blue zone GROUP

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# REMUS Double at Depot Level Maintenance Facility

*REMUS 100S and 100M Share the Workshop Floor at BlueZone's Newcastle Facility*

The growing fleet of REMUS Unmanned Underwater Vehicles (UUVs) in Australia was demonstrated when REMUS 100M and REMUS 100S vehicles were both at BlueZone's Newcastle UUV Support Facility in Newcastle.

The REMUS 100M variant (operated as the Mk18 Mod 1 and 2 by the US Navy) can be used for MCM roles including search, classification and identification. The REMUS 100M provides high resolution images from the seabed making the task of identification of sea mines easier for naval forces, without placing personnel in harm's way.

The REMUS 100S is a specialised evolution of the highly successful, man portable REMUS 100 system configured specifically for hydrographic and offshore surveys. Supplied as one element of the unmanned systems toolbox for RAN Project SEA1770 Rapid Environmental Assessment, the REMUS100S enables high accuracy seafloor surveys in support of amphibious or other operations.

**REMUS 100 UUV for MCM and Survey Operations**

# SSN Capability Enhanced by UUV Launch and Recovery

*Dry Deck Shelter and Tube Launch & Recovery Feature in SSN designs*


The Razorback is a submarine-launched version of the Huntington Ingalls Industries (HII) REMUS 600 UUV. It has a capability for launch and recovery from a Dry Deck Shelter, a compartment that can be integrated in some submarine types. The Razorback UUV has been modified for submarine use and Littoral Battlespace Sensing providing sensing of static and dynamic characteristics and features of the ocean environment in support of military operations.

The REMUS 600 UUV systems are deployed in a variety of configurations. Many different types of sensors and payloads are possible, but most are designed and used to survey the ocean bottom. Several other payloads are in development to support future mission plans and capabilities. The vehicle is capable of conducting operations for about 24 hours using an alkaline battery as its energy source. Subsequent missions require a full change out of battery packs. This system can be launched and recovered from many platforms, including a Submarine Dry Deck Shelter and Torpedo Tube Launch & Recovery.

**Submarine launched UUVs will extend the reach of a submarine's onboard sensing capability**

# Mine Counter Measures (MCM) - Start with the End in Mind

*The final stages of MCM are the hardest steps and need a strong focus for any Navy to claim a credible MCM capability*

There is no doubt that the rapid development of UUV technology shows great promise for revolutionising the first two stages of MCM: search and classification of seabed objects.

The final two stages of identification and disposal are tightly connected. Any plans that rely on an option to avoid a minefield will ultimately be doomed to failure. Opposition forces make their own assessments of areas that are sensitive to minefields, and will no

doubt select straits and passages that are unavoidable for a naval force wishing to shape the maritime environment through freedom of navigation. Mine warfare is likely to be a feature of any ‘grey’ conflict and the location of minefields (or even the threat of mining) will be selected to cause the maximum inconvenience to naval and civil maritime movements. A naval force that aims to shape their region of interest must have a credible and reliable ‘all-weather’ capability for mine disposal.

Multi-shot Systems such as the Saab Multi-Shot Mine Neutralisation System (MuMNS) are the next step for effective mine destruction, combining high-quality identification and assured destruction with the additional benefit of increased clearance rate. The ROV pilot has the control authority to manoeuvre with precision near to the mine like object and high-quality sensors that enable positive identification and gathering of valuable intelligence data. Finally, a powerful disposal charge is deployed very accurately assuring sympathetic destruction on detonation. Multiple disposal charges can be deployed in one mission with the destruction timed as required for tactical needs.

