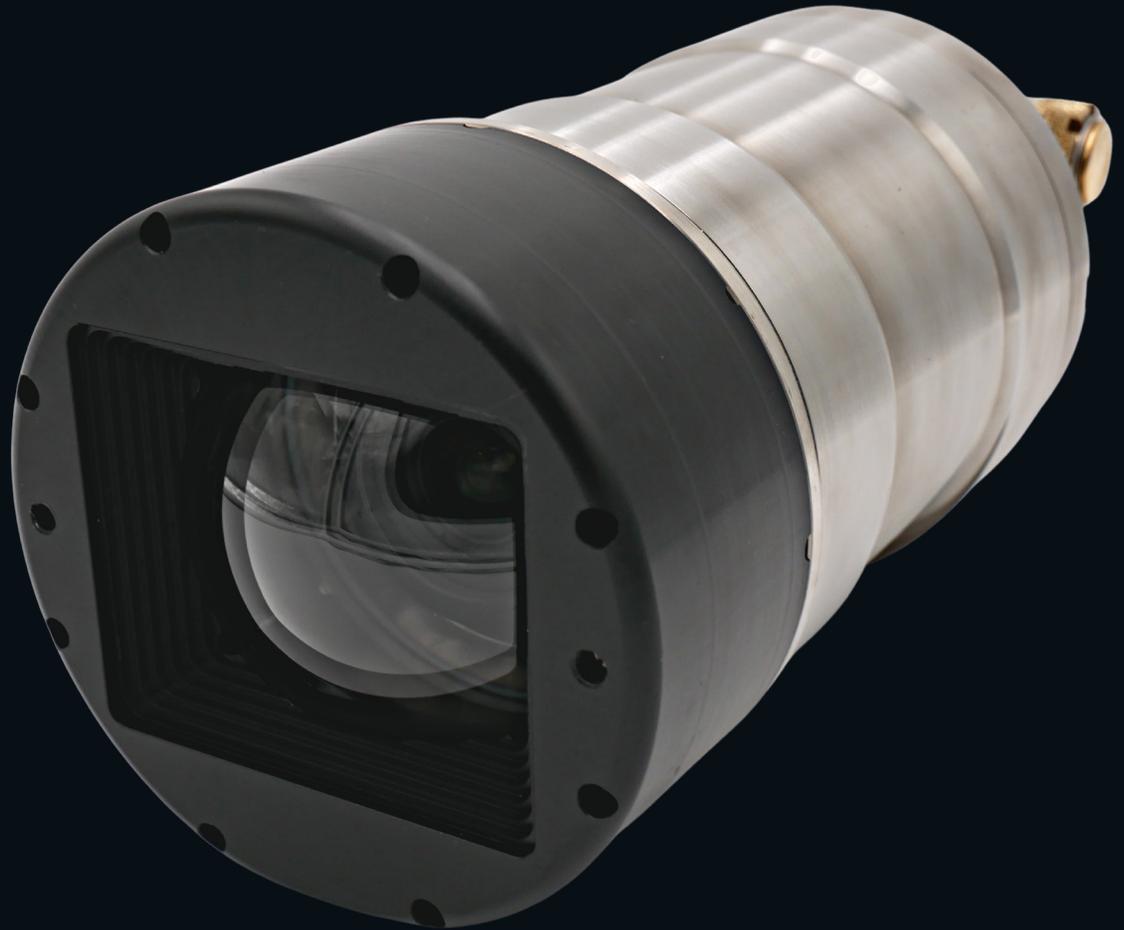


VOYIS 

# | Observer Imaging

**VISION**<sub>SERIES</sub>  
**SURVEY**<sub>SERIES</sub>





## OBSERVER IMAGING

# Capture Sharp, Evenly Illuminated Stills Images and Video

Our high-resolution Observer cameras paired with our Nova LED panels produce crisp, evenly illuminated stills images and videos at high vehicle speeds. Proprietary Deep Vision Optics coupled with on-board image enhancement and colour correction machine-learning produces true-colour images to accurately see your subject.

