



blue zone
GROUP®

Capability Statement

DEFENCE

OFFSHORE OIL & GAS

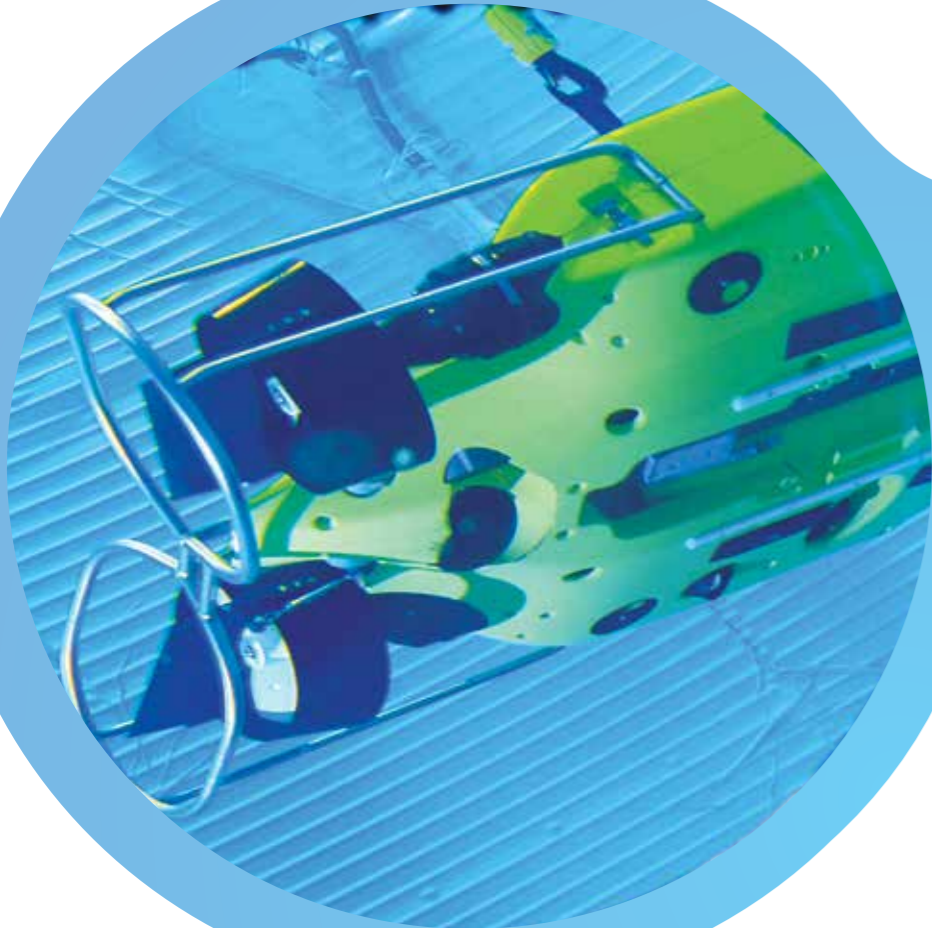
OCEANOGRAPHIC

HYDROGRAPHIC

WATER RESOURCES

TRENCHLESS TECHNOLOGY

AHEAD OF
THE TIDE™



Contents

About BlueZone Group	4
People and Facilities	6
Defence	11
Offshore Oil & Gas	14
Oceanographic/Hydrographic	16
Water Resources	18
Trenchless Technology	20
BlueZone Group Engineered	24



About BlueZone Group

BlueZone Group is an Australian company with a growing international reputation. Focused on the design and servicing of quality underwater electronics used in harsh environments, BlueZone provides specialised products and services to a wide range of areas including; Defence, Offshore Oil & Gas, Oceanographic & Hydrographic, Water Resources and Trenchless Technology markets. The BlueZone Group Engineered capability provides specialist application engineering services for all types of customers operating electro-mechanical equipment in harsh environments such as subsea and defence.

BlueZone Group is a privately held company with a passion for customer service and a demonstrated long term commitment to both our customers and suppliers. Our long term relationships with suppliers set us apart and provide us with strong connections to development laboratories and engineering teams

worldwide. We bring this experience and “reach-back” to our customers in Australia to provide world class sales and support.

Australia’s ocean professionals operate in some of the harshest conditions in the world. Our heritage is from the Bass Strait where we supplied and operated amongst the first ROVs in the world to the offshore industry operating in new and challenging conditions. We know subsea equipment and what works in the ocean and other harsh environments and continue to push the boundaries in everything that we do.

Australia’s markets are geographically diverse. Our national footprint with offices in Newcastle, Melbourne and Perth enables us to provide a national reach with local backup for all of the equipment that we supply, service and design.



BlueZone Group Profile

Experience

BlueZone Group combines the strengths of three established Australian underwater electronics companies; ATSA, UVS and UVS Trenchless Technology.

BlueZone Group Pty Ltd is a wholly owned Australian company headquartered in Newcastle, on the eastern seaboard of Australia. Operating since 1973 (originally as Underwater Video Systems), BlueZone Group has been a supplier of quality subsea equipment and systems to industry, science and academia for over forty years. In that time BlueZone Group has introduced a number of innovative technologies to the Australian market:

Remotely Operated Vehicles

BlueZone Group introduced the first Remotely Operated Vehicles (ROVs) in the Australian market. In 1976 an RCV-225 was supplied by the then Underwater Video Systems and operated in Australian waters. True to the BlueZone Group philosophy of “supporting what you sell”, BlueZone Group technicians attended training in the USA on leading edge technology such as microprocessors that were incorporated into the first ROVs.