**Multi-Shot Mine Neutralisation System (MuMNS) - high-quality identification and assured destruction**

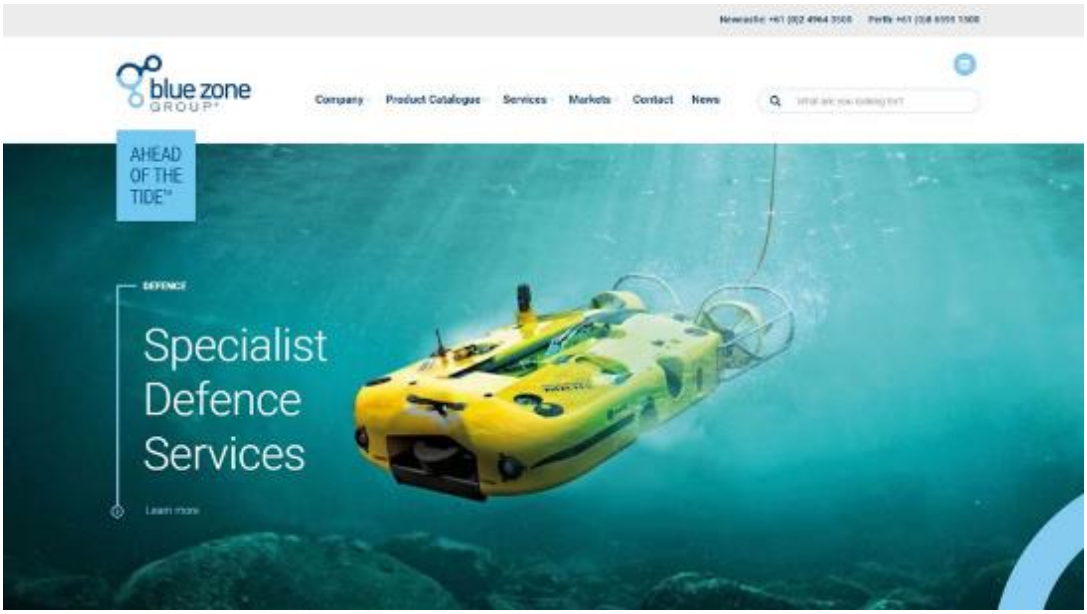
## New Website Announcement

*BlueZone is pleased to announce that it has launched its brand-new website!*

Our new website has been designed with a fresh new look that reflects our dynamic company, team, and business partners. The site has been developed with user-friendly navigation and tailors the experience for our users from different markets.

We hope you enjoy our new website and we welcome any feedback, comments, or suggestions you may have.

*#AheadoftheTide #BlueZone #WeServiceWhatWeSell #RAS #Website*




**BlueZone website went live in September 2021**

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# New Products & Services

**BarrelEye® Integrated Dive Camera and Light Module**
*Designed to fit the most widely used Kirby Morgan Diving Helmets*

BlueZone is pleased to offer the BarrelEye® Dive Camera and Light Module – an Australian innovation in dive cameras that supports subsea imaging from still photography to high-definition video streaming. BarrelEye® Dive Camera is a commercial grade sub-sea system designed to mount seamlessly onto leading Kirby Morgan and other dive helmets. The all-in-one BarrelEye® camera and light module can capture even the most intricate details, in the most challenging underwater environments.

The Ultra HD Camera with auto and manual focusing options, always assures capture of crisp image and video footage, under any conditions. The backlit camera sensor ensures superior performance, even in the lowest of lighting conditions.

An Integrated Light with small form factor, provides high luminosity, cool white LED aligned with the camera to ensure subject matter is illuminated, even at greater depths where light is sparse.

The Rugged Housing combines camera and light, nested inside a precision engineered and rugged hard anodized marine-grade aluminum housing, to survive the rigours of underwater conditions.

An integrated high resolution pressure sensor allows live data streams of depth, temperature and pressure readings to be monitored and also embedded into video recordings. Temperature and pressure display units can be configured from within the Capture App.

### XMi-2.0 Iridium beacon

*Independently powered, self-contained and fully submersible to 11,000 m*


Xeos have announced development of the XMI-2.0 self-contained, submersible Iridium Micro beacon. This beacon is a replacement for the XMI-11K, one of Xeos' oldest and most popular beacons. The XMI-2.0 is an upgraded version of the XMI-11K.

The XMi-2.0 is an independently powered, self-contained Iridium beacon that is fully submersible to 11,000 m (36,089 ft). This beacon has been designed to protect your valuable assets and make their recovery even easier. The XMi-2.0 features an ultra-low power water sensor to optimise battery life while ensuring you will be notified of any surfacing event. The enclosure is all titanium with a solid state surface sensor and an optional remote head.

**Key Features**

• Miniaturised design in a titanium enclosure

• User selectable transmit frequencies

• Available remote head

• Solid state surface sensor

• Configuration control via smartphone with Bluetooth 4.0

• Low power consumption for extended deployments

• Pole-to-pole coverage through the Iridium system

The XMi-2.0 is designed to meet or exceed your operational requirements for an ultra deepwater submersible beacon.

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