## Benefits & Features

- ✓ **Clarity at High Speeds**  
Our high-sensitivity sensors enable short exposures so you can achieve clarity even at high vehicle speeds
- ✓ **Real-Time Image Processing**  
Onboard image enhancement corrects water distortions and light illumination to deliver real-time actionable data.
- ✓ **Designed for Machine Vision**  
High dynamic range image captures light and dark areas for effective tracking and mosaicing.
- ✓ **True Colour Images**  
Automated machine-learning delivers colour correction that brings out true target colours.
- ✓ **Deep Vision Optics**  
Purpose-built optics for optimized data underwater - high-quality hardware is the foundation for delivering high-quality results.
- ✓ **Customer Support**  
Our team partners with you to find the best solution for your project.



OBSERVER IMAGING

# Find the Right Product for your Project

Each Observer produces high-resolution stills images or videos but there are a few options to best suit your project/deployment.

## OBSERVER SURVEY SERIES



A survey-grade imaging system for wide area mapping and localized inspection. HDR imaging, long-range lighting, and industry leading optics.

## OBSERVER VISION SERIES



Compact ROV piloting camera, with ultra wide field of view, designed for low latency vehicle piloting and machine vision.



# OBSERVER SURVEY SERIES



The Observer Survey Series S6000 imaging systems are engineered to deliver high-quality optical data across a range of autonomous and high-speed subsea platforms, from compact vehicles to long-range AUV deployments. Designed for seamless integration, both the Micro and Pro configurations pair high-performance sensors with adaptable Nova LED panels to ensure consistent illumination and sharp imagery across varying vehicle sizes and mission profiles. With resolutions up to 12MP, the systems provide crisp, detailed imagery while maintaining the flexibility required to meet diverse project objectives.

Built to support both close-range inspections and wide-area optical surveys, the Survey Series enables imaging at ranges up to 10 meters while maintaining stability at speeds of up to 6 knots. Actively cooled sensors and high-output lighting allow ultra-short exposure times for blur-free results, even during high-speed operations. Sensor configurations are optimized to balance image quality with efficient data storage, making the systems well suited for extended missions. The S6000 can operate as a standalone imaging solution or integrate seamlessly with laser scanners to automatically sequence image capture between laser profiles, supporting synchronized optical and laser-based survey workflows.



## Benefits and Features

- ✓ **Equipped with Deep Vision Optics**  
real-time enhancement for image sharpness and depth of field, improving feature and target detection while optimizing machine learning performance.
- ✓ **High-quality Inspection Results at Altitude and Speed**  
A 4K low-latency video stream supports real-time piloting while high-resolution still images are captured at the same time, ensuring no compromise between control and data quality.
- ✓ **Seamless Multi-sensor Integration**  
Combine optical imaging with laser scanning to produce complete, co-registered datasets for confident measurement, analysis, and decision-making.
- ✓ **Optimized for Wide-area Mapping**  
Consistent image-to-image uniformity supports reliable image alignment and seamless mosaic generation across extended survey lines, enabling accurate orthomosaics, photogrammetry, and machine-learning analysis.



**OBSERVER**  
**SURVEY** SERIES

FEATURE	S6000 MICRO	S6000 PRO
<b>Sensors</b>	4096 x 3008 (12MP) Colour   12-Bit   Global Shutter	2464 x 2160 (5.5MP) Colour   16-Bit   Global Shutter
<b>Optics</b>	Deep Vision Optics 12mm, f2.0 FOV: 56° H x 42° V	Deep Vision Optics 12mm, f2.0 FOV: 64° H x 56° V
<b>Operating Range</b>	1 to 7m	1 to 10m
<b>Depth Rating</b>	6000m	
<b>Frame Rates</b>	Up to 4 FPS	
<b>Dimensions (L x W)</b>	Approx: 251 x 130 (mm)	Approx: 362 x 130 (mm)
<b>LEDs</b>	Up to 750,000 lumens with Nova LEDs	
<b>Electrical</b>	Input: 21-36 VDC Camera ~24W 70-100W total with Nova LEDs	Input: 21-48 VDC Camera ~26W 80-110W total with Nova LEDs
<b>Onboard Processing</b>	Image undistortion, colour & lighting correction	
<b>Data Output</b>	Processed Images: 8-bit JPEG Raw Images: 12-bit TIFF	
<b>Onboard Storage</b>	2 TB	
<b>Calibration</b>	Factory calibrated, no in-field calibration required	
<b>Software Integrations</b>	Voyis ViewLS, EIVA NaviSuite, 3DZephyr, Voyis C++ API	
<b>Connection Interface</b>	CRE P16 single cable to vehicle/control Control & Data via Ethernet (100mbps or 1Gbps)	
<b>Time Synchronization</b>	PPS + ZDA, PTP, NTP	
<b>Real Time Image Metadata (EXIF)</b>	Precision Timestamp, Navigation (GPS, Depth, Altitude)	

