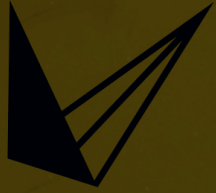


VOYIS 



 **REMUS**

DATA SHEETS & PRODUCT INFORMATION

Recon AUV Payloads



Capture **Incredibly Detailed** Data

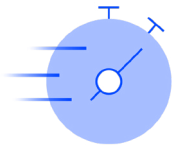
Our Recon AUV Payloads offer both stills imaging and laser data. The Recon comes outfitted with our high-resolution AUV camera payload and the Recon LS has a dynamic 3D laser scanner added to the package.

Benefits & Features



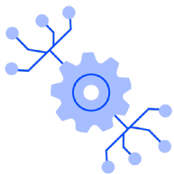
Increase Your AUVs Capabilities

The Recon is a modular upgrade for existing platforms with pre-configured optical modules



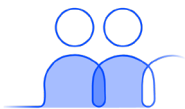
Real-Time Data Processing

Onboard image enhancement and laser processing means faster results



Complete Optical Survey Solution

The Recon has fully integrated power, processing, and data storage components



Customer Support

Find the best solution for your project and simplify the integration process.



Efficient Workflow

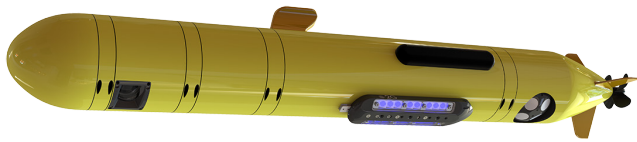
Time or location based target extraction allows you to rapidly download data of interest from large datasets





Find The Right Product For Your Project

Choose the standard Recon package for high resolution AUV imaging, or select the Recon LS to add a dynamic 3D laser scanner for quantitative analysis.



Recon

Our high-resolution camera payload with modular payload options for wide area optical mapping and target identification from autonomous underwater vehicles.

[View All Details](#)



Recon LS

Our Recon AUV camera payload but with an Insight laser scanner. Uses existing vehicle navigation data to produce wide area 3D models.

[View All Details](#)

Case Studies

Click on a case study to read how some of our customers have used Voyis products.

Spool and Hub Metrologies with Dynamic Laser Scanning

Overview

Customer: ODF Subsea
Industry: Offshore Energy
Vehicle Used: Voyis AUV
Voyis Products Used: Insight LS

Summary: In December 2024 at The Underwater Centre in Port of Billingham, Sunderland, ODF Subsea (ODF) arranged a demonstration of dynamic underwater laser scanning as a replacement for traditional overlying techniques. The demo showcased Voyis' underwater laser scanner, the Insight Pro, and Insight's flexible multi-payload sensor, SP001, for its 3D and 2D datasets. Customers, their main partner for trials and provider of Sonotrode rental equipment, provided sensors and project/technical support.

[View Case](#)

The Project

Traditional metrology measurements using Long Range (LR) sensors and photogrammetry demand significant vessel and ROV time. LR, requires physical interaction with the subsea assets and photogrammetry is unable to provide real time results. The goal of the demo was to quantify the operational time reduction and accuracy of dynamic laser scanning for subsea metrology.

AUV-Based Pipeline Surveying

Overview

Customer: Oceanwing
Industry: Offshore Energy
Vehicle Used: Insight LS
Voyis Products Used: Insight LS

Summary: Oceanwing and Voyis, through this project, were able to deploy a custom AUV based on existing navigation using Insight LS to provide high quality 3D point cloud mapping of a 6 km pipeline.

[View Case](#)

The Project

In 2024, the team at Oceanwing, known for their innovative approach to surveying, was faced with a difficult task: to develop a way to reduce pipeline survey costs while maintaining the quality of the data captured. The team engaged with a single point manufacturer and partner for their new surveying Autonomous Underwater Vehicle (AUV). With the ability to host a three tonne and to host a multitude of sensors, they provided a perfect platform for their pipeline surveying needs. The project was a success as the team compared to conventional methods. However, their vehicle space demands sensors with higher payload and the need for specific data and resolution.

Oceanwing approached Voyis in an effort to solve their latest challenge. Through substantial trials of collaboration and teamwork, Voyis and Oceanwing were able to develop an optimal solution for sub-sea specific requirements.

