

CAPABILITY STATEMENT

VERTECH GROUP OVERVIEW

THE PURPOSE

This document is composed to assist our clients and the supply chain to understand our group operating structure along with a high-level understanding of the benefits, services and specialist packages associated with our capabilities.



VERTECH
GROUP



GEO OCEANS



SONOMATIC



COMBINED SERVICES

Vertech, Sonomatic, Geo Oceans and Abseil Access have combined into a single group that compliments each other's strengths. As a cohesive unit we can provide a wide range of services and specialist packages tailored to the need of each client. No matter what the scope, we offer the very best mechanical, coating, alternative access, rigging, visual inspection, Mini ROV, and NDT services, all within one group.

OWNERSHIP STRUCTURE



WE PRIDE OURSELVES ON OUR



MARINE CLASS SERVICES

Vertech's Marine Department was formed through the amalgamation of our Marine Class Team and Geo Oceans to form a single, cohesive team that prides itself on its pro-active, solutions-based approach. Vertech Marine is a highly experienced, dedicated team of office and site-based professionals. We specialise in the statutory inspections for the classification of ships & offshore floating structures and subsea inspections using the latest technology, proprietary inspection tools and cutting-edge software solutions.

Vertech's Marine Department is dedicated to unmanned & manned access, inspection and preservation solutions of marine structures. We are driven to innovate, develop and collaborate with subject matter experts and clients to be industry leading and to provide the safest, most cost-efficient service available.

MARINE CLASS INTEGRITY SERVICES

With innovation being one of Vertech's core values, we are striving to be at the forefront of an ever-evolving market. We provide a broad array of engineering and repair capabilities to support marine class inspections, as well as providing ongoing integrity management of Mobile Offshore Drilling Units (MODUs), Floating Production Storage & Offloading facilities (FPSOs), Floating Storage and Offloading vessels (FSOs), Floating Liquefied Natural Gas (FLNG), and Merchant Marine Assets.

Vertech holds accreditation's with all major societies for close up surveys, thickness measurements, in-water surveys, and remote inspection including: AS/NZS 45001:2018, NATA NDT Inspection, American Bureau of Shipping (ABS), Bureau Veritas (BV), Det Norske Veritas (DNV), and Korean Register (KR). Over our years of service, we have developed strong working relationships and gained extensive industry knowledge, allowing us to minimise the impact of the inspection on production and resources.

-  Class approved repair plans
-  360° interactive mapping surveys
-  Comprehensive survey planning
-  Fatigue management
-  Operational audits
-  Anomaly tracking
-  Vessel stability modelling
-  Work pack generation



MANNED MARINE SERVICES

As a testament to our client focus, high quality service and specialist marine packages, we have been chosen to complete complex campaign and compliance inspections on every FPSO in Australia and New Zealand as well as many others in the wider Asia Pacific and West Africa regions. In addition to oil and gas assets, we have also completed integrity and class inspections on merchant shipping vessels, barges, tugs, and defense vessels. Our manned services include:





-  Confined space entry management
-  Rope access inspection
-  Non-Destructive testing (UT, MPI, ECI, DPI)
-  Advanced and specialised NDT
-  Close & general visual inspections
-  3D Laser mapping
-  Pre-Docking surveys
-  Baseline inspection surveys
-  Special survey management & implementation
-  Crop and renew surveys
-  RBI driven class inspection