Acoustic Doppler Current Profiler

Underwater Video Systems introduced ADCP technology to the Australian market in 1989. When the power and adaptability of Doppler technology began to be fully exploited with the development of the newer Broadband signal processing technology and the introduction of the Workhorse series instruments the number of applications grew rapidly. New and innovative applications for ADCP technology are constantly being developed by BlueZone Group customers involved in the investigation, monitoring and management of our ocean resources.

Defence

ATSA provides the specialist defence service arm of BlueZone Group with a focus on the design and repair of electronic and robotic equipment with applications specific to advanced defence systems. As service partner of Saab Dynamics since 2000, ATSA has a significant experience in providing complete through life support for the Double Eagle MkII Mine Disposal System operated by the Royal Australian Navy.

BlueZone Group Formation

In 2015 the BlueZone Group was formed with UVS and ATSA Defence Services as core member companies. UVS Trenchless was created as a separate business unit to build on the established strength for servicing, support and engineering of all types of systems for pipeline condition assessment. Together BlueZone companies service customers operating in the harsh conditions of deep oceans, coastal seas, rivers and water infrastructure. Our technically superior OEM product offering combined with our application engineering and local product development capability is at your service to address demanding requirements in tight timeframes.

Capability

BlueZone Group enjoys a unique and preeminent position in the underwater electronics market with over 50 representations and a strong repeat business from customers who have dealt with BlueZone Group companies for many years.

Nation-wide footprint

With offices in Newcastle, Melbourne and Perth, BlueZone Group is able to offer local service, backup and sales to customers across Australia.

Access to multiple markets

Through supply to multiple markets BlueZone Group is able to identify synergies and provide a capable and high capacity service to diverse customers.

Sales and service synergy

The strong sales capability of BlueZone Group is matched by a highly capable service and engineering capacity in underwater technology and systems engineering. Service and engineering staff work nation-wide using modern communication tools to complete projects to high quality and customer satisfaction. Together the combined capability provides a complete service to customers supporting complex electronic systems in harsh environments.



Quality
ISO 9001
SAI GLOBAL

Complex systems + harsh environments + through life servicing = BlueZone Group expertise and passion

Quality System

BlueZone Group maintains an ISO9001 Quality Management System which is tailored to meet its business needs and exacting customer requirements. Independent system auditing is conducted by SAI Global to verify compliance with the International Standard. The inherent continuous improvement regime within the quality system is core to BlueZone Group values and business disciplines.

People and Facilities

Executive Staff



NEIL HODGES
Director

Neil is responsible for executive management, including finance, sales, service, manufacture, repair and project performance.

Neil has Project Management experience through significant roles in Defence projects. From 1995 to 2001 he was Test and Trials Program Manager for six ships constructed for the Royal Australian Navy Minehunter Coastal Project. This program work included an extended series of sea trials for the first-of-class, HMAS Huon, together with full-ship shock trials. At Thales Underwater Systems, Neil was Project Manager for the \$9 million Acoustic Mine Imaging Sonar project, a world leading research and development initiative.

Neil holds a Master of Business Administration (Technology Management), an Advanced Diploma in Project Management and is a Master Project Director. Neil is a member of the Australian Institute of Company Directors.

DARREN BURROWES
Director



Darren is responsible for technical leadership and he manages the engineering teams engaged on development of customer and internal projects. Darren has continued to lead the growth of BlueZone Group through technology to become an innovative company with a number of interests in through life support, robotics and electro-mechanical systems for harsh environments.

Darren has served eleven years in the Royal Australian Navy including sea time in Guided Missile Destroyers. He held two specialist roles firstly as Systems Engineer on the successful ANZAC Ship Project and then as Command and Control Systems Manager on the Minehunter Coastal Project.

Darren holds a Bachelor of Engineering (Honours) in Electrical Engineering from University of New South Wales and a Master of Business Administration. In 2009 Darren was elected as a Fellow of the Institution of Engineers Australia and in 2012 he led the team that was awarded an Engineers Australia National Engineering Excellence Award for the SeaUrchin Marine Power Generator development.

People and Facilities

Senior Management

ANDREW HAZELL
General Manager Defence and Water Resources
General Manager East Coast

Andrew has extensive operations management experience ranging from market analysis, due diligence and acquisitions, to commercial, HR, IR, safety and quality matters. Andrew's strong background in government relations, combined with developing and managing clients, supply chain and other stakeholder relationships have seen him successfully negotiate and manage contracts up to USD \$62 million. With more than eight years experience delivering Hydrographic, Oceanographic and Geophysical systems within Australia and throughout South East Asia, Andrew brings a wealth of experience and a customer centric approach to his role. Andrew holds an Executive Master of Business Administration (International Business) and an Advanced Diploma of Complex Project Management.

MARK MUSARRA
General Manager Offshore Oil & Gas
General Manager West Coast

Mark graduated from the Western Australian Institute of Technology, W.A.I.T. (now Curtin University) with a Bachelor's degree in Electronic Engineering. He was originally employed by Underwater Video Systems as a student intern in 1982 to assist with work on the subsea trenching plough for burial of the main trunkline from North Rankin A to the Burrup Peninsula. After graduating, Mark worked for a number of years on custom engineering projects, for various companies, both in the offshore and mining industries before accepting the position of Engineering Manager at BlueZone Group in 1991, a position he held until August 2012 when he was promoted to General Manager of the Perth office.

