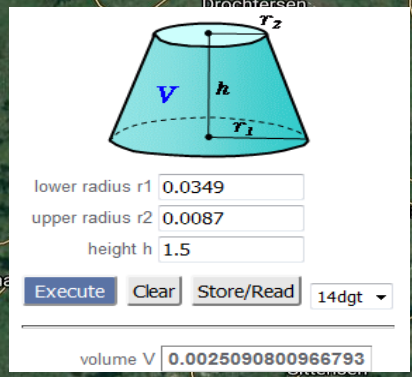
- Currents
- Turbidity
- Salinity/Temp/Density
- Oxygen
- Depth
- Wave/Tide

50 SeaGuard II instruments in 2023
30 SeaGuard II instruments in 2024

Selectable cell size: 0.5-2 m

2 MHz horisontal pinging

Sampling volume: 2.5 dm^3



GERMANY

WSV.de
Wasserstraßen- und Schifffahrtsverwaltung des Bundes

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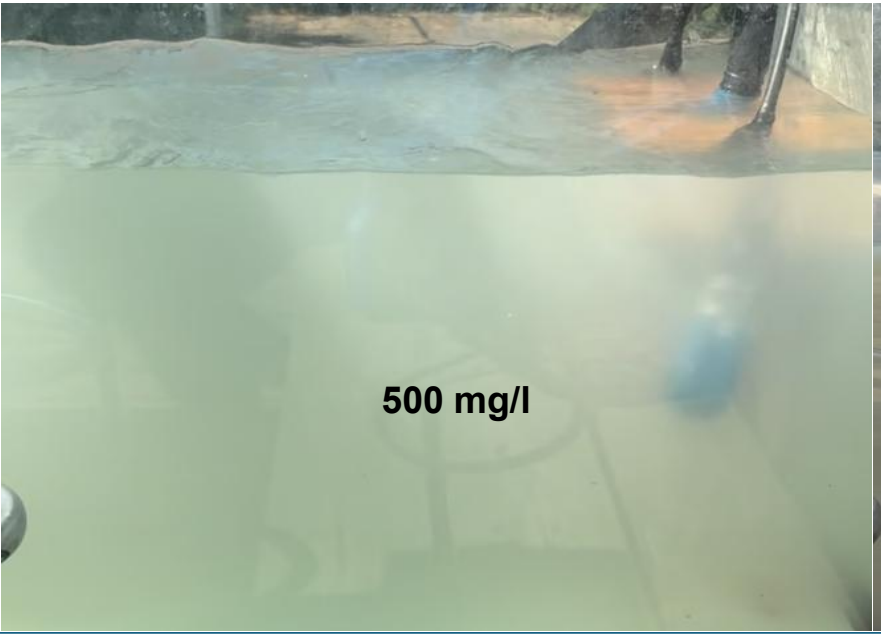
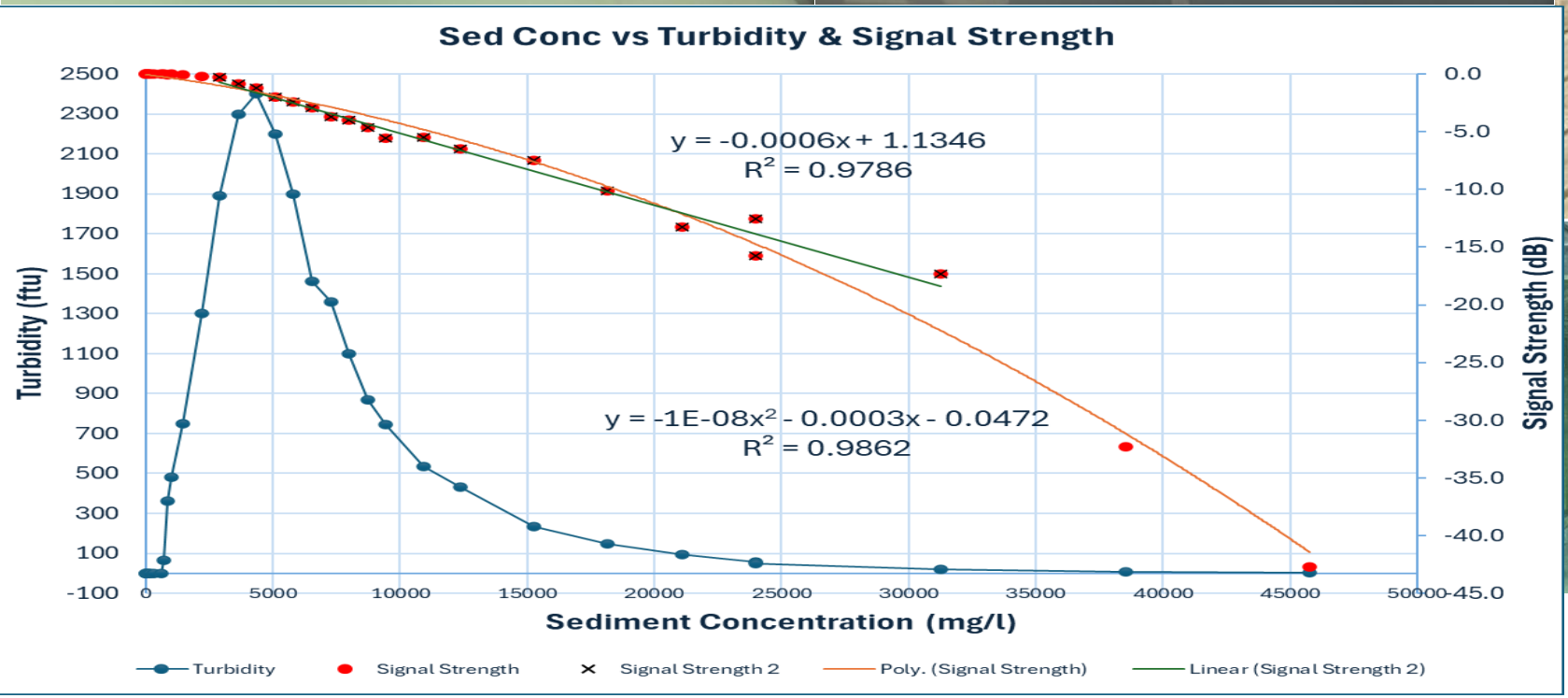
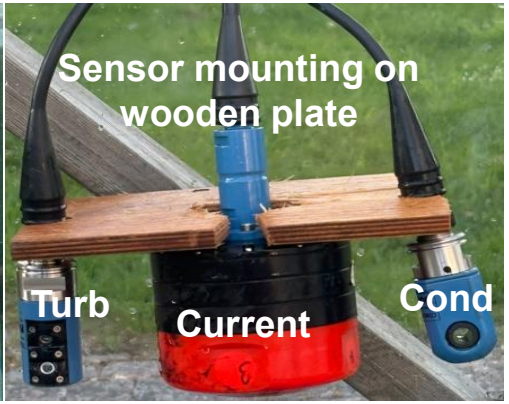
5. Fluid mud trials







