ITEM OPPORTUNITY SYNOPSIS

Name of the item to be scouted: Discovery 3D Stereo Camera

State item to be used in: Michigan

Describe the Item:

Please describe the item application/the end use of item. The Oceanic and Atmospheric Research (OAR) Great Lakes Environmental Research Laboratory (GLERL) needs to procure one Voyis Imaging Inc. Discovery 3D Stereo Camera. The camera is to be installed and used on a Saab Falcon ROV.

Supplier Information:

Type of Supplier being sought (select from list below)

Manufacturer

Contract Manufacturer

Distributor

Other (please specify)

Reason for scouting submission (select from list below)

2nd Supplier

Price

Re-Shore

Past supplier no longer available

New Product Startup

Other (please specify) Buy American Waiver

Summary of Technical Specifications and Performance Requirements:

Describe the manufacturing processes (elaborate to provide as much detail as possible). The Discovery 3D stereo camera consists of two accurately co-located digital stills cameras within a single housing capturing up to 30 Hz and synchronized with a high-powered LED strobe array. The camera has the capability to produce real-time depth maps and actionable datasets allowing 3D models of benthic habitat using commercially available photogrammetry software. Additional information can be found on the attached specs sheet.

Provide dimensions / size / tolerances / performance specifications of the item. Product Features: • Real-time image processing with active light levelling in the live viedostream • Designed for 3D modeling in tandem with general video inspection (GVI) • Low latency 4k videostream derived from stills imaging and ultra wide field of vision (FOV) and lossless sensor zoom (LSZ) • Simplified integration with tightly coupled ultra-bright Nova Mini LEDs, DDS architecture, and ROS support simply integrations with ROVs. Product Specifications: Camera 8.1MP (2816x2816), color sensor, 20 FPS (1:1), 30 FPS (16:9) Lens 130x130 degree – fixed focus, digital zoom Latency 4k: <250ms (glass-to-glass) Operating Range 0.1m to 0.5m Lighting 125,000 lumens with 2x Nova Mini lights control: on, strobe (3.5ms max), off Depth Range 300m Calibration Camera (undistortion), IMU-Camera Offset Onboard Processing Image undistortion, color & lighting correction Data Outputs Raw images (12-bit .TIFF), processed images (8-bit .JPG), video (H.264), IMU data 3rd Party Integrations 3D software: EIVA VSLAM (real-time), Reality Capture, Pix4D Power Input: 24VDC (21-28V), Camera: 35W @ 30Hz, LEDS (4x): 43W @ 20 FPS, 2ms Strobe Interface Gbit or 10/100 ethernet, Bandwidth control – 5mbps minimum, Window & Linux GUI, DDS support, software control API Time Synchronization PPS, PTP, NTP Data Storage 1TB SSD

List required materials needed to make the product, including materials of product components, if applicable. The required materials are unknown outside of the information provided on the attached specs sheet.

Are there applicable certification requirements?

Yes

No

Please Explain:

Are there any applicable regulations that apply to the production of this item?

Yes

No

Please Explain:

Are there any other standards, requirements?

Yes

No

Please Explain:

Additional Comments:

Additional technical comments: The stereo camera must be fully compatible (form, fit, and function) to be mounted onto the Saab Falcon ROV without need for modification. Similar camera systems were sent to the program office's technical subject matter experts for evaluation including Imaging Source's 3D Stereo Camera System, and Nerian's Scarlet 3D Depth Camera. I am still waiting for a response.

Volume and Pricing:

Estimated Potential Business Volume (i.e. #Units per day, month, year): One-time purchase of one (1) Discover 3D Stereo Camera.

Estimated Target Price / Unit Cost Information: Estimated aggregate of $75,000.00.

Delivery Requirements:

When is it needed by? (Immediate, 30 days, 6 months, etc) Deliver by January 30, 2024.

