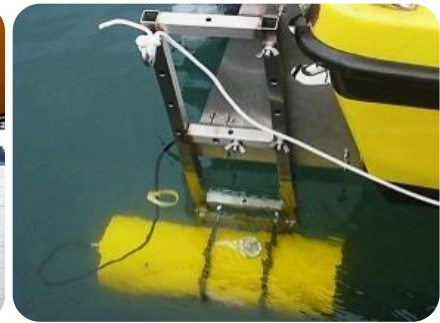


LEDIF Technology

LEDIF enables “lab-like” water quality assessment to be performed in-situ real-time using a patented tri-optical sensing technology consisting of multi-excitation fluorescence, broadband absorbance, and scattering principles to measure a multiplicity of substances.

Holistic Solution of Space and Time

It has been packaged (a) inside a 20(L)x15(W)x20(H) cm rectangular volume for portable mode and long-term continuous monitoring at a fixed location, (b) inside a 20(DIA)x30(L) cm pressure hull for autonomous underwater vehicle (host: NUS STARFISH) deployment in open coastal waters and freshwater reservoirs, and (c) the same hull has been mounted with two watertight end caps, instrumented with an IP68 data communication port, for attachment to a mounting bracket for surface vehicle deployment.



Applications

With about a decade of research and development, Ecosen Solutions LEDIF technology can help to monitor (1) water catchments, (2) drainages and waterways, (3) industrial discharge, (4) harmful substances in seawater, (5) aquaculture farms, (6) recreational water bodies, (7) oil and gas, and (8) for the of study of water quality.



Products

Water Lab Sensor: Water Chemistry and Biological Pigments

- The customizable Pollutant Water Lab (PWL) utilizes the tri-optical principle of the LEDIF to produce a holistic water quality monitoring system that resolves the specific needs of a customer.
- The Algae Water Lab (AWL) helps customers to monitor different groups of algae and safeguard water resources against harmful algal blooms.

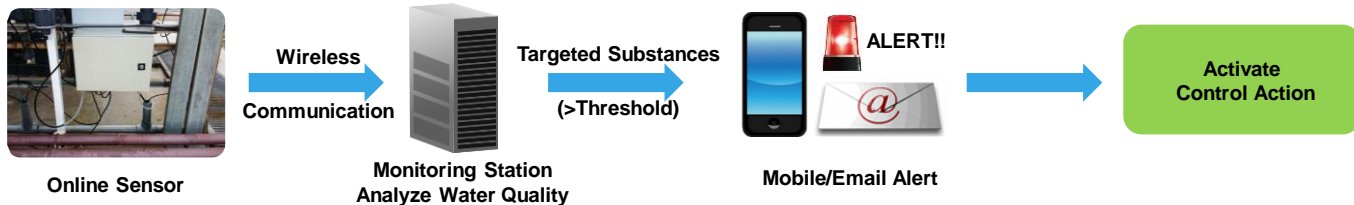
PhyWL Sensor: Water Physical Properties

- PhyWL sensor measures: (1) Temperature, (2) PH, (3) Oxidation Reduction Potential, (4) Dissolved Oxygen, (5) Conductivity/Salinity/Total Dissolved Solids and can be coupled to PWL/AWL.

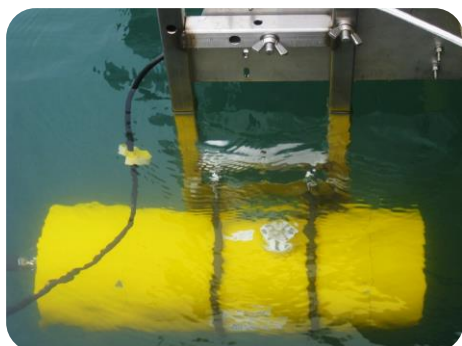
Specification

Mechanical	
Water Lab Sensor (cm)	20(L)x15(W)x20(H)
PhyWL Sensor (cm)	18(L)x8(W)x8.5(H)
Battery (cm)	12.5(L)x7.5(W)x12.5(H) (optional)
Water Lab Sensor in IP65 Enclosure (kg)	<6
Electrical	
Communication	RJ-45 or 3G Wireless (optional)
Input Voltage	24/48 VDC or 100-240 VAC
Water Lab Sensor Power Consumption (W)	Max. 3.6 (Fluorescence and Scattering), 13.3 (Absorbance)
Optical (Water Lab Sensor)	
Fluorescence and Scattering	Customizable, up to 6 UV-VIS wavelengths
Absorbance (nm)	Broadband, 200-900
Auto Cleaning	Regulated compressed air at user selectable frequency

First Alert System and Spatiotemporal Mapping



Submersible Sensor



Chemical Mapping

