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UNMANNED VEHICLES  
DIRECTORY

2018  
BUYERS'  
GUIDE



# Powerful

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VideoRay ROVs are powerful and easy to configure, deploy, operate, and maintain due to our simple and intuitive design. This is the result of listening to our customers and building their experiences into our products.

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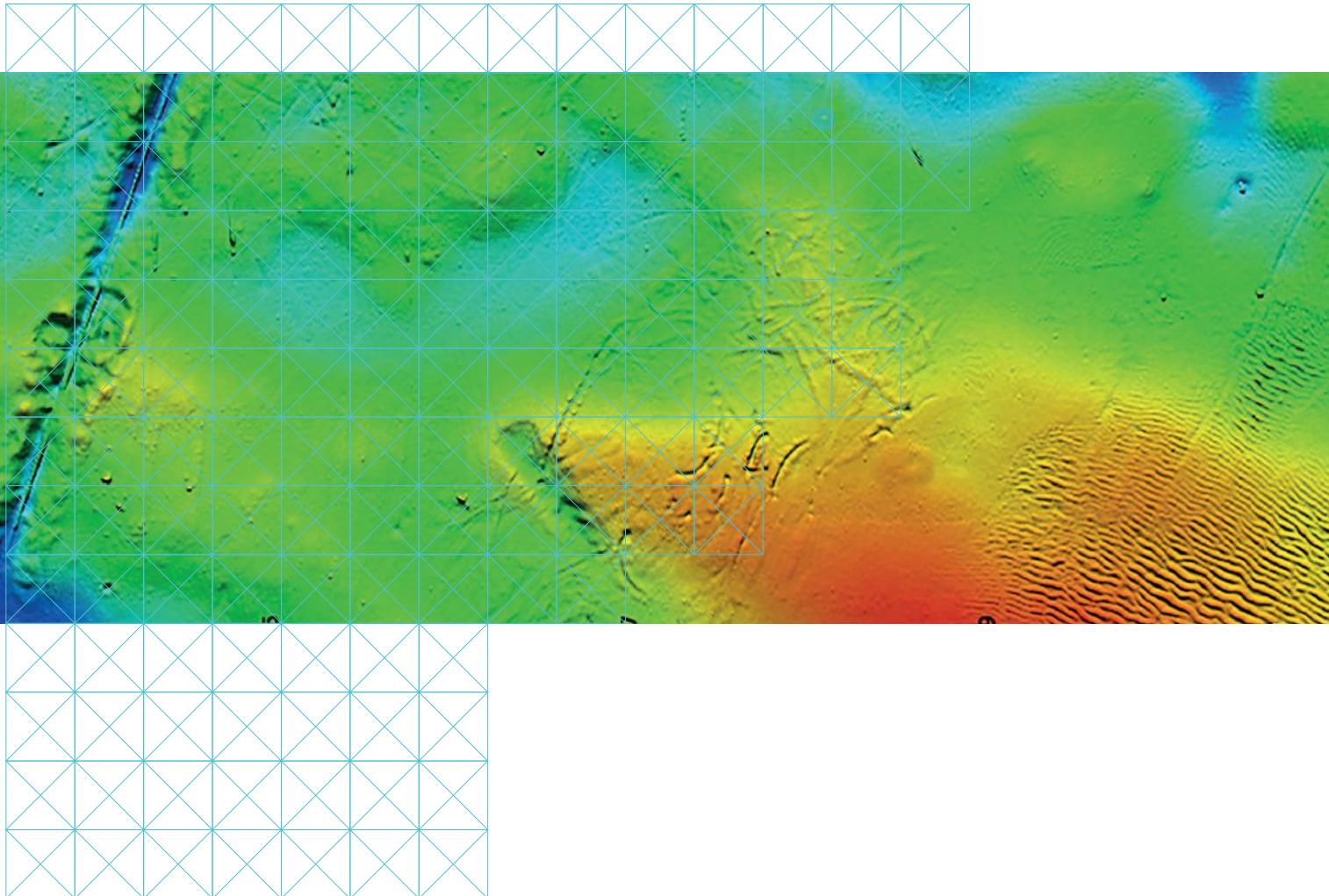
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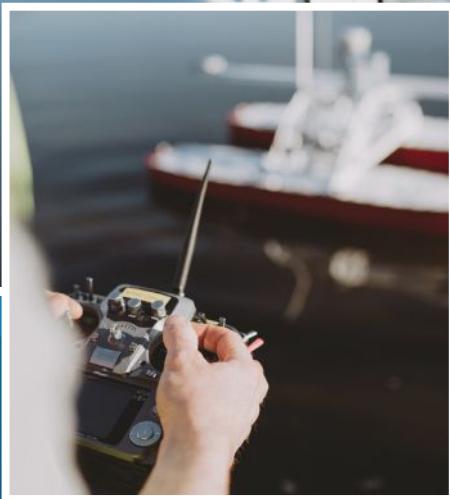
AVAILABLE FROM AUGUST 2018

Image: SAT EM 2040P, captured at Noumea, New Caledonia.  
Courtesy of SHOM, France

[kongsberg.com](http://kongsberg.com)

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# Serving the world of Hydrography & Oceanography



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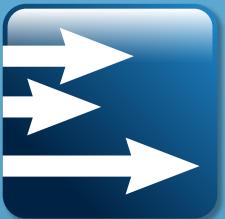
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Multiparameter



Current  
Meters



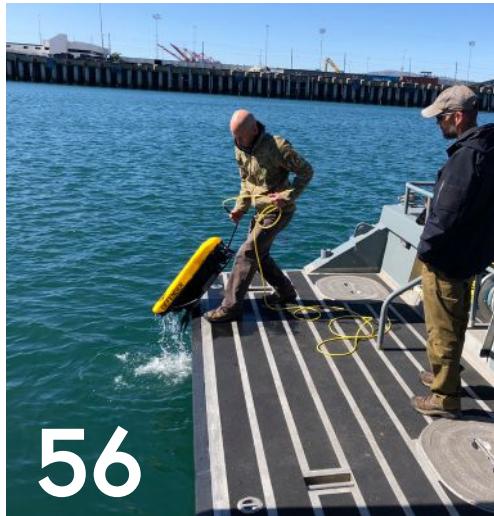
Ocean  
Engineering



Echo Sounders  
& Bathymetry



Sound  
Velocity

**42****56**

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# Teledyne SeaBotix MiniROVs



vLBV300



vLBC

LBC



LBV150-4/LBV200-4



## Define Your Application

- Aquaculture
- Critical infrastructure
- Hydro, dams, dredging,
- Port Security
- Hull & Infrastructure
- EOD/MCM
- Police & Rescue
- Search & Recovery
- Survey & Salvage
- Diver support
- WROV support
- Pipeline Inspection
- Platforms & FPSO
- Deep water
- Nuclear



Defines portability



Defines versatility



Defines capability



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**GREG LEATHERMAN**

*Editor in Chief, Ocean News & Technology*

## Introducing Your Buyers' Guide

Across the four decades that ON&T has featured unmanned vehicles, we've witnessed an evolution of capabilities that rivals anything in the high-tech world. The unmanned marine vehicles market has expanded from a cadre of specialized ROVs to include an ever-growing list of unmanned vehicle options: from heavy-duty work-class vehicles to cost-conscious options for scientific research. And as vehicle makes, models, and options have expanded, so has our coverage of this innovative industry.

### An Invitation

I invite all of you to subscribe to and share ON&T magazine, if you don't already. Why? Because our publication is really about you. We get how important unmanned vehicles are to the ocean industries, which is why, in 2018, the team at ON&T has reinvigorated its coverage of unmanned vehicles. In fact, our upcoming (August 2018) issue focuses on both up-to-date and historical coverage of unmanned vehicles.

### Using this Updated Guide

Our reformatted ON&T's *Unmanned Vehicles Buyers' Guide* aims to make our publication more informative and easier to use. When it comes to shopping for unmanned vehicles, you won't find another guide as intuitive as the one in front of you. For example, by including more icons and links, we've reduced clutter, but added more information. Here's what you'll find inside:

Each listing is classified according to the guidelines of the Remotely Operated Vehicle Committee of the Marine Technology Society (MTS). The eight classifications we chose to use include:

1. Observation Class Remotely Operated Vehicles (ROVs)
2. Observation Class ROVs with Payload Option
3. Work Class Vehicles
4. Towed & Bottom Crawling Vehicles
5. Prototype or Development Vehicles
6. Autonomous Underwater Vehicles (AUVs)
7. Unmanned surface vehicles (USVs)
8. Gliders

Within these sections, you'll find a comprehensive catalog of the unmanned vehicles available for operators in the subsea industry. For each vehicle, we've included the industry segment the vehicle fits within (using icons explained on the title page of each section), as well as abbreviations indicating the tasks each vehicle can accomplish and the tools it carries (see the right-hand side of each page for definitions).

We think these changes make our streamlined guide easier to browse, but if you want more detailed specifications for any vehicle, just click on the PDF symbol on the bottom right of each listing. You'll get technical, fast.

The 2018 ON&T *Buyers' Guide* is not intended to endorse particular vehicles or providers, but rather to publish useful information for potential buyers. Like the providers of these vehicles, we recognize that one size does not fit all. Some of you will browse this guide cover to cover, other readers will compare products using the technical data in each linked PDF. Still others will go straight to the contacts listed for each vehicle. Whichever approach you choose, be confident that the information contained within this guide comes from the providers themselves, and that it is backed by our four decades of experience building and distributing this type of publication.



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# CARIS Onboard 2.0

## Bringing efficiency to survey

Survey operations can be complex and costly, demanding many resources. Why not leverage the near real-time processing power of CARIS Onboard to safely increase bathymetric production? Reduce overall cost and allow skilled workers to focus on the tough stuff. What are you waiting for? Start the process today.



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OCEAN RENEWABLES



SPEC SHEET

## OBSERVATION ROV

### ALL OCEANS

WWW.ALLOCEANS.CO.UK | Brian Abel | brian@alloceans.co.uk



#### AC-ROV 100

The AC-ROV is the most capable and portable underwater inspection system on the market. A complete system comes in one rugged waterproof hand carry case with an all up weight of just 18kg. It defines the "HAND CARRY" single operated class in underwater inspection systems. (Customizable)



OBS | VC&L | A&T



#### AC-ROV 3000

The AC-ROV 3000 is the first ever deep ocean micro ROV. To maximise its capability it comes fully packaged with a Teher Management System (TMS) allowing it to operate as a 3000m depth rated "Fly-Out" from many types and size of host submersible.



OBS | VC&L

### AQUABOTIX

WWW.AQUABOTIX.COM

Sales | sales@aquabotix.com



#### ENDURA 100

Endura 100 is one person deployable with a 100 m depth rating. It has 6 degree freedom of motion and is controlled via an intuitive PC or iPad application. Options include sonar and environmental sensors.



### AQUABOTIX

WWW.AQUABOTIX.COM

Sales | sales@aquabotix.com



#### ENDURA 300

Endura 300 is one person deployable with a 300 m depth rating. It has 6 degree freedom of motion and is controlled with an intuitive PC or iPad application. Options include sonar and environmental sensors.



### BLUEROBOTICS

WWW.BLUEROBOTICS.COM

Sales | sales@bluerobotics.com



#### BLUEROV2

Ocean research, exploration, and adventure are all made easily accessible by our flagship product, the BlueROV2. It provides the capabilities of a high-end commercial miniROV at the price of the most basic commercial ROVs, making the BlueROV2 the world's most affordable inspection and research-class subsea vehicle.



### CRYSTAL CAM IMAGING INC.

WWW.CRYSTAL-CAM.COM

Ibrahim Amerih | info@crystal-cam.com



#### DELTA EXTREME

The Delta Extreme is an intuitive remotely operated robotic system designed for remote visual inspection inside confined spaces and hazardous environments. Equipped with specially designed track belts providing optimal traction in a wide variety of environments, its shape-changing ability allows it to adapt to different terrain on-the-fly, both on land or underwater. (Customizable)

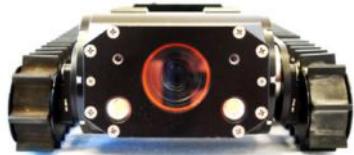


OBS | VC&L

## CRYSTAL CAM IMAGING INC.

WWW.CRYSTAL-CAM.COM

Ibrahim Amerih | info@crystal-cam.com



### DELTA MICRO

The Delta Micro is a miniature remote visual inspection system, for operation in confined spaces as small as 10"/254mm. Capable of navigating through tight spaces, over objects and around obstacles due to its shape changing capabilities, the system is light weight, portable and easy to use. The entire system can be carried and operated by a single user. (Customizable)



OBS | VC&L

## DEEP OCEAN ENGINEERING, INC.

WWW.DEEPOCEAN.COM

Mike Takeda | sales@deeppocean.com



### PHANTOM® L6

The Phantom® L6 is the newest in the next generation of proven, reliable underwater robotics pioneered by Deep Ocean Engineering in its manufacture of remotely operated vehicles (ROVs), built in the USA for nearly four decades. The Phantom® L6 is designed with four vectored horizontal and two vertical Tecnadyne® thrusters, which provide significant control and propulsion in current. The dual vertical thrusters provide aggressive lift capability.



### PHANTOM® T5 DEFENDER

The Phantom® T5 Defender is one of the next generation of proven, reliable underwater robotics pioneered by Deep Ocean Engineering in its manufacture of remotely operated vehicles (ROV), built in the USA for nearly four decades.



OBS | VC&L | A&T | VSK

## TASKS

### OBS

OBSERVATION

### SUR

SURVEY

### INS

INSPECTION

### CON

CONSTRUCTION

### INT

INTERVENTION

### B&T

BURIAL &  
TRENCHING

## TOOLS

### VC&L

VIDEO CAMERA  
& LIGHTING

### NDT

NON-  
DESTRUCTIVE  
TESTING

### A&T

ACOUSTIC  
& TRACKING

### CD

CLEANING  
DEVICES

### VSK

VEHICLE STATION  
KEEPING

### WT

WORK TOOLS

## DEEP TREKKER INC.

WWW.DEETREKKER.COM | Sales | sales@deeptrekker.com



### DTG2

The DTG2 is a commercial grade ROV, designed with the Deep Trekker patented pitching system for unmatched maneuverability. An internal 4K camera, with a 330-degree field of view allows you to inspect below, above, behind or in front of you, and see the live feed directly to your hand held controller. (Customizable)



OBS | VC&L | A&T | VSK



### DT POD

The DT Pod is designed for drop camera inspections and permanent installations, providing high-resolution video from the surface from underwater. Pan and Tilt functionalities come standard with the DT Pod. Look below, above or in any direction all from the handheld controller. (Customizable)



OBS | VC&L | A&T | VSK



### DTX2

The DTX2 ROV is the culmination of our customers' desires to have the same capability, portability, and ease of use as our flagship product, the DTG2 – but in a package rated for deeper waters and offshore use. Depth rated to 305 m (1000 ft), the DTX2 boasts 26kg (58lbs) of thrust to perform in tough ocean environments. (Customizable)



OBS | VC&L | A&T | VSK

## OBSERVATION ROV

### EPRONS GROUP

WWW.EPRONS.EU | Sales | info@eprons.eu



#### RB 300

Working depth till 200 meters.  
Tether length 220 meters (up to 600 m).  
Color camera 700 TVL. 5 Thrusters:  
2 Horizontal; 2 Vertical; 1 Lateral.  
Additional equipment possibility: 2  
jaw manipulator with open/close  
and rotation; Navigation sonar; USBL  
Positioning system; Rear camera.  
NEW! Two channel video output at the  
same time.



#### RB 600

Working depth till 300 meters. Tether  
length 300 meters (up to 1200 m).  
Front: Color Full HD and B/W cameras.  
Rear: additional color/BW camera 700  
TVL. 7 Thrusters: 4 Horizontal; 2 Vertical;  
1 Lateral.



#### RB MIRAGE

Working depth till 400 meters.  
Tether length 400 meters (up to 1200 m).  
Front: Color Full HD and B/W cameras.  
Rear: additional color/BW camera 700  
TVL. 12 Thrusters: 6 Horizontal; 4 Vertical;  
2 Lateral.



### FAST ENGINEERING LTD

WWW.FASTANK.COM | Joanne | sales@fastank.com



#### FASTANK BUND

Secondary containment of chemicals and fuels or  
wash-down of ROV's  
(Customizable)



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## OBSERVATION ROV

### EPRONS GROUP

WWW.EPRONS.EU | Sales | info@eprons.eu



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Secondary containment of chemicals and fuels or  
wash-down of ROV's  
(Customizable)



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## OBSERVATION ROV

### OUTLAND TECHNOLOGY

WWW.OUTLANDTECH.COM | Jeffrey Mayfield | jeff@outlandtech.com



#### ROV 1000

Brushless DC, Magnetically Coupled Thrusters. Easy deployment and operation. All digital control of camera, lights, thrusters and grabber.



### SAAB SEAEDGE LTD

WWW.SEAEDGE.COM

James Douglas | rovs@seaeye.com



#### SABERTOOTH

The Seaeye Sabertooth is a merger of the Double Eagle SAROV (Saab Autonomous Remotely Operated Vehicles) and Saab Seaeye technologies, resulting in a hovering hybrid AUV/ROV with deep water capability, long excursion range and a six degrees of freedom control system.



### SEAROBOTICS CORPORATION

WWW.SEAROBOTICS.COM

Don Darling | ddarling@searobotics.com



#### INSPECTION CLASS ROV

This unique ROV can be run wirelessly in certain fluids, allowing for inspection of complex components in confined spaces.



OBS

### POWERDOCKS LLC

WWW.POWER-DOCKS.COM

Anthony Baro | abaro@power-docks.com



### BLUE ISLES(TM) BIOMEHD-IA

Water Quality Remote Monitoring  
(Customizable)

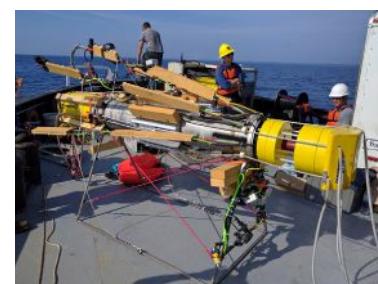


OBS | A&T

### SEAVIEW SYSTEMS, INC.

WWW.SEAVIEWSYSTEMS.COM

Matthew Cook | mcook@seaviewsystems.com



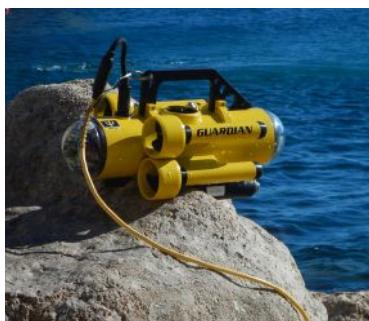
#### TITAN

Titan is a water-propelled, battery-powered ROV capable of providing full video and profiling sonar coverage of a tunnel perimeter for lengths up to 32,000ft (10km) or more. Cameras are mounted on eight umbrella-like booms distributed around tunnel perimeter.



## SUBSEA TECH

WWW.SUBSEA-TECH.COM | Gregory Maurin | gregory.maurin@subsea-tech.com



### GUARDIAN MINI-ROV

The Guardian Mini-ROV is a 150m depth rated ultra-portable underwater inspection robot equipped with 4 horizontal and 1 vertical thrusters. Fitted with 2 high resolution colour video cameras, one on pan&tilt, and LED lighting, it has been especially designed for long range missions (> 400m). Thanks to an ancillary plug, various accessories such as sonars, gauges and manipulator can easily be mounted on the Guardian. (Customizable)



OBS | VC&L | A&T



### ROBIS MINI-ROV

Robis is designed for ballast tank inspection without prior emptying. Vectored thrusters and small dimensions make ROBIS extremely maneuverable for inspection of highly confined areas. Two high resolution video cameras (front on Pan&Tilt), multiple sensors (US gauge, CP probe, laser tool) and an innovative acoustic positioning system allow detailed mapping of measurements and defects inside the ballast tank.



OBS | VC&L | A&T



### OBSERVER MINI-ROV

Observer is fitted with 2 high resolution colour video cameras, one on pan&tilt, and LED lighting. Embedded batteries allow 4h autonomy and operation in the most remote areas down to 150m depth. Thanks to an ancillary plug, various accessories such as sonars, gauges and manipulator can easily be mounted on the Observer.



