

THE AUSTRALIAN MINING REVIEW

RRP \$10.00 incl GST

2024 | July

Your Gateway to the Mining Industry - Subscribe to our free digital edition! | australianminingreview.com.au

A product of Publications & Exhibitions Australia Pty Ltd



What's poor lubrication costing you?

GREASEMAX[®]

automatic lubricator

- EFFECTIVE
- RELIABLE
- ECONOMICAL

www.greasemax.au



VENTILATION

THE LIFELINE UNDERGROUND

Efficient ventilation systems are critical for safe underground working conditions, providing fresh breathable air as well as diluting and removing flammable and exhaust gases.

Without proper ventilation, methane and other gases build up, potentially resulting in explosions and fatalities.

According to mine ventilation specialists, Howden, there are a multitude of factors impacting and, potentially compromising, the quality of air underground for workers, including small spaces, minimal ventilation and vehicle emissions.

It is more important than ever to recognise the role that fans play in ensuring safe operations by expelling pollutants and heat to the atmosphere, while also adhering to noise attenuation requirements.

CONTINUED ON PAGE 104



DISCOVER THE MSA GALLET F2XR MULTIPURPOSE FIRE HELMET

See more on page 140



Innovation in Action



Layflat Hose & Reel Systems

Install with ease.
Enhance efficiency.
Remove manual handling.



Watch the video

Contact us today or visit our website to learn more.

P: +61 3 9720 1100

E: sales@crusaderhose.com.au

www.crusaderhose.com.au



follow us





OPTIMISED SURFACE MINING PARTS FOR INCREASED PERFORMANCE

All MASPRO parts, components, and assemblies are engineered for safety, reliability, and productivity to improve efficiency and performance in your operations. Our range of surface products are suitable for use with major brands and are manufactured right here in Australia to meet local specifications so your machines can keep performing in the most demanding mining environments.

CHAIN FEED RANGE



Sprocket Assembly



Timing Sprocket



Sprocket Wheel



Spacer



Splined Shaft

BREAKOUT TABLES

MASPRO breakout tables are fitted with & breakout cylinders and come completely assembled ready to bolt onto the mast of your D65.



Breakout Table

BREAKOUT CYLINDERS

MASPRO breakout cylinders utilise a fully engineered and metallurgically checked cast one-piece unit to make them stronger and more durable.



Breakout Cylinder



Follow us on:



maspro.com.au

Contents

ABN 28 112 572 433

A product of
Publications & Exhibitions Australia Pty Ltd

CONTACT US

P (08) 6314 0301
F (08) 9481 7322
134A Charles Street, West Perth, WA 6005
PO Box 8023, Perth BC, WA 6849

Email the editor at
editorial@australianminingreview.com.au

GENERAL MANAGER

Trevor Pickett
0429 916 282
trevor@australianminingreview.com.au

GROUP MANAGING EDITOR

Kathleen Southway
kathleen@australianminingreview.com.au

ACCOUNTS MANAGER

Teresa Sabatino
accounts@australianminingreview.com.au

JOURNALISTS

Ashleigh Dorrell, Chloe Courtade,
Kate Dzienis, Kane Dive

RESEARCH

Jason Strydom

NATIONAL SALES MANAGER

Quentin Roberts
quentin@australianminingreview.com.au

SALES EXECUTIVES

San Ienco, Chris Ritson,
Gary Holland, Donna Orton,
Brad Hollow, Cal Christelow,
Chrissy Nurthen

**SENIOR GRAPHIC DESIGNER &
PRODUCTION MANAGER**

Rebecca Johnson

DIGITAL MARKETING MANAGER

Sal Jumat
sal@australianminingreview.com.au

PRINTER

Colourpress Pty Ltd

Mental Health Help

Lifeline | 13 11 14
Kids Helpline | 1800 551 800
MensLine Australia | 1300 789 978
Suicide Call Back Service | 1300 659 467
Beyond Blue | 1300 224 636

The Australian Mining Review is a free publication to all mine sites and mining companies in Australia. Its value is \$11 an issue. (Includes GST, postage and handling).

The copyright is vested in the Proprietors of The Australian Mining Review; neither whole nor any part of this issue may be reproduced without permission.