ELIZABETH KARPIEL
General Manager Operations
Quality Manager

Elizabeth has a Bachelor of Engineering (Electrical), a Diploma in Project Management and is a Certified Practising Project Manager (CPPM) with the Australian Institute of Project Management. Elizabeth's eye for detail has been invaluable in her other company support roles in quality, safety and IT. Elizabeth was the project manager for the SeaUrchin Marine Power Generator project in partnership with Element Energy Technologies. This project won the Engineers Australia 2012 Excellence Award. Elizabeth is also an excellent communicator, having held roles as associate lecturer and tutor at the University of Newcastle.

MARK HEGARTY
General Manager Oceanographic and Hydrographic

Mark has been in the hydrographic surveying business for the past 35 years. He served 23 years in the Royal Australian Navy (RAN) as a hydrographic surveyor, then 8 years in industry managing the support of the hydrographic and navigation equipment installed in Hydrographic Ships operated by the RAN whilst employed with ATLAS Hydrographic / Sonartech Atlas. Mark then was employed by Seismic Asia Pacific as Manager Hydrographic Systems and formed a close relationship with RESON. Mark has a Diploma in Hydrographic Surveying and brings a hands-on approach to supporting customers with sales and service of oceanographic and hydrographic equipment. Mark has also completed training in Caris and Hypack and can support customers in the use of these products.



People and Facilities

Facilities

BlueZone Group operates from three workshops located in Newcastle, Melbourne and Perth, providing a national footprint with local customer support on the east and west coasts of Australia.

The Head Office is located in Newcastle, NSW approximately 2 hours north of Sydney and 30 minutes from RAAF Williamtown by road. Offshore Oil & Gas work is supported from a workshop located at Bibra Lake about 30 minutes south of the Perth CBD. In Melbourne, BlueZone Group operates a specialised Trenchless Technology workshop providing routine and breakdown maintenance for all types of equipment used for pipeline condition assessment.

BlueZone Group test equipment includes specialised hardware and software such as a complete reference set of Mine Disposal System shipboard equipment used to service, maintain and upgrade Navy mission-critical systems. This equipment is carefully maintained to support the manufacture, repair and maintenance of customer systems of all types.

BlueZone Group workshops incorporate the following features:

- Newcastle: 500m² humidity controlled workshop and office space
- Perth: 250 m² workshop and office space
- Melbourne: 500m² workshop and office space
- 250,000 litre testing tank (5m deep & 8m diameter)
- 1-tonne travelling crane
- Vacuum chamber
- Hydrostatic pressure testing to 50 BAR
- Fully equipped clean laboratory

Maritime Robotics Service & Support

- Saab Seaeye Remotely Operated Vehicles
- Hydroid REMUS Autonomous Underwater Vehicles
- Liquid Robotics Wave Gilder
- Teledyne Oceanscience Z-Boat

Polyurethane Moulding Service

- Full capability for subsea and deck cable harness manufacture

Slip Ring Service & Repair

- Authorised service and repair facility for Focal Electrical and Fibre Optic Rotary Joint (FORJ) slip rings

Acoustic Doppler Current Profiler (ADCP) Service Centre

- Teledyne approved ADCP service centre

Specialised Paint Facility

- Full down draft heated spray booth
- ClearSignal™ Biofouling Treatment
- Painting to defence standards

Defence Security Clearance

- Security management to meet Defence security requirements



AHEAD OF THE TIDE™





“ ...Due to Saab’s strong appreciation of the importance and value of Australian suppliers, it has established a reputation for supporting companies who also participate in Saab’s Global Supply Chain.

An example of a company that has benefited from this is ATSA Defence Services Pty Ltd, located near Newcastle, NSW. This company has been Saab’s long term partner in servicing the Double Eagle remotely operated underwater vehicles used by the Navy’s mine hunters to locate and dispose of sea mines. ATSA now employs 15 people with an annual turnover of \$5 million.

Working with Saab products has not only enabled ATSA to develop expertise in underwater vehicle control and associated technologies but they have since received contracts to provide design improvements to Saab’s products which in turn have been sold on the world market.

ATSA has been contracted for manufacture of components sold to foreign customers and provide other technical services for Saab’s global customers. In return, Saab has given ATSA contracts to supply expertise and management of related Saab activities in Australia. ”

MARK PROCTOR
BUSINESS DEVELOPMENT MANAGER
Saab Systems



Defence

BlueZone Group and specialist defence unit, ATSA Defence Services, provide equipment sales, specialist engineering skills and experience in defence and naval engineering. This capability combined with a successful track record in completing major projects has earned an enviable reputation in the defence sector.

Naval Platform Experience

BlueZone Group has extensive experience in the following naval platforms:

- **Airwarfare Destroyer (AWD) and Landing Helicopter Dock (LHD)**
Partnering with Spanish OEMs for Through Life Support. Supply of navigation and internal lighting equipment & systems. Engineering studies conducted to support the design process.
- **Hydrographic Ships, Survey Motor Launch and Survey Motor Boat**
Operational and management experience in the support of the hydrographic and navigation equipment installed in all classes of hydrographic ships.
- **DDG, FFG and ANZAC**
Construction, operational and engineering support experience in these classes of destroyers and frigates.
- **Hunt, Sandown and Huon Class Mine Countermeasures Ships**
Construction, operational and engineering support experience in these classes of mine hunting ships.
- **COLLINS Class Submarine**
Design, manufacture and installation of CS24-RONII CCTV Surveillance System that provides video from colour cameras fitted externally to the COLLINS submarine pressure hull. Design and installation of the camera system was completed from the BlueZone Perth.
- **Future Submarine**
Conduct of R&D White Paper development for Lockheed Martin.