OBS | VC&L | A&T



### SENTINEL MINI-ROV

Sentinel is the perfect compromise for those looking for an affordable underwater inspection solution offering only the essential features. Embedded batteries allow 4h autonomy and operation in the most remote areas down to 150m depth. The complete system with a 50m umbilical is packaged in a single transport bag (20 kg). (Customizable)



OBS | VC&L | A&T

## OCEAN ENGINEERING



### Li-Ion Batteries

- Highest capacity, reliability, safety
- Your power source for subsea Oil+Gas, AUV, ROV



### pCO<sub>2</sub> Analyzer

- Los Gatos OA-ICOS & LI-COR® NDIR
- Research vessels, Buoys, Labs, Sailing yachts (VOLVO OCEAN RACE)
- Ready for SOCAT database



### Added Value

- Customizing and personal support
- Longest lifetime
- Simplest operation on board
- Qualification e.g. API17F, UN T38.3



info@subctech.com  
www.gosubsea.com  
www.subctech.com

## TASKS

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SUR  
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CONSTRUCTION

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B&T  
BURIAL &  
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& TRACKING

CD  
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VSK  
VEHICLE STATION  
KEEPING

WT  
WORK TOOLS

**UNDERWATER ROBOTICS, LLC.**

WWW.GNOMROV.COM | info@gnom-rov.com

**GNOM BABY**

The ROV GNOM Baby is a micro sized vehicle that has all the main features inherited from larger underwater systems. The vehicle combines low cost with the full set of GNOM capabilities.

**GNOM STANDARD**

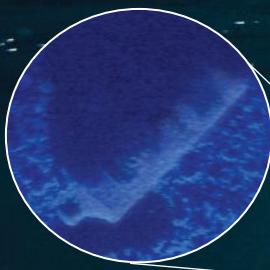
The GNOM Standard is a basic model of compact ROVs GNOM. It has small size, thin umbilical cable and very high manoeuvring capability which allows operating in hard-to-reach places including inside sunken wrecks.

**SUPERGNOM**

The most advanced model Super Gnom can be equipped with the manipulator (grabber), scan sector sonar (Micron Tritech or analogue) and USBL positioning system. More powerful thrusters & additional illumination are installed on this ROV. It can be modified for operation at depths up to 200m.



# GET IT RIGHT THE FIRST TIME



## ARIS Explorer 3000...

The sonar of choice when you need to be **RIGHT!**

**SOUND METRICS**

www.soundmetrics.com

757.382.7616

sales@soundmetrics.com



### VIDEORAY PRO 4 ULTRA BASE ROV

The Pro 4 Ultra BASE offers a lighter, more portable solution for operators who only need basic functionality. 40% lighter than the Standard, the Ultra requires only 48 V DC and features a 13" convertible touchscreen tablet and wireless Logitech controller. The Ultra BASE can accept most basic VideoRay accessories.



VIDEORAY LLC

WWW.VIDEORAY.COM | marketing@videoray.com



### VIDEORAY PRO 4 STANDARD BASE ROV

The VideoRay Pro 4 Standard BASE ROV system can quickly and effectively perform a variety of basic underwater tasks. A portable and cost-effective solution, the Pro 4 can be deployed in minutes and operated by one person if necessary. Available in Rugged, Plus, Rack Mount, and Autonomous Control configurations.



### TASKS

**OBS**  
OBSERVATION

**SUR**  
SURVEY

**INS**  
INSPECTION

**CON**  
CONSTRUCTION

**INT**  
INTERVENTION

**B&T**  
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TRENCHING

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& LIGHTING

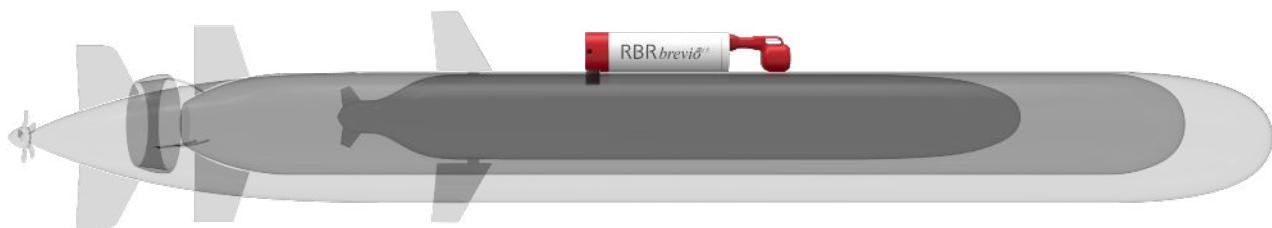
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TESTING

**A&T**  
ACOUSTIC  
& TRACKING

**CD**  
CLEANING  
DEVICES

**VSK**  
VEHICLE STATION  
KEEPING

**WT**  
WORK TOOLS



## RBR Enables Innovation Through Responsive OEM Partnerships

RBR creates oceanographic instruments to measure the blue planet. From the ocean abyss to the polar ice cap, RBR sensors track water parameters – temperature, depth, salinity, dissolved gases, turbidity, fluorescence, pH, and many others. As a globally recognized provider of sensors, loggers, integrated systems, and customized OEM products, RBR has collaborated with a number of unmanned vehicle developers to enable new measurement opportunities and applications. The dedicated OEM technical team develops responsive partnerships with vehicle manufacturers and system integrators by listening carefully to the challenges and bringing electronics, mechanical, and scientific expertise to the solution.

The RBR sensors, loggers, and systems are known for providing the highest accuracy measurements and using very little power. The high accuracy measurements are a requirement for operational integrity, military decision making, global ocean research studies, atmospheric and climate modelling, and long-term monitoring programs. The low power operation enables much longer and more cost-effective missions on the modern fleet of low-power floats, gliders, ASVs and AUVs. The RBR loggers act

as a 'sensor hub' to control and communicate with a suite of sensors (sound velocity, density, CTD, dissolved oxygen, turbidity, chlorophyll fluorescence, etc). The sensor hub approach improves operational efficiency by reducing redundant system integration efforts.

The Argo-approved RBRargo<sup>3</sup> CTD has been integrated with nearly every autonomous float manufacturer. The low-power measurement reduces the cost-per-profile while allowing the floats to profile more rapidly for high-resolution operations or measure longer for long-term monitoring programs. The RBRargo<sup>3</sup> platform has enabled biogeochemical researchers to easily order floats with other integrated sensors, such as the RBRcoda ODO (optical dissolved oxygen sensor).

The RBRbrevio<sup>3</sup> CTD and RBR/legato<sup>3</sup> CTD have been designed specifically to meet the needs of small ocean gliders and AUVs to measure sound velocity, density, and salinity. The RBR CTD uses a rugged inductive conductivity

cell that is not affected by surface contaminants or freezing conditions. The CFD-optimized, low aspect ratio conductivity cell is self-flushing and does not require a pump. The totally silent operation is ideal for low-power, stealth missions, and passive acoustic listening.

A responsive partnership collaboration with Saildrone has led to the development of an integrated CTD with an optical dissolved oxygen sensor and fluorometer to enable long-term, high-accuracy, and low-drift measurements to oceanographic research teams making long-term observations. Several Saildrone unmanned vehicles with the RBR sensor suite have been delivered to customers for programs in the northern Pacific and southern Pacific Ocean.

For more information, visit  
[RBR-GLOBAL.COM](http://RBR-GLOBAL.COM)





# OBSERVATION ROV WITH PAYLOAD OPTION

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SPEC SHEET

## OBSERVATION ROV WITH PAYLOAD OPTION

### ARGUS REMOTE SYSTEMS AS

WWW.ARGUS-RS.NO

Jan Bryn | jan@argus-rs.no



#### ARGUS MINI

Observation class ROV that can be fitted with an open/close manipulator.



### DEEP OCEAN ENGINEERING

WWW.DEEPOCEAN.COM | Mike Takeda | sales@deeponcean.com



#### PHANTOM® FIREFLY

Sized to penetrate through and below the top guide and core plate. Normally used for steam dryer visual exam during BVR scheduled outages. All materials are suitable for use in nuclear support. Torque balanced thrusters provide a high degree of control and maneuverability in the confined environments. (Customizable)



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#### PHANTOM® P-150

Designed for nuclear industry with stable materials / FME concerns as a priority, Two Horizontal and Two "Vertrans" thrusters, with additional Thrusters/ configurations available, No electronics in the sub unit ensures reliability in areas of high radiation, Access through 20" dia. manholes and into PWR Recirc Piping. (Customizable)



OBS | INS | VC&L | NDT | A&T | VSK



#### ARGUS ROVER

Observation class ROV that can do light work. Can be fitted with 1 or two manipulators for light work.



#### PHANTOM® S5

The Phantom® S5 is a portable high performance ROV that combines superior power, telemetry, and payload with ease of use, ruggedness and reliability. This provides a powerful overall performance envelope and versatility compared to other vehicles of its class. (Customizable)



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#### PHANTOM® L6

The advanced technology of the Phantom® L6 ROV platform introduces a high-performance, inspection-class ROV that offers powerful maneuverability and lift, incorporates an open architecture to integrate a wide variety of sensors, and is hand-built on a rugged, resilient, non-corroding polypropylene chassis that can accommodate heavier payloads. (Customizable)



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**DWTEK CO., LTD**

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**INVESTIGATOR 90 (I-90)**

Suitable for Port & Harbor Security, Search & Rescue Operations, Real-time Submerged Monitoring, Pipe & Cable Tracking, Scientific Task & Surveys, Dam & Tunnel Inspections, Offshore oil & Gas, and Renewable Energy Search.

**ECA GROUP**

WWW.ECAGROUP.COM | Sales | sales@ecagroup.com

**H800 : ROV FOR INSPECTION AND LIGHT WORK**

Observation Class ROV and light duty work system for subsea observation, inspection and surveillance in strong currents, up to 1000 m depth. Modular design and easy configuration thanks to a wide range of cameras, sonars, manipulator arms, tools, and any type of sensors.

**H300V**

Observation Class ROV with 4 horizontal vectored thrusters for inspection missions in very harsh environments, up to 300 m depth. Modular design and easy configuration thanks to a wide range of cameras, sonars, manipulator arms, tools, and any type of sensors.

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**TOOLS****VC&L**

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**NDT**

NON-DESTRUCTIVE TESTING

**A&T**

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**The Barracuda** is a new breed of ROV, designed to work in high current. Small, Streamlined, Extremely Powerful and loaded with Advanced Capabilities.

- Lightweight, easy to deploy.
- High Thrust.
- Integrated Total Navigation System (TNS) Including GPS, DNS,(LBL also available).
- Intelligent Flight with Shark Marine's "DiveLog Software" Provides:
  - 3D Route Following.
  - Station Keeping.
  - Auto Depth / Altitude.
- Able to run off of a wide range of power supplies.





Shark Marine Technologies Inc. [www.sharkmarine.com](http://www.sharkmarine.com) sales@sharkmarine.com Ph: (905) 687 6672

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### MARINE IMAGING TECHNOLOGIES

WWW.MARINEIMAGINGTECH.COM

Evan Kovacs | info@marineimagingtech.com



**MI**TECH  
Marine Imaging Technologies

### CINEMA CLASS ROV

Pixel, the first Cinema Class ROV, created to reimagine the art of underwater storytelling, remote exploration and research. Built around two immense cinema camera housings and a multi-fiberoptic tether, Pixel offers new options in underwater cinematography. (Customizable)



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### OUTLAND TECHNOLOGY

WWW.OUTLANDTECH.COM | Jeffrey Mayfield | jeff@outlandtech.com



### ROV 2000

Brushless DC, Magnetically Coupled Thrusters. Easy deployment and operation. All digital control of camera, lights, thrusters and grabber.



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### RJE OCEANBOTICS

WWW.OCEANBOTICS.COM | Robert Jechart | rj@rjeint.com



### OCEANBOTICS SRV-8 ROV

Manufacturer of groundbreaking new 8 Thruster ROV. The Oceanbotics SRV-8 ROV sets a new standard for underwater maneuverability, agility, strength and speed due to its unique design and use of 8 thrusters. It gets underwater jobs done like no other. Oceanbotics is a division of RJE International, Inc. (Customizable)



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### SHARK MARINE TECHNOLOGIES INC

WWW.SHARKMARINE.COM | sales@sharkmarine.com



### SEA-WOLF 5

The SeaWolf-5 is a ROV unlike any other. A true light/medium work class ROV, the SeaWolf-5 packs a lot of power and modularity into a small frame. Customers can choose from a 4 or 6 thruster model or upgrade at any time. The SeaWolf-5 operates autonomously or semi-autonomously using Shark Marine's "DiveLog".



### ROVOTICS

WWW.ROVOTICS.AE

Tamer El Essawy | enquiries@rovotics.ae



### SHARK G2R

Rovotics specialise in creating cutting edge, highly dependable ROVs and components including Junction Boxes, Subsea Housing and CP Equipment. Using the latest software, Rovotics systems have a proven track record in efficiency, especially in minimising downtime. This has allowed the ROV manufacturer to attract a loyal, returning client base. (Customizable)



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## SAAB SEA EYE LTD

WWW.SEA EYE.COM

James Douglas | rovs@seaeye.com



### FALCON

Portable, powerful inspection class ROV system. (Customizable)



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## SEATRONICS

WWW.SEATRONICS-GROUP.COM

Jamie Neilson | jamie.neilson@seatronics-group.com



### VALOR

The VALOR is one of the lightest yet most powerful Observation ROVs available. 300m depth rated, however the unique design allows the vehicle to be extended up to 1000m. The VALOR versatility is limitless given the significant payload, unrivalled power capability and available bandwidth allowing the ROV to manage complex tooling and sensor packages. (Customizable)



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## STRATEGIC ROBOTIC SYSTEMS

WWW.SRSFUSION.COM

Jesse Rodocker | ijesse@srsfusion.com



### FUSION-ROV

The FUSION-ROV is a uniquely designed battery powered system with full supervisory/autonomous control and high resolution sensors such as HD video, forward looking multi-beam sonar and DVL. Highly intuitive control system, 2.4mm diameter tether and no generator required make the FUSION-ROV perfect for small boat operations in demanding conditions.



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**-300M Depth Rated**  
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**-Dual Lateral Thrusters**  
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[www.outlandtech.com](http://www.outlandtech.com)

\*Optional Equipment Pictured

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### SUBMERSIBLE SYSTEMS INC.

WWW.SSIROVS.COM

Wolfgang Burnside | rwolfgang@ssirovs.com



#### TRV-005

The Ultimate ROV for serious Offshore Platform Inspections and Pipeline Survey Work, no other ROV comes close to the rugged, reliable and incredibly maneuverable TRV-005.



### SUBMERSIBLE SYSTEMS INC.

WWW.SSIROVS.COM

Wolfgang Burnside | rwolfgang@ssirovs.com



#### TRV-M

A versatile vehicle often undertaking Workclass tasks in areas that prohibit access to larger Vehicles. The moderate payload also allows the secure attachment of additional Equipment/ Sensors to the T6061 Aluminum frame. The TRV-M high mass / Thrust ensures easy transitions from the Surface to the Seabed to either its standard depth rating of 1000m or to the optional 3000m depth rating.



### SUBSEA TECH

WWW.SUBSEA-TECH.COM

Grégory Maurin | gregory.maurin@subsea-tech.com



#### TORTUGA

Tortuga has 4 horizontal thrusters (4x20kgf) fitted with a unique azimuthal control system allowing operations in currents up to 4 knots, regardless of the direction. With an unrivalled 1,8 thrust to weight ratio and a fully integrated acoustic imaging solution, Tortuga is the ultimate vehicle for underwater inspections in harsh operational conditions. (Customizable)



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## A wide range of ROVs & electric manipulators for offshore operations

Numerous users in the areas of Oil & Gas, Hydrography and Defence approve ECA Group solutions:

- **Observation and Work Class ROVs** for exploration, localization, assistance & interventions at any depth up to 2000 m
- 5 and 7 functions **electric manipulator arms**, compact and lightweight for easy integration on ROVs

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## TELEDYNE SEABOTIX

WWW.TELEDYNEMARINE.COM | Jamie Carrig | jamie.carrig@teledyne.com



### LBV150-4

The Teledyne SeaBotix LBV150-4 is an affordable streamlined MiniROV system. Added tether length and the integrated control console provide a well rounded system that is simple to setup and operate. There are a variety of options available for the LBV150-4 system to match your exact requirements and mission planning. (Customizable)



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### LBV200-4

The LBV200-4 is designed with features typically found in larger ROVs. Powerful thrusters, high resolution video, industry leading low drag tether and an extensive list of available options make the LBV200-4 the perfect inshore/offshore solution. (Customizable)



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### LBV300-5

The LBV300-5 takes stability and versatility to a new level with dual vertical thrusters. Increased vertical control and stability make the LBV300-5 a great tool in demanding conditions. Add the revolutionary Crawler Skid and you have the ultimate maritime security system. (Customizable)



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### vLBV300

The SeaBotix vLBV® represents an evolution in small, capable, vectored MiniROV systems. Four powerful 100 mm (4 in) horizontal thrusters, arranged in a vectored format, offer nearly equal horizontal thrust in all 360-degrees of flight. (Customizable)



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### vLBV950

The SeaBotix vLBV® represents an evolution in small, capable, vectored MiniROV systems. Four powerful 100 mm (4 in) horizontal thrusters, arranged in a vectored format, offer nearly equal horizontal thrust in all 360-degrees of flight. Standard features include a high-resolution color camera, powerful LED lighting, depth, heading and temperature sensors, auto-depth, auto-heading and thruster trim, low-drag neutrally buoyant tether, and fully ICC with daylight-readable monitor. (Customizable)



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## USV Conducts Antarctic Surveying Research

From Shanghai base port, the expedition ship Snow Dragon and four Oceanalpha unmanned vessels were sent to Antarctica to perform China's 34th Antarctic scientific expedition mission.

This visit will open a new era - the establishment of China's fifth Antarctic research station. However, because the sea area had never been explored before, and the geographical data is insufficient, finding a suitable anchorage for the Snow Dragon became a problem to be solved.

The research center pins their hopes on the latest unmanned vessel technology. After a series of upgrades and severe tests, Oceanalpha, the first unmanned surface vessel company in China mastering cutting-edge independent USV technology, finally work out an ideal solution comprised of 4 unmanned vessels, which is two large-size unmanned vessels M80B and two smaller unmanned vessels ME40.

As planned, the Snow Dragon and Oceanalpha's unmanned vessels arrived in Rosesea. The unmanned vessels have very limited time to complete their tasks so as to provide "Snow Dragon" the comprehensive data.

The meteorological conditions are extremely

complex. The instant wind speed can be as high as 40m/s while the temperature is 10 degrees below zero, the structural strength of hulls was greatly challenged. To ensure a stable performance, engineers of Oceanalpha have made a lot of research in the hull structural strength, power system, electronic components, etc to work out the perfect design.

Only in about 20 hours, the unmanned vessels completed the submarine topography survey with a multibeam coverage of 5 square kilometers. The M80B was responsible for scanning the deep-water area, while smaller ME40 took care of the shallower area near the shore.

By the data collected, the unmanned vessels filled the data gaps in the region, providing spatial geographic information and data support for the construction of the Antarctic expedition station.

Established in April 2010, Oceanalpha is the first unmanned surface vehicle company in China. It offers world-leading USV solutions for water environment sampling & monitoring, hydrographic survey, oceanographic survey and water surface cleaning, etc. Its products are now serving in more than 16 countries and providing a brand new way to build the bridge between human and ocean.

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SPEC SHEET

## WORK CLASS VEHICLES

### ARGUS REMOTE SYSTEMS AS

WWW.ARGUS-RS.NO | Jan Bryn | jan@argus-rs.no



#### ARGUS BATHYSAURUS XL

Heavy Work class ROV for deepwater. Can be fitted with 4 x 7 function manipulators and has a separate HPU for tooling.



#### ARGUS MARINER XL

Medium Work class ROV that can be fitted with 2 x 7 function manipulators and has a separate HPU for tooling.



#### ARGUS MARINER

Medium class ROV that can be fitted with auxiliary HPU for tooling. Can be fitted with 1 or two manipulators for light work.