The views expressed in this publication are not necessarily those of Publications & Exhibitions Australia Pty Ltd and its staff, but are those of the respective author who accepts sole responsibility and liability for them.

NOTICE TO ADVERTISERS:

The Trade Practices Act, 1974 came into force on the 1st October 1974. All advertisers and advertising agents are directed to carefully study the provisions of the Act, which contain strict regulations on advertising.

It can be an offence for anyone to engage, in trade or commerce, in conduct deemed "misleading or deceptive". Specifically s53 of the Act contains prohibitions from doing any of the following in connection with the promotion, by any means, of the supply or use of goods or services:

(a) falsely represent that goods are of a particular standard, quality, value, grade, composition, style or model or have had a particular history or particular previous use; (b) falsely represent that goods are new; (c) represent that goods or services have sponsorship, approval, performance characteristics, accessories, uses or benefits they do not have; (d) represent that the corporation has a sponsorship, approval or affiliation it does not have; (e) make a false or misleading representation with respect to the price of goods or services; (f) make a false or misleading representation concerning the need for any goods or services; or (g) make a false or misleading representation concerning the existence, exclusion or effect of any condition, warranty, guarantee, right or remedy.

PENALTIES:

For an individual — \$10,000 or six months imprisonment

For a corporation — \$50,000. It is not possible for this company to ensure that advertisements published in this newspaper comply with the Act and the responsibility must, therefore, be on the person, company or advertising agency submitting the advertising for publication. In case of doubt, consult your lawyer.



03

NEWS

News	03
Explorers On The Move	14
Mining Lifestyle	16
Get Into Mining	18
Equipment	20
ESG	24



102

INDUSTRY FOCUS

Companies Gearing Up	102
Pipes & Pipelines	120
Water Tanks	122
Mine Vehicle Recovery	123
Hazardous Areas Auditing	124
Earthmoving Solutions	126
Cables & High Voltage	130
Gearboxes, Motors & Transmissions	134
Dredging Solutions	138
Fire & Protection & Safety Solutions	140
Engineering Solutions	142
Trip & Slip Solutions	143
Air Compressors	145
Instruments & Instrumentations	146
Workshop Safety	149



25

FEATURES

ESG – Introduction	25
ESG – In The Spotlight – Luke Gleeson	26
ESG – Gold Fields	28
ESG – Mine Waste Management	33
Mining in Cloncurry	35
Whitehaven Coal – Blackwater & Daunia Special	40
Prominent Hill	45
QME 2024	48



150

TECHNICAL TALK

Hydraulic Hoses	150
Engineering, Procurement & Construction Management	152
Pump Solution	154



Point your phone camera here to view online version!



WA Premier Roger Cook and Tianqi Lithium Energy Australia chief executive officer Raj Surendran host Premier Li Qiang at the Tianqi lithium hydroxide plant in Kwinana, WA.



Fortescue welcomed Chinese Premier Li Qiang to its green technology and test facility in Perth, WA.

Chinese Premier Li Qiang at Tianqi lithium plant which is owned and operated by Tianqi Lithium Energy Australia, a joint venture between Tianqi Lithium Corporation – one of the top four lithium producers in the world – and Australian miner and explorer IGO Ltd (ASX: IGO). In the foreground are WA Premier Roger Cook and Federal Resources Minister Madeleine King.

AUSTRALIA WELCOMES CHINESE PREMIER'S VISIT AS FORTESCUE AND TIANQI LEAD ENERGY TRANSITION

Prime Minister Anthony Albanese hosted a three-day visit by Chinese Premier Li Qiang and China's high-level delegation in June as part of efforts to foster improved Australia-China trade relations.

Premier Li's visit, the first by a Chinese Premier since 2017, featured a tour of a lithium hydroxide plant in Kwinana, WA, and Fortescue's green technology and test facility in Hazelmere, WA.

In what Prime Minister Albanese calls "renewed engagement", this visit strengthens the existing trade between the two countries, with China being Australia's biggest trading partner at a record \$327b in 2023, or 27% of Australia's total goods and services trade.

"Premier Li's visit is another important step in stabilising Australia's relationship with China," he said.

A Lithium Bridge

Premier Li's visit to Tianqi Lithium Energy Australia's (TLEA) lithium hydroxide plant coincides with a 42-fold increase in the value of WA's lithium concentrate exports to China in just two years, growing from \$471m to \$19.8b between FY21 and FY23.