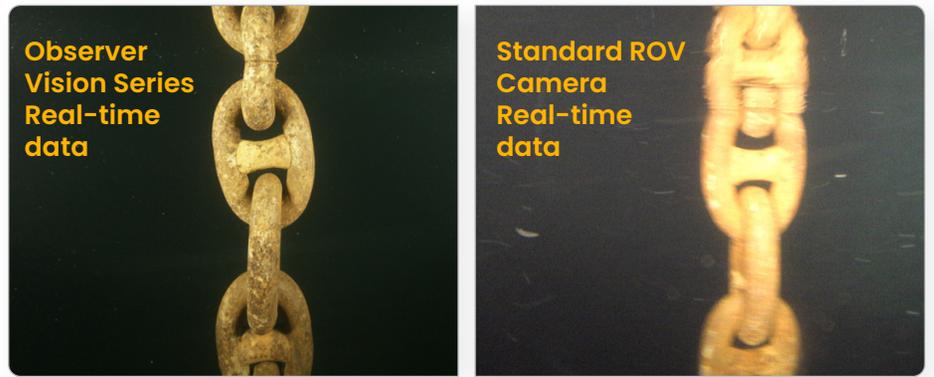


# OBSERVER VISION SERIES



The Observer Vision Series is the first smart ROV piloting camera built for ultra-low latency control and enhanced situational awareness, with powerful edge computing for real-time image enhancement and onboard machine learning and AI functions. A high-sensitivity 4K sensor delivers sharp video with an ultra-wide field of view, giving pilots clear visibility for confident navigation in complex environments while simultaneously capturing crisp still images for machine vision applications.

Equipped with integrated ultra-high power Nova Mini lights, the camera provides bright, balanced illumination for long-range and high-speed operations. It ensures a smooth, responsive video stream for piloting and feature detection while capturing still images and IMU data for optional 3D reconstruction. Optimized for constrained bandwidth, its Software API and DDS framework enable seamless integration into ROV systems.

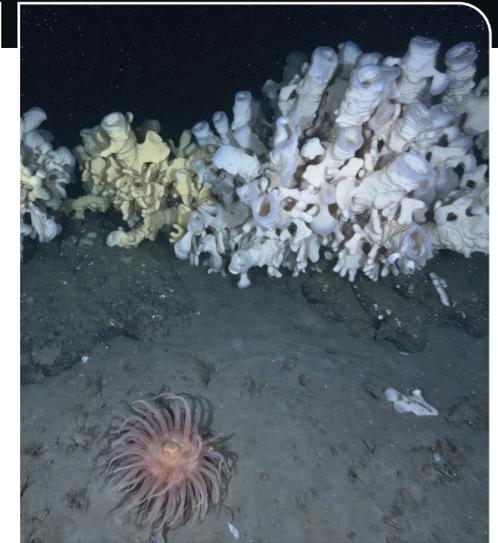


- ✓ **Real-Time, Low-Latency Piloting Video**  
Low-latency video delivery provides operators with immediate visual feedback, enabling confident vehicle control and precise maneuvering in complex or low-visibility underwater environments.
- ✓ **Simultaneous 4K Video and Still Imaging**  
A 4K low-latency video stream supports real-time piloting while high-resolution still images are captured at the same time, ensuring no compromise between control and data quality.
- ✓ **Intelligent Edge Processing for Enhanced Visual Output**  
Onboard edge computing enhances live video in real time while simultaneously capturing raw still images, preserving data fidelity without impacting performance. This architecture also enables embedded machine vision functions such as ArUco marker detection and tracking.
- ✓ **Ultra-Wide Field of View for Situational Awareness**  
A high-sensitivity 4K sensor delivers sharp video across an ultra-wide field of view, providing pilots with clear visibility for confident navigation in complex underwater environments.