### ASV GLOBAL

WWW.ASVGLOBAL.COM

Vince Dobbin | sales@asvglobal.com



#### C-CAT 3

C-Cat 3 has been developed to complement the existing ocean going ASV Global vehicles for survey and support tasks where a smaller vehicle is better suited to missions. The design incorporates a large payload bay to enable flexibility of payloads used. (Customizable)



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#### C-STAT 2

C-Stat 2 offers the capability to remain on station for extended periods without the need for a ship on station or seabed anchoring. The compact vehicle can be used for subsea asset positioning, surface to underwater communications, oceanographic data collection as well as oil spill response, port, harbour and ship security. (Customizable)



SUR | INS | A&T | VSX



#### C-WORKER 5

C-Worker 5 is the ideal platform to support hydrographic survey work. Designed as a force multiplier to enable increased survey coverage and minimise weather risk through reduced survey duration. C-Worker 5 is reliable through simplicity, utilising an off the shelf direct drive marine diesel propulsion system operated by ASV Global's proven ASView control system. (Customizable)



SUR | INS | CONS | VC&L

## ASV GLOBAL

WWW.ASVGLOBAL.COM | Vince Dobbin | sales@asvglobal.com



### C-WORKER 7

C-Worker 7 is a multi-role work class ASV suitable for a variety of offshore and coastal tasks. The vehicle can be used to complete tasks such as subsea positioning, surveying and environmental monitoring without the need of a ship on station or sea-bed anchoring. CWorker 7 can integrate a variety of payloads including multibeam, USBL, CTD and ADCP via exchangeable payload frames. The ability to integrate multiple offshore payloads is unique to C-Worker 7. (Customizable)



SUR | INS | CONS | VC&L



### C-ENDURO

C-Enduro is a long endurance autonomous surface vehicle used to safely and cost effectively collect data at sea. Built to operate in all marine environments, C-Enduro uses energy harvesting technology combined with an efficient self-righting hull. C-Enduro's unprecedented payload capacity and power enables the use of a combination of payloads during any one mission. (Customizable)



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### C-TARGET 1

C-Targets are a range of lightweight, easily deployed, highly maneuverable marine targets used for naval gunnery training, weapons testing and ship command and control assessments. The vehicles are highly survivable built with aluminum hulls facilitating easy repairs. Operated using the ASView-T Control System, C-Targets can operate individually or as part of a swarm. (Customizable)



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### C-WORKER 8

C-Worker 8 is a multi-role work class ASV. The vehicle is suitable for a variety of offshore and coastal tasks including subsea positioning, surveying and environmental monitoring without the need of a ship on station or sea-bed anchoring. C-Worker 8 can integrate a variety of payloads including multibeam, USBL, CTD and ADCP via exchangeable payload frames. (Customizable)



SUR | INS | CONS | VC&L



### C-TARGET 13

The largest in the range, the C-Target 13 is a high speed vehicle capable of acting as a direct fire target or as a tow boat for inflatable targets or other small craft. The vehicle can be customized to resemble specific craft and is configurable between manned and unmanned modes. (Customizable)



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### C-TARGET 3

The smallest in the range, the C-Target 3 features a novel two part hull design for ease of storage and transportation. A single point hoop lift and foam fenders allow for easy launch, recovery and handling.



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## WORKING CLASS VEHICLES

### ASV GLOBAL

WWW.ASVGLOBAL.COM | Vince Dobbins | sales@asvglobal.com



#### C-TARGET 6

C-Targets are a range of lightweight, easily deployed, highly manoeuvrable marine targets used for naval gunnery training, weapons testing and ship command and control assessments. The C-Target 6 can be used as a direct fire target or as a tow boat for inflatable targets. The vehicle can be customised to resemble specific craft and is configurable between manned and unmanned modes. (Customizable)



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#### C-TARGET 9

The C-Target 9 is a high speed vehicle capable of acting as a direct fire target or as a tow boat for inflatable targets or other small craft. The vehicle can be customized to resemble specific craft and is configurable between manned and unmanned modes. (Customizable)



SUR | VC&L



#### C-WORKER 12P

The 'C-Worker 12P' prototype is one of ASV Global's largest unmanned vessels fitted to date: measuring just over 12 meters. The optionally manned helm will feature two moon pools for maximum sensor deployment and extended endurance missions. The vessel is a converted manned craft which uses ASV's proven ASView control system for unmanned operations. (Customizable)



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#### C-WORKER 4

The smaller of the C-Worker class of vehicles, C-Worker 4 is a diesel powered ASV designed to complete a variety of offshore and inshore survey tasks. C-Worker 4's waterjet propulsion system makes it an ideal solution for shallow water survey. The vehicle has the ability to integrate a range of standard survey payloads including ADCP, USBL, PAM and CTD. (Customizable)



SUR | INS | VC&L



#### C-WORKER 6

C-Worker 6 is a multi-role work class ASV suitable for a variety of offshore and coastal tasks. The vehicle can be used to complete tasks such as subsea positioning, surveying and environmental monitoring without the need of a ship on station or seabed anchoring. C-Worker 6 can integrate a variety of payloads including multi-beam, USBL, CTD and ADCP via exchangeable payload frames. (Customizable)



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## DOER MARINE

WWW.DOERMARINE.COM | Liz Taylor | Liz@doermarine.com

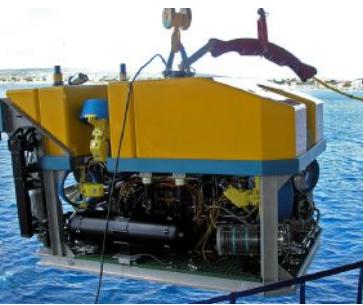


### H2000

Compact work class ROVs ranging from 10-100 hp and depths from 2000m to 6500m. TMS typically used with deeper system. DOER also offers five function manipulators, hydraulic pan/tilt, valve packs, thrusters and a wide variety of sampling, cleaning and custom tools. These systems have a great degree of flexibility in design and can be customized to suit client needs.



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### H3000

Compact work class ROVs ranging from 10-100 hp and depths from 2000m to 6500m. TMS typically used with deeper system. DOER also offers five function manipulators, hydraulic pan/tilt, valve packs, thrusters and a wide variety of sampling, cleaning and custom tools. These systems have a great degree of flexibility in design and can be customized to suit client needs.



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### H6500

Compact work class ROVs ranging from 10-100 hp and depths from 2000m to 6500m. TMS typically used with deeper system. DOER also offers five function manipulators, hydraulic pan/tilt, valve packs, thrusters and a wide variety of sampling, cleaning and custom tools. These systems have a great degree of flexibility in design and can be customized to suit client needs.



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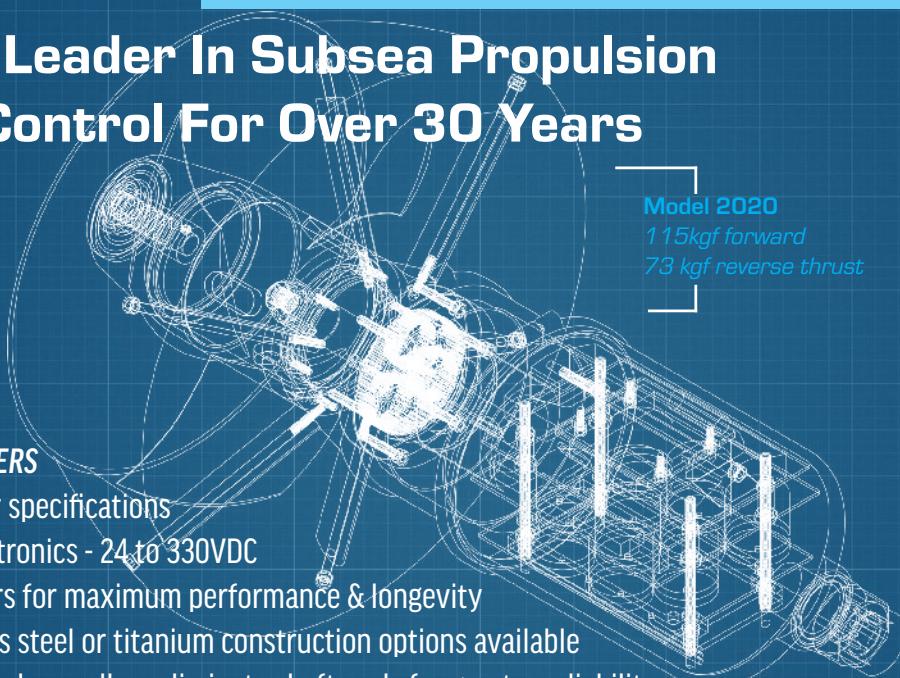
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## BRUSHLESS DC THRUSTERS

- Customized to your specifications
- Self-contained electronics - 24 to 330VDC
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- Aluminum, stainless steel or titanium construction options available
- Magnetically coupled propellers eliminate shaft seals for greater reliability



### Model 2020

115kgf forward

73 kgf reverse thrust



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## WORKING CLASS VEHICLES

### ECA GROUP

WWW.ECAGROUP.COM | Sales | sales@ecagroup.com



#### H1000: WORK CLASS ROV

Electric Work Class ROV for subsea observation, inspection and light works up to 1000 m depth. Equipped with high performance viewing system, sonars, and two manipulator arms (electric or hydraulic).



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#### H2000: WORK CLASS ROV

Work Class ROV dedicated to missions up to 2000 m depth: offshore survey and underwater works, search and rescue, object recovery, wrecks inspection. Equipped with high performance viewing system, sonars, and 2 manipulator arms.



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### FORUM SUBSEA TECHNOLOGIES

WWW.F-E-T.COM

Sales | subsea.sales@f-e-t.com



#### PERRY XLX EVO - 200 HP

The Forum Energy Technologies Perry XLX Evo ROV represents the latest evolution in the highly successful Perry XL series. The XLX Evo features significantly enhanced performance across the full range of demanding intervention and survey tasks without compromise to the outstanding reliability for which the XL series of vehicles is renowned throughout the world.



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#### PERRY XLX-C

The Perry® XLX-C is a compact heavy-duty work-class hydraulic ROV, complementing the Perry® XLX 150-250 series of larger heavy-duty work-class ROVs.



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### SUB-ATLANTIC COMANCHE

Comanche is the logical choice when seeking the ultimate 'all round' electric ROV.



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### SUB-ATLANTIC MOHAWK

This small, professional inspection ROV delivers exceptionally high thrust in all directions from Sub-Atlantic's reliable AC power thruster system.



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### SUB-ATLANTIC MOHICAN

Mohican was specifically developed to cope with the fast moving and unpredictable turbid waters of the southern North Sea.



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### SUB-ATLANTIC MOJAVE

Mojave is the most powerful observation ROV for its size. Compact, ergonomic design and light weight construction allow for rapid set up and deployment using any domestic power supply.



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### SUB-ATLANTIC SUPER MOHAWK

Super Mohawk II is a robust, durable and long proven ROV system designed for high payload, with plenty open deck space and skid mounted options.



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## INTERNATIONAL SUBMARINE ENGINEERING LTD. (ISE)

WWW.ISE.BC.CA.COM

Sales | info@ise.bc.ca



### ISE HYSUB WORK CLASS ROVS

International Submarine Engineering (ISE) Ltd.'s HYSUB ROV systems are designed for modularity, flexibility, and expandability which entails ease of configuration to meet special customer requirements, and modification and upgradeability for future needs. The HYSUB ROVs are available in 50, 100, and 150 HP. (Customizable)



PDF

OBS | VC&L | A&T | VSK

## WORKING CLASS VEHICLES

### KYSTDESIGN AS

WWW.KYSTDESIGN.NO | Åge Holsbrekken | post@kystdesign.no



#### CONSTRUCTOR

This is a general purpose hydraulic work class ROV. The system is characterized by a compact and integrated mechanical architecture, powerful and accessible hydraulic functions and a user friendly real time control system. The CONSTRUCTOR can be delivered with depth rating down to 6000m. It is uniquely designed for carrying and operating large tools and modules. (Customizable)



SUR | INS | INT | CON | VC&L | A&T | CD  
WT | NDT | VSK



#### SUPPORTER

SUPPORTER is a general purpose hydraulic work class ROV. The system is characterized by a compact and integrated mechanical architecture, powerful and accessible hydraulic functions and a user friendly real time control system. The system can be delivered with depth rating down to 6000m. (Customizable)



SUR | INS | INT | CON | VC&L | A&T | CD  
WT | NDT | VSK

### MARINER UNDERWATER ELECTRONICS

WWW.MARINER.GR

Marinos Pittas | marghe@otenet.gr



#### IPPODAMUS

Our ROVs can be customized and be equipped with a great variety of accessories and tools, according to buyer's needs



### SAAB SEA EYE LTD

WWW.SEA EYE.COM | James Douglas | rovs@seaeye.com



#### COUGAR

The Seaeye Cougar-XT is a compact, highly flexible and extremely powerful electric ROV with working depths of 2000 metres.



#### COUGAR COMPACT

The Seaeye Cougar-XT Compact is the shallow water compact version of the field proven and extremely powerful Cougar-XT.



#### COUGAR XTI

THE SEA EYE COUGAR-XTi is the deep water version of the compact, highly flexible and extremely powerful Cougar-XT.



## SAAB SEAEDGE LTD

WWW.SEAEDGE.COM | James Douglas | rovs@seaeye.com



### JAGUAR

The Seaeye Jaguar represents a new era in ROV design and continues the long tradition of innovation and excellence that Saab Seaeye is world renowned for.



### LEOPARD

The Seaeye Leopard is designed to offer operators an exceptionally powerful electric work class ROV in a compact chassis. Developed from the highly successful Panther XT-Plus, the Seaeye Leopard produces an impressive half tonne of forward thrust, with fifty percent more payload, three times the tooling power and double the depth rating, whilst maintaining the same deck footprint.



### LYNX

The Seaeye Tiger and Lynx are widely regarded as the leading observation and inspection vehicles within the oil and gas industry. Increasingly they are also being taken up as the ROV of choice by military and scientific customers seeking increased capability in deep water.



## TASKS

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### B&T

BURIAL &

TRENCHING

## TOOLS

### VC&L

VIDEO CAMERA

& LIGHTING

### NDT

NON-

DESTRUCTIVE

TESTING

### A&T

ACOUSTIC

& TRACKING

### CD

CLEANING

DEVICES

### VSK

VEHICLE STATION

KEEPING

### WT

WORK TOOLS

An advertisement for subsea cable solutions. It features a large green ROV operating in the ocean, with a close-up of a green and grey cable being deployed. The text "Next-generation cable solutions for a connected world" is overlaid on the image.

Custom cable engineering for the  
world's most mission-critical  
Marine and Subsea applications.

[www.falmat.com](http://www.falmat.com)

**FALMAT**  
CUSTOM CABLE TECHNOLOGIES

### SAAB SEA EYE LTD

WWW.SEA EYE.COM | James Douglas | rovs@seaeye.com



#### PANTHER XT

The customisable Seaeye Panther-XT is designed as the benchmark for electric work ROVs and challenges heavier and more costly hydraulic vehicles, particularly where deck space is at a premium.



#### TIGER

The Seaeye Tiger and Lynx are widely regarded as the leading observation and inspection vehicles within the oil and gas industry. Increasingly they are also being taken up as the ROV of choice by military and scientific customers seeking increased capability in deep water.



#### PANTHER XT PLUS

The customisable Seaeye Panther-XT Plus is designed as the benchmark for electric work ROVs and challenges heavier and more costly hydraulic vehicles, particularly where deck space is at a premium.

An advertisement for Curvetech featuring a transparent view of their subsea component solutions. It shows a white rectangular housing containing various internal components. To the right, a diagram illustrates the components: Thrusters, Control Electronics, Hydraulic Valve Controls, Compensators, and Subsea Motors & Power Units. The background is a blue underwater scene.

**CURVETECH®**

**SMD**  
www.smd.co.uk

**SUBSEA COMPONENT SOLUTIONS**  
**PROVEN TECHNOLOGY SUPPORTING YOUR SUBSEA VEHICLE**

ENGINEERING EXCELLENCE UNDERWATER

For the complete range of subsea Curvetech® components and solutions visit [www.smd.co.uk](http://www.smd.co.uk)

## SMD

WWW.SMD.CO.UK | Graeme Jaques | graeme.jaques@smd.co.uk



### ATOM WROV

Atom is an ultra-compact work class ROV comparable in size to a large electric ROV. The vehicle is suitable for renewable applications, drill support, survey and light construction duties and can be mobilised on vessels and rigs with limited deck space. Atom's high power to size ratio makes it an effective performer in high currents. (Customizable)



SUR | INS | VC&L | A&T

### TASKS

#### OBS

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TRENCHING

### TOOLS

#### VC&L

VIDEO CAMERA  
& LIGHTING

#### NDT

NON-  
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#### A&T

ACOUSTIC  
& TRACKING

#### CD

CLEANING  
DEVICES

#### VSK

VEHICLE STATION  
KEEPING

#### WT

WORK TOOLS



### QUANTUM WROV

Quantum has class leading payload, thrust and tooling power figures. It is designed primarily for heavy construction and salvage work but can also be used as an effective survey platform. Space within Quantum's frame for mounting tools and instruments is exceptional. This flexibility means better in-water performance and current holding capabilities when measured against rivals that need to use a skid. (Customizable)



SUR | INS | CON | INT | VC&L | A&T | WT

### QUASAR

The Quasar is the medium size vehicle in SMD's Q Series work class ROV range. Utilising the latest multi-platform Curvetech™ components, the vehicle offers class-leading in-current performance, tooling and instrument space and access for maintenance. Quasar is an excellent all round performer capable of survey, construction and drill support operations. (Customizable)



## WORKING CLASS VEHICLES

### SPERRE AS

WWW.SPERRE-AS.COM | Wench Haugerud | wh@sperre-as.com



#### ROV SF10K

ROV designed for tough conditions. Reliable and well proven design. Quick and easy mobilization. Very good stability. Plenty of power. Interface for std. tools. Quality at an affordable price. Require a min. of maintenance. Made in Norway. Can build after customer specification.



#### ROV SF15K

ROV designed for tough conditions. Reliable and well proven design. Quick and easy mobilization. Very good stability. Plenty of power. Interface for std. tools. Quality at an affordable price. Require a min. of maintenance. Made in Norway. Can build after customer specification.



#### ROV SF4500

ROV designed for tough conditions. Reli- able and well proven design. Quick and easy mobili- zation. Very good stability. Plenty of power. Interface for std. tools. Quality at an afford- able price. Require a min. of maintenance. Made in Norway. Can build after customer spec.



### TECHNIPFMC SCHILLING ROBOTICS

WWW.FMCTECHNOLOGIES.COM/EN

Hamish Stewart | hamish.stewart@technipfmc.com



#### SCHILLING ROBOTICS HD ROV

The 150hp HD ROV is an advanced modular design with a 60-minute maintenance philosophy, tooling integration and high-integrity hydraulic system. Standard features include flight automation systems including StationKeep, Auto Track and Auto Displacement, in addition HD Ethernet Video, Auto follow manipulator camera, rapid repair systems and onboard diagnostics are features to aid productivity of the vehicle, pilot and overall operation. (Customizable)



CON | INT |



#### SCHILLING ROBOTICS UHD-III ROV

The 250hp UHD-III ROV features a software controlled auxiliary pump capable of delivering dual fluids/types at various pressures/outputs. Modular design enables the UHD-III to carry 100 US Gals inboard negating the requirement for fluid intervention skids to support construction and drill support activities. Standard features include flight automation, HD Ethernet Video, rapid repair systems and onboard diagnostic to aid productivity of the vehicle, pilot and overall operation. (Customizable)



CON | INT |

### SUBMERSIBLE SYSTEMS INC.

WWW.SSIROVS.COM | Wolfgang Burnside | wolfgang@ssirovs.com



#### TRV-HD

The TRV-HD Extreme is a serious, compact Workclass vehicle with a very small footprint. When offshore real estate is at a premium the TRV-HD is the only logical choice. Most Manipulator options are available



# Don't get left overboard!

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**ON&T**  
Ocean News & Technology

[oceannews.com](http://oceannews.com)



## From Surface to Seafloor, Teledyne Delivers Unmanned Vehicles with Proven Performance for Diverse Market Applications

Autonomous, tethered, and towed vehicles are doing important work in defense and security, oceanographic research, offshore and onshore energy, and water resource markets. In fact, unmanned underwater vehicles have become an essential tool for a variety of tasks across all these markets, which is a testament to the evolution of robotics technology. Underwater unmanned vehicles are doing work that is impossible, expensive, or clearly too dangerous to humans.

Teledyne Marine manufactures a wide selection of unmanned vehicles operating throughout the water column from the surface to the seafloor. The Teledyne brands that operate in this space are industry and technology leaders.

**Teledyne Bentho:** The Bentho towed system product line provides solutions for conducting a wide range of deep water operations. Building on Teledyne Bentho's experience in solving complex undersea problems, their towed systems serve as a base platform, which are configured to meet an operator's specific needs. Bentho Towed Vehicles are an exceptional system for data collection, inspection, and survey in the most challenging marine environments up to 6000m depth.

**Teledyne Gavia:** The Gavia AUV is a self-contained, low logistics, modular platform capable of delivering high quality data while operating from vessels of opportunity or from the shore. The new Teledyne Gavia SeaRaptor AUV is the latest addition to the product line and offers deep water survey capability for depths up to 6000m.