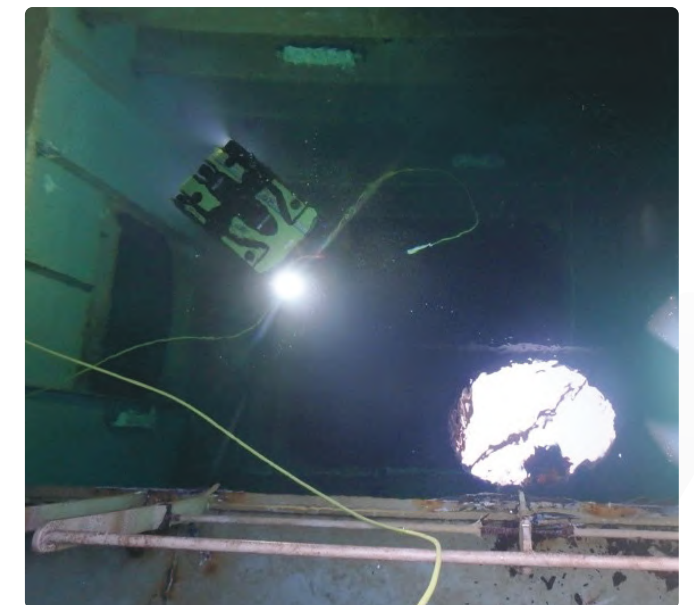


UNMANNED MARINE SERVICES

Vertech group has led the charge and invested heavily in reducing and eventually removing manned inspections through advanced robotics such as Unmanned Aerial Vehicles (UAV's), Remote Digital Video Inspection (RDVI), robotic crawlers, and mini-ROV's.

Vertech has recently gained class accreditation with International Association of Classification Societies (IACS) and is recognised member of the American Bureau of Shipping (ABS) for "Remote Inspection Techniques: UAV Inspection". When combined with marine surveyors, AICIP or API inspectors, our pilots are able to complete safe and cost-effective inspections of marine structures without the need for manned alternatives such as rope access, or confined space entry.

-  Subsea Mag Nautilus corrosion mapping
-  Mechanical specialised NDT
-  Accredited Mini ROV ballast tank inspection & testing
-  ABS accredited UAV inspections
-  Next gen robotic crawlers and cameras
-  Cathodic protection inspection and testing
-  Mini-ROV mooring inspection
-  HP Blasting, cleaning and maintenance



ROV SERVICES

WATER BALLAST TANK SPECIAL SURVEYS

Our Mini-ROVs utilise a suite of high-definition cameras, photogrammetry and NDT technologies to collect tank inspection data in a cost efficient, safe and thorough manner. Our tank surveys are all class accredited and meet international standards.

A key advantage of using our specialised asset deployed ROVs is that the inspection can be performed without emptying the tank of fluid. This reduces facility downtime while also avoiding costly and dangerous Confined Space Entry (CSE) procedures.

This service can integrate seamlessly with others offered by our group partners. We have performed many successful campaigns working alongside Vertech's multi-disciplined hull inspection teams, who are experienced in rope access, UAV inspection, NDT and specialised maintenance.

HULL, RISER & SUBSEA INSPECTION

Our ROVs are deployed directly over the side or off vessels of opportunity, eliminating the need for support vessels.

Having the expertise to develop our own proprietary technology, we have many subsea tools that allow us to perform close visual, general visual and marine growth inspections, as well as damage, coating and corrosion analysis.

ADVANCED NDT INSPECTION

Geo Oceans has proven experience in NDT inspection planning, advising clients on NDT methods, and providing solutions to ensure compliance to international standards.

Working with Sonomatic, we can provide a complete collection of NDT services, from commonly used conventional methods right the way up to bespoke advanced solutions. The ROV tools are operated using topside-controlled actuator arms and our technicians have hundreds of hours of flight experience, being able manoeuvre a vehicle with millimetre accuracy.

Our advanced NDT attachments can perform Ultrasonic Testing (UT) and Alternating Current Field Measurement (ACFM). We can also deploy advanced NDT equipment in a payload capacity.

WATER BALLAST TANK SPECIAL SURVEYS

HULL, RISER & SUBSEA INSPECTION

ADVANCED NDT INSPECTION

METROLOGY AND PHOTOGRAMMETRY

IN-WATER SURVEY/UWILD

MARINE GROWTH ASSESSMENT AND REMEDIATION

IN-WATER SURVEY/UWILD

Our project managers, ROV teams and asset inspectors work with clients to perform subsea inspection campaigns tailored to suit the specific class requirements and facility needs.