Projects

- **SEA1770 Rapid Environmental Assessment**
Under contract to Lockheed Martin Australia (later LEIDOS) to supply, integrate and support sensor suites for the Rapid Environment Assessment survey craft, Fly Away Survey Kits and tide, wave and current monitoring systems for the RAN.
- **Army Z-Boats for Intelligence, Surveillance & Reconnaissance**
Design and integration of three robotic “Z-Boats” for the Australian Army following participation in Army Innovation Day (AID) 2016 where the lead theme was ‘manned and unmanned teaming for the soldier.’

Through Life Support

Double Eagle Mk II Mine Disposal System

ATSA and Saab Underwater Systems have worked in close cooperation for more than fifteen years and have developed a “world class” capability for support of the Double Eagle system. This capability in Australia provides a complete service for the customer, and supports a full two-way flow of information that is facilitated through regular contact at technician, engineering and management levels.

An informal but professional working atmosphere has helped to ensure that the support capability is provided within a flexible and responsive manner to meet changing customer needs.

Significant achievements in the development of an In Service Support capability include:

- Successful establishment of a capability to conduct planned maintenance, on-site corrective maintenance and technical support to Royal Australian Navy (RAN) maintainers;
- Development of a complete suite of support documentation and procedures based on original Saab design documentation;
- Full ERP System to meet equipment service needs including tracking by serial number;
- An Australian-based engineering capability leading to development of components to address obsolescence issues;
- Development and delivery of a twice-annual System Technical Course for RAN maintainers leading to a greatly improved level of fault finding and defect rectification in the fleet.

Wave Glider Autonomous Surface Vehicles

BlueZone Group provides support for the fleet of Wave Glider Autonomous Surface Vehicles operated to support the Royal Australian Navy. Leveraging the capability of a national footprint, BlueZone Group completes operational and maintenance tasking for naval training exercises conducted in east and west coast locations.

Activities conducted by BlueZone Group include software and hardware trouble shooting, assessment of Wave Gliders for repair and launch and recovery operations. The BlueZone Group engineering capability is used to investigate new applications for Wave Glider technology and to integrate and test new systems in the Wave Glider platform. BlueZone Group operates at the leading edge of autonomous vehicle support and assists the RAN with new applications for this evolving technology.

Defence

“ ATSA Defence Services has technically supported and maintained the SAAB Bofors Sweden Double Eagle Mine Disposal System (MDS) since 2000. The Double Eagle system is the primary weapons system on the RAN HUON Class Minehunters. ATSA has continuously improved their work practices to meet the requirements set by Thales and in turn the RAN. Over the years ATSA has shown to be innovative in their approach to design changes and has always kept Thales informed of schedule progress. Of particular note is ATSA’s QA system has been annually subjected to Thales and Commonwealth audit. As a result, neither entity has raised a supplier non conformance. ATSA demonstrates that they have a commitment to staff training, as required, in response to the changing demands placed upon them. ”

KARL ROSENBERG, MATERIALS MANAGER, NAVAL MHC ISS
Thales Australia

Thales is the prime contractor for In Service Support Contract of the HUON Class Minehunter Coastal.



Offshore Oil & Gas

BlueZone Group supports Offshore Oil and Gas customers through UVS Pty Ltd. UVS (then Underwater Video Systems) was founded as a supply company to Australia's first Offshore Oil & Gas field in the Bass Strait. In the 1970s UVS introduced the first Remotely Operated Vehicles (ROVs) to Bass Strait operations and operated the vehicles in the harsh conditions found in those waters.

Our experience and capability has grown together with the Australian Offshore Oil & Gas industry and we have always ensured that we select the best products for the use of Offshore Oil & Gas customers in the most demanding environments.

Extensive Product Catalogue

The extensive BlueZone Group Product Catalogue ensures that we can offer quality subsea products and equipment to meet a range of customer needs from supporting legacy systems to upgrading for new challenges and projects. BlueZone Group distributes products for the most respected manufacturers in subsea oil and gas including Teledyne, Kongsberg, Deep Sea Power & Light, SEACON and many others. Our well-trained sales team and wide product portfolio means that we can meet your needs with a fast response.

Support Capability

Our support capability, based from our facility in Perth, Western Australia ensures that we stand behind every product we sell with Australian-based service and repair. Our technical staff are highly experienced in completing fast and high quality repairs to many system types.

Slip Ring Service and Repair

BlueZone Group maintains an authorised service and repair facility for Focal Electrical and Fibre Optic Rotary Joint (FORJ) slip rings.

Working closely with Moog, BlueZone Group established a specialised room for service, repair and overhaul for slip ring units. Our experienced technicians have completed many slip ring overhauls and customers can be assured of a rapid and high quality service to manufacturer's standards. The BlueZone Group slip ring repair and service facility provides the best alternative for getting your slip ring back in service rapidly to meet original specifications.

Polyurethane Moulding Service

Our specialised Moulding Workshop provides a leading national capability for subsea and deck cable harness manufacture. Using in-house knowledge and methods developed through years of service to the subsea industry, BlueZone Group is able to complete moulding work

which will ensure trouble free operation in customer systems. The BlueZone Group polyurethane moulding service includes the capability to securely bond to all neoprene and metal shell connectors and most cable types including polyurethane, PVC, Neoprene, EPR and sealing capability to Polyethylene sheathed cables.

Subsea Trenchers

BlueZone Group designs, manufactures and supplies systems for control and monitoring of subsea trenchers developed with six successful systems deployed and deployed globally.