**Teledyne Oceanscience:** Oceanscience is the leading manufacturer of remotely controlled instrumentation boats. The ruggedized Z-Boats are IP67-rated with options and conveniences not found in other small, portable, survey boats. The

Q-Boats can be configured for multiple ADCP types, water quality monitoring instruments, and echosounders. Oceanscience's unmanned boats are designed for use in lakes, rivers, and coastal environments.

**Teledyne SeaBotix:** SeaBotix manufactures a range of Remotely Operated Vehicles (ROVs) that are powerful, compact, open-frame observation and light work class vehicles with extensive built-in flexibility. The SeaBotix ROVs can carry a multitude of sensors and payloads making them ideally suited, both in size and capability, for tasks such as ship hull inspection, dam and tunnel inspection, aquaculture tasks, and search and recovery.

**Teledyne Webb Research:** The Webb Research Slocum glider, originally developed by Doug Webb, has earned its reputation at sea and continues to be the most reliable and versatile underwater glider with over 700 units delivered since 2002. Buoyancy driven, the long range and duration of Slocum gliders makes them ideally suited for persistent remote water column observation, regardless of sea state. Webb Research's APEX Autonomous Profiling Floats are the most trusted name in profiling floats and have a history of long life and reliable performance.





# TOWED & BOTTOM CRAWLING VEHICLES

UNMANNED  
VEHICLES  
BUYERS' GUIDE



ENVIRONMENTAL



DEFENSE



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SCIENCE



SEABED MINING



OCEAN RENEWABLES



PDF  
SPEC SHEET

## TOWED & BOTTOM CRAWLING VEHICLES

### ALL OCEANS

WWW.ALLOCEANS.CO.UK | Brian Abel | brian@alloceans.co.uk



#### AC-CELL 100

Developed as a standalone Remote Visual Inspection (RVI) tool, this small, wet or dry environment crawler is fully compatible with the industry proven AC-ROV 100 Underwater Inspection system, and uses the same topside hardware.



VC&L



#### MAC-ROV

A second generation 6000m Fly-Out ideally suited to subsea mining and cinematography applications. Can be surface deployment on its own, with its TMS, or as part of a Shuttle system to deliver work class ROV capability at a fraction of the cost. A Blue Economy development game changer. (Customizable)



SUR | INS | CON | INT | VC&L | CD | NDT  
A&T | VSK | WT

### AQUADOWNUNDER PTY LTD

WWW.UNMANNEDSUBSEASURVEYOR.COM

Jodie Mellor | aquadownunder@iinet.net.au



#### UNMANNED SUBSEA SURVEYOR

This technology comprises a field mounted hydraulic telescopic arm with a fully flexible camera which captures either stills or video for later or live analysis. The USS can monitor an area of 300m<sup>2</sup> using a 10m arm that can rotate 360 degrees. (Customizable)



CON | INT | VC&L | CD | A&T | WT

### BELLAMARE, LLC

WWW.BELLAMARE-US.COM

Charles Cousin | info@bellamare-us.com



#### STINGRAY

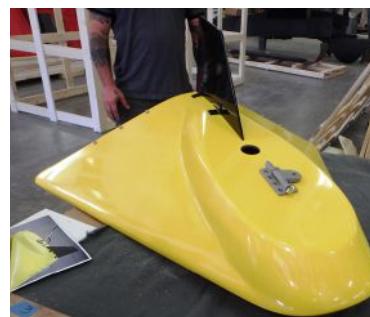
From passive sleds to smart remotely operated vehicles, Bellamare manufactures reliable vehicles with a proven track record.



### BOSTON ENGINEERING

WWW.BOSTONENGINEERING.COM

Roger Race | rrace@boston-engineering.com



#### V-WING PRODUCT LINE

6 standard wing sizes from 18" to 5 feet  
All Fiberglass dyhedral design  
All Can be customized



CON | VC&L | A&T

### CHELSEA TECHNOLOGIES GROUP LTD

WWW.CHELSEA.CO.UK

Ellen Keegan | ekeegan@chelsea.co.uk



#### NUSHUTTLE TOWED

#### OCEANOGRAPHIC PLATFORM

NuShuttle is a proven, low cost and robust towed undulating vehicle in use on ships of opportunity and research vessels. It can be fitted with a wide variety of sensors to provide data on CTD, chlorophyll, hydrocarbon & Gelbstoff fluorescence, turbidity, optical transmittance, bioluminescence, nutrient, redox & dissolved oxygen. (Customizable)



CON | INT | A&T

## CHELSEA TECHNOLOGIES GROUP LTD

WWW.CHELSEA.CO.UK  
Ellen Keegan | ekeegan@chelsea.co.uk



### SEASOAR II

SeaSoar is a versatile towed undulating vehicle used to deploy a wide range of oceanographic monitoring equipment. Developed by CTG from an original design by the National Oceanography Centre, Southampton, UK it has a proven record of reliability over many thousands of miles of operation. (Customizable)



## DEEP TREKKER INC.

WWW.DEEPTREKKER.COM  
Sales | sales@deeptrekker.com



### DT640 UTILITY CRAWLER

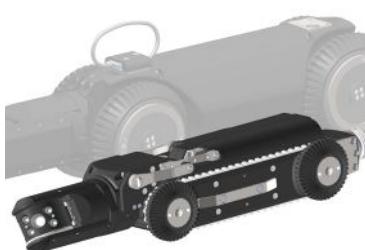
The DT640 Utility Crawler is the most versatile inspection vehicle of its kind. The sleek, three-wheel submersible comes with a magnetic option, creating the ideal vehicle for an array of underwater work. Compact for transportation and extremely portable. (Customizable)



OBS | VC&L | A&T | VSK

## DEEP TREKKER INC.

WWW.DEEPTREKKER.COM | Sales | sales@deeptrekker.com



### DT320 MINI PIPE CRAWLER

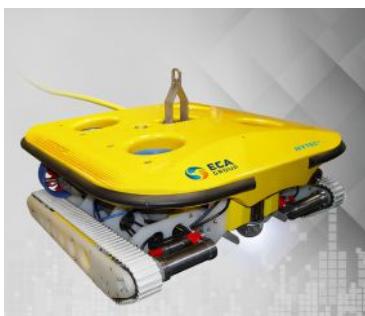
Meet the battery powered mini pipe crawler inspection system. This mini CCTV sewer inspection camera is capable of inspecting 6-inch lined pipes (152 mm) and even undersized 6-inch diameters. It is constructed with the same design as the larger DT340; rugged stainless steel aluminum body, durable sapphire glass lens cover and clear HD pan/tilt camera. (Customizable)



OBS | VC&L | A&T | VSK

## ECA GROUP

WWW.ECAGROUP.COM  
Sales | sales@ecagroup.com



### ROVING BAT

Hybrid ROV and crawler, Roving Bat can swim as a ROV but, thanks to 4 vertical thrusters, it tilts, rolls and sticks onto vertical surfaces, such as ship hulls. Then it crawls along to perform inspection, cleaning operations, and NDT measurements. Roving Bat is the optimal solution for UWILD applications.



\*MORE ECA VEHICLES ON PAGE 49.



### DT340 PIPE CRAWLER

The world's only truly portable, battery-operated pipe crawler system. Equipped with a lightweight handheld control console, a strong but thin tether, a pivoting tether connection, wheel and track options and plug-and-play integrations – all designed to make your pipe inspections easier. (Customizable)



OBS | VC&L | A&T | VSK

## TASKS

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INTERVENTION

B&T  
BURIAL &  
TRENCHING

## TOOLS

VC&L  
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TESTING

A&T  
ACOUSTIC  
& TRACKING

CD  
CLEANING  
DEVICES

VSK  
VEHICLE STATION  
KEEPING

WT  
WORK TOOLS

## EDGETECH

WWW.EDGEtech.COM  
Sales | info@edgetech.com



### EDGEtech 2000 SERIES COMBINED SIDE SCAN SONAR & SUB-BOTTOM PROFILER

The 2000 Series combines EdgeTech's highly successful line of side scan sonars and sub-bottom profilers into one fully integrated system. The combined side scan sonar and sub-bottom profiling system comes in a choice of three different towfish: 2000-CSS, 2000-DSS and 2000-TVD.



CON | INT | B&T | A&T | WT

## TOWED & BOTTOM CRAWLING VEHICLES

### EDGEtech

WWW.EDGEtech.COM | Sales | info@edgeTech.com



#### EDGEtech 2300

The new 2300 combines EdgeTech's highly successful line of side scan sonars, sub-bottom profilers and MPES bathymetry into one fully integrated system. The system is ideal for deep water combined sonar operations and provides enhancements to traditional systems. Utilizing EdgeTech's proven Full Spectrum® CHIRP technology to provide crisp, high resolution imagery, surveyors can choose to operate any two frequencies simultaneously from the tri-frequency system.



PDF

CON | INT | B&T | A&T | WT



#### EDGEtech 2400

EdgeTech's 2400 Series is a fully integrated combined side scan sonar (with optional wide swath MPES bathymetry) & sub-bottom profiling system designed for deep water operation in depths up to 6,000m. The 2400 can be completely configured by the user to best suit the applications at hand.



PDF

CON | INT | B&T | A&T | WT



#### EDGEtech 4200

The 4200 Series is a versatile multi-purpose side scan sonar system that can be configured for almost any survey application from shallow to deep water operations. One of the unique features of the 4200 is the optional Multi-Pulse (MP) technology, which places two sound pulses in the water rather than one pulse like conventional side scan sonar systems.



CON | INT | B&T | A&T | WT



#### EDGEtech 6205

The 6205, a Multi Phase Echo Sounder (MPES) produces real-time, high resolution, three dimensional (3D) maps of the seafloor while providing co-registered simultaneous dual frequency side scan imagery. Utilizing EdgeTech's Full Spectrum® technology, the 6205 exceeds IHO SP-44, NOAA and USACE specifications for feature detection and bathymetric point data uncertainty.



PDF

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#### EDGEtech 4125

EdgeTech's 4125 Side Scan Sonar System was designed with both the Search & Recovery (SAR) and shallow water survey communities in mind. The 4125 utilizes EdgeTech's Full Spectrum® CHIRP technology, which provides higher resolution imagery at longer ranges. This translates into more accurate results and faster surveys, thus cutting down on costs.

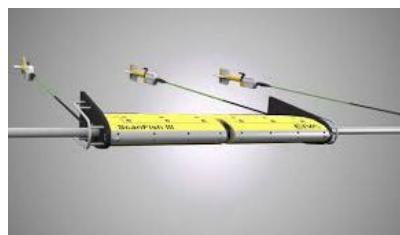


CON | INT | B&T | A&T

### EIVA A/S

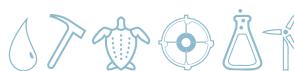
WWW.EIVA.COM

Sales | inquiry@eiva.com

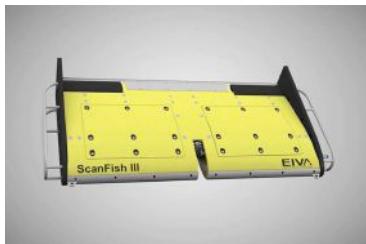


#### SCANFISH KATRIA

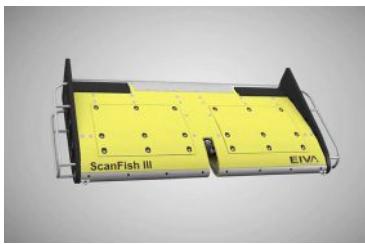
The ScanFish Katria is an intelligent wide-sweep Remotely Operated Towed Vehicle (ROTV) solution for time-efficient magnetometer surveys. As it comes with high-sensitivity magnetometers for maximum target detection efficiency, it is an effective tool for detection of sub-bottom magnetic anomalies. (Customizable)



CON | INT | B&T | A&T | WT

**SCANFISH KONIA**

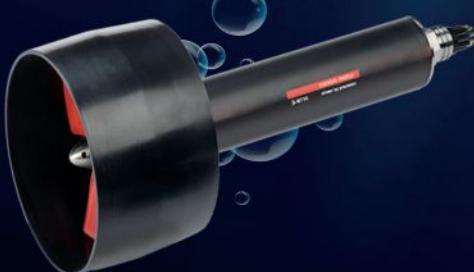
The ScanFish Konia is a unique ROTV solution with an integrated, high-quality SVP sensor, enabling continuous data acquisition that will streamline your MBE survey operations both in terms of costs and data quality. (Customizable)

**SCANFISH ROCIO**

The ScanFish Rocio is a multi-purpose ROTV solution covering a wide variety of oceanographic survey disciplines. Its high payload allows you to fit several different pieces of equipment. This versatile platform will meet your specific needs and streamline your survey operations by combining all survey tasks in one flexible solution. (Customizable)

**SCANFISH TROPHEUS**

The ScanFish Tropheus is an ROTV especially designed for UXO detection that eliminates data uncertainty with high-quality seabed imaging. It functions as depressor of any side-scan sonar and is the optimum solution in terms of quality, efficiency and safety. (Customizable)

**TASKS****OBS**  
OBSERVATION**SUR**  
SURVEY**INS**  
INSPECTION**CON**  
CONSTRUCTION**INT**  
INTERVENTION**B&T**  
BURIAL &  
TRENCHING**TOOLS****VC&L**  
VIDEO CAMERA  
& LIGHTING**NDT**  
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ACOUSTIC  
& TRACKING**CD**  
CLEANING  
DEVICES**VSK**  
VEHICLE STATION  
KEEPING**WT**  
WORK TOOLS**The maxon thruster.**

More information about our maxon thruster can be found on our website:

[aquaticsolutions.maxonmotor.com](http://aquaticsolutions.maxonmotor.com) **search**


Max. depth limit of up to  
**6000 meters**



High energy efficient of  
minimum **80 percent**



Long service life of up to  
**1000 operation hours**

**maxon motor**  
driven by precision

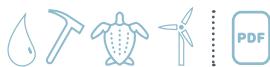
## TOWED & BOTTOM CRAWLING VEHICLES

### FORUM SUBSEA TECHNOLOGIES

WWW.F-E-T.COM | Sales | subsea.sales@f-e-t.com



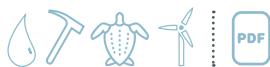
#### PERRY XT300



PDF



#### PERRY XT600



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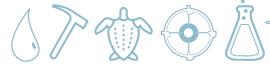
### INUKTUN SERVICES LTD.

WWW.INUKTUN.COM | Sales | sales@inuktun.com



#### MAGGHD™

The MaggHD™ miniature magnetic crawler offers a unique solution for High Definition (full 1080p HD) remote visual inspection (RVI) across a broad range of applications. Its durable construction and ease of use make it perfect for examining steel structures like wind turbines, storage tanks and ship hulls – even in the splash zone! (Customizable)



PDF

CON | B&T | VC&L | CD



#### MAGGUT™

The MaggUT™ magnetic crawler is an economical system with integrated UT scanning capability. It is easily deployed and controlled by a single operator and specifically designed to incorporate standard industrial ultrasonic probes and flaw detectors from Olympus. The MaggUT™ easily integrates with your existing NDT equipment. (Customizable)



PDF

CON | B&T | VC&L | A&T | WT

### INTERNATIONAL SUBMARINE ENGINEERING LTD. (ISE)

WWW.ISE.BC.CA

Phil Reynolds | preynolds@ise.bc.ca



#### ISE AURORA SONAR TOWFISH

The ISE Aurora Towfish is an actively stabilized Towfish that can accommodate a variety of wet and dry payloads. The Aurora Towfish has been in production over the last few years and has been delivered to military customers. ISE has incorporated lessons learned to further develop the ISE Aurora Towfish to account for challenges on the horizon. (Customizable).



INT | A&T



#### MAGGUT™ MARINE

MaggUT™ Marine (MUM) magnetic crawler is operable above or below the water line. MUM provides detailed visual inspections and thickness measurements on ship hulls, pressure vessels, large diameter pipes or almost any steel infrastructure. Portable and powerful, the MUM incorporates a Crystal Cam® camera and an ultrasonic testing (UT) transducer from Cygnus Instruments.



CON | B&T | VC&L | A&T | CD

## INUKTUN SERVICES LTD.

WWW.INUKTUN.COM | Sales | sales@inuktun.com



B&T | VC&L | CD

### MICROMAG™ MARK II

The MicroMag™ Mark II employs four Microtracs™ and is fitted with a brush system designed to handle harder remote cleaning and anti-fouling of ships than our standard miniature magnetic crawlers offer. Whatever your application – from waterjet tools and manipulator arms, to laser profiling sensors and CP probes – most equipment can be easily integrated onto the vehicle. (Customizable)



### NANOMAG™

The NanoMag™ is a miniature crawler system with built-in rare earth magnets, allowing it to travel vertically, horizontally and even upside down on ferrous metal surfaces. With both a front facing pan and tilt camera and a rear facing fixed camera, the vehicle itself is still small enough to enter extremely confined spaces like pipes, pressure vessels and HVAC ductwork. (Customizable)



CON | B&T | VC&L | A&T | CD | WT

### MICROTRAC

"Microtrac™ crawlers are designed for remote applications in confined spaces where performance and reliability are critical. Manufactured from brass, aluminum or stainless steel, these miniature modules operate effectively in dry areas or subsea environments. Based on Inuktun's Multi-Mission Modular technology, Microtracs™ are included in our standard and customized Versatrax™ crawler systems." (Customizable)

### ECA GROUP

WWW.ECAGROUP.COM | Sales | sales@ecagroup.com



### PIPE CRUISER

Designed for inspection in any type of pipes (diameter 150 to 2000 mm, up to 500 m length), this multidirectional modular system avoids obstacles, turns in curves, swivels and moves back to deliver real-time exceptional quality videos and measurements. Watertight up to 10 m.



CON | VC&L | A&T | CD | WT

### MINITRAC™

Minitracs™ are small and rugged, providing the user with access to confined spaces and harsh environments. They can be operated individually or as multiple units. Each unit is individually powered and can be easily fitted to a variety of equipment platforms to suit a wide range of applications.



### CEP75

Multidirectional remotely operated electric crawler for operations inside pipes or pools. Watertight up to 20 m, it can transport a 75 kg payload. Its modular design allows embarking up to 3 TV cameras, and a mini electric manipulator arm.



## TASKS

OBS  
OBSERVATION

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## TOOLS

VC&L  
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ACOUSTIC &  
TRACKING

CD  
CLEANING  
DEVICES

VSK  
VEHICLE STATION  
KEEPING

WT  
WORK TOOLS

## TOWED & BOTTOM CRAWLING VEHICLES

### INUKTUN SERVICES LTD.

WWW.INUKTUN.COM | Sales | sales@inuktun.com



#### VERSATRAX 150™

The Versatrax 150™ pipe crawler system is a robust workhorse designed for the inspection of long pipelines, tunnels, culverts and other confined areas with a limited number of access points. The Versatrax 150™ is readily adaptable for different Spectrum™ cameras, sensors and tooling to perform comprehensive inspections across a range of industries. (Customizable)



B&T | CON | VC&L | WT



#### VERSATRAX 150™ MARK II

The Versatrax 150™ Mark II pipe inspection vehicle can operate in pipes as small as 150mm/6in. It is suited to a variety of inspection applications including sewers, storm drains, hydroelectric penstocks and fish bypass lines, petrochemical and power plant intake pipelines, and difficult to access pipes in the oil and gas industry. (Customizable)



CON | B&T | VC&L



#### VERSATRAX 300™

The Versatrax 300™ is the solution to long range pipe inspection challenges. Able to inspect more than 2km/1.3mi of pipe in a single run, the Versatrax 300™ includes three onboard video cameras, multiple sensor options and is operable in pipe as small as 300mm/12in internal diameter. (Customizable)



B&T | CON | VC&L | WT



#### VERSATRAX 450™

The Versatrax 450™ is designed specifically for hazardous environments and is perfectly suited for a wide range of applications where remote handling and inspection are required. The portable system can be deployed in a matter of minutes, allowing you to inspect, capture, and safely remove dangerous materials from any site faster than by conventional means. (Customizable)



CON | B&T | VC&L | A&T | CD | WT



#### VT150 VERTICAL CRAWLER™

The VT150 Vertical Crawler™ is a unique inspection vehicle based on the successful VT100 Vertical Crawler™. It employs three Minitracs™ and an expandable tripod chassis, allowing it to perform difficult inspections over a range of pipe sizes in virtually any orientation. Basic functions for control allow operators to quickly learn and navigate this flexible system. (Customizable)



CON | B&T | VC&L | A&T | WT



#### SBP-1 SUB BOTTOM PROFILER

Fishers SBP-1 is an economical sub bottom profiler that shows the strata layers beneath the ocean floor as well as objects buried in the bottom.