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DCPS-P+T (600 kHz) in River La Vilaine (60 % of drinking water for Bretagne, France)

Setup

Select data source

Select device: SMARTGUARD 5300 #517

Select device session: SMARTGUARD Platform Date: 2025-07-17 09:31:13

Select data session:
Records 1194
Start 2025-07-17 09:55:00
Stop 2025-07-21 13:20:00

Node list:
- Doppler Current Profiler Sensor - 5400P #591
- System Parameters

Configuration:
Significant Wave Height Unit: Metric [m]

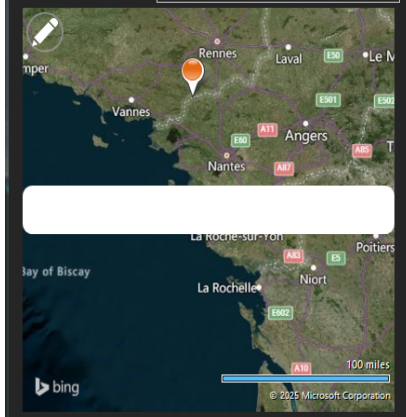
Current Profile Measurement
Bandwidth: Broadband
Enable Ambiguity Lock: false
Ping Number: 150
Enable Burst Mode: true
Burst Period Placement: Start Of Interval

