

## Blue Zone Group Partners with MARTAC

*MANTAS Unmanned Surface Vehicle - multi-role platform for inspection, monitoring and surveillance solution*

BlueZone Group is proud to announce a partnership with Maritime Tactical Systems, Inc (MARTAC), an innovator in unmanned maritime systems. MARTAC offers a wide range of unmanned vessel systems and solutions to the military and commercial markets.



With this partnership, BlueZone is an authorised dealer for the class leading MANTAS unmanned surface vehicle (USV) and its systems to customers in both of these markets. The MANTAS is an innovative, catamaran USV that is a safer, highly accurate, and cost-effective means to perform a variety of missions and applications in maritime environments. As an authorised dealer, BlueZone will provide full-service sales, marketing and support for the MANTAS and its operation in Australia.

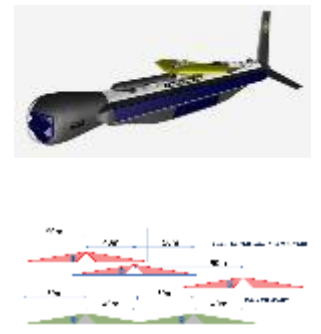
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## Remote MCM – Search, Detection and Classification

*Klein 5900 Towed Multibeam Side Scan Sonar (SSS) for high speed surveys*

Many countries are moving to Autonomous Underwater Vehicles (AUV) to perform mine countermeasures (MCM) search operations (to 'keep the man out of the minefield'). AUVs also provide a significant benefit when covert operations are required.

For MCM Search, Detection and Classification phases an Unmanned Surface Vehicle (USV) towing a sonar provides a faster search rate and the benefit of real-time data availability to the operational Command & Control Centre. The Klein 5900 Towed Multibeam Side Scan Sonar (SSS) with integrated gap-filler provides a 40% improvement in coverage rate as overlapping tracks are eliminated.



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## Unmanned Maritime Systems Fleet Grows in Australia

*Next Generation REMUS 100 AUV joins Double Eagle ROV*



The fleet of Unmanned Maritime Systems operated in by the Royal Australian Navy has grown with the arrival of New Generation Hydroid REMUS 100 Autonomous Underwater Vehicles following sea trials at Cape Cod Bay, Massachusetts. The REMUS 100 capability will be deployed by Deployable Geospatial Survey Teams equipped under Project SEA1770 Rapid Environmental Assessment.

Hydroid REMUS AUVs are proven and in-service with 21 navies. REMUS includes the Sea Launcher providing proven “bolt-on” capability for Autonomous Underwater Vehicle (AUV) deployment and capture/recovery, making it an ideal consideration for project SEA1905 Maritime Mine Countermeasures. This project will see the construction of two new ships to support Australia’s new mine hunting program.



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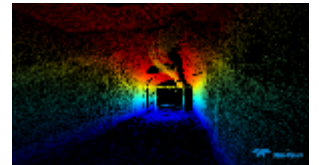
## Teledyne and Trimble Partnership

Aligning Teledyne vehicles, instruments and software to offer complete infrastructure solutions

Teledyne and Trimble have announced a Partnership with the objective to increase capabilities and drive cost down by aligning Teledyne vehicles, instruments and software to offer complete infrastructure solutions.

During the marine construction lifecycle, the Teledyne and Trimble partnership can offer products to enable:

- Environmental monitoring: ADCPs and systems for all types of marine monitoring
- Surveys: Hydrographic and unmanned vehicle surveys
- Metrology: LiDAR and Sonar for centimetre -accurate survey data
- Visualisation: 3D visualisation software to make sense of your data



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## 12-tonne Winch Cable Termination Validated by X-Ray

Objective Quality Evidence (OQE) for cable termination and moulding



The BlueZone Perth facility has completed termination of a cable fitted to a 12-tonne winch for an offshore oil & gas application.

After completion of the large termination job there was evidence of air seepage into the inner mould causing large air bubbles. A new technique was applied and to confirm the success of the method an X-Ray of the complete moulding was taken. The X-Ray confirmed that minimal air bubbles were present, and these were of no concern due to their location around the inner pins with sizes <2mm.

BlueZone West Coast GM, Mark Musarra, said he was very pleased to be able to offer the X-Ray service to customers as Objective Quality Evidence (OQE) for completion of the cable termination and moulding. “At BlueZone we are always seeking to improve our skills and offer customers new services which can provide them the assurance they need for operating their equipment in the harsh conditions encountered in West Australia offshore oil & gas fields.”

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## Events

Please join BlueZone Group at these upcoming events!

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.



## Pacific 2019 - 8 to 10 October – Sydney – Stand 4P4

Join BlueZone Group at Pacific 2019 this year when it returns to Sydney. The BlueZone exhibit will focus on our Maritime Unmanned Systems and Marine Robotics expertise for Mine Countermeasures (MCM) and other applications for demanding customers operating in harsh environments:

- MCM Covert Search: Autonomous Underwater Vehicle capability for covert search
- MCM Rapid Search: Advanced Mine Hunting Multi-Beam Side Scan Sonar for rapid search with real-time data feedback
- MCM Disposal: Multi-shot mine neutralisation systems for assured mine destruction in all weather and sea conditions
- Product Solutions: MARTAC Unmanned Surface Vehicles for innovative performance in the marine environment

## Teledyne Marine Technology Workshop – 6 to 9 October – San Diego

BlueZone will partner with Teledyne Marine for their newly expanded users' workshop in which speakers, influencers, and attendees from around the globe will converge to explore, learn and share their experiences on a broad range of products, applications and technology.