## KRAKEN SONAR SYSTEMS INC

WWW.KRAKENROBOTICS.COM

info@krakensonar.com



### KATFISH

Standard KATFISH:  
250m range SAS, 3cm res, 8kts  
Gap filler  
MBES  
Full swath bathymetry  
High accuracy USBL



## MACARTNEY

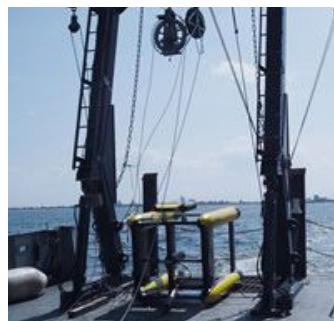
WWW.MACARTNEY.COM

Hans-Jørgen Hansen | hjh@macartney.com



### FOCUS (2 & 3)

The vehicle FOCUS 2 is constructed using carbon fibre technology and is based on the successful TRIAXUS vehicle design. It uses state-of-the-art computer technology and fibre optic telemetry for vehicle and sensor communication providing high data capacity in a very efficient package. FOCUS 3 is the result of more than 25 years of constant product development and customer feedback.



### TASKS

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TRENCHING

### TOOLS

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& LIGHTING

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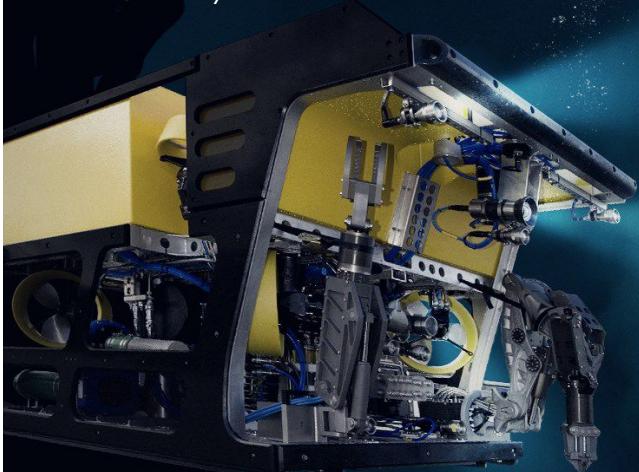
CD  
CLEANING  
DEVICES

VSK  
VEHICLE STATION  
KEEPING

WT  
WORK TOOLS

# Low density composite buoyancy systems

FOR USE IN ROV/AUV AND HUMAN OCCUPIED VEHICLES



Trelleborg Applied Technologies is a leading manufacturer and supplier of high performance low density composite buoyancy systems for use in ROV/AUV and Human Occupied Vehicles.

Our range of TG series materials offer class leading low densities and greatest depth capabilities of any composite buoyancy systems to full ocean depth operation.

In addition, buoyancy packs for intervention tooling and skid systems, ancillary equipment for umbilical support including Umbilical Floats, Linksyn, Linksyn SD and Linksyn HD buoyant bend control systems.

**Performance at Every Level**

Trelleborg Applied Technologies

UK: +44 (0) 1706 716610 • USA: +1 (774) 719 1400 • appliedtechnologies@trelleborg.com • www.trelleborg.com/applied-technologies



## TOWED & BOTTOM CRAWLING VEHICLES

### QINETIQ NORTH AMERICA

WWW.QINETIQ-NA.COM | Ken Heller | Ken.heller@qinetiq-na.com



#### C-TALON

Underwater derivative of the US Military fielded TALON platform. This platform is geared towards research and exploration users who are looking for an Underwater Crawler to operate in the Surf Zone, River-ine Environments or Limited-Access Harbor Areas. The platform is designed specifically for customization and tuned to customer specific needs.



PDF



#### SABRETOOTH (SMALL HULL CRAWLER)

Small ferro-magnetic hull crawler with semi-autonomous capabilities including obstacle avoidance and vehicle positioning. Crawling speeds from 0.3-3.0 m/min. Capable of hull inspection, surveillance or non-destructive testing



PDF

### SEAVIEW SYSTEMS, INC

WWW.SEAVIEWSYSTEMS.COM

Marla Isenstein | misenstein@seaviewsystems.com



#### SURFROVER

A battery-powered crawler for specialized applications such as route surveys, UXO surveys, deployment of a cable/pipeline tracker as well as applications in otherwise impassible surf such as active bathymetric surveys. SurfROVer can be fitted with HD video, sonar and acoustic measurement systems. (Customizable)



PDF

OBS | SUR | INS | CON | INT | VC&L  
A&T | NDT | CD | WT

### SEAROBOTICS CORPORATION

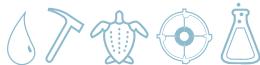
WWW.SEAROBOTICS.COM

Don Darling | ddarling@searobotics.com



#### TANKBUG

Standard equipment: QTY 1 Surface Control station, QTY 1 HD camera/DVR, QTY 2 led lights, 76m tether with 51mm diameter suction hose, 375 l/min external gas powered surface suction pump.



### SMD

WWW.SMD.CO.UK | Graeme Jaques | graeme.jaques@smd.co.uk



#### BACKFILL PLOUGH (BP)

Sets the standard globally for pipeline stabilization and protection through backfill. Comes with a number of features to simplify and de-risk operations such as remotely variable mouldboard depth control and trench following front skids and steering. Also available with air tank buoyancy for minimum ground pressure.



#### MULTIPASS PIPELINE V PLOUGH

Introduces further advances on the next generation AMP pipe plough by offering remotely variable multipass capability. Allows the operator to remotely adjust the depth during trenching. This, along with the advances introduced earlier on the AMP, Hi-Tow points and the active share track, make the MP the most advanced pipe trenching technology in the world. As per the AMP, 500Te trenching capability is available from only 350Te vessel pull.



**CBT1100**

Provides a soft to hard ground burial solution in one neat package. Fully amphibious 800kW vehicle. Equipped with a powerful chain cutter, dredge pump and jet legs. A well proven chain cutter deployment system allows post lay burial of cable up to 300mm and 4.0m MBR. (Customizable)

**CBT2100**

Draws on SMD's experience of track driven vehicles, trenching and cable handling subsea to provide a soft to hard ground burial solution. A fully amphibious vehicle equipped with interchangeable tooling cassettes including powerful chain cutter, dredge pump and jet legs. (Customizable)

**HD - 200**

A high-performance trenching solution for large diameter flexible umbilicals. Using patented technology the plough is designed to minimise pull force requirements and provide effective trenching capability up to 3.0m depth. The diverless loading system allows post lay burial in deep-water. Coupled with a tow winch, umbilical and LARS SMD are able to supply a turnkey flexible solution.

**HD - 300**

Provides a high-performance trenching solution for large diameter flexible umbilicals. Using patented technology, the plough is designed to minimize pull force requirements and provide effective trenching capability up to 3.0m depth. The diverless loading system allows post lay burial in deepwater. Coupled with a tow winch, umbilical and LARS system, SMD are able to supply a turnkey flexible burial solution.

**CBT3200**

Provides a soft or hard ground burial solution in one neat package. Also available as a burial tractor configured for pipeline burial. Equipped with a selection of powerful chain cutter trenching tools, dredge pumps and jet legs. Well proven chain cutter deployment systems allow pre or post-lay burial of cables up to 300mm diameter and 5.0m MBR, and pipelines up to 1.5m diameter. (Customizable)

**MD3 - 160**

A high-performance trenching solution for large diameter flexible umbilicals. Using patented technology the plough is designed to minimise pull force requirements and provide effective trenching capability up to 3.0m depth. Coupled with a tow winch, umbilical and LARS SMD are able to supply a turnkey flexible solution.

**TASKS**

**OBS**  
OBSERVATION

**SUR**  
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CONSTRUCTION

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INTERVENTION

**B&T**  
BURIAL &  
TRENCHING

**TOOLS**

**VC&L**  
VIDEO CAMERA  
& LIGHTING

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**CD**  
CLEANING  
DEVICES

**VSK**  
VEHICLE STATION  
KEEPING

**WT**  
WORK TOOLS

## TOWED & BOTTOM CRAWLING VEHICLES

### SMD

WWW.SMD.CO.UK | Graeme Jaques | graeme.jaques@smd.co.uk



#### QTRENCHER 400

Uses high voltage supply to provide effective cable maintenance and other specialised tasks. Purpose designed to provide maximum jetting and thrust performance. Has reputation for reliability and ease of maintenance & has become an essential part of any cable installation vehicle suite. Turnkey cable maintenance solution including LARS and umbilical. (Customizable)



#### QTRENCHER 600

Uses high voltage supply to provide effective cable maintenance with other specialised tasks. Purpose designed for maximum jetting and thrust performance. Optimised with a single 4.1kV hydraulic power unit to achieve 600hp in a compact package. Turnkey solution including SMD designed high sea state LARS and umbilical. (Customizable)



#### QTRENCHER 1000

Provides high power trenching capability for the burial of cables, umbilical and small diameter pipes up to 3m deep. Uses variable high flow or high-pressure jetting to optimize the trenching to suit the conditions. Can also deploy a rear eductor to enhance burial of large diameter product. With its high thrust, the ROV can perform rapid post lay survey. Can also be fitted with a suite of tools for maintenance operations. (Customizable)



#### QTRENCHER 1400

High powered free-swimming jet trencher. Optional track drive for enhanced burial capability. Optional tracked skids for bespoke tool deployment. More than 1.0 megawatt of total power. Delivers 0.75 megawatts of variable high pressure jetting power for trenching and up to 200kw of low pressure water jetting for trench backwash, eduction or trench collapse. (Customizable)



#### QTRENCHER 1600

The Q-Trencher 1600 is a high powered free-swimming jet trencher, with optional track drive for enhanced burial capability and optional tracked skids for bespoke tool deployment. With 1.2MW of total power, the trencher delivers 800kW of variable high pressure jetting power for trenching and up to 300kW of LP water jetting for trench backwash, eduction or trench collapse. (Customizable)



#### QTRENCHER 2800

The 60Te QTrencher (QT) 2800 remotely operated vehicle (ROV) is the world's most powerful free-swimming jet trencher. With more than 2 megawatts of total power, the trencher delivers 1.5 megawatts of jetting power. The complete system spread sets a new standard in severe weather deployment and operation. (Customizable)



## TELEDYNE BENTHOS

WWW.TELEDYNEMARINE.COM | Dan Shropshire | benthos@teledyne.com



### TTV-190 DEEP TOW

The TTV-190 is a rugged, 6000m rated platform for deep water search, survey, and other data collection operations. The Deep Tow vehicle is configurable to accommodate customer specified sensors including side scan sonars, multi-beam sonars, and sub bottom profilers. Sensor systems can also be recommended by Teledyne Benthos. (Customizable)



CON | B&T | A&T



### TTV-290 MID TOW

The TTV-290 Mid Tow vehicle is designed for hydrodynamic stability for side scan surveys and other applications down to 2000m. The stainless steel mid plate is a rigid platform for a combination of multi-beam and side scan sonars, sub-bottom profilers, producing co-located data sets. (Customizable)

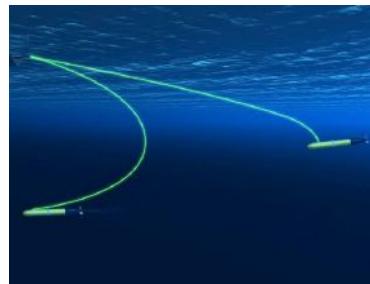


CON | B&T | A&T

## VEHICLE CONTROL TECHNOLOGIES, INC.

WWW.VCTINC.COM

Douglas E. Humphreys | edhumphreys@vctinc.com



### POWERED TOW BODY (PTB)

Powered Tow Body (PTB) differs from MTB in that it has propulsion system like a UUV and it uses power and pitch to achieve depth. Autopilot depth control eliminates need for constant winch operator control. VCT modular tail design allows the vehicle to scale in diameter to accommodate payload requirements.



### TASKS

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### TOOLS

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VIDEO CAMERA & LIGHTING

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NON-DESTRUCTIVE TESTING

#### A&T

ACOUSTIC & TRACKING

#### CD

CLEANING DEVICES

#### VSK

VEHICLE STATION KEEPING

#### WT

WORK TOOLS

## MAKING THE OCEANS TRANSPARENT

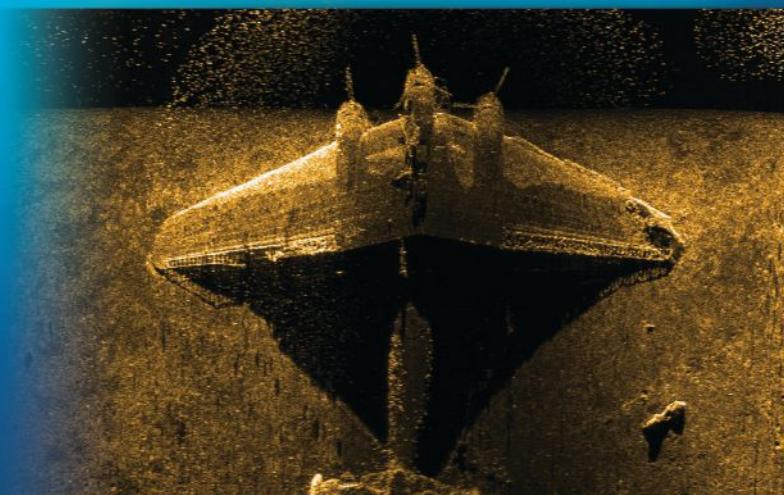


The Klein UUV-3500 side scan and bathymetry sonar is a flexible payload designed to support a broad base of manned and unmanned marine vehicles in numerous off-the-shelf configurations.

Depth rated from 600 to 6000 meters, the UUV-3500 utilizes Klein's proprietary CHIRP wideband technology for unmatched range and resolution delivering superior performance at a competitive price.

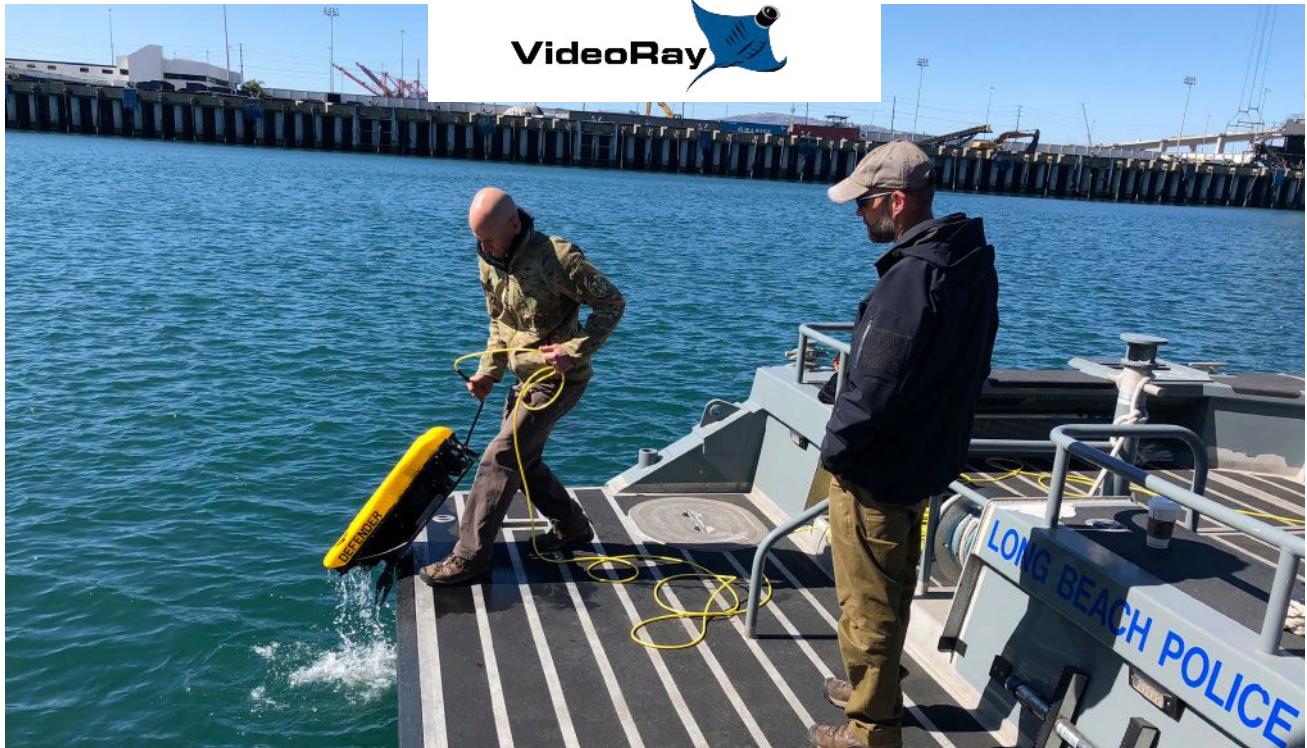
When the difference is the image, Klein is the system of choice!

To see how Klein is making the oceans transparent, call (603) 893-6131 or visit us at KleinMarineSystems.com



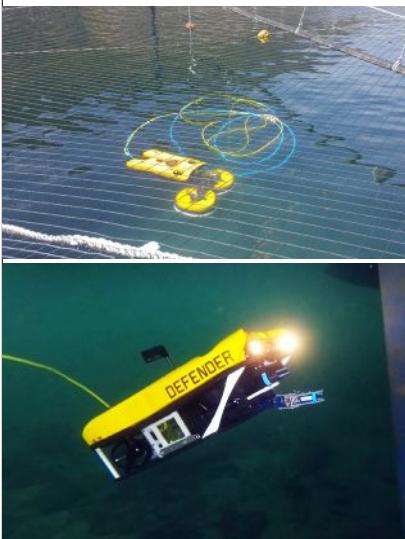
Imagery obtained with the ECA Group portable AUV A9-M equipped with the Klein UUV 3500 low power, light-weight, compact sonar payload.  
Altitude 5m Depth 90m @ 3 knots





## VideoRay's Mission Specialist Series (MSS) is sweeping the market with its modular technology providing unrivaled flexibility.

With the official launch of the Mission Specialist Defender earlier this year, VideoRay is bringing a new technology that is more powerful, more durable, and more capable. The Defender is designed for greater vehicle control, and optimized for heavier payloads, lifting, and tackling specialized operations, such as rendering unexploded ordinance safe or cavitation cleaning.



Mission Specialist technology has been developing since 2014, and continues to improve each day. The modular technical approach provides flexibility and reliability built at the component level. VideoRay systems are easy to operate and maintain. The system allows the operator to precisely control the submersible to collect necessary data to complete the mission. The ROV can actively pitch to get a better view of an object or improve the sonar grazing angle. Simply rinse and visually inspect after each use and perform routine

maintenance as needed. If a problem is found, repairs can be completed in the field by simply replacing the plug and play module.

The Defender is the first configuration built with Mission Specialist technology – expect to see new configurations

soon. Configurations will be developed by changing the ROV frame, flotation, thruster layout, power, and communication system along with a sensor and tooling package including cameras, LED lighting, thrusters, sonars, multi-function manipulators, navigation packages with autonomy capabilities, radiation, water quality, and metal thickness gauges.

Mission Specialist Series technology has been successfully deployed by several customers, including the aquaculture industry in Chile, military/defense worldwide, and the offshore industry in West Africa, the Gulf of Mexico, and the North Sea.

The system's power and durability allows offshore service companies to deploy and successfully complete jobs such as cavitation cleaning and close visual inspection directly from a rig or floating asset, eliminating the need for vessel deployment. The system's portability significantly improved the speed and efficiency of cleaning and inspection work. VideoRay's work with an oil major in Nigeria in August of 2016 was completed faster and with far less damage than previous cleanings the company had ordered, at only 10% of what the company usually pays to complete the cleaning and inspection with divers. The credit goes to the portable nature and power of the technology, which allowed the inspection to be performed from the deck of the asset in significant water currents by an innovative service company who engaged the major with a project proposal, saving the company millions of dollars.