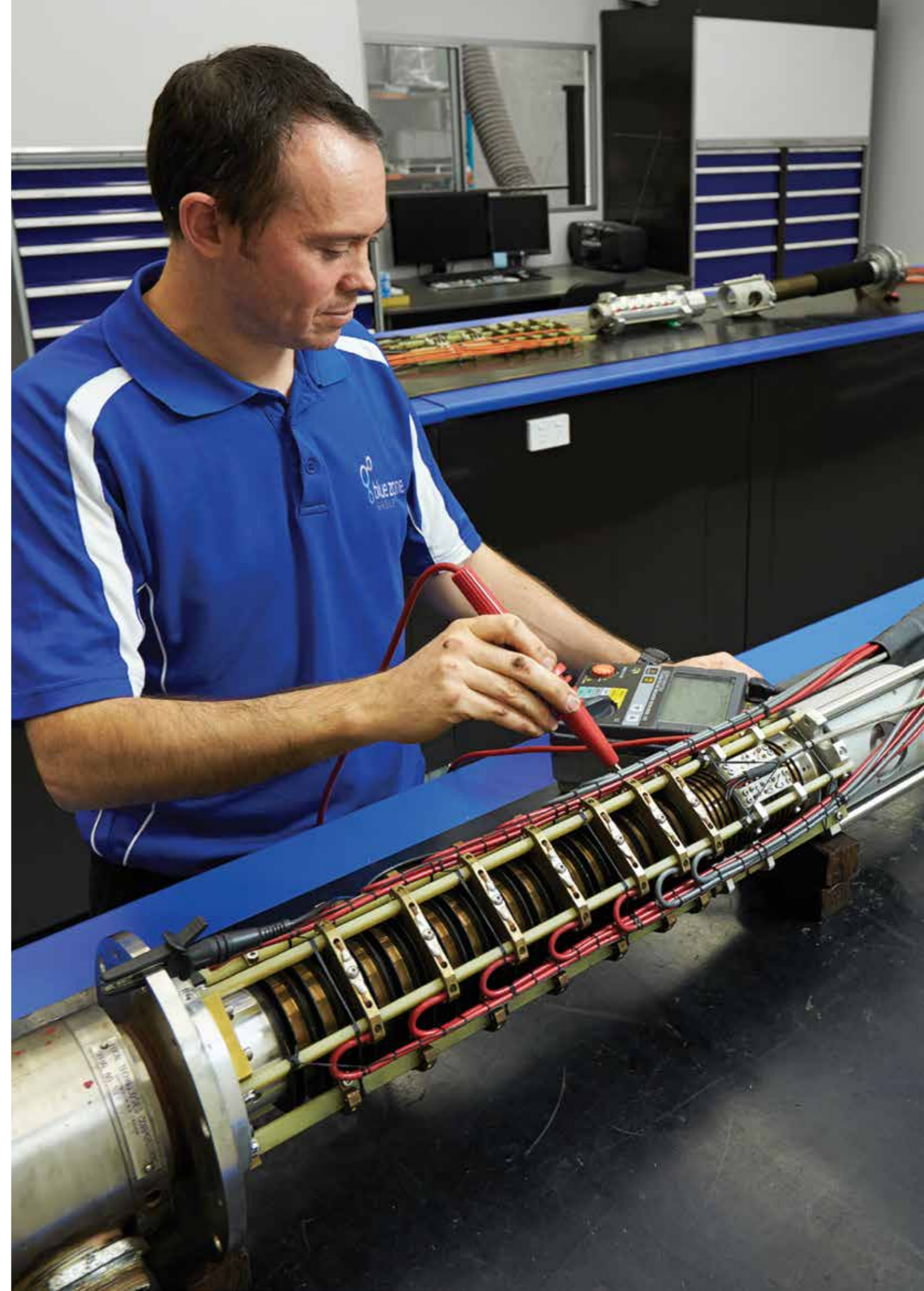
During the design phase of each system, largely based on the solid platform of previously completed projects, the use of current technology is always the primary focus. This is achieved with BlueZone Group in-house engineering capability which continually seeks to keep abreast of new developments, as well as a strong commitment from management to pursue and develop internal R&D projects and product development where practical and beneficial to our clients.

Q7 Wind Farm, The Netherlands and St Petersburg Harbour

BlueZone Group has completed two projects for burial of subsea electrical cable: Umbilical to the Q7 wind farm in IJmuden, The Netherlands (2007) and burial of subsea cable across St Petersburg harbour (2013).

These projects consisted of extensive control and monitoring packages for hydraulic operation, electronic monitoring, sonar and video surveillance. Each system was supplied with underwater cameras positioned to allow viewing of critical components during trenching and cable burial operations, with a series of profiling and imaging sonars incorporated to backup visual content during periods of low visibility.

Cameras used on these systems were fully manufactured in the BlueZone Group Perth workshop, using Australian components where possible. Camera and sonar images were multiplexed over a fibre optic connection to a control room.



Oceanographic/Hydrographic

BlueZone Group has been a long term supplier to the ocean science community and we stand behind every product that we sell - supported from our workshops in Newcastle, Melbourne and Perth where factory-trained technicians can complete repairs, upgrades and calibrations to meet your requirements.

Oceanographic

Now, more than ever, the importance of Ocean Science is recognised in its contribution to the understanding of the impact of climate change on our planet due to human activity. From equipment for water sampling to sophisticated ADCP buoys for long term deployment, BlueZone Group offers all types of products for Ocean Science.

BlueZone Group provides products to support professional hydrographic and geophysical survey services to the coastal engineering, port development and maintenance and offshore oil and gas industries.

