

VOYIS 

 **Discovery  
Stereo**

**INSPECTION** SERIES





DISCOVERY STEREO

# The Vision Authority: Optical Foundation for Subsea Vehicles, from Perception to Inspection

Voyis' Discovery Stereo Systems delivers unified optical capability for subsea vehicles, spanning real-time perception, 3D modelling, and certified inspection. The Discovery Stereo combines high-resolution stereo imaging, powerful Nova Mini lighting, and onboard edge processing to unlock optical capabilities from autonomous navigation to mission-critical inspections.

From live piloting and vehicle awareness to metrically accurate 3D models, Discovery Stereo enables vehicles to see, understand, and measure the underwater world reliably and in real time.

## Benefits & Features

- ✓ **Engineered for 3D Understanding**  
Sharp stereo imagery with integrated positioning data, delivered with Voyis' proprietary camera calibration and verified accuracy, enables reliable 3D reconstruction for inspection, measurement, and general visual inspection (GVI).
- ✓ **Real-time 3D Intelligence**  
Onboard image processing and real-time SLAM generate live 3D reconstructions, supporting in-mission data quality control and faster, more confident decision-making offshore.
- ✓ **Depth Perception for Autonomy and Control**  
Low-latency depth maps and video provide high-fidelity 3D awareness, enhancing navigation, enabling autonomy, improving maneuverability, and reducing collision risk during complex subsea operations.
- ✓ **Designed for Seamless Vehicle Integrations**  
With synchronized ultra-bright Nova Mini LED and a single vehicle interface supported by pre-made client control software, the Discovery Stereo simplifies integration across subsea platforms. The system combines imaging, lighting, navigation support (INS), and low-latency video in a single, ready-to-deploy sensing solution.
- ✓ **First Class Customer Support**  
Voyis partners with you from integration to operations, delivering expert support in training, data delivery, and system upkeep to maximize Discovery Stereo performance. We provide support through three tailored offerings: Voyis Care for ongoing assistance, Voyis Academy for training and certification, and Voyis Support for survey planning and assistance.



DISCOVERY STEREO

# Find the Right Product For Your Project

Both Discovery Stereo cameras provide synchronized stereo image data, low-latency video, and 3D awareness. We can recommend the best option to suit your project and application.



DISCOVERY STEREO

**INSPECTION** SERIES



## Advanced Inspections, Accurate 3D Modeling

A complete solution for certified accurate 3D modelling and real-time point clouds for wide area reconstruction, critical inspection, and metrology.



# DISCOVERY STEREO INSPECTION SERIES



BUREAU  
VERITAS

The Voyis Discovery Inspection Series is the optical authority for all critical underwater inspection applications, delivering 3D models with certified and repeatable accuracy. Available in two models, I300 and I4000, these systems are engineered to provide unmatched confidence in diverse subsea environments. Built around high-resolution 4K sensors, real-time image enhancements, and Voyis' advanced Deep Vision Optics, the Inspection Series delivers exceptional inspection video, still images, and high-confidence 3D reconstruction deliverables.

Integrated with Voyis VSLAM Powered by EIVA NaviSuite, the Discovery Stereo Inspection Series enables real-time 3D reconstruction and coverage mapping, providing operators with immediate insight into data quality and inspection completeness. Complete with accuracy certified by the Bureau of Veritas and verified to the same standard for every delivered system, the Inspection Series provides repeatable survey-grade measurements for critical subsea applications. The combination of precise 3D data, real-time visualization, and robust imaging delivers a complete solution for efficient, high-quality subsea inspections.



## At a Glance

- ✓ **Certified Inspection Accuracy**  
Independently verified 3D measurement accuracy by Bureau Veritas, with every unit validated through Voyis' proprietary in-house calibration process.
- ✓ **Imaging Excellence**  
High dynamic range imaging, industry-leading lighting, and custom Deep Vision Optics deliver sharp, evenly illuminated data for reliable, high-quality photogrammetry results and 3D reconstruction.
- ✓ **Integrated VSLAM & Coverage Mapping**  
Real-time 3D reconstruction and coverage insight during operations support data quality control and enhance piloting awareness.
- ✓ **Trusted by Survey Experts**  
Proven across 100+ offshore survey campaigns across energy, defence, ocean sciences and civil infrastructure, the Inspection Series delivers actionable 3D data for inspection, wide-area reconstructions, and metrology applications.