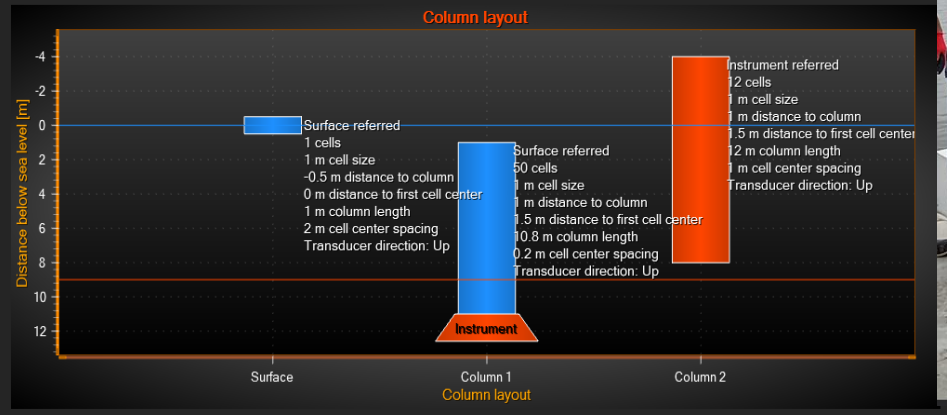
Surface
Enable Surface Cell: true
Surface Cell Size: 1.0 [m]

Settings: Interval: 5 min, Broad band 150 pings, 0.5 Hz sampling
- Surface cell
- Column 1, Surface Referenced, 1 m cell size, 0.2 m cell center spacing
- Column 2, Instrument Referenced, 1 m cell size, 1 m cell center spacing

Configuration summary

Use position from sensor
Manual defined position
Instrument depth 9
Geographic position 47.6674183389539,-1.994260245453,0



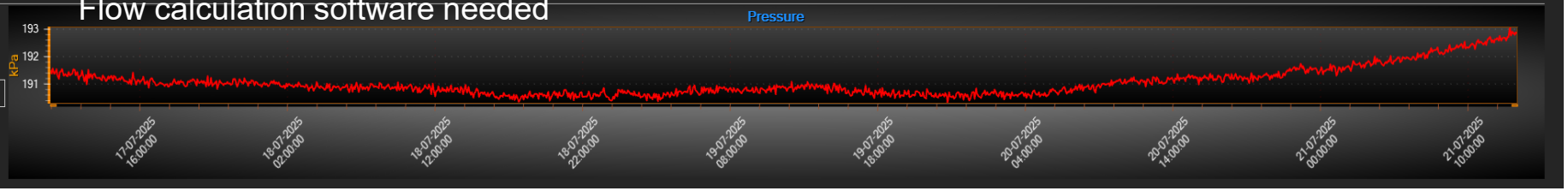


75 m cable to SmartGuard in Cabinet

For rivers 5-40 m deep, replacement of Argonaut
Flow calculation software needed

Select the interval for the data analysis

Limit the interval:
First record: 17-07-2025 10:07:07
Last record: 19-07-2025 08:17:55
Records: 1194
Select sensor: Doppler Current Profiler Sensor - 5400P #591
Preview parameter: Pressure