TLEA chief executive officer Raj Surendran says Tianqi Lithium Corporation's (TLC) investment in Australian mining and downstream processing demonstrates the potential for mutually beneficial collaboration between Australia and China, one that also supports global goals for decarbonisation and diversification of critical minerals supply.

"Tianqi's investment in the Kwinana plant and its ownership of the Talison lithium mine to date totals nearly \$3b," he said.

"Tianqi a decade ago made a commitment to the [Federal] Government that it would help to establish a domestic critical mineral processing and battery manufacturing capability and they have delivered on that promise.

"By leveraging the patient capital, skills and experience from TLC, that desire for an Australian industry has been realised and we continue to call on that expertise as we meet the challenges of a technically complex manufacturing process."

TLC chief executive officer Frank Ha says Australia is known for its abundant and high-quality lithium resources that are crucial for future industrial development.

"The Kwinana plant serves as a bridge for leveraging the complementary advantages of both countries, enabling mutual learning and win-win cooperation, illustrating that China and Australia are indeed natural partners.

"A Green Focused World"

Premier Li's visit to Fortescue Zero's Hazelmere prototype facility in WA gave Fortescue (ASX: FMG) the opportunity to demonstrate its world-leading technology and its decarbonisation progress in its journey to Real Zero emissions across its Australian iron ore operations.

The visit is a continuation of Fortescue's two-decade business relationship with China and presents a critical opportunity for Australia and China to engage as partners beyond Fortescue's advanced green iron ore developments, to create an Australia Sino green iron metal supply chain.

Fortescue executive chairman Dr Andrew Forrest AO says the green iron metal supply chain will deliver environmental and economic benefits to both countries.

"A fully integrated green iron metal supply chain between Australia and China is the key to China maintaining its position as the dominant global producer of steel to the world," he said.

"Our proposed Australia Sino green iron metal supply chain will bring together mining powered by large-scale renewable power and green hydrogen to produce green iron metal.

"Our ambition is to provide 100mt of green iron metal to China each year, eliminating more than 200mt of carbon dioxide emissions.

"I have seen firsthand the impressive inroads China is making towards renewable energy which in partnership, we can leverage to create great opportunities for green industry in both countries."

Fortescue Metals chief executive officer Dino Otranto says they have invested heavily in establishing this mutually beneficial partnership with China.

"Today, China remains our key market for our iron ore business and we now look forward to building new relationships in a green focused world," he said.

"We believe that partnering with China to help send its steel industry green will be a major benefit to both economies and to bilateral relationships, shoring up Australia as China's reliable and preferred commodity supplier."

WA At The Heart Of Partnership

Prime Minister Anthony Albanese says that WA has been central to the Chinese Premier's visit.

"[The Federal Government] understands that growing worldwide demand for critical minerals, rare earths and the metals essential to clean energy technology is good news for WA and our nation as a whole," he said.

"WA's resources industry is world-renowned for quality, safety and skill in extraction.

"[The Federal Government] wants to build on these strengths to create a new generation of secure, high-paying Australian jobs in processing, refining and manufacturing, powered by clean energy.

"This commitment to revitalising local manufacturing doesn't mean cutting trade ties or pulling up the economic

drawbridge, this is about moving Australia up the international value chain.

"Adding more value to WA resources here, so we can sell a wider range of products to a broader range of markets."

In a one-on-one meeting, WA Premier Roger Cook raised opportunities for increased trade of critical minerals to support China and Australia's energy transition.

WA Premier Cook says the China-WA trade relationship is essential for a successful energy transition.

"As the world transitions to a clean energy future, we're also embracing new opportunities partner with China on job-creating projects like the Tianqi lithium facility in my home electorate," he said.

"[WA's] trade with China underpins hundreds of thousands of local jobs and helps to power the WA economy."

China is WA's largest trading partner, with \$162.9b of goods traded in 2023 – accounting for 58% of the State's goods exports.

WA accounted for 75% of Australia's goods exports to China in 2023.

Australia China Business Council (ACBC) WA state president James Clarke says it is fitting that Premier Li was determined to visit WA given such intensity in trade.