A brand new innovation is our 'link-to-shore' capability which allows clients to see the inspection in real-time. This not only gives the client a completely new understanding of the work we do, it also keeps them much more involved.

Our survey planning process is continually refined to help our clients streamline operations and is key factor in obtaining the most favourable conditions. If weather or SIMOPS should prove an issue, our team are trained to quickly adapt, being able to perform tank and other on-board inspections to still remain useful during delays. Our target is zero downtime.

MARINE GROWTH ASSESSMENT AND REMEDIATION

Geo Oceans conduct detailed jacket structure marine growth assessments and then model predictions of effective marine growth thickness for future periods, supporting asset life extension applications and engineering requirements.

Any areas of the jacket that are covered in marine growth or are badly corroded can be cleaned for coating assessments, CVI, CP, UTM or advanced NDT inspections. Marine fouling can be removed without damaging the coatings or infrastructure, using tools including mechanical scrapers, brushes and high-pressure water blasters.

METROLOGY AND PHOTOGRAMMETRY

Our Mini-ROV inspection systems include imaging technologies for accurate size and area measurements. A camera array (stereo or mono) acquires high-definition video and images that can be processed for scaled measurements and 3D modeling.

The 3D models can be used to calculate size and area measurements for localised corrosion mapping purposes or quantitative assessment of anode remaining percentages. These 3D models can also be compared against the 'as built' (baseline) model of the anodes to create a 'deviation' model that displays the level of material loss.

IN-SERVICE INSPECTION












All engineered equipment has a finite life and deteriorates over time with use. Vertech provides comprehensive in-service inspection services across a range of industries to assist our clients manage their assets' integrity. We actively reduce risk, reduce cost and ultimately keep people and the environment safe while meeting code, statutory and legislative requirements.

Vertech is NATA certified and has a wealth of in-service inspection knowledge. Our subject matter experts (SMEs) are trained and experienced in applying Australian and New Zealand in-service standards such as AS3788, AS4343 and AS1210. Our team of SMEs are also qualified and experienced in American Petroleum Institute (API) codes such as API 510, API 570, API 579, API 653 and ASME codes ASME B31.3, ASME B16.5.

INTEGRITY ENGINEERING SERVICES

Vertech can assist clients to manage their assets by applying best practice engineering principles to develop bespoke solutions. From high-level strategies through to detailed engineering analysis, inspection planning and implementation, we can help achieve optimal lifecycle cost, quality and profitability.

Across the industry it is essential that plant and equipment are maintained in good condition as the failure of a component can have safety, financial, and environmental costs. Vertech offers a wide range of asset integrity management services across a diversity of asset types, enabling our frontline inspectors to provide a best-in-class service and the right data required.

- | | |
|--|---|
|  Integrity management strategies, plans & procedures |  Review of inspection history & anomalies |
|  Risk Based Inspection (RBI) methods, assessments & plans |  Documentation & register development & review |
|  Integrity management plans |  Engineering assessments & technical reporting |
|  Inspection & shutdown planning |  RDVI Front End Engineering Design (FEED) consultancy & planning |
|  Engineering assessments & technical reporting |  Pre-inspection planning & assessment |
|  Inspection & repair work packs | |



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-  Executing intrusive or external inspections
-  Confined space vessel inspection
-  Confined space entry (CSE) planning & management
-  Rope access – confined space inspections
-  Confined space rescue
-  Close Visual Inspection (CVI)
-  NATA compliant reports
-  Risk Based Inspection (RBI) in-service inspections
-  Full range of non-destructive testing (NDT)



UNMANNED INSPECTION SERVICES

Vertech group has led the charge and invested heavily in reducing and eventually removing manned inspections through advanced robotics such as Unmanned Aerial Vehicles (UAV's), Remote Digital Video Inspection (RDVI), robotic crawlers, and mini-ROV's.