On average, Insight LS cost of 2 to 2.5 tons and 2 to 3 tons suitable for their pipeline surveys. A typical survey included up to three passes over existing data along the entire line of the pipe, with two subsequent

Empire Heritage & Hempton Marine Habitat Inspections

Overview

Customer: Oyster University
Industry: Research
Vehicle Used: Insight LS
Voyis Products Used: Insight Pro, Insight LS and Insight Pro

Summary: This project is part of a multi-year programme to understand the physical and biological processes affecting the coastal environment and the marine habitat. The off-shore management, conservation, and sustainable development of the marine reserves, including appropriate site wide zoning of establishments.

[View Case](#)

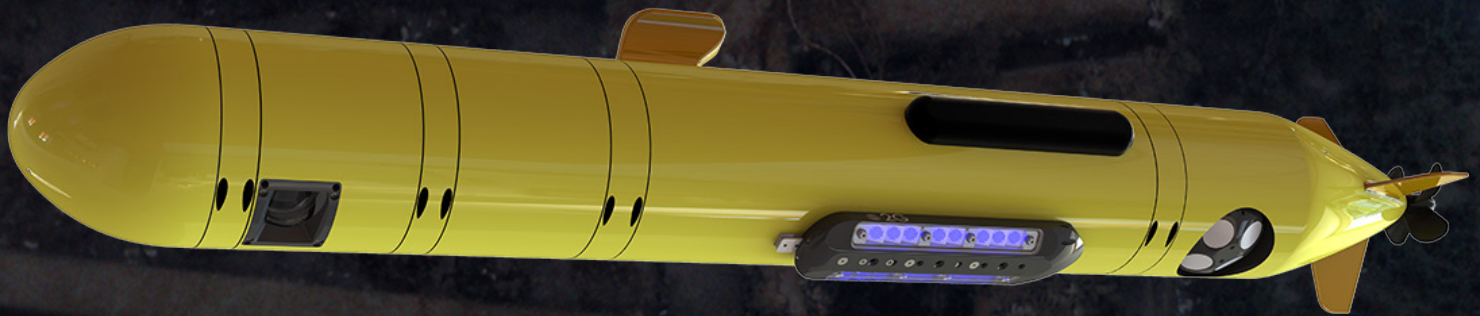
The Project

The overall scientific aim of this research is to explore how sea, tidal and daily tides and physical changes of the seabed at a range of scales for the characterisation of benthic habitats and other associated features of interest in an environmental site of high conservation and natural resource value. A laser survey provided a higher order of magnitude in data resolution and detail than other traditional survey methods that have been conducted at this area.

This Specialist Marine Research Equipment and Data Information is provided under Agreement No. 8927202222 in relation to the support of the Marine Research and Habitat under The Marine Research Programme 2014-2020 by the Government of Scotland. This research services is carried out with the support of

Enabling every subsea vehicle to see the depths like we see the surface.





AUV PAYLOAD

Recon




The Recon is the first high-resolution optical imaging payload for high-speed AUVs, delivering crisp images with onboard image enhancement. With proven integration on both small and large vehicles, it's simple to add or retrofit the modular payload onto your autonomous underwater vehicle.

All electronics are integrated into a payload module that directly interfaces with the target AUV and connects to a hydrodynamic lightbar that evenly projects light across the camera's field of view. Upgrade your low-grade camera to the Recon stills imaging payload to enhance your underwater vehicle's capabilities.



At A Glance

An overview of the main benefits to using the Recon payload for your project.

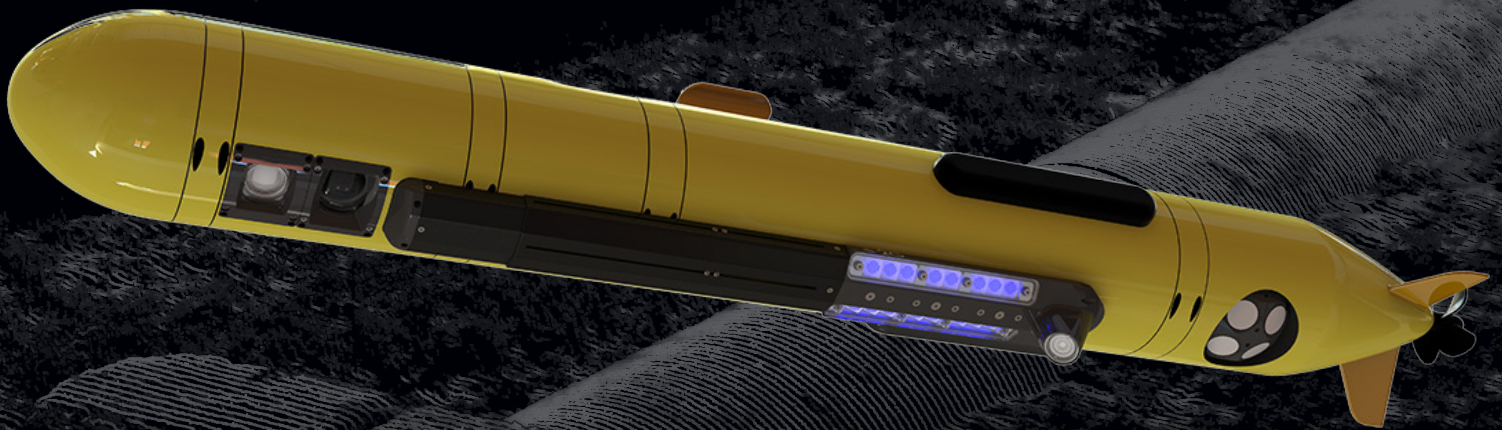
-  Crisp 12MP stills images at high speeds
-  Proven solution for standard AUVs
-  Wide field of view for maximum coverage
-  Faster results with real-time enhancement