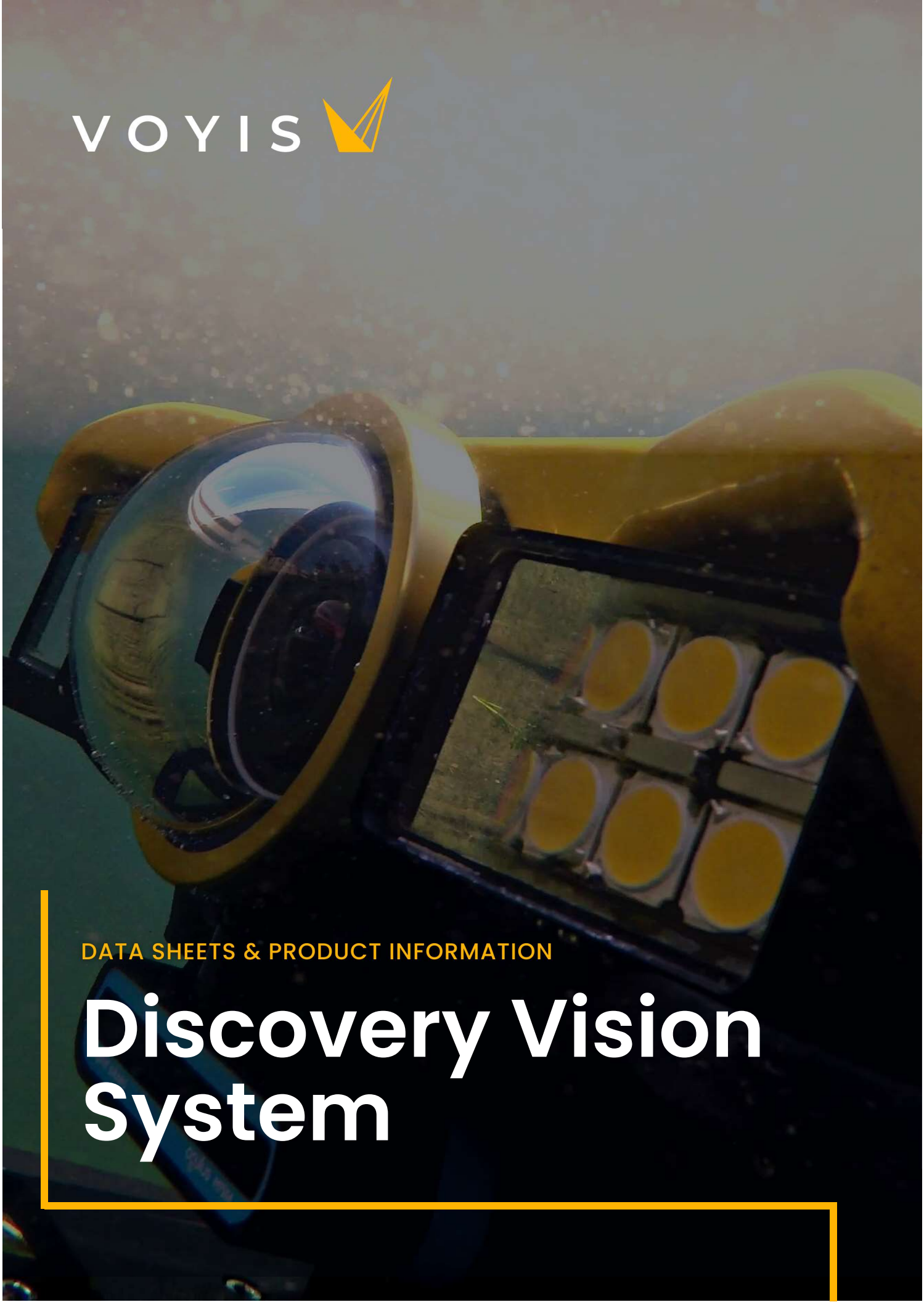
Describe packaging requirements (i.e., individually/ group packaging). Additional packaging requirements are not specified.

Where will this item be shipped? Ann Arbor, MI

Additional Comments:

Is there other information you would like to include? This is a Simplified Acquisition, which has a shorter lead time to completion than an action over $250,000.00. It is expected that this requirement will be awarded within the next 60 days, and any timely scouting (requested completed within 15 days from submission) would be appreciated to align with Simplified Acquisition requirements for posting and the Buy American Act Waiver process.