RDVI uses remote digital systems such as robots or crawlers to internally inspect and assess difficult to access areas without the need for Confined Space Entry (CSE). RDVI is effective for Foreign Object Search and Retrieval (FOSAR), condition assessments and process efficiency assessments. Vertech offers the latest generation RDVI systems and robots alongside the most experienced people in the Asia Pacific region to ensure a best-in-class outcome and safety excellence to all projects.

-  Pre-inspection planning and assessment
-  Remote Digital Video Inspection (RDVI)
-  Inspection crawlers and robotics
-  Unmanned Aerial Inspections (UAV)
-  Foreign Object Search And Retrieval (FOSAR)
-  RDVI specific inspection and test plans
-  Hydrocarbon enriched atmosphere inspections (in-service)
-  Pressure system inspection
-  CASA flight plans & drone Inspections



RDVI SERVICES

Remote Digital Visual Inspection or RDVI is the application of remote digital systems such as cameras, robots or crawlers to internally inspect and assess difficult to access areas without the need for intrusive inspections and the associated Confined Space Entry. RDVI methodologies work for condition assessment, process efficiency assessments and Foreign Object Search And Retrieval (FOSAR).

RDVI SPECIALISED ENGINEERING SERVICES

FRONT END ENGINEERING DESIGN (FEED)

Our RDVI team collaborate with our clients during the FEED and planning phase of a project to define critical assets areas where RDVI can be applied, what will be required to access these areas and the likely degradation mechanism.

RDVI integration in the Pre-FEED and FEED stages of the project maximises RDVI capabilities and results in the most significant savings, exceptional inspection coverage, a reduction in turnaround time frames and fewer resource requirements. This process also dramatically reduces the possibility of substantial changes being required during the execution phase.

OPERATIONAL PLANNING & REVIEW

Vertech's Facility Review & Planning service provides clients with focused campaign planning for the internal inspection requirements of pressure equipment. Our processes ensure that the correct inspection equipment, support tooling and techniques are applied in a timely and efficient manner.

We have taken full advantage of our team's extensive campaign & project experience to create a specialised array of procedures and methods to help reduce execution windows, bringing assets back online faster.

RDVI SPECIALISED SITE EXECUTION SERVICES

ONSITE EXECUTION SERVICES

Vertech's Campaign Execution Team provides complete end-to-end assistance with campaigns, projects and turnarounds. Our RDVI technicians have a wide variety of inspection experience and are specifically trained across the full suite of RDVI technologies, allowing them to assess each situation and apply the correct tooling on a case by case basis.

What sets Vertech's RDVI Team apart is that our experts understand the needs of a variety of stakeholder groups, from onsite personnel to upper management. Our team works with each group every step of the way to help them understand and interpret the relevant data, results & information.