"The economic trade and investment relationship between [WA] and China has the highest trade intensity of any jurisdiction in Australia, and therefore a higher proportion of flow-on benefits to local WA households," he said.

"Research commissioned by the ACBC shows, amongst other things, that the average WA household had an extra \$8,700 in disposable income and 2.9% lower cost of living in 2022-23 as a result of its economic relationship with China."



BHP TO RECEIVE FIRST CAT 793 BATTERY-ELECTRIC HAUL TRUCK

The first Early Learner CAT 793 battery-electric haul truck is on its way to BHP (ASX: BHP) before it hits the road at the Jimblebar mine in WA in October 2024.

Members of BHP's operational decarbonisation team recently visited Caterpillar's Tuscon proving ground to witness the CAT 793 haul truck in action.

BHP vice president of operational decarbonisation Dan Heal said this is an exciting time for the company.

"It's incredibly exciting to be here in Tucson seeing this battery-electric truck in action," he said.

"Not only do these trials represent an important step on BHP's operational decarbonisation journey, but the technical outcomes could help to inform how we approach these challenges moving forward.

"As we progress towards potential deployments, we need to consider how we plan our mines, manage power demand, charge equipment, the skills we will need and most importantly, safety."

In preparation for the haul truck, the Jimblebar mine is undergoing upgrades to site electrical transmission and distribution to enable high power charging infrastructure.

BHP is aiming to reduce its Scope 1 and 2 greenhouse gas emissions by decarbonising its mining equipment and operations by switching from diesel to renewable electricity or more sustainable, lower emissions fuel sources.

BHP and Rio Tinto partner for battery-electric haul truck technology

A few weeks later, BHP and Rio Tinto (ASX: RIO) announced a partnership to test large battery-electric haul truck technology in WA's Pilbara region.

The companies will work with manufacturers Caterpillar and Komatsu to conduct independent trials of the battery-electric haul truck, including testing of battery, static and dynamic charging systems to assess performance and productivity in the Pilbara.

The collaboration reflects BHP's, Rio's, Caterpillar's and Komatsu's commitments made to support Rio Tinto's and BHP's shared ambition of net zero operational greenhouse gas emissions by 2050.

Two Cat 793 haul trucks will be trialled from the second half of 2024, while two Komatsu 930 haul trucks will be tested from 2026 at mine sites across the Pilbara.

Caterpillar and Komatsu will each provide one truck each to both BHP and Rio for the trials with BHP to trial the Caterpillar trucks and Rio to trial to Komatsu trucks.

Rio Tinto iron ore chief executive Simon Trott commented on the partnership.

"There is no clear path to net zero without zero-emissions haulage, so it's important that we work together to get there as quickly and efficiently as we can," he said.

"Testing two types of battery-electric haul trucks in Pilbara conditions will provide better data, and by combining our efforts with BHP we will accelerate learning.

"As we work to repower our Pilbara operations with renewable energy, collaborations like this move us closer to solving the shared challenge of decarbonising our operations and meeting our net zero commitments."

BHP president Australia Geraldine Slattery echoed Mr Trott's comments.

"Operational decarbonisation relies on breakthroughs in technology and partnerships like this will help drive our industry forward," she said.

"Replacing diesel as a fuel source requires us to develop a whole new operational ecosystem to surround the fleet.

"We need to address the way we plan our mines, operate our haulage networks, and consider the additional safety and operational considerations that these changes will bring."

These trials represent the first stage of battery-electric haul truck testing at BHP's and Rio's Pilbara operations.

Ongoing testing, development and refinement of truck and battery design is anticipated with each manufacturer. This will provide information on the approach for testing a larger number of haul trucks and the potential deployment of battery-electric haul truck fleets into each operation.

BHP walks away from Anglo American takeover

BHP has walked away from its takeover of Anglo American, after its first three were rejected.

Chief executive Mike Henry said at the time, "BHP will not be making a firm offer for Anglo American. BHP is committed to its capital allocation framework and maintains a disciplined approach to mergers and acquisitions."

"While we believed that our proposal for Anglo American was a compelling opportunity to effectively grow the pie of value for both sets of shareholders, we were unable to reach an agreement with Anglo American on our specific views in respect of South African regulatory risk and cost.