[Register for TMTW2019](#)

The poster is titled 'Explore, Learn, Share!' and promotes the 'TELEDYNE MARINE TECHNOLOGY WORKSHOP 2019'. It features the Teledyne Marine logo and a list of products including ADCPs, CTDs, DVLs, Imaging and Mapping Sonars and Software, Motion Sensors, Navigation Systems, AUVs, ROVs, Lights and Cameras, Heave, Rollers, Surface Vehicles, and Interconnect Solutions. The event is scheduled for October 6-9, 2019, at the Paradise Point Resort &amp; Spa in San Diego, CA, USA. A small grid of images shows various marine technology applications. The Teledyne Marine logo and website are at the bottom right.



## Australian Forum for Operational Oceanography – 15 to 16 October 2019 – Melbourne

The third Forum for Operational Oceanography will have two major themes: opportunities for operational oceanography to drive the development of Australian marine industries; and risks to Australian marine industries and the role of operational oceanography in helping to manage them. BlueZone Group partner, Liquid Robotics, will present on applications of the Wave Glider to oceanography in a paper entitled: “Measuring waves and winds from Autonomous Surface Vehicles (ASV).”

## AUT 2019 CONFERENCE - 23 OCTOBER 2019 – PERTH

BlueZone is pleased to join with the Perth branches of the Australasian Hydrographic Society and the SUT to participate in this forever popular one-day conference... coming together for the 11th time in the series. This event has become one of the most important networking opportunities in this field, allowing meetings with industry leaders, academics and researchers in this innovative section of subsea development. Technology advances and recent case studies of AUT equipment will be presented, providing continued professional development. BlueZone CTO, Darren Burrowes, will present on “Subsea Power Enabling New Autonomous Technology Applications.”

### [Autonomous Underwater Technology 2019](#)

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## New Products & Services



### **OG05 Teledyne Reson SeaBat® T20P Deployment & Integration Kit** *Fast & Easy Deployment of SeaBat® T20P Multi-Beam Echo Sounder*

The OG05 Teledyne Reson T20P Integration Kit provides for fast deployment and easy integration of the SeaBat® T20P Multi Beam Echo Sounder (MBES) into small boats or other survey vessels.

The complete OG05 Teledyne Reson T20P Integration Kit is re-packaged from multiple shipping boxes to just four rugged and transportable “Pelican” type cases. Each case weighs less than 32kg (70lb) and is fitted with wheels for easy manoeuvring through airports. A survey crew can deploy on commercial airlines using standard baggage allowances for T20P transport. The crew arrives at the same time as the equipment without the need for complicated shipment arrangements.

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### **Camera Enclosures for Harsh Environments**

*Underwater experience ensures a reliable solution*

As machine vision cameras and hardware are increasingly deployed in industrial and harsh environments many users have the need to package their equipment for long-term survivability. BlueZone engineering was tasked with the requirement to design and manufacture camera housings for eight Teledyne Dalsa Genie T2041 cameras, complete



with Kowa 6mm lens. The application was for mounting the cameras on a pipeline crawler for long-distance inspection of partly flooded pipelines. Both the housings and associated junction tube needed to be as space efficient as possible. Both were designed to be waterproof to 100m depth and a hard-anodised finish on both items was required.



### **Gemini 1200ik Dual Frequency Sonar**

Tritech International have announced the launch of the Gemini 1200ik dual frequency sonar: the latest addition to the popular Gemini range. The multibeam imaging sonar offers two operational frequencies – 720 kHz and 1200 kHz - with the ability to switch between low and high frequency dependant on the user's requirement.

The 720 kHz low frequency setting is designed for target identification and obstacle avoidance at long range, whilst the 1200 kHz high frequency setting offers extremely detailed multibeam images, ideal for inspection at close range.

Unique to the Gemini 1200ik is the ability to maintain a 120° field of view across both frequencies ensuring the target remains in view when operating at high frequency and at short range.

### **End-of-Sale Notification**

***Teledyne RD Instruments announces End-Of-Sale of the Citadel CTD product family effective 31Dec2019***

The Citadel CTD product family offered the market a Conductivity/Temperature/Depth (CTD) Sensor to measure the three parameters necessary to determine salinity, density, and speed of sound. CTD measurements have perhaps the longest history and are the most ubiquitous of all Oceanographic sensors. The unique inductive technology used to measure conductivity made the Citadel CTD less prone to calibration drift resulting from corrosion to the sensor and allowed easy cleaning in-situ without the need for recalibration.

Teledyne RD Instruments is accepting new and end-of-life orders for specific product configurations through 31Dec2019 with deliveries to be completed by 31Mar2020. Subject to the availability of parts, product support, calibration, and repairs, will continue through 31Dec2022.

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