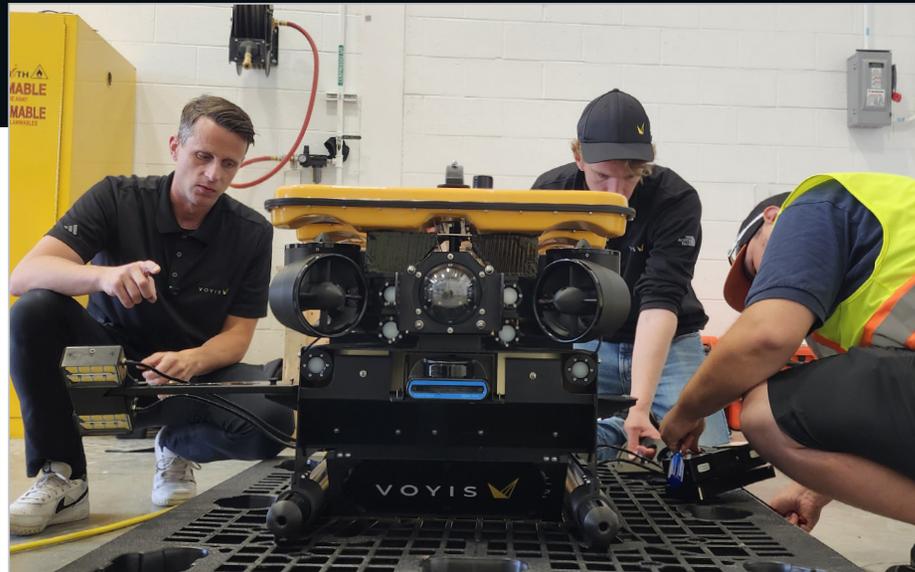


**OBSERVER**  
**VISION** SERIES

FEATURE	V300
<b>Sensors</b>	2816 x 2816 (8.1 MP) Colour   12-Bit   Global Shutter
<b>Optics</b>	Super Wide 130° x 130° FOV Fixed Focus, Low-Light Lens
<b>Video</b>	4K 1:1 27 FPS   16:9 30 FPS
<b>Operating Range</b>	Up to 5m
<b>Depth Rating</b>	300m
<b>Dimensions (L x W x H)</b>	Approximate: 200 x 115 x 95 (mm)
<b>LEDs</b>	Up to 125,000 lumens with 2x Mini Novas Control: ON, Strobe, Dimming, Off
<b>Electrical</b>	Input: 24 VDC (21-28V) Idle: 16W   Operating 22W to 100W
<b>Onboard Processing</b>	Image undistortion, colour & lighting correction
<b>Data Output</b>	Processed Images: 8-Bit JPEG Raw Images: 12-Bit TIFF Video: H.264, MP4 IMU Data: CSV
<b>Onboard Storage</b>	2 TB
<b>Calibration</b>	Factory calibrated, no in-field calibration required
<b>Software Integrations</b>	Voyis Discovery Windows GUI, C++ SDK 3DF Zephyr
<b>Interface</b>	Control & Data via Ethernet (100mbps or 1Gbps)
<b>Time Synchronization</b>	PPS, NTP
<b>Real Time Image Metadata (EXIF)</b>	Precision Timestamp, Navigation (GPS, Depth, Altitude)



# Accessories and Support



## Scale Bars

Rigid bar with calibrated scale markers, extends measurement functionality to non-stereo systems

Offers measurement capability to users operating the Observer Imaging Systems or other mono camera configurations, increasing the utility of their existing systems. Enables customers to verify the accuracy of the reconstructed scale in 3D models or imagery, improving confidence and validation in high-stakes operations.