For more information, visit  
[WWW.VIDEORAY.COM](http://WWW.VIDEORAY.COM)

# PROTOTYPE OR DEVELOPMENT VEHICLES

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UNMANNED  
VEHICLES  
BUYERS' GUIDE



ENVIRONMENTAL



DEFENSE



OFFSHORE OIL & GAS



SCIENCE



SEABED MINING



OCEAN RENEWABLES



SPEC SHEET

# SWE

SOUTHWEST ELECTRONIC ENERGY GROUP

*Advanced Battery Solutions*

## SUPERIOR POWER FOR SUBSEA APPLICATIONS

SWE SeaSafe II and SeaSafe Direct Smart Battery Modules



### • HIGHER PERFORMANCE & REWARD

- 4X Longer Mission Run Time
- 6X Longer Battery Life Time
- 100% Condition Based Monitoring

### • LOWER RISK

- ABS Certified & 2nd Generation Learned
- 6000 M Pressure Tolerant Tested
- Safety Tested and Patented

### • EASE OF USE

- No Pressure Vessel Required
- Direct in Water Viable
- Simple Battery Sizing & Operation



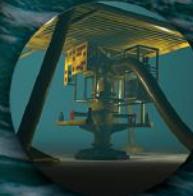
AUV



MUV



ROV



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GAS

SERVICE

QUALITY

RELIABILITY

281.240.4000 | [seasafetech@swe.com](mailto:seasafetech@swe.com)

**CELLULA ROBOTICS LTD.**

WWW.CELLULA.COM | Adrian Woodroffe | info@cellula.com

**IMOTUS**

Imotus is a hovering autonomous underwater vehicle (HAUV) with six degrees of freedom for inspection & data acquisition missions in confined and open water environments. Imotus uses scanning sonars and proprietary SLAM algorithms to provide navigational control and spatially referenced survey data. (Customizable)



OBS | SUR | INS | VC&amp;L | A&amp;T | NDT | VSK | CD

**TASKS****OBS**  
OBSERVATION**SUR**  
SURVEY**INS**  
INSPECTION**CON**  
CONSTRUCTION**INT**  
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DEVICES**VSK**  
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KEEPING**WT**  
WORK TOOLS

# IT'S IN OUR DNA...

...to engineer and manufacture the broadest range of **MARINE ANTENNAS** for the most demanding Positioning, Navigation, Timing and Communication applications the world over.

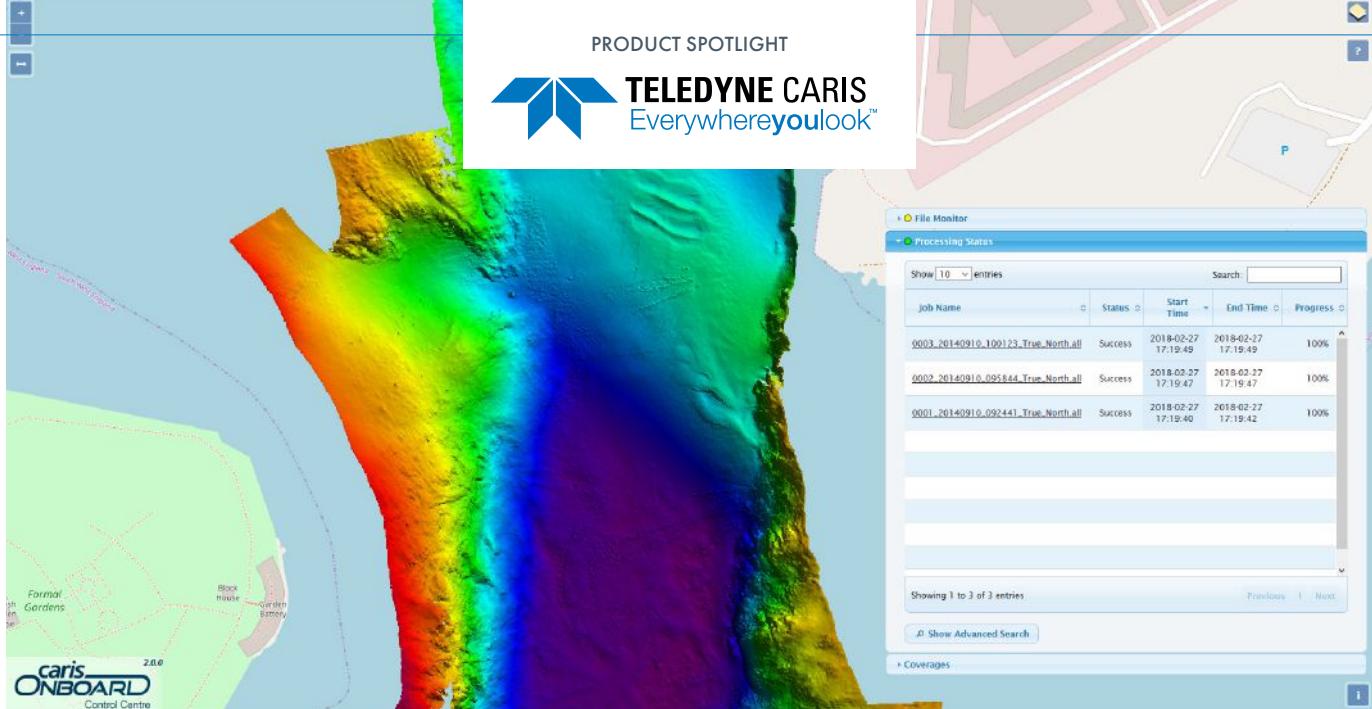
Antcom produces GNSS and Communication antennas optimized for Marine and Submarine Vessels, AUVs, Buoys, and Hydrographic and offshore equipment. Our deep-sea proven antennas are precision crafted to the highest metrics and to the most rigorous operational certifications.

Turn to Antcom for antenna capability, knowledge, and readiness to customize its antenna product line to customer-specific needs. For all of this and more, **ANTCOM KNOWS NO EQUAL**.



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CARIS Onboard 2.0 Control Centre (lower right) showing background connection to Open Street Maps, with a dynamically updated Digital Terrain Model (DTM) being rendered in near real-time.

## Real-time Mapping and Visualization with Teledyne CARIS

For more than 35 years, Teledyne CARIS has designed software for the marine GIS community. Developed in cooperation with hydrographic clients and universities, the CARIS toolset provides clients with resource optimization and a true operational advantage. Known for its Ping-to-Chart solution, CARIS' comprehensive portfolio of products, from the processing of the echo-sounder ping, to the production and distribution of the chart have enabled the charting of hundreds of thousands of nautical miles of ocean and waterways around the globe.

Not only renowned for its product, but also for outstanding customer service, Teledyne CARIS offers a comprehensive level of support through training sessions and consulting, online technical support, email and multilingual telephone support.

CARIS Onboard 2.0 is a near real-time and autonomous data processing software package which has been developed with autonomous underwater vehicles (AUVs) and unmanned surface vehicles (USVs) in mind, fitting seamlessly into the Ping-to-Chart suite of software and reducing the overall product creation timeline. This solution enables users to apply

processes automatically to their data, resulting in minimized data conversion and processing times. CARIS Onboard helps improve survey efficiency by valuably reducing the turn-around time and helping to ensure that data quality and coverage requirements are met before leaving an area.

Focused around the latest web map technology, the redesigned control centre dynamically controls and monitors the automated system. Products generated including surface, backscatter mosaics, and survey track lines are live-streamed during acquisition and accessed through a web browser. By providing access to processed products in a web application, the new Control Centre allows review of a survey dataset from any device with a network connection to the vessel. This increased access allows information about survey operations to be accessible when and where needed.

Find out why CARIS software is selected by national mapping and charting agencies, survey companies, port and water way authorities, oil and gas companies, and academic institutions worldwide by visiting [www.teledynecaris.com](http://www.teledynecaris.com).



Product Manager, Travis Hamilton, running successful CARIS Onboard 2.0 trials at Oceanology International 2018



# AUVs

UNMANNED  
VEHICLES  
BUYERS' GUIDE



ENVIRONMENTAL



DEFENSE



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SCIENCE



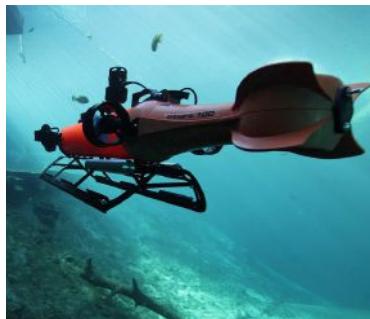
SEABED MINING



OCEAN RENEWABLES



SPEC SHEET

**AQUABOTIX**[WWW.AQUABOTIX.COM](http://WWW.AQUABOTIX.COM)Dawn Doraz | [dawn@aquabotix.com](mailto:dawn@aquabotix.com)**INTEGRA**

The AquaBotix Integra™ Hybrid AUV/ROV revolutionizes underwater vehicle missions. Integra searches wide areas using AUV mode and conducts detailed inspections using ROV mode. Switching to ROV mode is simple; attach the tether to remotely control the vehicle's five degrees freedom of motion. When running the vehicle in autonomous operation, all mission planning is completed in an intuitive web-based application.

**ATLAS ELEKTRONIK UK**[WWW.UK.ATLAS-ELEKTRONIK.COM](http://WWW.UK.ATLAS-ELEKTRONIK.COM)Tommy Kaltfoten | [tommy.kaltfoten@atlas-elektronik.com](mailto:tommy.kaltfoten@atlas-elektronik.com)**ARCIMS**

PDF

**SEACAT**

SeaCat is a hybrid AUV/Rov System with a FOC Link of 1000m. It can be supplemented by a multitude of sensors, located in a flooded bow section. The SwapHead - is exchangeable in the field within minutes and allows a wide range of high demanding missions that otherwise would require different types of vehicles.

**BATTELLE / HUNTINGTON INGALLS**[WWW.BATTELLE.ORG](http://WWW.BATTELLE.ORG)Bob Geoghegan | [geoghegr@battelle.org](mailto:geoghegr@battelle.org)**PROTEUS - DUAL-MODE****UNDERWATER VEHICLE**

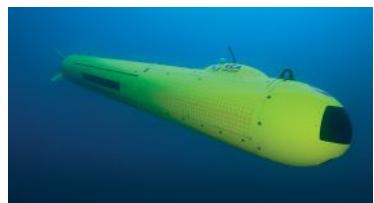
The Proteus DMUV is available for sale or lease. It can be viewed in Panama City, FL. Operations can be manned or unmanned. Large internal volume and ballasting capacity make it amenable to many payloads. Integration and operation support is available.

**BOSTON ENGINEERING**[WWW.BOSTON-ENGINEERING.COM](http://WWW.BOSTON-ENGINEERING.COM)

marketing@boston-engineering.com

**BIOSWIMMER™**

Boston Engineering's Advanced Systems Group (ASG) has developed an unmanned underwater vehicle designed to resemble a tuna, called the BIOSwimmer™. Why the tuna? Because the tuna has a natural body framework ideal for unmanned underwater vehicles (UUVs), solving some of the propulsion and maneuverability problems that plague conventional UUVs.

**ECA GROUP**[WWW.ECAGROUP.COM](http://WWW.ECAGROUP.COM)Cyril Pedehontaa-Hiaa | [eca-rsm@ecogroup.com](mailto:eca-rsm@ecogroup.com)**A18D**

Deep water modular and flexible platform for high resolution 3D survey.



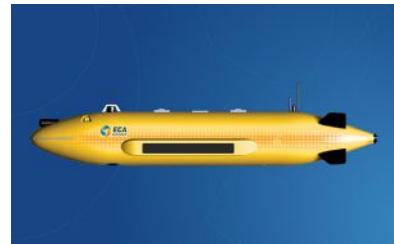
**A18-E**

Brushless DC, Magnetically Coupled Thrusters. Easy Deployment and operation. All digital control of camera, lights, thrusters and grabbers.

**A18S**

AUV with interferometric synthetic Aperture Sonar (ISAS)

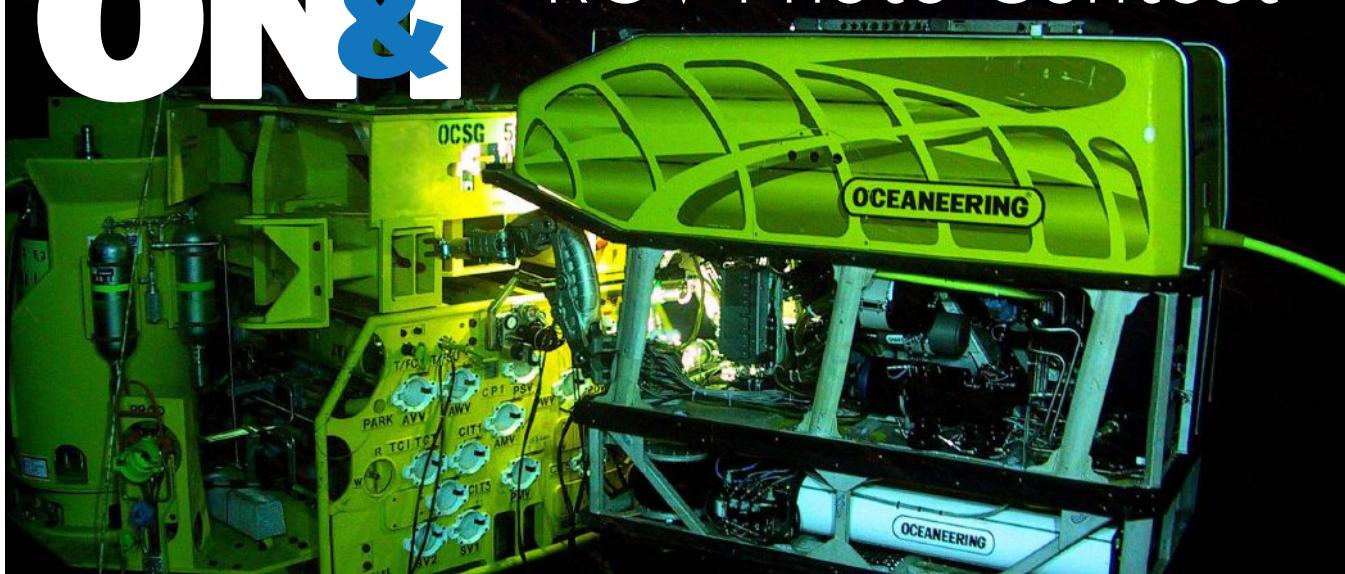
- Easy launch and recovery in bad sea state condition
- Extended coverage and endurance capacities
- User friendly mission management system

**A27 (A27-E / A27-M)**

Long endurance modular and flexible platform for high resolution 3D survey. A27-M with reduced acoustic signature, A27-E for civil applications.

**TASKS****OBS**  
OBSERVATION**SUR**  
SURVEY**INS**  
INSPECTION**CON**  
CONSTRUCTION**INT**  
INTERVENTION**B&T**  
BURIAL &  
TRENCHING**TOOLS****VC&L**  
VIDEO CAMERA  
& LIGHTING**NDT**  
NON-  
DESTRUCTIVE  
TESTING**A&T**  
ACOUSTIC  
& TRACKING**CD**  
CLEANING  
DEVICES**VSK**  
VEHICLE STATION  
KEEPING**WT**  
WORK TOOLS

# ON&T ROV Photo Contest



Ocean News & Technology has launched its first #ROVatWork photo competition. Three winning photographers will be announced and profiled alongside their images in the Nov/Dec issue of ON&T magazine, including information about the ROV technology they have captured.

For details, visit <https://ont.news/2EGiYE0>

**ECA GROUP**

WWW.ECAGROUP.COM | Cyril Pedehortaa-Hiaa | eca-rsm@ecogroup.com

**A9 (A9-M / A9-S / A9-E)**

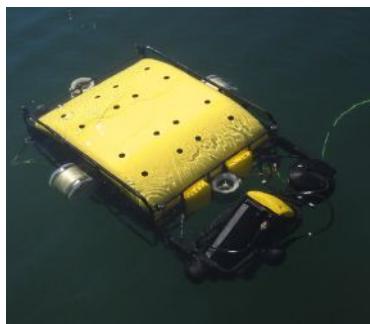
Brushless DC, Magnetically Coupled Thrusters.  
Easy deployment and operation. All digital control of camera, lights, thrusters and grabber.



PDF

**GENERAL DYNAMICS MISSION SYSTEMS - BLUEFIN ROBOTICS PRODUCTS**

WWW.GDMISSIONSYSTEMS.COM | Jonathan Lesser | Jonathan.Lesser@gd-ms.com

**BLUEFIN - HAUVE**

Bluefin Robotics' Hovering Autonomous Underwater Vehicle (HAUVE) is a two-man-portable hovering AUV designed for the inspection of submerged structures and ship hulls. Equipped with high-resolution imaging sonar and integrated sensors and thrusters to maintain stability and distance, HAUVE can survey ship hulls and other structures with minimal prior knowledge. (Customizable)



PDF

OBS | SUR | A&amp;T

**BLUEFIN SANDSHARK™**

The Bluefin SandShark® is a one-person-portable, low-cost autonomous underwater vehicle (AUV) designed to leverage today's miniaturized sensors and also be the development platform for the next generation. The standard tail section houses all core vehicle systems and connects in seconds to any number of fully customizable and modular wet or dry payload sections. (Customizable)



PDF

**BLUEFIN-21**

The Bluefin-21 is a highly modular autonomous underwater vehicle able to carry multiple sensors and payloads at once. It boasts a high energy capacity that enables extended operations even at the greatest depths. The Bluefin-21 has immense capability but is also flexible enough to operate from various ships of opportunity worldwide. (Customizable)



PDF

**EDGELAB SRL**

WWW.EDGEGLAB.EU

Lavinio Gualdesi | edgelab@edgelab.eu

**U-MAPPER**

Smart, low-cost, heavy-duty, cooperative swarm navigation, modular approach for easy integration of AUV size payloads, customized, high quality maps from better image reconstruction methods and improved location accuracy of AUVs, fast and low cost horizontal surveys of large areas with multimodal sensing, monitor changes via back-to-the-site missions, hybrid usage ROV/AUV.



PDF

**U-TRACKER**

Designed with modularity common criteria to make simple and immediate testing of new sets of sensors. Connections between various models realized with a simple, interchangeable mechanical interface system. Payload is customizable as with Webcam, CTD, Side Scan Sonar, other AUV-class sensors. High maneuverability with 2 azimuthal + 2 lateral ducted propellers.



PDF

## GENERAL DYNAMICS MISSION SYSTEMS - BLUEFIN ROBOTICS PRODUCTS

WWW.GDMISSIONSYSTEMS.COM

Jonathan Lesser | Jonathan.Lesser@gd-ms.com



### BLUEFIN-9

The Bluefin-9 is a lightweight, two-man-portable autonomous underwater vehicle with a mission turnaround time of less than 15 minutes. Equipped with a side scan sonar and camera, the Bluefin-9 provides the performance of much larger AUVs in a convenient and rapidly deployable package. (Customizable)



PDF

## GRAAL TECH S.R.L

WWW.GRAALTECH.IT

Andrea Caffaz | andrea.caffaz@graaltech.it



### FOLAGA

Folaga is characterized by a very high maneuverability even at low speed, including hovering capabilities, that may be exploited in several inspection and patrolling tasks. The main feature of the eFolaga is the possibility of mounting in the easiest possible way different kinds of mission payloads.