# DISCOVERY STEREO INSPECTION SERIES

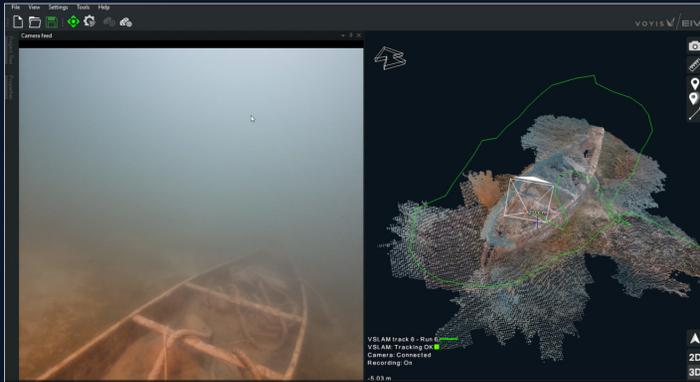
FEATURE	I300   I4000
<b>Sensors</b>	Resolution: 2816 x 2816 (8MP) Colour   12-Bit   Global Shutter
<b>Optics</b>	Field of View: 75° x 75°   Fixed Focus Lens Deep Vision Optics
<b>Video</b>	4K 1:1 27FPS   16:9 30FPS Latency: 100ms (HD)   150ms (4K)
<b>Operating Range</b>	0.3-3.0 m optimal, 0.1-5.0 m total
<b>Accuracy*</b>	Linear Accuracy: 0.3mm/meter Local Accuracy: ± 0.5mm Validated on a reference unit by Bureau Veritas North America Inc. under Certificate of Inspection No. COIN2134USA24
<b>Depth Rating</b>	300m (I300 Model), 4000m (I4000 Model)
<b>Dimensions (L x W x H)</b>	Approximate: 186 x 323 x 153 (mm)
<b>LEDs</b>	Up to 250,000 lumens with 4x Nova Mini Control: On, Strobe, Dimming, Off
<b>Calibration</b>	Factory calibrated, no in-field calibration required
<b>Onboard Processing</b>	Image undistortion, colour & lighting correction
<b>Data Output</b>	Process Images (JPEG) Raw Images (12-bit .TIFF) Video: 4K or HD (H.264, MP4) Depth Maps: RGBD or Point Cloud IMU Data: 100Hz (.CSV)
<b>Onboard Storage</b>	2 TB
<b>Software Integrations</b>	Voyis VSLAM Powered by EIVA NaviSuite, 3DF Zephyr, CloudCompare
<b>Power</b>	Input: 24 VDC (21-28V) Idle: 16W   Operating: 22W to 170W
<b>Interface</b>	Gbit or 10/100 ethernet Windows Desktop Application or Client Control SDK
<b>Time Synchronization</b>	PPS, NTP



