



# SWALE OCEANOGRAPHIC

## Unmanned Surface Vehicles - USV



### ESM30 – Water Quality and Sampling Boat

This autonomous catamaran from OceanAlpha is designed to take discrete water samples for laboratory analysis, whilst simultaneously transmitting real-time measurements of water quality parameters such as conductivity, temperature, pH, DO, and turbidity. It enables efficient and safe monitoring, inspection and surveying in inland waters, ports and harbours. The quiet electric motors can be turned off, making it ideal for safely deploying acoustic noise recorders and hydrophones.

Length:	1.2 m
Beam :	0.8 m
Draught:	0.2 m
Weight :	31 kg
Operating conditions:	<0.5m Sig wave ht
Maximum speed:	3 knots
Endurance:	3.5 hrs @ 2.5 knots
Payload:	15 kg
Sampling Capacity	4 x 1.8 litres



### Features

- Autonomous navigation by GPS waypoints or remote control
- 4 on-board water sample bottles
- Retractable deployment arm / snorkel
- 1<sup>st</sup> Person view video (live telemetry)
- Obstacle avoidance radar
- Real time data
- Robust carbon fibre composite hull



### Applications

- Bathymetric survey
- Hazard location
- Hydrographic mapping

- Radiation monitoring
- Security patrol
- Water quality / pollution monitoring

## Intelligent Navigation System

- Simple way-point programming
- Autonomous navigation algorithm
- High accuracy GNSS (RTK-GPS)
- High accuracy gyro for inertial navigation system
- Automatic obstacle detection and avoidance

## Real-time communication

- Operation, attitude and mission status of USV
- Measurement data of hydrology, water quality and others
- Pollution tracking
- Real-time video with WiFi or 4G LTE

## Professional Hull Design

- Use of computational fluid dynamics
- Catamaran design ensures stability
- Anti-corrosion, sealed & waterproof
- Compact, light, reliable and convenient

## Clean Energy

- Quiet electric motors
- High capacity lithium polymer battery
- Modular design

## Handheld Remote-Control

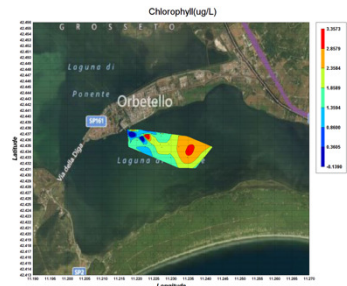
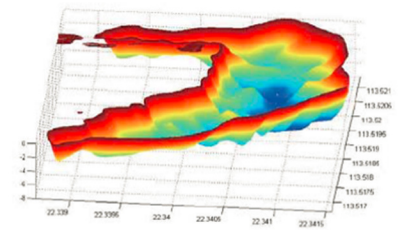
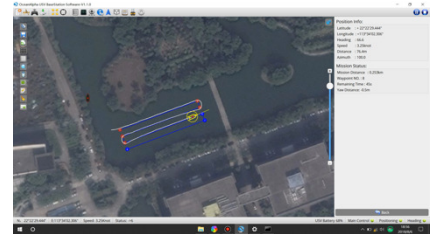
- Real-time communication
- Manual operation
- Mission assignment
- Status monitoring

## Base Station

- Data storage and management
- Data analysis, Automatic report generation
- Distribution mapping
- Measurement data acquisition, display and storage
- Mission planning & reporting
- Optional relay station to extend communication range
- Real-time multi-angle video
- Satellite map download and management

## Flexible Integration of Equipment

- Multi-Beam or Side Scan Sonar
- Multi-Parameter Sonde
- Water Sampling Bottles



# SWALE TECHNOLOGIES Ltd

Unit 51G, Rm48 Whitehill & Bordon Enterprise Park, Budds Lane, Bordon, GU35 0FJ, UK  
Tel: +44 (0)1420 473334 Email: [Sales@swaletechnologies.com](mailto:Sales@swaletechnologies.com) [www.swaleocean.co.uk](http://www.swaleocean.co.uk)