PDF

## HYDROID

WWW.KM.KONGSBERG.COM | Alex Kern | sales@hydroid.com



### REMUS 100

With a track record second to none, the Remus 100 is the most prolific compact AUV to be selected by the U.S. Navy fleet for their mine counter measure operations. The system is in operation in more than 17 countries, has over ten years of continuous product development and thousands of hours of field operations. (Customizable)



### REMUS 600

The Remus 600 is designed to support the growing need for operations requiring endurance, increased payload capacity and greater operating depth. (Customizable)



### REMUS 6000

The Remus 6000 AUV is a deep water workhorse. This model can operate in up to 6,000 m of water, allowing for increased operational scope. (Customizable)



## TASKS

OBS  
OBSERVATION

SUR  
SURVEY

INS  
INSPECTION

CON  
CONSTRUCTION

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INTERVENTION

B&T  
BURIAL &  
TRENCHING

## TOOLS

VC&L  
VIDEO CAMERA  
& LIGHTING

NDT  
NON-  
DESTRUCTIVE  
TESTING

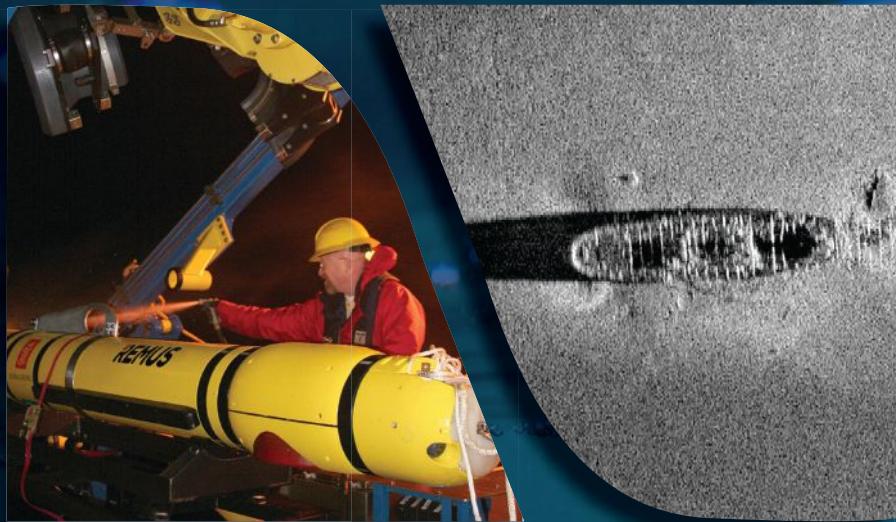
A&T  
ACOUSTIC  
& TRACKING

CD  
CLEANING  
DEVICES

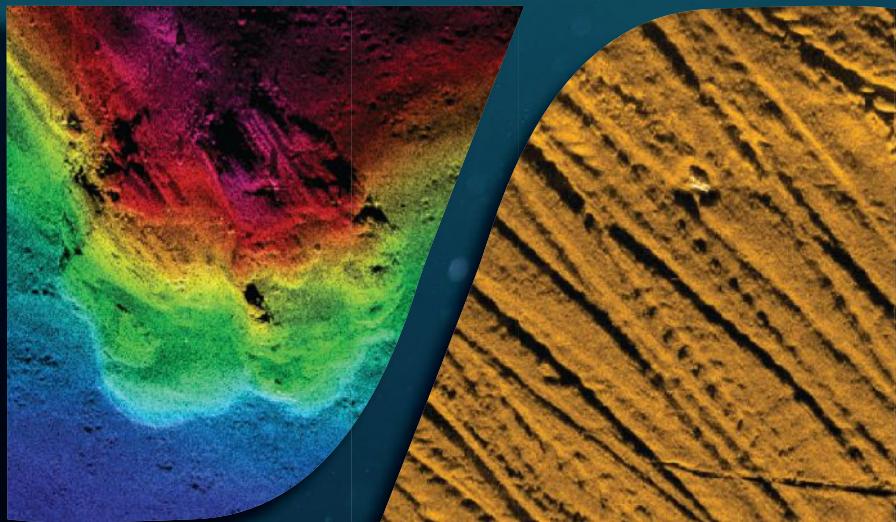
VSK  
VEHICLE STATION  
KEEPING

WT  
WORK TOOLS

# I AM TRUSTED.



# I DELIVER QUALITY DATA.



# I AM REMUS.

*Today, there are over 400 REMUS AUVs operational in 20 countries worldwide, proving the reliability and accuracy of our vehicles. Specific data from our REMUS 600 Hydrography Variant has been IHO Order 1a compliant and used to create ocean maps. You can be confident REMUS will complete your mission.*

**HYDROID**  
A KONGSBERG COMPANY

Learn more at [HYDROID.COM/IAMREMUS](http://HYDROID.COM/IAMREMUS)

**INDEPENDENT ROBOTICS**

[WWW.INDEPENDENTROBOTICS.COM](http://WWW.INDEPENDENTROBOTICS.COM)  
info@independenrobotics.com



**AQUA 2**

The Aqua2 is an amphibious hexapod robot capable of propelling itself on land or through the water. The use of six independently controlled thrusting surfaces makes the unit very maneuverable and produces minimal disturbance to the surrounding environment. The Aqua2 is programmable and configurable, can be deployed for tethered or untethered use, and is an ideal platform for submersible robotics projects, environmental monitoring, and propulsion research. (Customizable)



**INTERNATIONAL SUBMARINE ENGINEERING LTD. (ISE)**

[WWW.ISE.BC.CA](http://WWW.ISE.BC.CA)



**ISE EXPLORER AUV**

International Submarine Engineering (ISE) initiated the design of a modular AUV, the Explorer, following the success of the ARCS AUV from which some component designs were borrowed. The modularity of the Explorer AUV is optimized for longevity and adaptation to new requirements. The cylindrical pressure hull and the wet payload fairing are modular and can be lengthened or shortened. (Customizable)





**KONGSBERG MARITIME**

[WWW.KM.KONGSBERG.COM](http://WWW.KM.KONGSBERG.COM) | Richard Mills | richard.mills@kongsberg.com



**MUNIN 600**

MUNIN retains all of the processing capability from HUGIN, packaged in a low-logistics vehicle. Easy to ship, mobilize and operate, MUNIN is capable of more than any other mid-size AUV. (Customizable)

**HUGIN**

HUGIN is the most commercially successful AUV in the world, having completed over 600,000 line kilometres of paid survey. Proven by operations in harsh operations. Proven by operations in harsh open ocean conditions from Africa to South America HUGIN is the most robust AUV platform providing IHO standard data quality. (Customizable)



**TASKS****OBS**

OBSERVATION

**SUR**

SURVEY

**INS**

INSPECTION

**CON**

CONSTRUCTION

**INT**

INTERVENTION

**B&T**

BURIAL &amp;

TRENCHING

**TOOLS****VC&L**

VIDEO CAMERA &amp; LIGHTING

**NDT**

NON-DESTRUCTIVE TESTING

**A&T**

ACOUSTIC &amp; TRACKING

**CD**

CLEANING DEVICES

**VSK**

VEHICLE STATION KEEPING

**WT**

WORK TOOLS

**LOCKHEED MARTIN**

[WWW.LOCKHEEDMARTIN.COM](http://WWW.LOCKHEEDMARTIN.COM)  
Brandon Broom | [brandon.broom@lmco.com](mailto:brandon.broom@lmco.com)

**MARLIN MK2 AUV**

Marlin provides safer, faster, and more effective subsea integrity management inspections of subsea facilities and pipeline inspections, structural, damage assessment and decommissioning surveys. High fidelity 3D geo-referenced models of infrastructure are generated in real time, while employing autonomous change detection from baseline surveys. (Customizable)



[PDF](#)

**OCEANERING INTERNATIONAL, INC.**

[WWW.OCEANEERING.COM](http://WWW.OCEANEERING.COM) | Christina Tran | [ctran2@oceaneering.com](mailto:ctran2@oceaneering.com)

**ENOVUS ROV**

The compact work class eNovus ROV is the newest addition to our fleet and is powered by an environmentally conscious, 150-kVA electric (235-hp hydraulic equivalent) propulsion system. This vehicle maintains work class manipulator capabilities via a dedicated hydraulic circuit. (Customizable)



[PDF](#)

**MAGNUM® PLUS ROV**

The powerful Magnum Plus ROV delivers enhanced flight control in a smaller package. Reliable and easily maintained, it provides a 170-hp, high-thrust, tophat- or cage-deployed system designed for subsea intervention and deepwater tooling. (Customizable)



[PDF](#)

OBS | SUR | VC&L | A&T | NDT

**OCEANEERING INTERNATIONAL, INC.**

[WWW.OCEANEERING.COM](http://WWW.OCEANEERING.COM) | Christina Tran | [ctran2@oceaneering.com](mailto:ctran2@oceaneering.com)

**MILLENNIUM® PLUS ROV**

This powerful ROV features a dual-manipulator, 220-hp work class system with an enhanced thruster configuration that increases lift capacity by more than 50% compared with the standard Millennium ROV system. (Customizable)



[PDF](#)

**NEXXUS ROV**

Our high-power, heavy work class ROV system meets the API Standard 53 requirements for BOP intervention. With heavily increased tooling capabilities, the NEXXUS ROV is designed to meet next-generation intervention requirements. (Customizable)



[PDF](#)

**OCEAN SURVEYOR**

Standard Equipment: C-Nav L-Band DGPS | Intertial Navigation | Simrad HiPAP USBL | RDI Navigator Doppler Velocity Log | Kalman Filter | Digiquartz Depth Unit | SBE 49 FastCAT CTD Sensor | Multibeam Echo-sounder: Kongsberg Simrad EM 2040 | EdgeTech / Side Scan Sonar: 120 / 410 kHz Chirp AUV / UUV DF Seafloor Mapper (Customizable)



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## OCEANSCAN-MST LDA

WWW.OCEANSCAN-MST.COM

info@oceanscan-mst.com



### LAUV- LIGHT AUTONOMOUS UNDERWATER VEHICLE

Lightweight AUV targeted at innovative standalone or networked operations for cost-effective oceanographic, hydrographic and security and surveillance surveys. NEPTUS is the LAUV command and control user interface. As a complete software framework was designed to support all user's actions in all stages of the mission life cycle: plan and design, simulation, execution, monitoring and data analysis.



## QINETIQ NORTH AMERICA

WWW.QINETIQ-NA.COM

Knut Streitlien | knut.streitlien@qinetiq-na.com



### SEA SCOUT

Sea Scout™ is a general purpose UUV that can be deployed with a standard A-size sonobuoy launch container. It can have up to two optional payload sensors.



## L3 OCEANSERVER TECHNOLOGY, INC.

WWW.IVER-AUV.COM

Jim Kirk | kirk@ocean-server.com



### IVER3-580 AUV

The Iver3-580 options include Side Scan, Bathymetric, Environmental Sensors, User 2nd CPU, Camera, Iridium, Modem and Handheld Remote.



## RIPTIDE

WWW.RIPTIDEAS.COM

Jeff Smith | jeff@riptideas



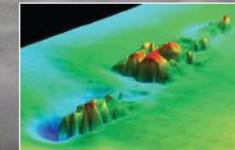
### MICRO-UUV

Riptide is offering a new, highly flexible UUV that provides users a state-of-the-art, low cost development solution ideally suited for developers of autonomy and behavior, power systems, subsea sensors, and new payloads.



# Iver3

## Autonomous Underwater Vehicles



### Rapid Data Collection For Coastal Applications

Side Scan

Bathy Water Quality

Magnetometer



OceanServer

www.ocean-server.com

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### TASKS

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BURIAL &

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### TOOLS

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CLEANING DEVICES

VSK

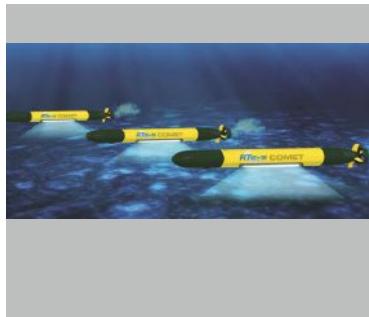
VEHICLE STATION KEEPING

WT

WORK TOOLS

## RTSYS

[WWW.RTSYS.EU](http://WWW.RTSYS.EU)  
Luc Simon | [info@rtsys.eu](mailto:info@rtsys.eu)

**COMET 300**

COMET 300 is a cost-effective operational AUV with real-time positioning and acoustic communication system, designed to meet the current needs of marine research and industry. It can be used in swarm mode to communicate with others drones to position themselves and realize joint missions. Furthermore, RTsys has developed a module that allows drones to dock into a station. (Customizable)

**THE BOEING COMPANY**

[WWW.BOEING.COM](http://WWW.BOEING.COM)

**ECHO RANGER AUTONOMOUS UNMANNED UNDERWATER VEHICLE**

New sensor and system payloads are rapidly being introduced to UUVs. The Boeing Solution to testing these proposed systems requires a vehicle with ample payload capacity and energy. The Echo Ranger is uniquely suited to this task with proven autonomy, generous external payload volume, and available energy capacity.

**STRATEGIC ROBOTIC SYSTEMS**

[WWW.SRSFUSION.COM](http://WWW.SRSFUSION.COM)  
Jesse Rodocker | [jesse@srsfusion.com](mailto:jesse@srsfusion.com)

**FUSION-HYBRID**

The FUSION-HYBRID is a multipurpose UUV with both AUV and ROV functionality. Complete with a full suite of sensors including side scan, forward looking multi-beam, HD video, DVL and USBL. The highly intuitive control system coupled with the compact footprint and ability to conduct tethered or untethered missions make the FUSION-HYBRID a versatile system. (Customizable)



OBS | SUR | VC&L | A&T | NDT

**TELEDYNE GAVIA**

[WWW.TELEDYNEMARINE.COM](http://WWW.TELEDYNEMARINE.COM)  
Arnar Steingrimsson | [gavia\\_sales@teledyne.com](mailto:gavia_sales@teledyne.com)

**GAVIA AUV**

THE GAVIA AUTONOMOUS UNDERWATER VEHICLE (AUV) is a self-contained, low logistics, modular survey platform capable of delivering high quality data while operating from vessels of opportunity or from the shore. (Customizable)



SUR | VC&L | A&T | NDT

**SEARAPTOR AUV**

The SEARAPTOR™ is a survey grade deep water autonomous underwater vehicle (AUV) designed to operate at abyssal depths. A wide range of sensors allow the SeaRaptor™ to complete several types of missions including: broad area search with side-scan sonar, hydrographic survey with multibeam and sub bottom profiler, and high resolution inspection survey with camera and acoustic sonar. (Customizable)



SUR | A&T | NDT

**VEHICLE CONTROL TECHNOLOGIES, INC.**

[WWW.VCTINC.COM](http://WWW.VCTINC.COM)  
Douglas E. Humphreys | [dhumphreys@vctinc.com](mailto:dhumphreys@vctinc.com)

**HARBORSCAN UUV**

VCT modular tail design means this vehicle scales in diameter to accommodate your payload requirements/ load requirements.



**VEHICLE CONTROL TECHNOLOGIES, INC.**[WWW.VCTINC.COM](http://WWW.VCTINC.COM)Douglas E. Humphreys | [dhumphreys@vctinc.com](mailto:dhumphreys@vctinc.com)**HYBRID PTB-UUV**

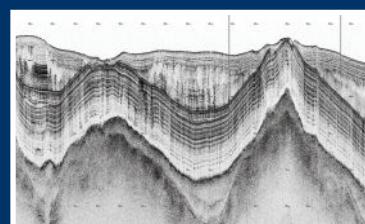
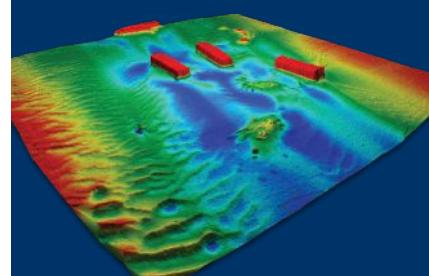
Users that benefit from a single system that can be used as a high-performance tow body and an untethered UUV based on the same vehicle. Search and survey; mine countermeasures (MCM); open architecture R&D platform.

**YSI INTEGRATED**[WWW.YSI.COM](http://WWW.YSI.COM)**I3XO ECOMAPPER AUV**

The Iver3-580 options include Side Scan, Bathymetric, Environmental Sensors, User 2nd CPU, Camera, Iridium, Modem and Handheld Remote.



OBS | SUR | A&amp;T | NDT

**Clearly Superior Imaging****SONAR SYSTEMS****SIDE SCAN SONARS****SUB-BOTTOM PROFILERS****BATHYMETRY SYSTEMS****EdgeTech.com****info@edgetech.com  
USA 1.508.291.0057****TASKS****OBS****SUR**  
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**INSPECTION****CON**  
**CONSTRUCTION****INT**  
**INTERVENTION****B&T**  
**BURIAL &**  
**TRENCHING****TOOLS****VC&L**  
**VIDEO CAMERA & LIGHTING****NDT**  
**NON-DESTRUCTIVE TESTING****A&T**  
**ACOUSTIC & TRACKING****CD**  
**CLEANING DEVICES****VSK**  
**VEHICLE STATION KEEPING****WT**  
**WORK TOOLS**

## Next Generation USV's Capable Of Unmanned Surveying In Ultra-Shallow Waters

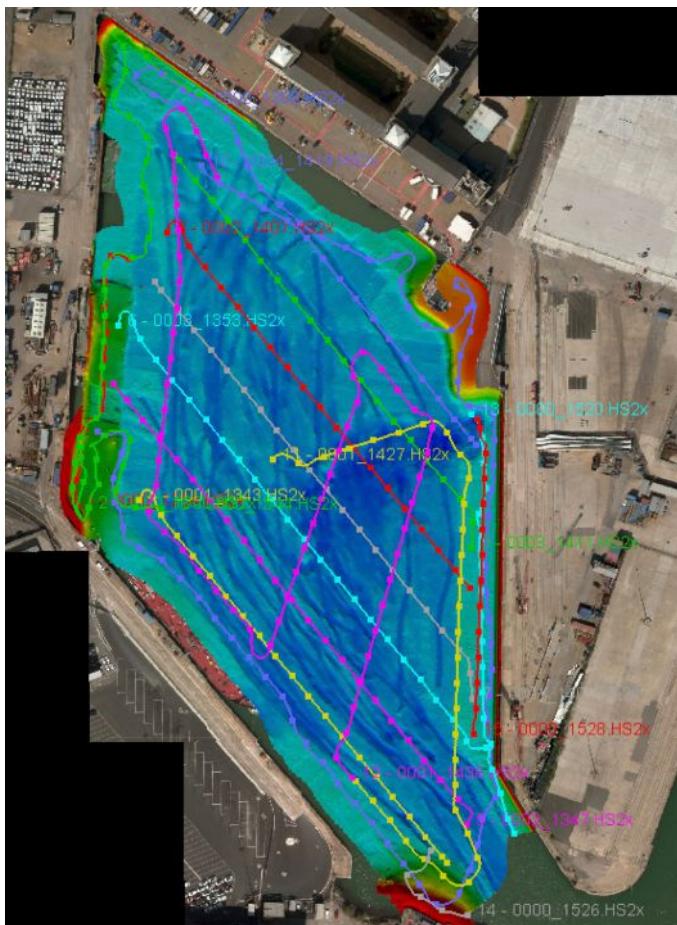


Figure 1 - USS Inception Mark II Survey of Empress Dock, Southampton using Hysweep, SONIC 2020, SBG Ekinox2 INS and Valeport SV sensors.



USS Inception Mark II on a bespoke hoist trolley for vertical quay wall launch locations.

Unmanned Survey Solutions (USS) are a team of highly skilled and experienced surveyors who created USS in response to increasing demands for smarter USV's. 'Built by surveyors for surveyors' their Inception Class USV's are designed to produce high-end accurate hydrographic surveys for challenging shallow water environments.

The Inception Class USV is ideal for bathymetric surveys in areas where access for manned survey vessels is difficult; such as when operated in harbours, rivers, lakes, lagoons, mining ponds and other shallow water zones. They can be operated by remote-control or autonomously depending on the application.

A sample of previous applications include:

### Ports – Port of Southampton, UK

A recent survey of Empress Dock in Southampton (figure 1) demonstrated the ease of which the Inception Mark II USV can be launched and recovered in areas with vertical quay walls without the need for a slip or pontoon (figure 2). Using the forward looking camera and manual control for defining the safe working limits, the majority of the dock was efficiently mapped using the Inception's autonomous module.

### Harbours - Newlyn Harbour, UK

A survey of Newlyn harbour by USS demonstrated survey challenges typical of small to medium sized harbours. Frequently intertidal, dense with moorings, berths and a high volume of boat traffic. The USV's tight turning radius enabled the mapping of confined spaces between berthed vessels allowing for enhanced survey coverage without disruption.

### Rivers - Port of Tarragona, Spain

The port needed a bathymetric survey of a shallow river section which flows into the port. Previously uncharted due to its inaccessibility for standard vessels, the Inception Mark I with its ultra-shallow mapping capability was in its element. Its smooth mobilisation and deployment procedure meant that online survey activities started immediately on arrival. Bumping over rocks as it went in some of the more challenging parts, the tough aluminium hulls provided a robust solution.

USS' smarter generation of USV's are fully customisable to client requirements and supplied with or without specialist capabilities and multi-operational payload. This allows for greater savings in time, money, personnel and equipment. USS are clearly exceeding industry standards without compromise.

For more information, visit  
[WWW.UNMANNEDSURVEYSOLUTIONS.COM](http://WWW.UNMANNEDSURVEYSOLUTIONS.COM)



# USVs

UNMANNED  
VEHICLES  
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ENVIRONMENTAL



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SCIENCE



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OCEAN RENEWABLES



SPEC SHEET

**AUTONOMOUS MARINE SYSTEMS**

WWW.AUTOMARINESYS.COM | Scott Nguyen | info@automarinesys.com

**THE DATAMARAN**

Autonomous Marine Systems delivers a global platform for ocean observation using intelligent sensor networks powered by the Datamaran. Our unmanned surface vehicles autonomously collect data from above and below the surface of almost any body of water and transmit this information directly to our clients.