Hydrographic

BlueZone Group provides solutions for Hydrographic Survey products including Single Beam Echo Sounders, Multi Beam Echo Sounders, Side Scan Sonars and Hydrographic Survey Software. Drawing on the wide range of hydrographic survey products represented by BlueZone Group, we are able to tailor a system offer to suit your application. Industry professionals agree that hydrographic survey systems such as Multi Beam Echo Sounders must be carefully selected to provide the right solution and value-for-money for the application. BlueZone Group will work with you to determine the final use of your hydrographic data to and recommended the best equipment for your budget.

Training

Hydrographic Survey Training

Our product offering is fully supported by our capability for on-the-job training at your site or using our facilities in Port Stephens NSW. Our hydrographic professionals keep up-to-date with factory visits and OEM training conducted at manufacturer sites world-wide.

Support Capability

Our nation-wide support capability, from facilities located in Newcastle, Melbourne and Perth ensures that we stand behind every product we sell with Australian-based service and repair.

Teledyne RDI ADCP Verification Service

BlueZone Group has been successful in establishing the first Service Centre for Teledyne RDI ADCPs outside of the Teledyne organisation. This service capability is now receiving orders and is available for fast turn-around of ADCP equipment in Australia for fault-finding, repair, verification and maintenance.

Teledyne Marine Acoustic Imaging Service

BlueZone Group factory-trained engineers are available to assist with all types of service and support issues for products supplied by the Teledyne Marine Acoustic imaging Group including Teledyne RESON, Teledyne BlueView and Teledyne Odom.

“Teledyne RDI and BlueZone Group have enjoyed a long term relationship that is focussed on spectacular customer satisfaction and initiatives such as the “ADCPs in Action conference in Australia” were key to supporting customers in the application of ADCPs to their work. ”

HARRY MAXFIELD, VICE PRESIDENT OF SALES & MARKETING
Teledyne RD Instruments

BlueZone Group has been a distributor for Teledyne RD Instruments for more than thirty years.



Water Resources

BlueZone Group enjoys close working relationships with the Australian river hydrology and hydrographic community, relationships that have been sustained for the past two decades, relationships based on providing excellent technical service and support. Since 1989, BlueZone Group has been at the forefront of the introduction and industry acceptance of Acoustic Doppler Current Profiler (ADCP) technology for hydrologic, hydrographic and hydrodynamic measurement applications.

River Monitoring

River monitoring supports many different activities – from determining water reserves to designing flood defences, and even to sports/leisure uses. As part of monitoring, the data collected include water currents, depth, and discharge - the net volume of water transported downstream.

After 1990, river discharge measurements changed from mechanical to acoustic instruments. For measurements made from moving boats and floats, Teledyne RD Instrument's (TRDI) river Acoustic Doppler Current Profilers (ADCP) have become the de-facto standard. The ADCP is accurate, samples rapidly, and displays discharge results as soon as the river section is complete. Rich views of the currents come from high-density sampling through the water column and along the boat path. Stemming from these advantages, TRDI has an unmatched user/experience base and a best-in-class reputation for reliable products and dependable data quality.

Products for Water Resources

Teledyne RDI's ADCP broadband technology and bottom tracking algorithms ensure that users collect the fastest most reliable data. The range of ADCPs covers all field environments.

ADCP Service and Support

BlueZone Group provides full service and support in Australia. The BlueZone Group Verification & Validation Service provides a cost effective, rapid and reliable way to determine the status of your ADCP instruments.



The Teledyne OceanScience Z-Boat is a rugged and capable platform that is ideal for river discharge measurement using an ADCP.

ADCP	Ideal Field Environment
StreamPro	Shallow streams
RiverPro	Deep streams to shallow rivers
RiverRay	Shallow to deep rivers
Rio Grande	ADCP for moving boat applications
ChannelMaster	H-ADCP for horizontal profiling applications
V-ADCP	Measurement for water flow, level and velocity in open channels





Trenchless Technology

BlueZone Group supports trenchless technology customers through UVS Trenchless Pty Ltd. UVS Trenchless designs, manufactures, supplies and services all types of equipment used for condition assessment of water distribution and wastewater collection systems. Our supply capability includes CCTV cameras, crawlers and the innovative SewerSerpent™ and SewerBatt™ technologies.

Pipeline Condition Assessment beyond CCTV

UVS Trenchless specialises in Pipeline Condition Assessment techniques that provide objective data-based information that is beyond the subjectivity of the visual-only limitation of CCTV.

SewerSerpent™

SewerSerpent™ technology is based on original hardware and software development now subject to Australian patent applications. SewerSerpent™ is an electronic leak detector which enables the location of leaks and infiltration of wastewater pipes using Extra-low Voltage (ELV) electric signals. SewerSerpent™ introduces a more sophisticated level of engineering that provides a solution beyond cameras and will detect a leak even if there is no visual indication of problem. The SewerSerpent225™ Push Rod unit is designed for 100mm to 225 mm diameter pipes and SewerSerpent™ 100 and 600 units will complete the range for all pipe sizes up to sewer mains.

SewerBatt™

SewerBatt™ is an innovative technology that uses acoustic signals to locate defects and blockages in sewers and drainage pipes. SewerBatt™ provides rapid and reliable information on pipe condition to support accurate estimation of the remaining service life of wastewater system assets and target maintenance and repair activities. The SewerBatt™ Acoustic Sensor is inserted into a manhole and an acoustic signal is emitted for approximately ten seconds. The acoustic response of the pipe is then recorded and analysed to produce a “signature” for the pipe. The Acoustic Sensor only needs to be in the manhole and does not need to be traversed through the pipe.