\* Unaided - INS aiding can improve

## SOFTWARE INTEGRATIONS

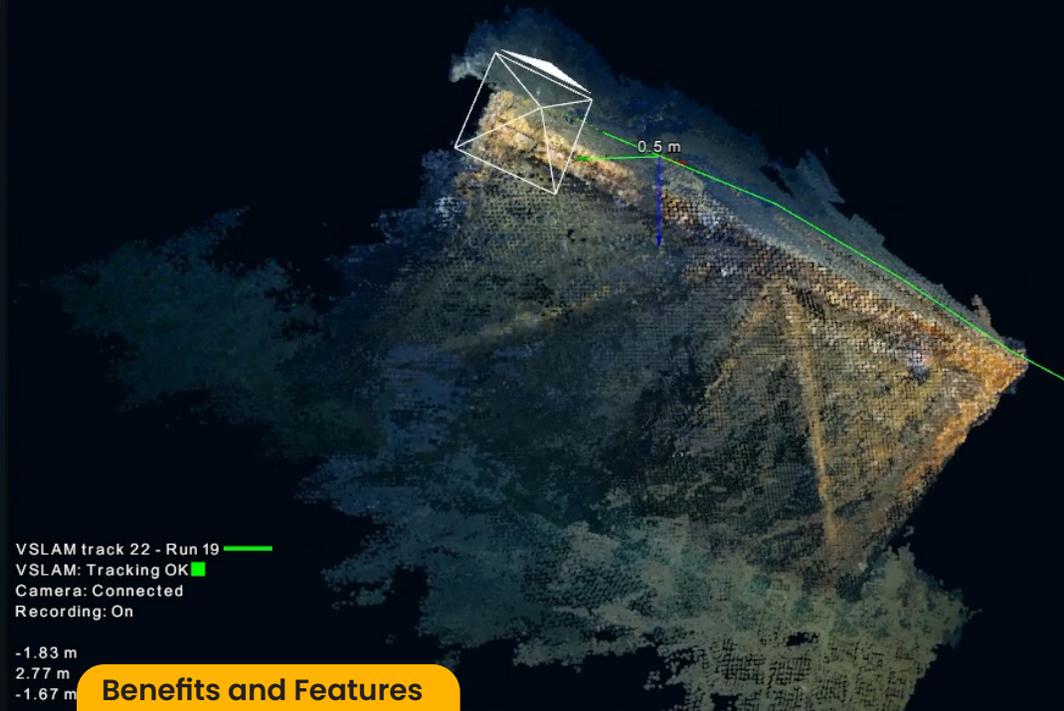
# Voyis VSLAM Powered by EIVA NaviSuite



## Empowering Survey Visualization with Real-time 3D Modeling

Voyis VSLAM Powered by EIVA NaviSuite is a real-time visual acquisition and visualization tool for Voyis Discovery Stereo Cameras, giving ROV operators immediate feedback on survey data quality. Unlike traditional stereo systems that rely on post-processing, the VSLAM solution builds a 3D reconstruction live during acquisition, helping teams ensure they are meeting coverage and image quality goals.

Voyis VSLAM solution delivers real-time textured 3D visualizations using a voxel-based model, combined with absolute geolocated mapping for subsea inspections and metrology. VSLAM-generated point clouds are aligned to global geodetic frames from the start of a mission, using data from connected INS systems. By embedding trusted geodesy into camera-based mapping, users can navigate more safely, revisit inspection targets in absolute coordinates, and streamline data interpretation, creating a survey-ready, globally consistent 3D dataset.



## Benefits and Features

- ✓ **Complete Survey Data Quality Control**  
Real-time 3D voxel model highlights coverage gaps for targeted inspection.
- ✓ **Augmented ROV Piloting**  
Clear spatial context and live textures provide improved situational awareness to ROV pilots.
- ✓ **Enable Autonomy**  
Accurate vehicle localization enables subsea autonomy features like obstacle avoidance.
- ✓ **Geo-located Mapping**  
With INS integration, every 3D point generated by the Voyis VSLAM solution is immediately tied to a known global reference frame.



# Services



## Voyis Academy

Equip your team to deploy, maintain, and extract maximum value from Discovery Stereo with expert training.

Voyis Academy empowers users to confidently master the Discovery Stereo System, from seamless integration and smooth operation to advanced data processing. Designed to turn technical knowledge into real-world expertise, this hands-on training ensures you get the most out of your system, delivering high-performance results in every underwater inspection and 3D modelling mission.



## Voyis Protect

Keep your Discovery Stereo performing like new with precision diagnostics, certified recalibration, and trusted care.

Your Voyis Discovery Stereo Camera is engineered for reliable underwater performance, but harsh environments and frequent use demand regular upkeep. Voyis Protect provides proactive servicing, including updated accuracy verification, a new certificate of conformance, image quality checks, and the latest software updates, ensuring your camera continues to deliver high-performance measurements and imagery.



## Voyis Support

Turn your Discovery Stereo operations into trusted 3D results with professional guidance.

The Voyis Support Program is designed to help users execute successful underwater visual surveys and photogrammetry projects, from survey planning through final 3D deliverables. Support options include survey planning and consultation, onsite operational support, and data processing and reporting, serving both asset owners and survey companies deploying Voyis hardware and seeking expert guidance.

Contact [sales@voyis.com](mailto:sales@voyis.com) to illuminate more about any of our additional services, accessories or product offerings.





VOYIS 

Illuminate The Unknown

[VOYIS.COM](http://VOYIS.COM) | [sales@voyis.com](mailto:sales@voyis.com)