"We remain of the view that our proposal was the most effective structure to deliver value for Anglo American shareholders, and we are confident that, working together with Anglo American, we could have obtained all required regulatory approvals, including in South Africa."

Anglo American received an unsolicited, non-binding and highly conditional proposal from BHP in late April, valuing the company at \$59.57b (£31.01b).

Two more proposals were put forward with all three rejected due to it "significantly undervaluing Anglo American and its future prospects". **AMR**

AUSSIE GMP MUD PUMPS

HYDRAULIC DRIVE

3 GMP
year
warranty



NIAL BRONZE | CAST IRON | STAINLESS STEEL
2" to 4" drill rig & tanker pumps ... abrasive resistant, maintenance free

Also available



Atex rated



electric drive



engine drive



bare shaft

Aussie Pumps

Australian Pump Industries
aussiepumps.com.au

Call for FREE
selection guide
02 8865 3500
info@aussiepumps.com.au

REMOTE DOZER OPERATIONS EMBRACED AT CAPCOAL

(Image source: Anglo American) Remote control dozer operator Wes Sann.



Dozer operators at Anglo American's Capcoal Complex in Queensland are in training to embrace remote control technology to improve operator safety on site.

A remote-controlled stockpile dozer is being trialled at the operation ahead of plans to retro-fit the entire fleet.

Once this technology is fully deployed across all of Anglo American's sites, in-cab dozer exposure time will be reduced by 45k to 75k hours a year.

This remote control dozer trial has been named a finalist in the innovation and safety categories at the Queensland Mining Awards.

Capcoal has also been named a finalist in

the innovation category at the Queensland Mining Industry Health and Safety Conference awards.

Winners will be announced in July and August, respectively.

Capcoal general manager George Karooz says this is the first time the remote control dozer technology will be used at Anglo American's Australian operations.

"Upskilling our workers in this new technology is paramount to its success because their expertise is irreplaceable, even when the work is done remotely," he said.

"In pursuit of safety and efficiency, the mining industry has been a constant driver of innovation for generations.

"Operating our fleet of dozers from a safe

distance will reduce the number of hours in the cab and fully remove our operators from the dozer seat in what is another significant advancement in autonomous mining."

Coal handling and processing plant dozer operators are the first to gain experience operating tele-remote dozers as part of a pilot program to reduce exposure to concealed stockpile voids.

The pilot program includes the retrofit of a stockpile dozer with the latest wi-fi enabled technology to set up connectivity between the machine and operator chair in the control centre.

Anglo American acting operations manager Matthew Wakeford said training operators has been a nine month transition.

"We are re-imagining mining to improve people's lives," he said.

"From a business safety perspective, this will remove our coal miners from the hazards of working with voids in our coal stockpiles.

"We are starting with small steps as our workers adjust from the 'feeling' of manual operation to remote control with cameras and computer screens.

"We're starting with just one dozer, but the plan is to ramp up and retro-fit the entire fleet – that's 13 in total across our Capcoal and Moranbah operations." **AMR**



BCI MINERALS TO SELL IRON VALLEY FOR \$72.6M

(Image source: Mineral Resources) The sale will allow BCI Minerals to focus on its Mardie salt and potash project.

Iron Valley, a subsidiary of BCI Minerals (ASX: BCI), is selling its Iron Valley iron ore assets to Polaris Metals, a subsidiary of Mineral Resources (ASX: MIN), for up to \$72.6m.

Iron Valley Pty Ltd will receive \$26m on completion of the transaction, which is expected in July 2024, and a further \$12.5m contingent on commencements of mining at the Iron Valley north pit.

The existing iron ore sale and purchase

agreement between BCI and Mineral Resources will terminate upon completion of the transaction, with BCI to receive a final deferred payment of \$34.1m in July 2025.

Polaris will assume responsibility for payment of state and third-party royalties and rehabilitation obligations, effective from May 1, 2024.

BCI managing director David Boshoff commented on the sale.

"BCI appreciates the successful partnership it has had with MinRes and welcomes the opportunity to sell the Iron Valley assets," he said.

"The proposed sale is a strategic decision that enables BCI to realise \$60.1m certain value for these assets, plus a further contingent \$12.5m, and a continue to focus on safely delivering the Mardie project on schedule and on budget, providing value to our shareholders and multi-generational benefits to the community."