Recon Specifications Integration drawings available - [contact sales](#)

Feature	Small AUVs	Medium AUVs	Large AUVs
Sensor	CMOS 1.1", Global Shutter Colour or Monochrome	CMOS 1.1", Global Shutter Colour or Monochrome	sCMOS 4.3", Global Shutter, Actively cooled - 5MP CMOS 1.1", Global Shutter - 12MP Colour or Monochrome
Resolution	4112 x 3008 - 12MP	2464 x 2056 - 5MP 4112 x 3008 - 12MP	2560 x 2160 4112 x 3008
Lens	8.5mm, F2.8 12mm, F2.0	6mm, F2.1 - 5MP 12mm, F2.0 - 12MP	12mm, F2.0
Bit-Depth	12-bit	12-bit	12-bit, 16-bit
Max Range	5m	7m	> 10m
Field of View	H: 79°, V:62° H: 60°, V:46°	H:50°, V:43° - 5MP H: 60°, V:46° - 12MP	H: 50°, V:44° - Mono H: 68°, V:59° - Colour H: 60°, V:46°
Frame Rates	4Hz	4Hz	5Hz
Time Synchronization	PPS - NTP option	PPS - NTP option	PPS - NTP option
Power Consumption	35W max	Camera:53W, LED:5-60W	Camera: 35W, LED: 5-60W
Buoyancy	Neutrally buoyant	N/A	N/A
Depth Rating	100m or 300m	1000m	4000m or 6000m
Light Output	250,000 lumens	500,000 lumens	500,000 lumens
Data Storage	2TB Solid State Drive	2TB Solid State Drive	Control Computer or NAS

Enabling every subsea vehicle to see the depths [like we see the surface.](#)





AUV PAYLOAD

Recon LS





The Recon LS is the first all-in-one AUV payload to deliver complete optical inspection data with a stills camera and laser scanner. The modular solution utilizes the vehicle's existing navigational data to deliver geo-referenced dynamic laser and stills data, all processed in real-time onboard the payload.

The solution can be provided in a single module, or with the laser and LED strobe in a hydrodynamic external module, enabling integration with small platforms. Upgrade your vehicle with the Recon to gain a complete visual understanding of your environment.




At A Glance

An overview of the main benefits of using the Recon LS.

-  Efficient 50W power draw for long surveys
-  Uses vehicle's existing navigation
-  High-res laser data with stills images
-  Simplified vehicle integration

Recon LS Specifications

Integration drawings available - [contact sales](#)

Feature	Small AUVs	Medium AUVs	Large AUVs
Scan Range	1.2m - 7m	1.2m - 7m	1.5m - 15m
Points Per Line	2464	2464	2048
Angle of View	50°	50°	50°
Profile Rate	58HZ Laser + 2Hz Stills	58Hz Laser + 2Hz Stills	50Hz Laser + 3Hz Stills
Data Formats	.XYZ (CSV), LAS Publishing	.XYZ (CSV), LAS Publishing	.XYZ (CSV), LAS Publishing
X Resolution (across-track)	1.1mm @ 3m 1.9mm @ 5m 2.6mm @ 7m	1.1mm @ 3m 1.9mm @ 5m 2.6mm @ 7m	1.3mm @ 3m 2.3mm @ 5m 4.5mm @ 10m
Y-Resolution (along-track)	25mm @ 3 Knot	25mm @ 3 Knot	30mm @ 3 Knot
Laser 	Max output: <75mW Pulse duration: 1mSec to CW Wavelength: 450nm +/- 10nm		WARNING - LASER RADIATION AVOID EXPOSURE TO BEAM Class 3B Laser Product



VOYIS



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For More Information Contact sales@voyis.com

www.voyis.com

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