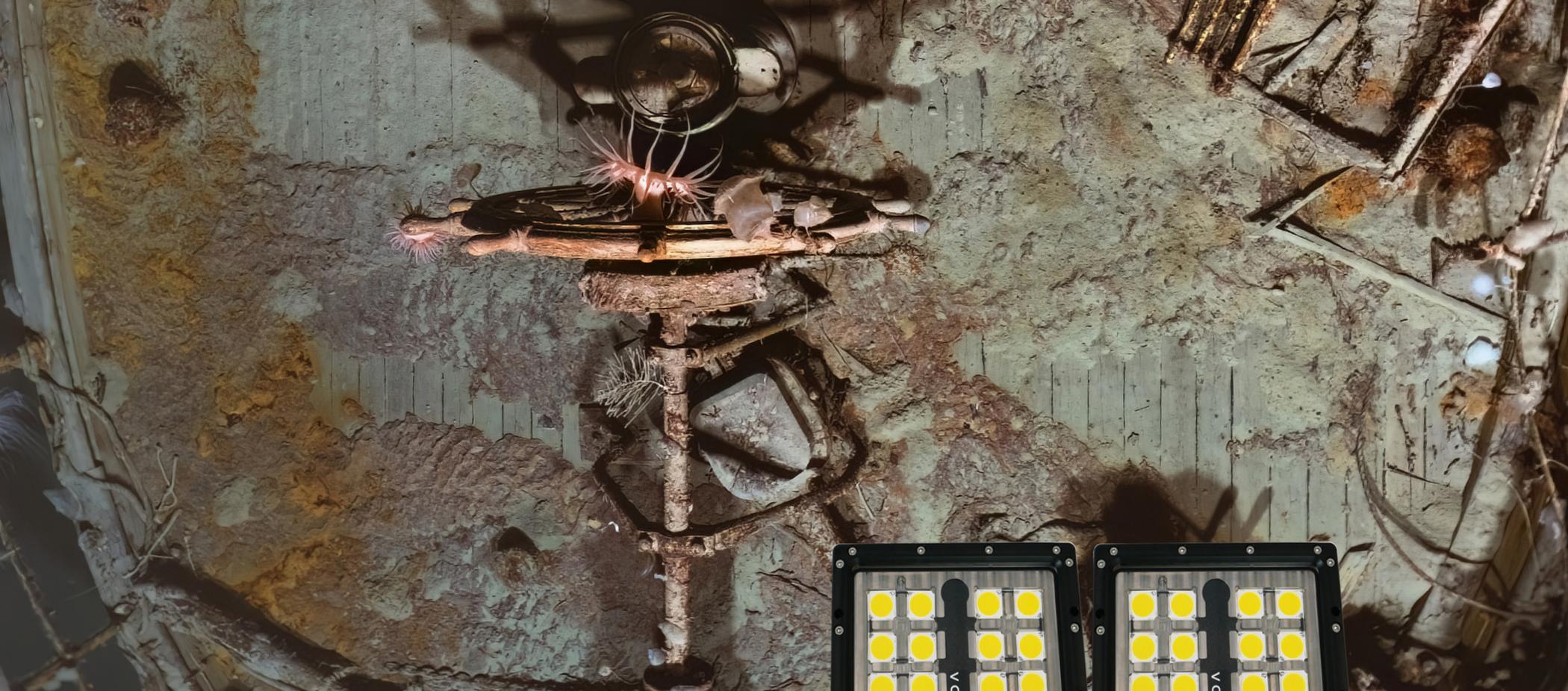
## Voyis Support

Our team provides targeted expertise to ensure reliable results, efficient mobilization, and high-quality data

The Voyis Support Program is designed to help users execute successful underwater visual surveys and photogrammetry projects, from planning to final 3D deliverables. Whether you're an asset owner looking to outsource full survey services, or a survey company deploying Voyis hardware independently, and seeking our expertise to ensure success.

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





**VOYIS** 

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