**VERTECH OWNS, OPERATES
AND MAINTAINS THEIR OWN
CORE RDVI EQUIPMENT**

TRUST A TEAM WHO KNOW THEIR EQUIPMENT



BENEFITS OF RDVI

INCREASED SAFETY BY REDUCING
PERSONNEL EXPOSURE

REDUCTION OF SHUT DOWN
RESOURCE REQUIREMENTS

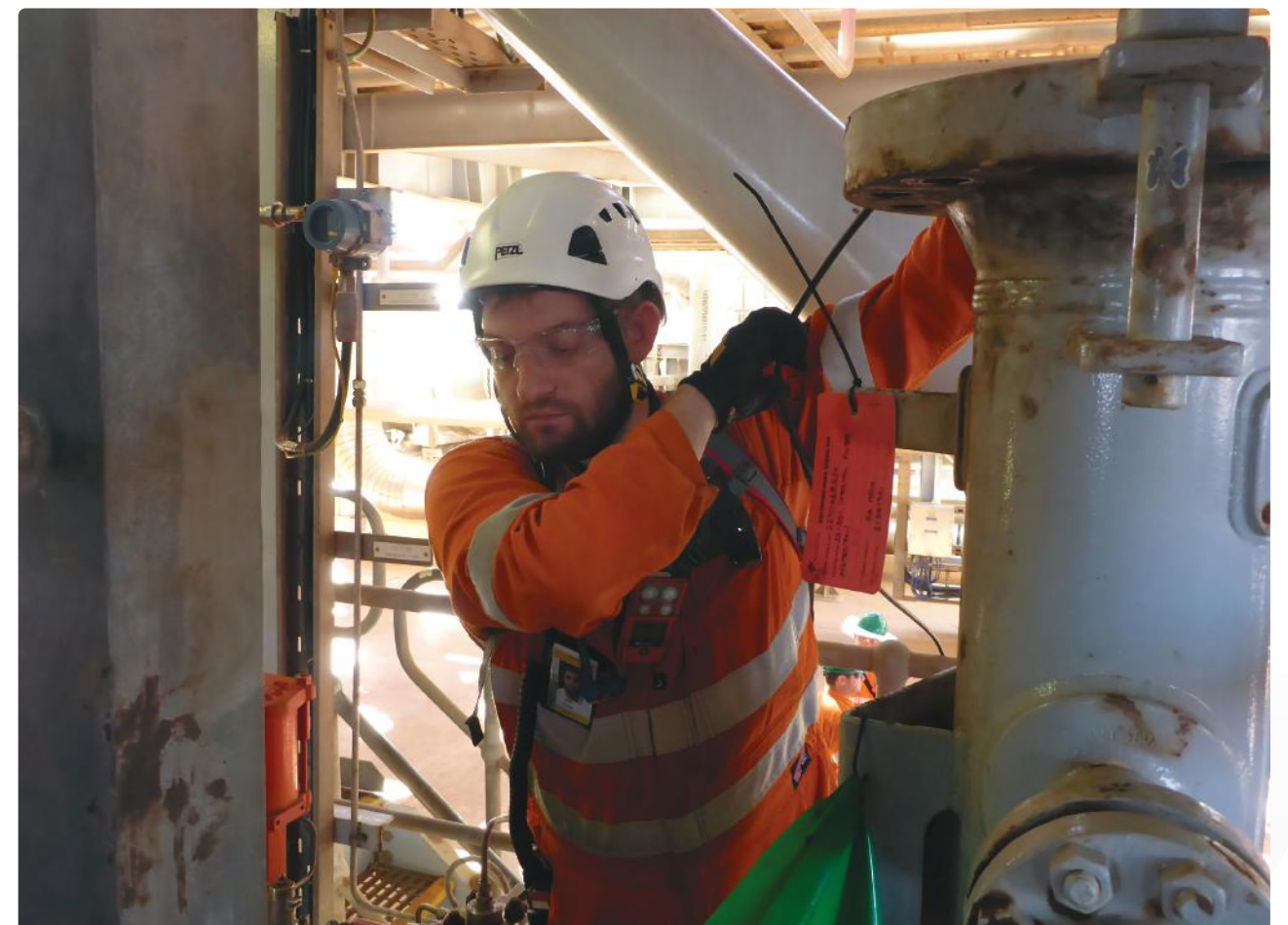
IMPROVED INSPECTION
REPEATABILITY

REDUCTION IN OVERALL
RISK PROFILES

INCREASED INSPECTION COVERAGE

REDUCTION IN POTENTIAL
LEAK POINTS

ENSURING SAFETY EXCELLENCE ACROSS ALL PROJECTS



NDT SERVICES

CONVENTIONAL NDT SERVICES

Safety, reliability, environmental requirements, and regulations, all mean that companies across multiple sectors have a responsibility to maintain the integrity of their equipment. Vertech have a proven track record across the Asia Pacific region in the delivery of a wide array of conventional Non-Destructive Testing (NDT) methods from planning campaigns, advising clients on NDT methods, and providing solutions to ensure code compliance to both international and Australian standards.



CONVENTIONAL NDT TECHNIQUES

-  Ultrasonic Inspection
-  Magnetic Particle Inspection
-  Liquid Penetrant Inspection
-  Eddy Current Inspection
-  Film Radiography
-  Digital Radiography
-  Salt Test & Dry Film Thickness (DFT) Testing
-  Corrosion Mapping (C-Scan)
-  Proof Load Testing
-  Visual & Dimensional Inspection
-  Positive Material Identification (PMI)
-  Laser Scanning/Mapping
-  Thermographic Inspection
-  Computerised Radiography (CR)

SPECIALISED NDT SERVICES

Sonomatic, our advanced inspection arm, is a leading provider of advanced inspection services to clients in a range of industries. Sonomatic brought innovation to the market by introducing Time of Flight Diffraction (TOFD) in the 1980s and has continued to bring world-leading technology to our clients. The team are unique among inspection service providers in that they develop their own inspection systems and scanners to meet specific requirements for inspection performance, deployment and in-field reliability.

SPECIALISED NDT TECHNIQUES

-  Ultrasonic Thickness Testing (UTT)
-  Time of Flight Diffraction (ToFD)
-  Phased Array Corrosion Mapping and Weld Inspection
-  Long Range UT (LRUT)
-  Alternating Current Field Measurement (ACFM)
-  Advanced Tube Inspection Multi-Skip Inspection
-  Non-Intrusive Inspection (NII)
-  High Temperature Ultrasonic Inspection
-  Tank Floor Inspection (MFL, Vacuum Box and Acoustic Emission)
-  Electromagnetic Acoustic Transducer (EMAT) Testing
-  Microwave Testing
-  Dynamic Response Spectroscopy (DRS)

SUBSEA APPENDIX



Innovation is our Tradition

Weld Inspection

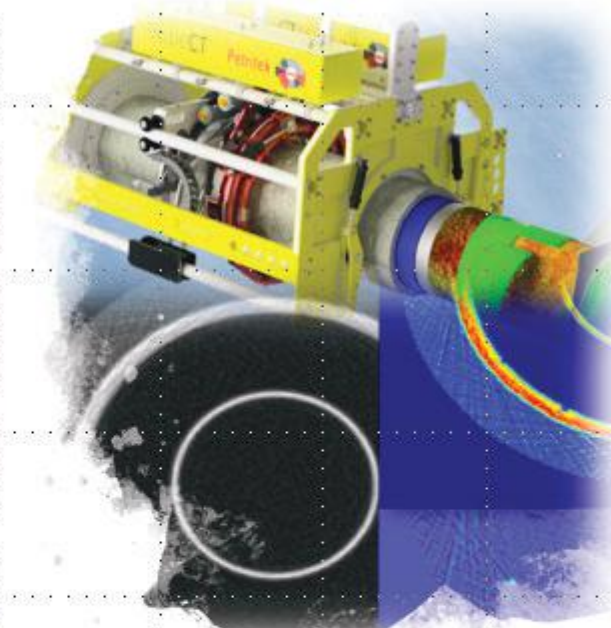
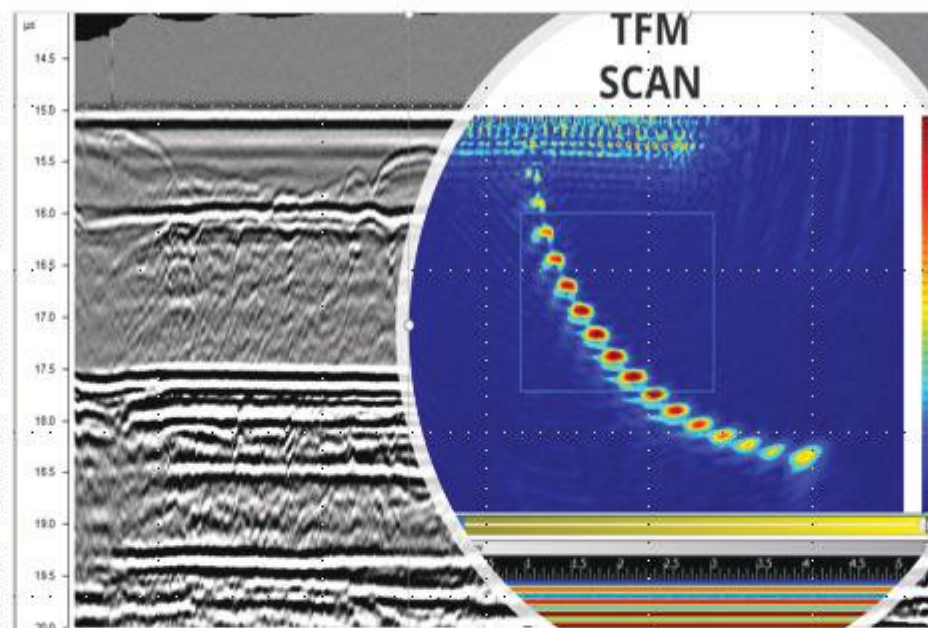
- ☛ TOFD
- ☛ Phased Array
- ☛ Manual UT
- ☛ ACFM
- ☛ Eddy Current

Subsea Pipeline Screening Tools

- ☛ EMAT Screening
- ☛ Multiskip Screening
- ☛ LRUT
- ☛ PEC
- ☛ Additional In development

Subsea Structure or Pipeline

- ☛ Quantitative Inspection Tools
 - ☛ UT Inspection tools (Corrosion mapping, TOFD, Phased Array)
 - ☛ ROV-IT, Mag Rover, Nautilus
 - ☛ Computed Tomography (InspectCT)
 - ☛ Dynamic Response Spectroscopy (DRS)



People / Safety / Quality /
Innovation

CONTACTS

VERTECH

Brenton Jenke

Operations Manager

T: +61 (8) 6270 3421

E: Brenton.Jenke@verttechgroup.com.au

Peter Tawse

Marine Department Manager

T: +61 (8) 6270 3426

E: Peter.Tawse@verttechgroup.com.au

Bruce McKenzie

Offshore Department Manager

T: +61 (8) 6270 3432

E: Bruce.McKenzie@verttechgroup.com.au

Adam Haling

Mining & Projects Department Manager

T: +61 (8) 6270 3423

E: Adam.Haling@verttechgroup.com.au

Donovan Rheeders

Project Manager

T: +61 (8) 6168 7600

E: Donovan.Rheeders@verttechgroup.com.au

Jon Millen

Project Manager

T: +61 (8) 6168 7600

E: Jon.Millen@verttechgroup.com.au

SONOMATIC

Alessandro Cesan

General Manager - Australia

T: +61 (0) 498 442 666

E: Alex.Cesan@sonomatic.com

Paul Edmonds

West Coast Project Manager

T: +61 (0) 415 850 346

E: Paul.Edmonds@sonomatic.com

Tyron Kimble

Engineering Services - Australia

T: +61 (0) 427 277 603

E: Tyron.Kimble@sonomatic.com

Zach McCann

South East Asia Regional Manager

T: +61 (0) 404 797 670

E: Zach.McCann@sonomatic.com

GEO OCEANS

Ben Brayford

Managing Director - Geo Oceans

T: +61 (8) 6168 7611

E: Ben.Brayford@geooceans.com

Nick Veitch

Operations Director - Geo Oceans

T: +61 (8) 6168 7611

E: Nick.Veitch@geooceans.com



www.verttechgroup.com.au



www.sonomatic.com.au



www.geooceans.com