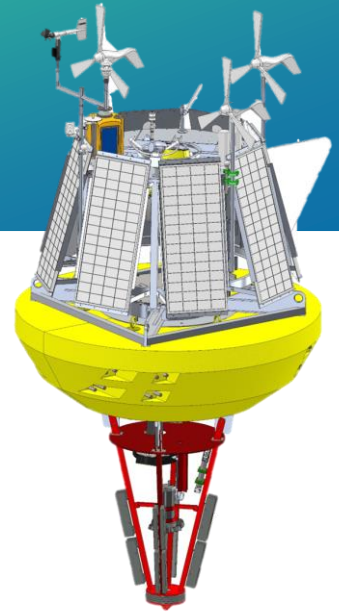


# DeepCLiDAR



CLS DeepCLiDAR, designed and built by CLS in partnership with the University of Maine, has obtained Stage 2 Carbon Trust Certification, making CLS a unique global provider of integrated in-situ, radar satellite, and high-resolution modeling wind solutions for the offshore wind industry.

Designed to undertake offshore wind resource assessment and metocean site characterization measurement and monitoring.



## ZX 300MLiDAR sensor

Wind profiles up to  
300 m



## Wave Measurement Seaview 603 HR Sensor



## Current Measurement Broad range of current sensors



## Two-way communications for data transmission and buoy system control and management

## SOLUTION

**A modular, adaptable and hurricane resistant floating LiDAR for all environments.**

CLS' first DeepCLiDAR buoy was produced at the Woods Hole Group facility in Bourne, MA, and, deployed next to the Woods Hole Oceanographic Institute (WHOI) ASIT FLiDAR test site for over 7 months. The buoy withstood the impact of Hurricane Franklin, the second most intense of 2023, and provided data considered as Carbon Trust's Stage 2 best practice level according to DNV independent analysis.

CLS has now embarked on an industrial mode, establishing its FLiDAR production facility in Cape Town, at CLS Southern Africa's premises.

CLS Group DeepCLiDAR buoy systems are available through CLS Offices in Europe, the USA, South Africa, Australia, Brazil, and Indonesia to the offshore wind market providing robust, accurate, harsh environment, eco-friendly, wind resource and metocean site characterization.

## USES

- › Able to be deployed in shallow and deep waters.
- › Configurable LiDAR wind profile measurements at several levels from 19 m to 300 m above sea level.
- › Configurable wave and meteorological measurements.
- › Current profile measurements from a variety of configurable sensors.
- › Two-way communications for data transmission and buoy system management.
- › Modular construction for easy transportation.
- › Based on buoy system technology that has over 10 years operability and reliability.
- › Capability to support a range of environmental sensors.



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# TECHNICAL CHARACTERISTICS

PHYSICAL			
<b>Overall Buoy Height</b>	6.67 m	<b>Mast Height (above water level)</b>	3.6 m
<b>Buoy Weight</b>	3750 kg	<b>Buoy Hull diameter</b>	3.35 m
OPERATIONAL			
ZX 300M LiDAR Specifications			
<b>Profile Range</b>	10 m to 300 m (10 levels provided, plus two reference levels 19 m and 38 m)		
Integrated sensor height wind speed and direction			
<b>Sampling Frequency</b>	Up to 50 Hz		
<b>Averaging Rate</b>	True 1-second averaging / 10-minute averaging		
<b>Wind Speed Range</b>	<1 m/s to 80 m/s		
<b>Accuracy</b>	0.1 m/s		
<b>Direction Range</b>	0° to 360		
<b>Direction Accuracy</b>	0.5 °		
WAVES & CURRENTS MEASUREMENTS			
Waves: Seaview 603 HR Sensor			
<b>Waves Height Range</b>	0.1 m to 25 m		
<b>Currents</b>	Nortek Signature 55 kHz, 250 kHz, 500 kHz and 1000 kHz Nortek Aquadopp Profiler 600 kHz with Z-Cell and 400 kHz Range accuracy and resolution vary with the type of ADCP		
POWER & DATA MANAGEMENT SYSTEMS			
Capable of uncharged operation for up to 9 days with standard measurement configuration			
	Campbell CR1000X Loggers		
	Proven durability and reliability in the marine environment		
ENVIRONMENTAL SENSORS			
<b>Bird and bat acoustic monitoring</b>	Turbidity		
<b>Seawater conductivity (salinity and density)</b>	Dissolved Oxygen (DO)		
<b>Seawater temperature</b>	Acidity (pH)		

...Other parameters available



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