VOYIS



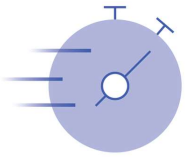
DATA SHEETS & PRODUCT INFORMATION

Discovery Vision System

4K Piloting Videostream with 3D Inspection Capability

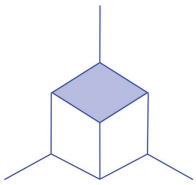
Voyis' Discovery Cameras, with tightly integrated Nova Mini Lights, capture low latency 4K video for vehicle piloting while simultaneously recording crisp, high-resolution stills images & IMU data for 3D modelling. For smart ROV piloting and vertical inspection applications.

Benefits & Features



Real-Time Image Processing

Onboard image enhancement & feature detection to deliver real-time actionable data. Active light levelling in the live videostream

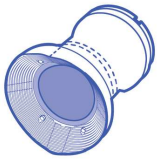


Designed for 3D Modelling

Crisp stills images & integrated navigation data for effective 3D modelling in tandem with general video inspection (GVI)

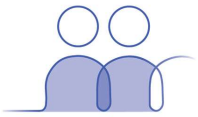
Smart ROV Piloting

Low latency 4K videostream derived from crisp stills images for effective piloting. Ultra wide FOV and lossless sensor zoom (LSZ)



Simplified Integration

Tightly coupled ultra-bright Nova Mini LEDs, DDS architecture, and ROS support drastically simplify ROV integrations with a complete solution



Customer Support

Our team partners with you to optimize your vehicle integration and deliver the best possible data

Find the Right Product For Your Project

Both Discovery cameras capture high resolution stills images and 4K videostream.
We can recommend the best option to suit your project and application.

Discovery & Nova Mini

Ultra compact ROV piloting camera designed for both low latency vehicle piloting and 3D inspections.

View All Details

Discovery Stereo & Nova Mini

Compact stereo camera for real-time 3D modelling in tandum with video and stills images. Generate 3D models for general survey and vertical inspections.

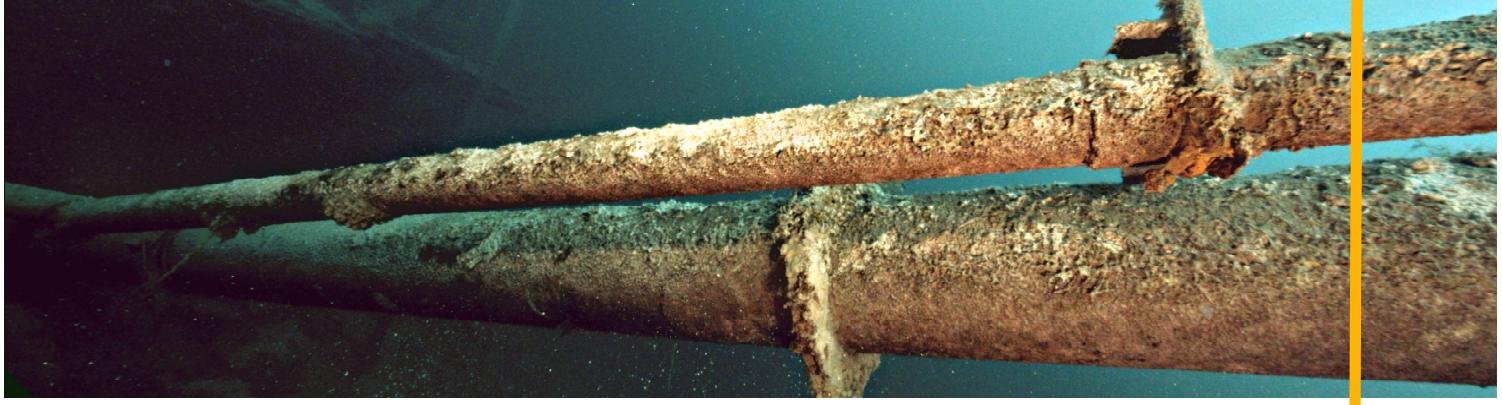
View All Details

ROV PILOTING CAMERA

Discovery

The first smart ROV piloting camera for low latency vehicle piloting and 3D inspection with powerful edge-computing. A high-sensitivity 4K resolution sensor provides detailed video, while recording stills images that can be processed into 3D models with the onboard IMU data. Delivers an ultra-wide field of view for maximum situational awareness.