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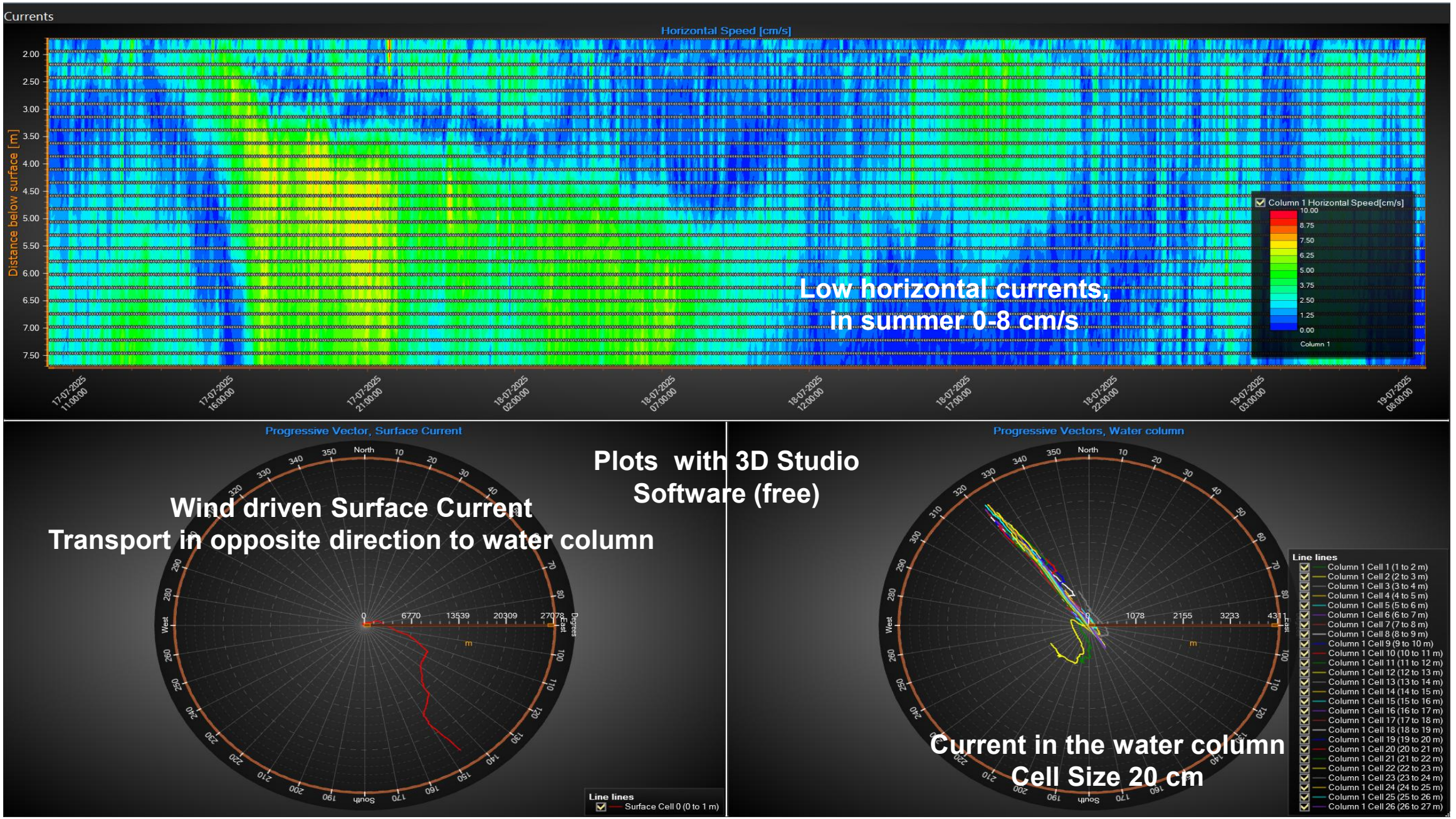
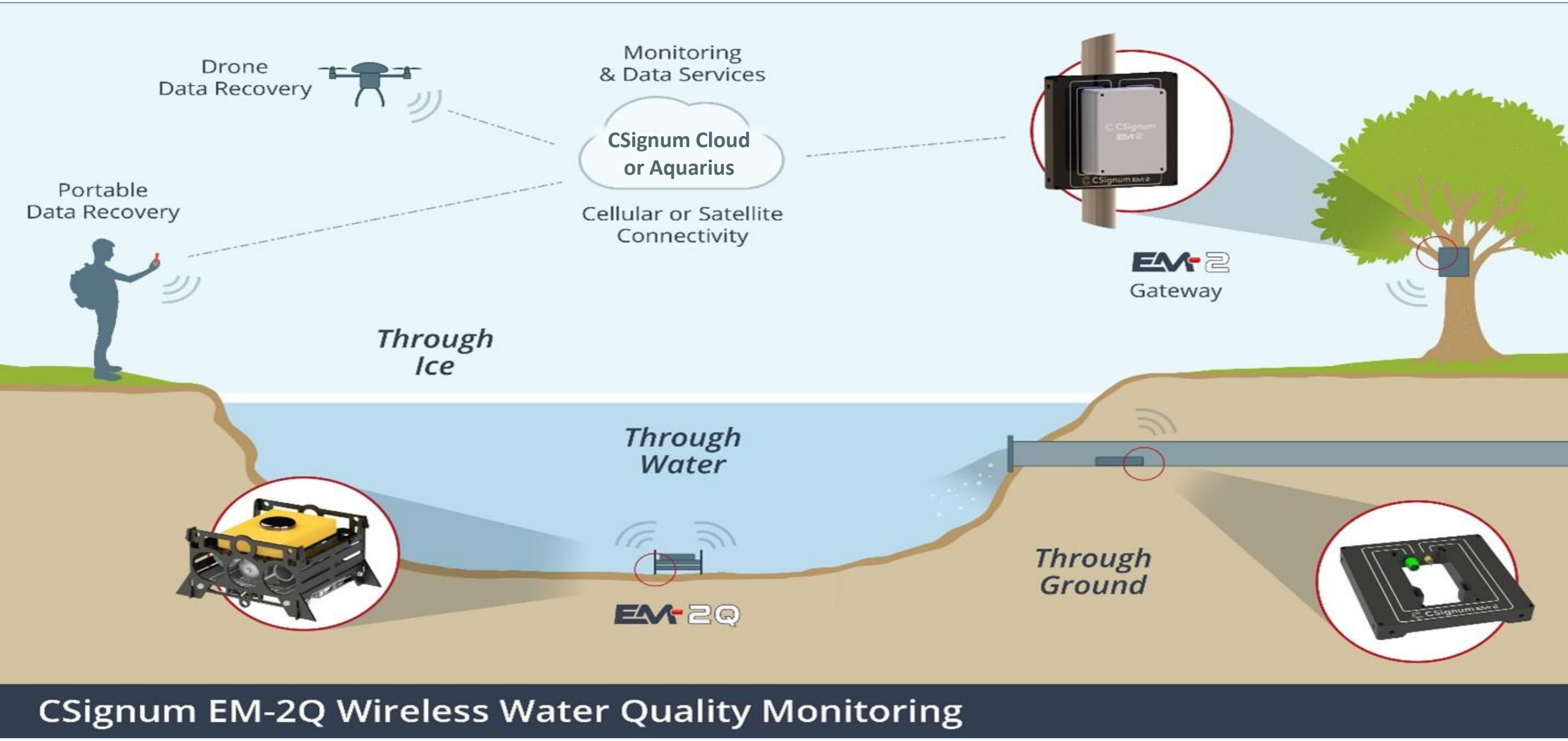

