

Tip of the Spear

Mine Disposal using the Double Eagle Remotely Operated Vehicle

Huon-class minehunter coastal HMAS Gascoyne started its latest deployment with a bang, conducting a live mine disposal activity off the coast of northern NSW. The live firing came just days into a deployment during which the ship will circumnavigate Australia to conduct vital route surveys of Australia's most important and strategic waterways. Minehunter coastal ships regularly conduct simulated mine disposal firings to prove their skills and drills to neutralise maritime sea mine threats.



Modern mine disposal relies on the capability of Remotely Operated Vehicles such as the Double Eagle operated by many global navies. Essentially these vehicles are underwater drones that are operated by a pilot from the surface. Automated guidance systems can assist with piloting an ROV from launch to the mine location, however, just like aerial drones a pilot is required for much of the mission to exercise positive control over the vehicle. In the final stage of identification and disposal a pilot enables visual identification, real-time control and precise manoeuvring when near to a seabed contact.

[Double Eagle Remotely Operated Vehicle the Tip of the Spear for Mine Disposal](#)

Maritime Robotics for Offshore Wind

Robotics Systems will support inspection and maintenance tasks in harsh conditions



Building on more than twenty years of experience, BlueZone offers an extensive portfolio of maritime robotics technologies that will support inspection, maintenance and engineering of offshore wind facilities.

The Sabertooth hybrid AUV/ROV from Saab Seaeye has been implemented as a containerised spread to transform any vessel of opportunity into a survey and inspection platform in less than 18 hours. This allows deepwater assets and offshore wind operators to reduce their costs, risks, and carbon footprint.

Especially suited for the offshore wind energy market, the Saab Seaeye Cougar XT Compact robotic vehicle has been chosen for Taiwan's huge offshore wind farm developments. Created for challenging environmental conditions inherent in shallow water operations the Seaeye low-profile 300m rated Cougar XT Compact is specially designed to minimise the effect of current, with a reduced frame size, buoyancy, and weight — and a thinner 17mm tether cable that reduces the effect of drag.

[Robotics Systems to support inspection and maintenance tasks in harsh conditions](#)

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 that 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](#)

BlueZone Apprentices

The BlueZone Team has Two New Apprentices

BlueZone is very happy to welcome two new apprentices to our team this month. Michael Angelov and Callum Bakker are both first-year electro-technology apprentices who will be working with our engineers and technicians until December 2021.

Since the company began in 2000, BlueZone has supported many apprentices with their training. Our apprentices have not only successfully completed their apprenticeships, but they have gone on to be highly skilled and sought-after trades people.

There are skills shortages in the Defence industry, as in many industries today. BlueZone believes in investing in people and in the future of our workforce, and we are partnering once again with HunterNet to develop skills and advance careers. As a 100% Australian owned SME, we believe in supporting local people and industry and we are proud to help these young men in achieving their goals. Our new apprentices will be a significant asset in the future.

[For more information about working with BlueZone and our current employment opportunities click here](#)

Events

Please join BlueZone Group at these upcoming events as travel restrictions ease around Australia!

We are keen to talk to you about how innovative new technologies offered by BlueZone can solve issues for your challenges in Australia's oceans, coastal seas, and rivers. We are happy to answer your questions and arrange on-site demonstrations and further discussion if required.

AIDN WA Gala Dinner

WA Defence Industry 2021 Gala Dinner – 5th November 2021. The Gala Dinner will be held at Optus Stadium with registration and pre drinks starting at 6 pm.

6th Submarine Science, Technology and Engineering Conference (SubSTEC6) 8-10 November – Adelaide

SubSTEC6 will go ahead, despite restrictions caused by the coronavirus pandemic, maintaining its status as the leading Indo-Pacific forum on submarines. The conference will take place at the Adelaide Convention Centre from 8-10 November with the theme of "Home grown undersea technology: how can Australian academia and industry provide a capability edge?"

BlueZone is please to sponsor SubSTEC6 and welcomes all those that can attend in person to the afternoon tea on Day 1.

New Products & Services

MicronNav 200 – Tritech's latest generation of USBL positioning systems

The MicronNav 200 system from Tritech is their latest generation of UltraShort Base Line (USBL) positioning systems. The compact and lightweight system has been designed for small vehicle applications including ROV navigation, AUV tracking and as an ROV location beacon, and for use as a diver tracking system.



The benefits of the new system include but are not limited to compatibility with the new Micron Battery Modem, more accurate USBL head, quick and easy mobilisation, and Google Maps™ software integration. It is easy to calibrate and has seamless integration into Genesis software.

The system comprises a surface MicronNav 200 interface hub and bespoke operating software under control of a topside PC/laptop, a surface USBL transducer with integral magnetic compass and pitch/roll sensors, and a subsea Micron Modem or Battery Micron Modem.

Underwater environments are not always clear, but the MicronNav 200 will enable you to know where you are and where you are going under the water. For more information on the MicronNav 200, contact BlueZone today.

[MicronNav 200 from Tritech](#)

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 aluminium 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.

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