Designed with integrated ultra-high power Nova Mini lights, it captures crisp images at long range and high speed - delivering a sharp videostream for vehicle piloting, feature detection, and 3D modelling. The camera can operate with constrained data bandwidth, and the Software API and DDS framework simplifies integration.



At A Glance

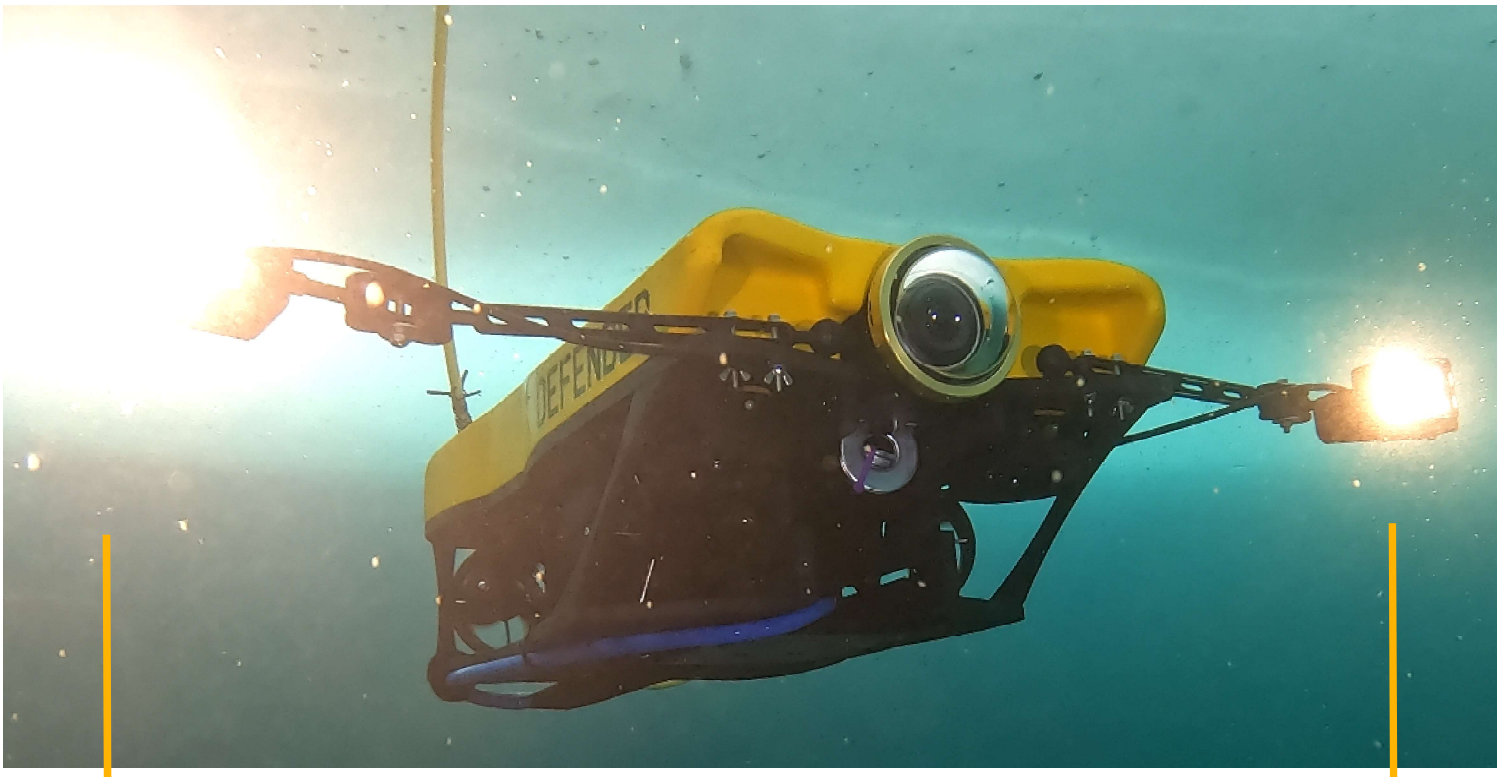
An overview of the main benefits to using the Discovery for your project.