Subject to the receipt of Ministerial consent regarding the transfer, the transaction is expected to be completed in early July 2024.

Either company can terminate the agreement if any conditions aren't satisfied by early September 2024.

The sale allows BCI Minerals to focus on its Mardie salt and potash project in WA. **AMR**

Be prepared when the rain hits hard

Rely on industry-leading weather intelligence and flood risk solutions



Weatherzone Business, a DTN company, delivers tailored weather solutions and actionable analytics, enhancing your situational awareness and operational response to floods and severe weather.



Visualise Your Flood Risk

Utilise the Weatherzone Business **Flood Risk System (FRS)** to monitor rainfall accumulation and intensity on-site. The FRS monitors and alerts for flood risk at any number of geo-fenced catchments across your site, delivering site-wide situational awareness to support water management.



Centralise All Weather Data

Miningzone is your customisable, IP-secure interface centralising your key meteorological and environmental solutions. Utilise lightning and severe weather tracking and alerts, EPA-approved blast dispersion modelling, and hyperlocal forecasting to drive confident decision-making.



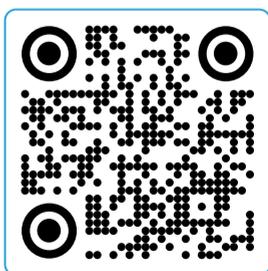
Track Severe Weather On-Site

Stormtracker is a powerful GIS mapping system. Multiple weather and alert layers animate over your infrastructure and operating region so you can track the path of storm systems. Hyperlocal alerting provides real-time communication of weather and environmental threats.



Enhance On-Site Forecasting

Improve the accuracy of your on-site forecasts. The expertly calibrated **ObsConnect Weather Station** provides precise observations to validate your forecast modelling, and is built to withstand climate extremes. Rely on the most accurate observations when the stakes are high.



1300 883 650

sales@weatherzone.com.au

business.weatherzone.com.au

QLD PASSES NEW LAWS TO PROTECT RESOURCE WORKER SAFETY



The role of Coexistence Queensland will be to provide enhanced information, engagement and education services on land access and coexistence issues.

Queensland Parliament has passed new laws to protect the health and safety of workers in Queensland's mining industry.

The newly passed Resources Safety and Health Legislation Amendment Bill addresses serious risks on mine sites and includes reforms of critical controls and the introduction of enforceable undertakings.

Queensland Resources and Critical Minerals Minister Scott Stewart says resources workers' safety is his primary focus.

"The most important thing to come out of out of any workplace at the end of each shift is its workers, and that is why safety is my number one priority," he said.

"Our goal for these reforms was to improve the resource sector's safety and health performance, and to reduce the number of fatalities and serious accidents."

Under this legislation, Queensland mine and quarry sites will now be required to include critical controls in their safety and health management systems. Prior to this legislation, critical controls have been voluntarily applied across the resources industry.

The introduction of enforceable undertakings provides an alternative to prosecution that allows regulators to accept an undertaking from individuals and companies that have breached safety and health legislation barring matters involving workplace deaths.

Petroleum and gas inspectors will now be able to compel relevant people to give information or answer questions, following a recommendation from the coroner after the tragic death of Gareth Dodunski at a Queensland mine.

"After the explosion at the Grosvenor mine in 2020, the Queensland Coal Mining Board of Inquiry was established and made recommendations to industry, unions, Resources Safety and Health Queensland and other stakeholders," Minister Stewart said.

"This has been a monumental effort and I want to thank everyone who contributed to these reforms, in particular the parents of Gareth Dodunski, Michelle and Phil, who bravely recounted the devastating loss of their son during the Committee hearings."

These new laws implement the final recommendations from the Queensland Coal Mining Board of Inquiry.

Coexistence strengthened between Queensland's resources, renewable energy and agriculture industries.

The Queensland Government has passed legislation that strengthens the coexistence between the State's resources, renewable energy and agriculture industries.

Reforms include expanding the scope of Queensland's coexistence institutions, including the GasFields Commission Queensland which will now be known as Coexistence Queensland.

The role of Coexistence Queensland will be to provide enhanced information, engagement and education services to the community and industry on land access and coexistence issues across the resources and renewable energy sectors.

Previously, the focus was just on the onshore gas industry.

Other coexistence reforms include:

- