

Hydroid wins contract with US Navy for MK 18 Mod 2

REMUS technology operated in the US and Australia



REMUS Unmanned Underwater Vehicle (UUV) OEM, Hydroid Inc., has been awarded a contract for the supply of MK 18 Mod 2 UUV Increment II Payload Upgrade hardware, in support of the existing US Navy MK 18 Mod 2 UUV program. The MK 18 Mod 2 Kingfish UUV is based on the REMUS 600 and has increased area coverage rate (ACR), increased endurance, and will serve as a platform for advanced sensors. The Kingfish Small Synthetic Aperture Sonar Module (SSAM) configuration provides wider swath, higher resolution imagery, and buried target detection.

The REMUS UUV was first developed in the late 1990s for the Woods Hole Oceanographic Institute by Hydroid, a member of the Technical Solutions Division of Huntington Ingalls Industries.



The man-portable class 36 kg REMUS 100 AUV is used by the Royal Australian Navy for hydrographic reconnaissance and rapid environmental assessment. In Australia, there is a growing capability for sovereign industry support of REMUS technology. Technical support is provided by BlueZone and operational training by the Australian Maritime College, ensuring that Navy maintainers and operators have access to an experienced and capable industry base that can be used for future support of REMUS vehicles for important future applications including Mine Counter Measures, Intelligence Surveillance and Reconnaissance and Hydrographic Survey.

[Hydroid wins contract with US Navy for MK 18 Mod 2 REMUS UUV](#)

[REMUS Training at Jervis Bay](#)

[Tasmanian waters have become the newest training ground for the Royal Australian Navy](#)

BlueZone Builds MARTAC Sustainment Solution

MANTAS Unmanned Surface Vehicle Support for Australia & New Zealand

BlueZone Group has begun working closely with Marine Tactical Systems (MARTAC) to build the sustainment capability for the advanced Unmanned Surface Vehicle (USV) and associated systems. BlueZone is an Authorised Dealer for MARTAC equipment and will provide full depot-level support from workshops located in Newcastle, NSW and Perth, WA.

The MANTAS design incorporates many innovations including watertight and water-cooled enclosures that enable flooding of the hull without impacting control or payload equipment. The water-cooled enclosures enable high performance computers to be run without degradation due to high ambient temperatures.

BlueZone and MARTAC will work with customers in Australia and New Zealand to tune boats for optimum combinations of burst speed, average speed endurance and loitering capability. This can be achieved by several methods including the use of custom CNC milled propellers available in 2 to 6 blades with cleaver or round ear blade shapes. Diameter and pitch can be tailored to specific customer use cases and propellers can be tuned and matched for specific motors.



[MARTAC USV Support for Australia & New Zealand](#)

Versatile WAM-V for Ocean Science Research

Assessing the Impacts of Climate Change on the Great Barrier Reef



The Australian Institute of Marine Science (AIMS), in partnership with Queensland University of Technology, has used a Wave Adaptive Modular Vessel (WAM-V) Autonomous Surface Vehicle (ASV) manufactured by Marine Advanced Robotics to conduct an acoustic and optical survey of John Brewer Reef in the Great Barrier Reef system of North-Eastern Australia.

AIMS' vision for marine monitoring extends from space to the seafloor using an integrated, multi-layered suite of tools working together to collect and translate field data into information efficiently. Autonomous platforms are at the heart of scaling AIMS' routine observations.

Autonomous platforms can bring benefits in safety and improved quality, accuracy, and acquisition of data. AIMS has aerial drones with hyperspectral and regular imaging capabilities, and emerging autonomous underwater platforms. To assess an autonomous surface vessel capability, AIMS teamed up with Queensland University of Technology (QUT) to configure their sophisticated WAM-V with a variety of payloads including camera systems, sonar systems and a towed platform to collect underwater georeferenced survey data of reef zones (this autonomous vessel was awarded 2nd place in the last two biennial International Maritime RobotX competitions).

[Autonomous platforms for benefits in safety and improved quality, accuracy, and acquisition of data.](#)

MARTAC Unmanned Surface Vessels and CARIS Collect Software

Understanding our world - under water

BlueZone group works with businesses as well as in the defence market to provide complete solutions for hydrographic surveying. The innovative MANTAS vessels from Marine Tactical Systems Inc (MARTAC) are unmanned surface and hybrid vessels equipped with the robust TASKER command and control system. They are capable of high speed, have excellent range and use solar panels for extended endurance, but also allow high precision loitering and station keeping, have fully autonomous, semi-autonomous and full operator control modes and are sensor and communications agnostic. Being unmanned, they can collect large amounts of data enabling the surveyor to use their time and expertise to analyse and interpret the information rather than have to expend time and effort in platform control and operation.



USV technology has advanced and so has the software that is used in conjunction with it. In partnership with Teledyne Marine, Teledyne CARIS has leveraged years of leadership in the marine survey market to create CARIS Collect, a modern and easy to use software package for data acquisition as part of Onboard360. The software is designed with an intuitive user experience for ease of integration and simple user adaption, minimising the effort required to implement new software and gives potential for significant reductions in ship to shore turnaround times.

[Unmanned systems for marine survey](#)

EVENTS

No events this month but why not join us on a virtual workshop tour hosted from our facility in Perth?

Virtual Tour of BlueZone Perth Workshop

BlueZone hosts 3D Printer supplier, Markforged, demonstrating how BlueZone is making end use parts and moulds for Subsea, Oil and Gas, Offshore Survey and Defence. BlueZone Group are employing some of the most efficient processes in manufacturing to be able to deliver unique projects all around Australia. Check out the clever ways BlueZone Group are using 3D printing.

Join us to learn about:

- > How BlueZone Group use High Strength Additive Manufacturing to print moulds for \$25 that used to cost \$1500 to make using CNC
- > How BlueZone Group Developed an Additive Manufacturing Strategy to improve time to market.
- > How Offshore and Subsea companies can leverage Additive Manufacturing via a Digital Inventory, to print parts on-demand, anywhere, anytime.



[The BlueZone team in Perth leads our 3D printing capability supporting our customers in Subsea, Offshore Oil and Gas and Defence](#)

New Products & Services

Tritech Diver Mounted Display Navigation and inspection in zero visibility conditions

The Diver Mounted Display (DMD) system has been designed to provide divers with the ability to navigate and carry out inspections in zero visibility conditions.

Utilising the Gemini range of multibeam imaging sonars allows the user to select the most suitable sonar for the type of operation required. The world's smallest multibeam imaging sonar, the Gemini 720im, provides a basic navigation capability, allowing a diver to locate large structures or objects while working in zero visibility water.



Where a higher degree of resolution is required the diver can opt for the Gemini 720ik or Gemini 1200ik multibeam imaging sonar, both of which provide increased range, resolution and field of view. These high specification multibeam imaging sonars provide a diver with a high degree of confidence while working in zero visibility conditions and allow searches to be undertaken far more efficiently than using conventional search pattern techniques.

The DMD systems have been designed to be used with the Inodive accessory rail system, allowing for the DMD system to be used with an extensive range of dive masks and helmets. All of the Gemini sonars, when supplied

with a DMD system, are built-up with an Inodive interface to allow for seamless installation onto the dive mask/helmet.

[Diver Mounted Display \(DMD\) system enables divers to navigate and carry out inspections in zero visibility conditions.](#)

Emergency Relocation Transponder for Diving Bells Transponder and Interrogator compatible with Sonardyne systems

Commercial diving companies operating in an area that requires their diving bell to meet offshore standard DNV-OS-E402, must have an emergency locating system that meets section 305 of that standard.

RJE International has developed the ATT-400/AODC transponder - a small battery operated underwater acoustic device, which is used to mark commercial diving bells for emergency relocation to depths of 1000 metres. The interrogation frequency is factory set to 38.5kHz (Ch-A) or 39.5kHz (Ch-B) and, when interrogated, replies to the pre-set emergency frequency of 37.5kHz and meets the DVN-OS-E402 standard.



A diver held interrogator for the transponder, the DTI-300/AODC interrogator is also available. To ensure a smooth transition, the ATT-400/AODC transponder is compatible with the older Sonardyne systems and can be located with the Ranger2 USLB system and Homer-pro receivers presently in use and fielded.

[Emergency Relocation Transponder for Diving Bells](#)

DeepSea Power & Light Multi SeaCam® and LED Multi SeaCam® Last time buy for remaining modules on hand

Further to the announcement in January that the previous models of the Multi SeaCam (1050, 1060, 2060 and 1055, 1065, 2065) were discontinued due to the modules no longer being available, DeepSea Power & Light have extended a final last-time purchase for the few remaining modules left on hand.

A limited number of COLOR (PAL only), EIA, and CCIR modules are available, which will be offered on a first-come, first-serve basis. As of May 01 all future purchases will have to be for the replacement models. While the outside mechanical envelope remains unchanged, the primary attributes change, which may be critical to some customers' applications. Please contact [BlueZone](#) for further information.

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