Currents
Horizontal Speed [cm/s]
Distance below surface [m]
Column 1 Horizontal Speed[cm/s]
Low horizontal currents,
In summer 0-8 cm/s
Progressive Vector, Surface Current
Wind driven Surface Current
Transport in opposite direction to water column
Plots with 3D Studio
Software (free)
Progressive Vectors, Water column
Current in the water column
Cell Size 20 cm
Line lines
Surface Cell 0 (0 to 1 m)


CSignum
Breaking through the Barriers
Addressing Water Monitoring Challenges

Wireless Data Collection Beyond the Surface

- Acoustic solutions do not operate from below the surface to above & require a submerged transducer with a cable to connect to existing networks. Additionally, they require unrestricted line of site.
- CSignum's patented electromagnetic field signalling (EMFS) crosses the surface, connecting undersurface devices to networks above
- Data is transmitted by reversing an electromagnetic field thousands of times a second

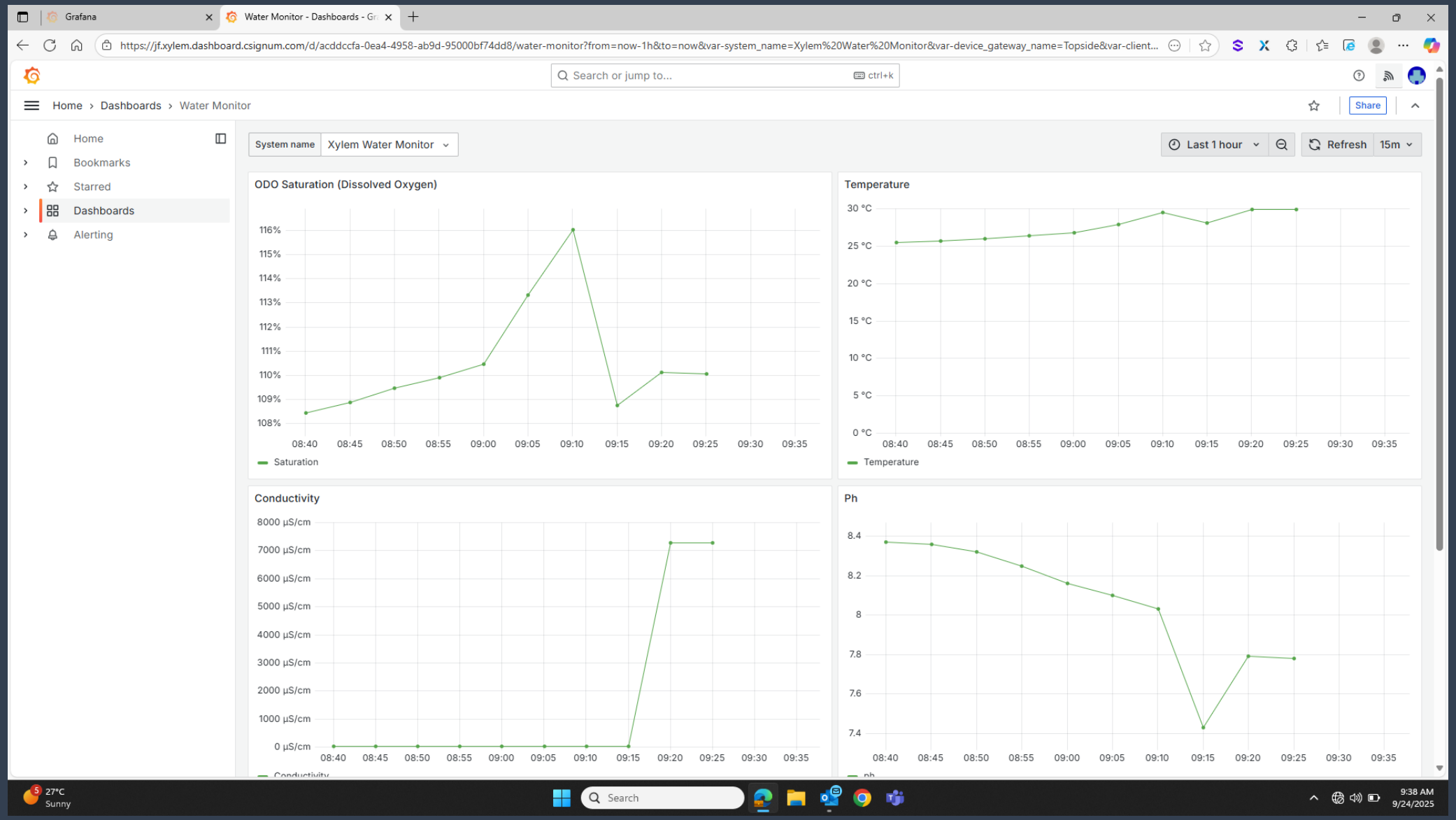
IoT Data Through Any Medium



CSignum EM-2Q Wireless Water Quality Monitoring

EM-2Q System, Xylem EXO Sonde, EM-2 Gateway

Grafana – CSignum Cloud (Hydrosphere Coming)



Diver Survey Application

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Environmental Solutions

Application Note
Xylem Analytics • XA00052

Your Diving Companion for Water Quality

EXO SONDES

The YSI **EXO Sonde** is a multiparameter water quality instrument that offers endless customization with a range of sonde models, interchangeable sensors, data communication options, and industry-leading anti-fouling. Titanium sensors and ultra-rugged components provide protection from the harshest field conditions and resist corrosion. EXO wet-mate connectors allow you to swap sensors and cables without moisture damage.

A diver uses an EXO1 Sonde to measure water quality parameters during a survey.

Calibrations are made simple with SmartQC verification and Smart Sensors that save their own calibration data. Internal alkaline batteries can power the sonde for up to 90 days of continuous data collection, and are easily replaced in the field.

With a logging capacity of >1,000,000 data sets, you can go on multiple dives without exceeding the memory. Choose a logging interval up to 4 samples per second to support even rapid profiling applications. Download your data with native Bluetooth connection to your computer, tablet, or mobile device.

YSI
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The EXO Sonde is suitable for manual measurements or unattended deployments, in a range of applications:

- Fish health surveys; invasive species removal
- Environmental stressor studies
- Algae and seagrass surveys
- Coral restoration
- Marine habitat management
- Lagrangian drift studies... and more!

Marine Parameters:

- Water Temperature
- Conductivity
- Depth
- Dissolved Oxygen
- pH
- ORP
- fDOM (Dissolved Organic Matter)
- Total Algae - Chlorophyll, Phycocyanin/Phycoerythrin
- Turbidity

Calculated Parameters:

- nLF Conductivity
- Resistivity
- Salinity
- Specific Conductivity
- Water Density
- Vertical Position
- Absolute Pressure
- Gauge Pressure
- DO% Local
- Total Algae cells/mL
- Total Dissolved Solids
- Total Suspended Solids

Install up to four water quality sensors on the EXO1.

Additional Resources

For more information, please visit YSI.com/EXO or check out our how-to videos at EXO University.

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Who's Minding the Planet?

YSI.com/EXO

Ecomapper Nano

Rated to 250 meters – ideal for offshore deployments

Best suited for boat deployments

Easy mission planning

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Thank You

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