- Crisp Stills Images Ready for 3D modelling
- Integration with 3D Software - EIVA VSLAM & Reality Capture
- 4K Low Latency Video Stream with Real-time Image Correction
- Ultra-wide Field of View for Complete Situational Awareness

Specifications

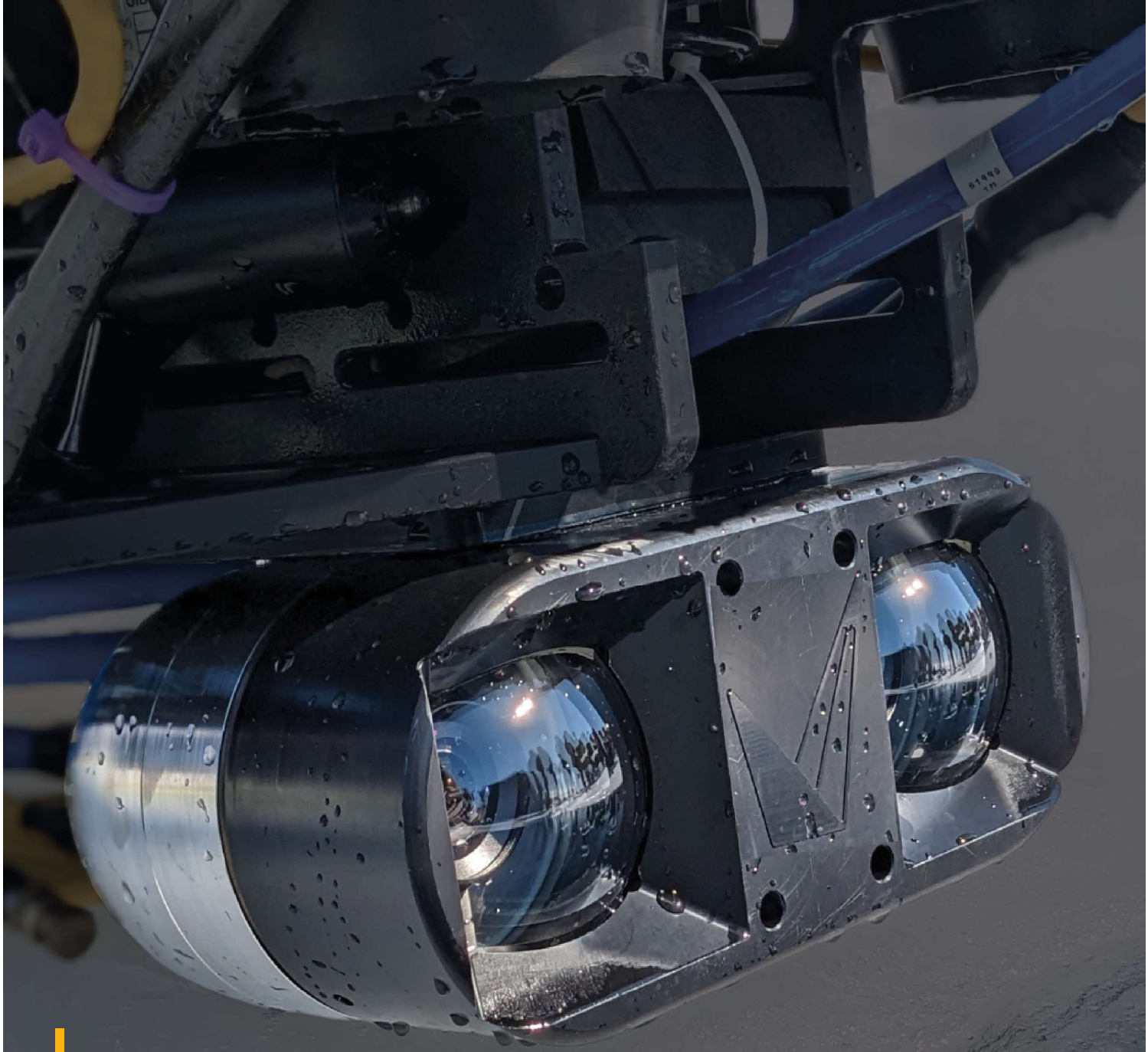
Feature	Discovery
Camera	8.1MP (2816x2816) Colour sensor | 20 FPS (1:1), 30 FPS (16:9)
Lens	130°x130° - Fixed Focus, Digital Zoom
Latency	4K: < 250ms (glass-to-glass)
Operating Range	0.1m to 5.0m
Lighting	125,000 lumens with 2x Nova Mini Lights Control: On, Strobe (3.5ms max), Off
Depth Rating	300m
Calibration	Camera (undistortion), IMU-Camera Offset
Onboard Processing	Image undistortion, colour & lighting correction
Data Outputs	Raw Images (12-bit .TIFF), Processed Images (8-bit .JPG), Video (H.264), IMU Data
3rd Party Integrations	3D Software: EIVA VSLAM (Real-time), Reality Capture, Pix4D