Trenchless Equipment Service

With more than 30 years’ experience in servicing the trenchless market, BlueZone Group continues to provide excellence in maintenance and service to the trenchless industry. BlueZone Group employs specialised electrical and electronic technicians in the Melbourne workshop and supports a wide range of customers from individual operators to network service providers. Through workshops in Newcastle and Perth BlueZone Group can supply nation-wide service for trenchless equipment including: IBAK, Sewerquip, Ridgid and Rothenberger together with the innovative Electro Scan and SewerBatt™ technologies.

Large Tunnel Inspection

The BlueZone Group-designed Large Tunnel Inspection Unit (LTIU) provides the capability to inspect large tunnels to a distance of up to 3km. The LTIU can be used for towed deployment through large diameter pipes. Redundant fibre in the cable provides the opportunity for addition of additional equipment to the deployed unit. Through cooperation with our global partners BlueZone Group can provide the capability to inspect flooded tunnels using special-purpose Remotely Operated Vehicles (ROVs) with proven performance and reliability.



Trenchless Technology

SewerSerpent 225™

The SewerSerpent 225™ is the fastest way to detect leaks and access immediate on-site diagnosis of sewer pipelines up to 225mm diameter.

Using safe, Extra-low voltage (ELV) electric signals, the SewerSerpent 225™ is designed as a portable hand - carry unit. The cable reel is a rugged aluminium assembly and the push-rod cable is high quality with redundant electrical cores and a reliable slip ring arrangement for long service life. Up to 75m of push rod cable can be provided on the cable reel which pushes the scan head through the pipeline to search for leaks.

Detect

- Accurately seeks out leak locations in drains and laterals for further inspection.
- Uses sophisticated scanning and software technology.
- Measures changes in ELV signals due to cracks, corrosion, joint and connection defects.
- Works in any type of non - conductive pipe (clay, concrete, plastic, resin).

Diagnose

- Data captured fast and efficiently for onsite analysis.
- Precisely identifies location of the defect within 1cm.
- Operator interpretation not required.
- Data stored in the cable reel electronics unit for download if required.

Deliver

- Transportable, robust, measureable, leak detection system.
- Faster more accurate detection of defects than alternative systems.
- Suitable for an individual to use.
- Cost effective management of sewer assets.
- Minimal training required.

Features	Benefits
Extra-low voltage (ELV) electric signals	No risk of electrical shock
Dedicated Control Box	Designed for field use
Objective location of leaks	Operator interpretation is not required
Rapid scan completion	Quickly detect leak locations for further inspection
Scan data immediately available at the inspection site	Make decisions on site for further inspection if required
Easy to understand scan reports	Minimal training required
USB Port	Easy file transfer and number of scans possible only limited by USB size

SEWER SERPENT 225™



BlueZone Group Engineered

BlueZone Group has strong experience in subsea and harsh environment engineering excellence dating back to the early 1980's. Our in house engineering team can assist you to quickly and cost effectively take your requirement from concept stage to operational reality, on time, on budget and all in accordance with our ISO 9001 accredited quality assurance programme.

Our focus is on engineering for the subsea environment and our experience in this application can benefit you if you have a demanding requirement for electronic systems in any type of harsh environment.

Supplier Relationships

BlueZone Group has long term relationships with leading global suppliers. These suppliers are at the forefront of research and development and the introduction of new and innovative systems to the market. Our long term relationships mean that we follow the development in supplier labs and we know and understand the new technology as it is introduced to market. Our engineers and technicians are amongst the first to be trained in support for new systems. Strong communication links with supplier engineering development teams means that we can source new and innovative ideas for applying technology.

We have the depth of understanding and communication with engineering development teams to ensure that fielded systems are set to work and have the function and performance to meet the requirements of the most demanding customers.

“ The relationship between ATSA and L3 for the LHD Shore Contract Temporary Training Facility (CTTF) at Mascot in support of the Australian Landing Helicopter Dock (LHD) ship building project worked very well – a combination of willing people, skill and efficient project management. ”

PETER MURRELL, SITE MANAGER
L3 Communications Australia Pty Ltd

L3 Communications Australia is the contractor for the Landing Helicopter Dock (LHD) ship Communicators System



BlueZone Group Engineered

Product Development

BlueZone Group product development is focussed on innovative applications of new technology for our customers in subsea engineering, defence and other harsh environments.

CC02 Dual Diver CCTV System - Rack Mount

The Dual Diver CCTV System enables two person dive teams to reliably operate two video cameras and two lighting sources at depths up to 200m.

DL25 ADCP Extended Memory and Control

The DL25 Extended Memory And Control (EMAC) enables long term data logging and remote control of Teledyne RDI Channel Master ADCPs. This supports deployment of these ADCPs in remote areas where large data recording requirements exist because the instrument cannot be readily accessed.

Data logging for other ADCP types used in ocean deployments can be provided by packaging the DL25 for subsea deployment.

Kailani Telemetry Buoy

The Kailani Telemetry Buoy (KTB) implements seafloor to space communications for ocean floor instruments. The compact sea surface buoy package is just 460mm in diameter and less than 25kg making it ideal for deployment from small boats.

CS24-RONII CCTV Surveillance System

Provides video from colour cameras fitted externally to the COLLINS submarine pressure hull. Design and installation of the camera system was completed from the BlueZone Perth office working closely with ASC.

Component Development

Through close cooperation with customers, BlueZone Group specialises in developing new components for in-service systems. Innovation in component development leads to new and improved ways to operate systems increasing the function and performance and extending system life.

