

YellowScan Navigator[®] & Airboxer[®]

by YellowScan

by High Eye BV

Persistent aerial bathymetric & topographic mapping

Situation

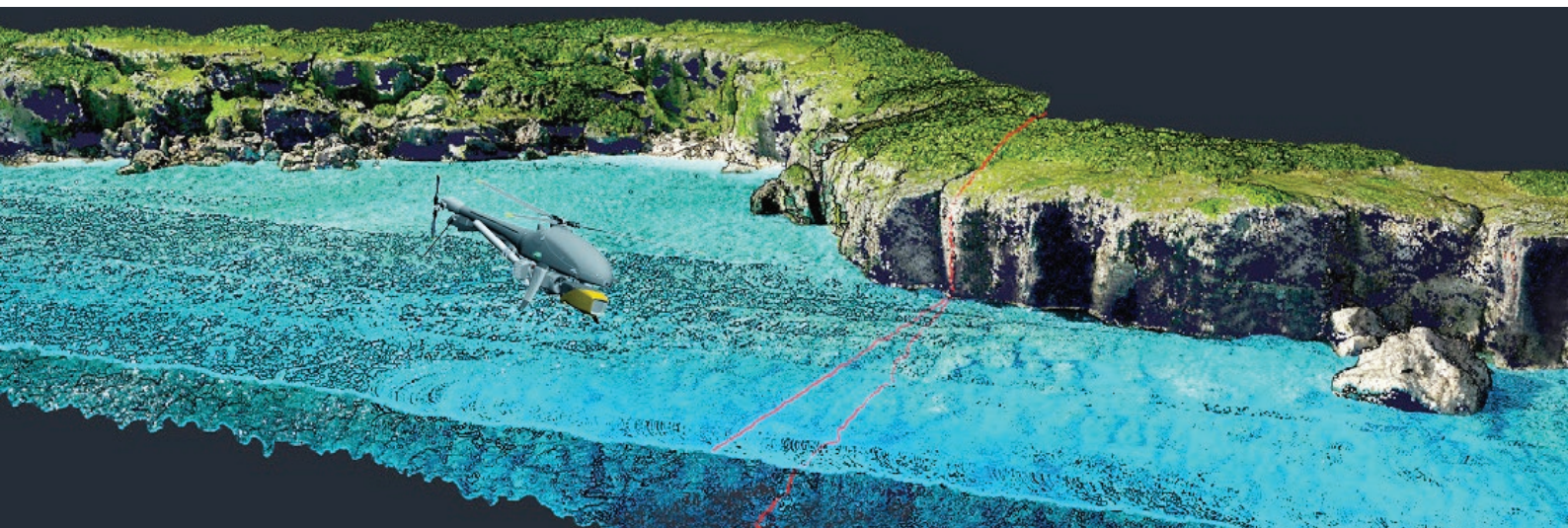
- Shallow water mapping is fragmented across multiple tools and datasets
- Survey operations are slow, weather-sensitive, and resource-intensive
- Gaps between land and underwater data reduce accuracy and usability

System

- Airboxer UAV integrated with airborne LiDAR bathymetry payload
- Single platform capturing seamless land + shallow water terrain
- Deployable from remote sites or vessels, no runway required
- Persistent, repeatable data acquisition with minimal crew

Outcome

- Accelerated survey timelines with fewer deployments
- Reduced logistical footprint and operational cost
- High-resolution, unified datasets from shoreline to seabed
- Improved decision-making for coastal, hydrographic, and infrastructure projects



Technical Capabilities

- Full waveform bathymetric LiDAR
- Continuous terrain + underwater data
- Ship-based deployment
- Wind-tolerant operations
- GNSS-challenged capable
- 3 to 4+ hour endurance
- Single-sortie coastal and river coverage.
- "One-button" LiDAR operation
- Minimal operator workload

Key Performance - YellowScan Navigator[®] & Airboxer[®] Integrated bathymetric & topographic mapping system

Detection & Coverage		Platform & Payload		Operational	
Accuracy	~3 cm	Endurance (Standard)	> 4 hrs	Deployment	Ship & land
Range	Up to 120 m	Endurance (ERF)	> 5 hrs	Fuel (Standard)	8.86 L
Point rate	Up to 200k pts/sec	BVLOS tested	up to 100 km	Fuel (Optional ERF)	11.86 L
Flight height	~80–100 m AGL	Max take-off weight	34.2 kg	Wind tolerance	15 m/s (18 gust)
Depth capability	Up to 2 Secchi depth	Max payload weight	7 kg	Temperature range	-10°C to +40°C
		Dimensions	1839×632×575 mm	ISA, AMSL conditions	3.0 kg payload

Why YellowScan Navigator[®] & Airboxer[®]

Maritime-optimized

Purpose-built for maritime, not adapted from land systems

VTOL, no runway

Vertical take-off & landing from confined ship decks

Payload Effectiveness

High-accuracy, high-density LiDAR capturing seamless land-to-water data in a single pass

Persistent coverage

Continuous, repeatable aerial surveys across land and shallow water environments with one system

Native integration

Payload, comms & compute designed as one system

System Overview

End-to-End Workflow

- 01 Deploy & Plan
- 02 Acquire Data (Single Flight)
- 03 Process & Refine
- 04 Deliver & Integrate

Use Case - Shallow Water Mapping

Situation

Shallow waters (coasts, rivers, ports) are hard to map efficiently, with traditional methods requiring multiple systems and fragmented datasets.

System

Airboxer UAV + YellowScan Navigator

- Single-pass LiDAR for combined topography + bathymetry
- Deployable across coastal and inland environments
- Lightweight payload enabling rapid deployment

Outcome

- Seamless land-to-water datasets
- Faster surveys with smaller footprint
- Survey-grade outputs (~3 cm accuracy)

What's in the System

- UAV Platform (Airboxer)
- LiDAR Payload (Yellow Scan Navigator)
- Ground Control Station + Datalink (LOS / BVLOS / SATCOM)
- Mission Software
- EO/IR
- Training

YellowScan Navigator

Innovative solution for exploring underwater and ground topography



Airboxer

Maritime UAV platform for persistent ISR and payload deployment



Maturity & Validation

- ✓ Military-grade & rugged (STANAG, IP67, EMI corrosion-proof)
- ✓ Plug-and-play integration (ship, ISR, C2)
- ✓ Built to scale (series production, repeat orders)
- ✓ Secure & redundant (AES-256, resilient ops)
- ✓ EMC proven (200 V/m tested)

Contact

System & Payload Inquiries

YellowScan
contact@yellowscan.com



Airboxer Platform & Integration

HIGH EYE BV
info@higheye.com



Last Updated: April 2026