Feature	Discovery
Power	Input: 24 VDC (21-28V) | Camera: 35W @ 30Hz LEDS (4x): 43W @ 20 FPS, 2ms Strobe
Interface	Gbit or 10/100 ethernet Bandwidth Control - 5mbps minimum Windows & Linux GUI DDS Support, Software Control API
Time Synchronization	PPS, PTP, NTP
Data Storage	1 TB SSD



Voyis Discovery Camera

Standard Vehicle Camera



STEREO CAMERA

Discovery Stereo

A compact stereo camera solution for real-time 3D modelling in general survey and vertical inspection applications.

Designed with synchronized high power LED strobes to deliver crisp high resolution stereo images for accurate 3D pointcloud generation. The system captures both high-dynamic range raw data for post-processing, and streams a 4K video stream and 3D depth maps for vehicle piloting and quality control. Software API and DDS standardization for simplified vehicle integrations.

At A Glance

An overview of the main benefits to using the Discovery Stereo for your project.

- High Resolution Crisp Images for Robust 3D Modelling
- Integration with 3D Software - EIVA VSLAM & Reality Capture
- 4K Low Latency Video Stream
- Real-time 3D Pointclouds and Image Enhancement

Specifications

Feature	Discovery Stereo
Camera	8.1MP (2816x2816) Colour sensor 20 FPS (1:1), 30 FPS (16:9)
Lens	5.0mm: 75°x75° - Fixed Focus, Digital Zoom
Latency	4K: < 250ms (glass-to-glass)
3D Data	Controlled Target - 1 meter range 1080x1080 Depth Map (real-time) ○ X-Y-Z Point Resolution: 1.5mm ○ Point to Point Accuracy: 0.7% ○ Error Over 1m: 5mm ○ Depth Accuracy, Plane-to-plane 2% | ± 0.01° | ± 0.5mm 3σ plane-fit
Operating Range	0.5m to 5.0m
Lighting	250,000 lumens with 4x Nova Mini Lights Control: On, Strobe (3.5ms max), Off
Depth Rating	4000m
Calibration	Camera (undistortion), IMU-Camera Offset, Stereo-Pair

Feature	Discovery Stereo
Onboard Processing	Image undistortion, colour & lighting correction Point Cloud: Real-time (1024x1024), Topside (2816x2816)
Data Outputs	Raw Images (12-bit .TIFF), Processed Images (8-bit .JPG), Video (H.264), IMU Data, Depth Map (.TIFF), Point Cloud (.E57)
3rd Party Integrations	3D Software: EIVA VSLAM (Real-time), Reality Capture, Pix4D
Power	Input: 24 VDC (21-28V) | Camera: 42W @ 30Hz LEDS (4x): 85W @ 20 FPS, 2ms Strobe
Interface	Gbit or 10/100 ethernet Bandwidth Control - 5mbps minimum Windows & Linux GUI DDS Support, Software Control API
Time Synchronization	PPS, PTP, NTP
Data Storage	2 TB SSD

www.voyis.com