Tether Connection Mk II

Unsolicited improvement developed to improve performance and change over times in Mine Disposal Vehicle operation. Original changeover time 2-3 hours reduced to a “plug & play” solution to connecting to the Double Eagle Mk II Mine Disposal Vehicle.

Portable Operator Control Board (POCB)

The Mk 2 POCB provides the same function and performance as the original POCB but with a reduction in size and component count. The reduced size and weight allows for easy operation, handling and storage of the POCB Mk 2. The use of the latest available electronic components together with a reduction in parts count leads to increased reliability and robustness and addresses all known obsolescence issues.

ATS Transponder Mount

Design of a new location and new mount for a larger Acoustics Transponder System beacon to address an obsolescence issue. The location and new mount needed to consider a thorough risk analysis and was designed and prototyped to meet customer requirements.

Research & Development

Our commitment to Research and Development (R&D) provides innovation that drives the company forward. BlueZone Group invests in R&D, particularly ocean engineering and associated technologies, to ensure we are known as an essential contributor to Australia's ocean engineering capability, especially in the field of underwater vehicles and systems.



In 2012 ATSA received an Australian National Engineering Excellence Award for the SeaUrchin™ Marine Power Generator project. ATSA completed original engineering development of a subsea generator, constructed prototypes and completed at-sea proof-of concept and performance testing. ATSA provided project management for the complete project including leading the development team of Elemental Energy Technologies, RPC Technologies and e3k (Gillmore Engineers).

“ ... a quick note to thank you all for your involvement and efforts on the Clever Buoy.

Optus and Google are thrilled with the success of Phase 1, and the opportunities that flow for them as supporters of the project.

For our own collective parts, we delivered on the technical and testing side in complete fulfilment of our undertakings in Phase 1 and the BlueZone Group team should be commended. Many thanks for your great work in Phase 1. ”

HAMISH JOLLY, DIRECTOR
Shark Attack Mitigation Systems



BlueZone Group Engineered

Projects

BlueZone Group applies strong project management skills to ensure that complex projects which require multiple component supplies, hardware engineering, software engineering, manufacture, assembly, test and set-to-work are delivered on time and on budget.

Examples of projects completed by BlueZone Group include:

Special Forces Submarine Surveillance

Design, manufacture and commissioning of a low-light camera network for external monitoring of COLLINS Class Submarine activities during night operations. The system consists of 4 low-light underwater cameras with an on-board monitoring and control unit for viewing and recording of activities as required. The on-board control unit provides remote viewing at various locations around the bridge and electronic warfare unit.

RON Camera System

Design, manufacture and commissioning of a Pan/Tilt/Rotate colour camera system for installation onto the COLLINS Class Submarine fleet. Seven systems in total, designed to allow for flexible external viewing of mast, periscope and general operations. A colour camera was mounted onto the fin of each submarine with a monitoring and control unit installed in the bridge to allow for control of the Pan & Tilt functionality as well as for local viewing and recording of images. External outputs were also made available for routing of video to other submarine location such as the sailor mess and captain quarters.

Subsea Trenchers

Two projects: Burial of subsea electrical umbilical to the Q7 wind farm in IJmuiden (2007) in the Netherlands and burial of subsea cable across St Petersburg harbour (2013). These projects consisted of extensive control and monitoring packages for hydraulic operation, electronic monitoring, sonar and video surveillance. Each system was supplied with underwater cameras positioned to allow viewing of critical components during trenching and cable burial operations, with a series of profiling and imaging sonars incorporated to backup visual content during periods of low visibility. Cameras used on these systems were fully manufactured in our Perth workshop, using Australian components where possible. Camera and sonar images were multiplexed over a fibre optic connection to a control room. The system was controlled and monitored electronically using an in-house designed SCADA system providing switching and recording functionality, in conjunction with detailed electronic data and animated graphics.

Subsea Electronics Module (SEM)

Many clients have the need to house electronics for operation at great depth or in harsh environments. BlueZone Group has developed proven designs for SEM housings and has the experience to specify, manufacture and test for your requirement. Many SEM projects have been completed for various customers including: Trunk Line Plough Developed for Woodside Petroleum; Carnegie Wave Energy CETO Perth Wave Energy Project.

“SeaUrchin” Marine Power Generator

The SeaUrchin Marine Power Generator project was awarded a 2012 National Engineering Excellence Award by Engineers Australia. A highly effective engineering development team was formed to design the SeaUrchin™ generator, developed the prototype and completed proof-of-concept and performance trials. Overall Project Management was provided using skills and capabilities developed as an SME working on provision of support for strategic capabilities to the Royal Australian Navy.

Optus “Clever Buoy”

BlueZone Group completed development of the world-first Optus “Clever Buoy”, an innovative device for detection of sharks at beaches. In twelve weeks BlueZone Group rapidly assembled a skilled engineering team that took the concept from the whiteboard to at-sea testing and global launch. The Clever Buoy integrates a sonar detection system, interface software, battery power and communications systems in one rugged buoy that can be deployed at beaches around the coastline.



Newcastle (Head Office)

21 Huntingdale Drive
Thornton, NSW 2322, Australia

PO Box 3022
Thornton NSW 2322

Tel: +61 (0)2 4964 3500

Melbourne

9 Macquarie Place
Boronia, VIC 3155, Australia

PO Box 129
Boronia VIC 3155

Tel: +61 (0)3 8720 0300

Perth

Unit 1, 41 Discovery Drive
Bibra Lake, WA 6163, Australia

PO Box 1337
Bibra Lake, WA 6965

Tel: +61 (0)8 6595 1500