PDF

**DEEP OCEAN ENGINEERING, INC.**

WWW.DEEPOCEAN.COM | Mike Takeda | mtakeda@deepecocean.com

**PHANTOM® H-1750**

The Phantom® H-1750 USV is a powerful, 1.75m, remotely controlled, battery-powered, catamaran-style unmanned surface vehicle designed and manufactured by Deep Ocean Engineering to conduct measurements of currents, bathymetry, discharge and surveys in a variety of environments. The advanced technology of the Phantom® H-1750 USV can be equipped with GPS, depth sounder, sonar and a variety of sensors. (Customizable)



PDF

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**PHANTOM® H-3000**

The Phantom® H-3000 USV is a powerful, 3.0m, remotely controlled, battery-powered, catamaran-style unmanned surface vehicle designed and manufactured by Deep Ocean Engineering to conduct measurements of currents, bathymetry, discharge and surveys in a variety of environments. (Customizable)



PDF

OBS | SUR | VC&amp;L | NDT | A&amp;T

**PHANTOM® I-1650 USV**

The Phantom® I-1650 USV is a powerful, 1.65m, remotely controlled, battery-powered unmanned surface vessel designed and manufactured by Deep Ocean Engineering to conduct measurements of currents, bathymetry and discharge with ADCPs. (Customizable)



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**CLEARPATH ROBOTICS, INC**

WWW.CLEARPATHROBOTICS.COM

Robin Lefler | info@clearpathrobotics.com

**HERON USV**

Can integrate different side-scan, multibeam, dual-frequency, sub-bottom profiling sonars and other water quality sensors.

**ECA GROUP**

WWW.ECAGROUP.COM

Cyril Pedehontaa-Hiaa | eca-rsm@ecogroup.com

**INSPECTOR 90**

Inspector 90 can be delivered with different payload modules:

- Homeland Security following: Directional spotlight, EOD, LRAD
- Mine Counter measurer following: remote controlled robot inspection, Mine killers and very shallow Side Scan Sonar (SSS)
- Rapid Environmental Assessment result: Very Shallow Water Side Scan Sonar Towed Deployed from a remote controlled Module



PDF

## EMMA TECHNOLOGIES GMBH

WWW.EMMA-TECHNOLOGIES.COM | Maarit Loide | ask-emma@emma-technologies.com



### BOSS

Real workclass vehicle. Lightweight and rigid structure.



### HYCOPS

Most advanced.



## HYDROMEA

WWW.HYDROMEA.COM

Alexander Bahr | alexander.bahr@hydromea.com



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& TRACKING

#### CD

CLEANING  
DEVICES

#### VSK

VEHICLE STATION  
KEEPING

#### WT

WORK TOOLS

## EVOLOGICS GMBH

WWW.EVOLOGICS.DE | Francisco Bustamante | sales@evo logits.de



### SONOBOT USV

SONOBOT USV offers a usable platform for planning and executing a hydrographic survey, delivering accurate geo-referenced bathymetric measurements and high-quality imagery with minimum transport, launch and recovery efforts.



## IXBLUE

[WWW.IXBLUE.COM](http://WWW.IXBLUE.COM) | Pierre-Louis Roudaut | pierre-louis.roudaut@ixblue.com



## DRIX

A new internationally patented 8-metres Autonomous Surface Vessel that expands your working domain and saves your vessel time. DriX has been designed with the absence of Human factor as a fundamental, from launch and recovery to mission's execution. Fast, enduring, safe, high seas going and sea proven, it shows outstanding seakeeping capabilities and takes the industry of surface drones several steps further. Designed from our shipyard design office, following our own in-house surveyors' teams' requirements, built by our shipyard, and refined with our long-time international major partners in the fields of Geosciences and Offshore Energy. (Customizable)



PDF

OBS | SUR | A&T

## MARINE ADVANCED REASEARCH

[WWW.WAM-V.COM](http://WWW.WAM-V.COM) | Marine Survey Department | sales@wam-v.com



## 16' WAM-V USV

Introducing the newest edition to the WAM-V product line.



## BOSS WAM-V

Rugged, reliable, cost saving, commercial hydrography and geophysical surveys.



## L-3 CALZONI

[WWW.CALZONI.COM](http://WWW.CALZONI.COM)

Marcello Zannini | Marcello.Zannini@L-3com.com



## U-RANGER

U-RANGER is manned/unmanned modular platform intended for many different tasks and roles to host and support a wide range of weapon/sensor payloads to perform multiple operational tasks.



## MARINETECH

[EN.MARINETECH.FR](http://EN.MARINETECH.FR)



## DOLPHIN

Thanks to its small size, the RSV Dolphin is one of the only USV capable of deployment in areas with limited access such as dams or rivers. (Customizable)



OBS | SUR | INS | CON | INT | B&T  
VC&L | VSK | A&T

## MARINETECH

EN.MARINETECH.FR



### ORCA

The RSV Orca is a reliable and user friendly USV dedicated to marine survey. Data recorded by sensors on board are transmitted in real time to the operator to a control base and positioning is provided by high precision GPS, gyrocompass and motion sensor. (Customizable)



PDF

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### SEA OBSERVER

The RSV Sea Observer is the first USV capable of deploying a ROV for offshore operations, such as subsea monitoring, inspection, etc. It can be equipped with SSS, SBES, etc. for marine survey. (Customizable)



PDF

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## MARITIME ROBOTICS

WWW.MARITIMEROBOTICS.COM



### MARINER

The Mariner USV is a multipurpose unmanned vehicle with hull and superstructure made of polyethylene. The vehicle will fit into a standard 20 feet container for easy cargo shipping. The Mariner is equipped with a large payload room of more than one cubic meter and can be equipped with a variety of surface and sub-surface sensors/payload types.



PDF

### TASKS

#### OBS

OBSERVATION

#### SUR

SURVEY

#### INS

INSPECTION

#### CON

CONSTRUCTION

#### INT

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#### B&T

BURIAL & TRENCHING

### TOOLS

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VIDEO CAMERA & LIGHTING

#### NDT

NON-DESTRUCTIVE TESTING

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**OCEAN AERO, INC.**

WWW.OCEANAERO.US | Neil Trenaman | ntrenaman@oceanaero.us

**SUBMARAN S10**

The combined surface and sub-surface capability of the Submaran S10 represents a new level of ocean autonomy and survivability. The S10's ability to submerge allows it to avoid surface weather and perform sub-surface data collection.

**OCEANALPHA**

WWW.OCEANALPHA.COM | Ran Zhang | ran.zhang@oceanalpha.com

**ESM30**

Autonomous water sampling & monitoring vessel ESM30 is an unmanned surface vehicle (USV) designed for fast response to sudden water pollution accidents in complicated environment and routing water sampling task in lake, river or reservoirs. The ESM30 uses GPS location tracking to follow preset waypoints and mission parameters, navigating autonomously while intelligently avoiding obstacles up to 10m ahead. It can also integrate different brand probes, like YSI, hydrolab, eureka and etc. to achieve the online data acquisition and output the water quality contour map. (Customizable)



OBS | SUR | VC&amp;L | A&amp;T | NDT

**NAVOCEAN INC.**

WWW.NAVOCLEAN.COM

Stuart Lochner | sales@navoclean.com

**NAV2 SAIL AND SOLAR ASV FOR DATA COLLECTION**

Made for ocean data collection, the Nav2 Self-Navigating Sailboat provides average speeds of 2 knots, continuous communications, and is built for open ocean, coastal and freshwater surveys. At only 2 meters and 85 pounds, the Nav2 is easy to launch and land from shorelines, docks or boats. (Customizable)



OBS | SUR | A&amp;T

**ME40**

The ME40 is a hydrographic survey vessel constructed with a trimaran hull design for stable sailing and a shallow draft that allows it to survey reefs and areas close to shore with its single-beam sonar. The in-built inertial navigation system allows it to provide accurate real-time survey data. This product avoids potential man safety hazard and greatly improve the flexibility and efficiency of bathymetry survey. It is widely used in reservoir, lake and tailing pond. (Customizable)



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## OCEANALPHA

WWW.OCEANALPHA.COM

Ran Zhang | ran.zhang@oceanalpha.com



### M40

The M40A is a medium size autonomous survey platform which designed for bathymetry survey in coastal and ocean. With modular catamaran design and flexible payload for instruments, M40A was developed to provide high performance survey with single or multi beam sonar and different kinds of hydrographic and monitoring instruments in ocean. (Customizable)



OBS | SUR | VC&L | NDT | A&T



### M80B

The M80B is a big size autonomous survey platform which designed for oceanographic survey, M80B was developed to provide high performance survey, it can carry a variety of equipment to perform more tasks in many fields, such as bathymetry, surveying waterways, maritime search and rescue etc., The boat has fast speed, nice stability, excellent seakeeping, and good maneuverability. It is also customized to perfect carry teledyne T50P and T20P multi-beam echo sounder. (Customizable)



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## OFFSHORE SENSING AS

WWW.SAILBUOY.NO

David Peddie | info@ssirovs.com



### THE SAILBUOY

The Sailbuoy is a fieldproven, user friendly, long endurance ocean USV capable of persistent monitoring in all weather conditions.



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**USV-5.7 METER GENERAL PURPOSE**

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WWW.TELEDYNEMARINE.COM | Shannon Searing | Oceanscience.Sales@Teledyne.com

**Q-BOAT 1250**

Teledyne Oceanscience Q-Boats® are the number one choice for reliable remotely-controlled data collection in streams, rivers, lakes and coastal waters. The new Q-Boat 1250 has been designed specifically for shallow water flow and discharge measurements. This one-man portable remote vehicle is easy to set up, easy to operate, and accepts most industry standard ADCPs. (Customizable)



SUR | A&amp;T

**Z-BOAT 1800RP**

The Teledyne Oceanscience Z-Boat® 1800RP with new ruggedized design and interchangeable sensor well, offers an entirely new option for high-resolution shallow-water hydrographic surveying. Get multibeam bathymetry data where conventional methods are not feasible or safe. All data is accessible in real time, giving the operator total control over the survey process. (Customizable)



SUR | A&amp;T | NDT

**SUBSEA TECH**

WWW.SUBSEA-TECH.COM

Grégoire Maurin | gregory.maurin@subsea-tech.com

**CATAROB**

Catarob has been especially designed to carry out tele-operated or autonomous inspection, survey and modelling missions in shallow inland waters and harbour areas. Lightweight and compact (50kg, L180 cm), Catarob is easily transported and deployed by a single operator. Open architecture and high speed PC to PC communication allow integrating multiple sensors. (Customizable)



SUR | OBS | VC&amp;L | A&amp;T

**CAT-SURVEYOR**

CAT-Surveyor is a teleoperated or autonomous USV allowing acquisition of hydrographic data or surveillance for inland waters, harbour and coastal areas. High payload capacity (80kg) allows embedding multiple sensors for scientific, defense and civil missions. CAT-Surveyor was the first USV able to launch a mini-ROV. (Customizable)



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## UNMANNED SURVEY SOLUTIONS

WWW.UNMANNEDSURVEYSOLUTIONS.COM

James Williams | james@unmannedsurveysolutions.com



### INCEPTION MARK I

The Unmanned Survey Solutions (USS) Inception Class MK 1 Unmanned Survey Vessel (USV) has been developed to meet the demanding requirements of the shallow water sector. This hydrographic survey vessel is composed of tough aluminum hulls, weed cutting propellers and equipment to provide bathymetric surveys in areas using single beam sonars where access for a traditional survey vessel is restricted. (Customizable)

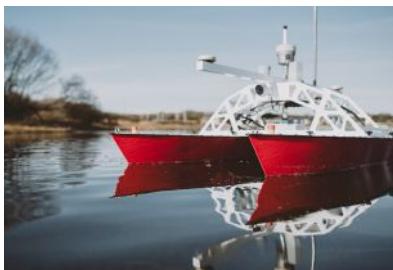


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### INCEPTION MARK II

The Unmanned Survey Solutions (USS) Inception Class MK 2 Unmanned Survey Vessel (USV) has been developed to meet the demanding requirements of the shallow water sector. This hydrographic survey vessel is composed of tough aluminium hulls, weed cutting propellers and equipment to provide bathymetric surveys in areas where access for a traditional survey vessel is restricted. (Customizable)



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WWW.YSI.COM/HYCAT

YSI Systems | ysi.systems@xyleminc.com



### HYCAT - AUTONOMOUS SURFACE VEHICLE

The HYCAT Autonomous Surface Vehicle (ASV) is the newest element in the Xylem brand Autonomous and Remote Vehicle Monitoring Solutions. This unique ASV combines products from multiple brands to provide a total solution for your site. Sensors have plug-and-play capabilities, allowing the HYCAT to be customized to your specific site needs. (Customizable)



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Oceanscience.sales@teledyne.com



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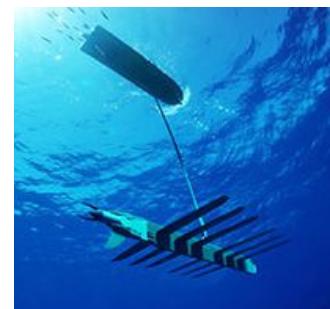
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## LIQUID ROBOTICS, INC.

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### WAVE GLIDER

The Wave Glider is the most experienced unmanned surface vehicle on the planet. Wave-and solar-powered Wave Gliders can host or tow a range of sensors, so you can collect and communicate real-time ocean data over long durations and in varying sea states. (Customizable)



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The SeaExplorer is the ultimate low-logistics and user-friendly glider designed for Oceanographic, Defence and Oil&Gas applications. Its rechargeable battery and its fully interchangeable payloads greatly simplify its maintenance, allowing huge savings in terms of time and money, making it the glider with the lowest cost of ownership on the market. (Customizable)



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#### SEAGLIDER

Low cost, high endurance AUV for science, military/government and commercial applications. This mature technology has revolutionized the way that ocean data is collected, allowing extremely long duration monitoring. The resulting data is of higher temporal and spacial density than can be collected with traditional methods.



### EXOCETUS AUTONOMOUS SYSTEMS

WWW.EXOCETUSSYSTEMS.COM

Joe Turner | turner@exocetussystems.com



#### MOD2 GLIDER

The MOD2 Glider™ is the next step forward in long duration subsea monitoring. Designed for the user, the glider can be easily configured, features a large sensor bay, and runs open software that can support both off-the-shelf and custom sensors. The powerful engine autonomously transitions through fresh and salt water. (Customizable)



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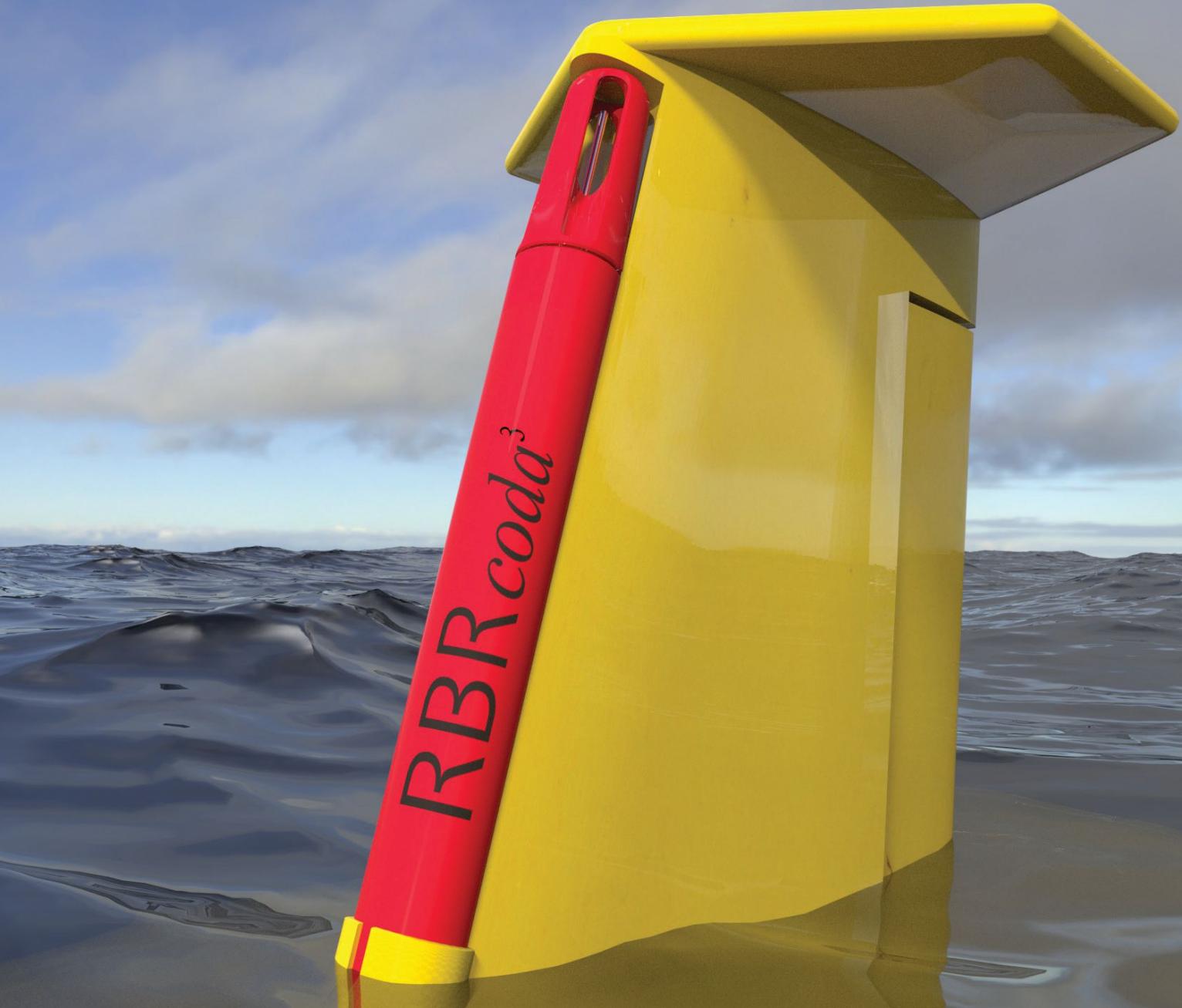
### SLOCUM G3 GLIDER

The Slocum glider is buoyancy driven to enable long range and duration remote water column observation for academic, military, and commercial applications. The Slocum Glider can be deployed and recovered from any size vessel with minimal time on station.

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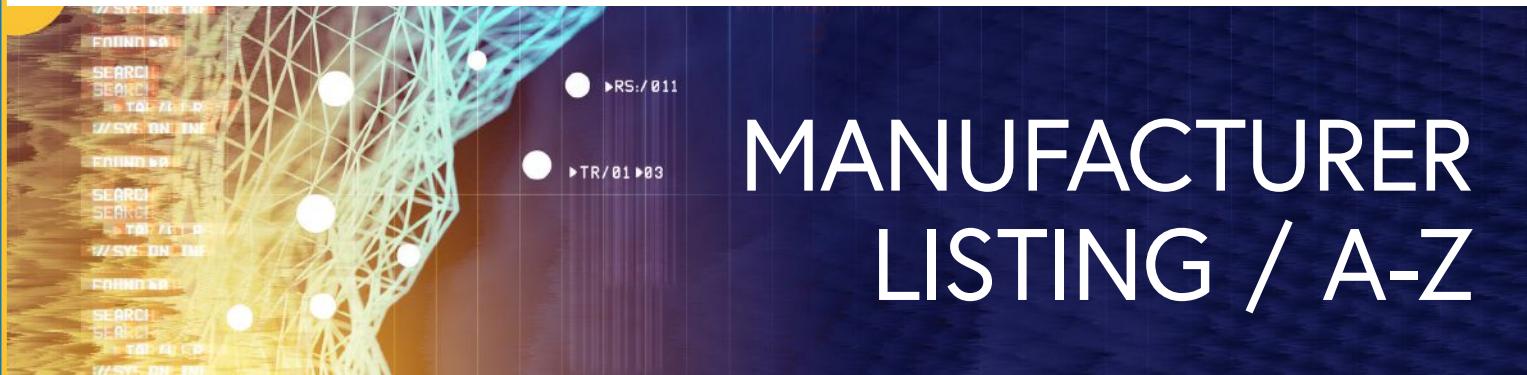


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 tetis@tetis.ru  
 www.tetis-pro.ru

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 MA 02718 USA  
 1-800-822-4744  
 info@jwfishers.com  
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**Kongsberg Maritime**  
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 krakenrobotics.com

**Kystdesign AS**  
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### RTsys

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**VideoRay LLC**  
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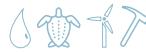
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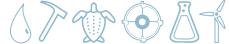
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### Marine Tech USVs



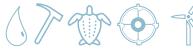
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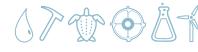
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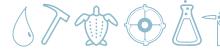
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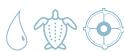
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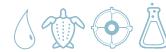
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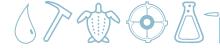
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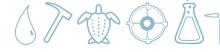
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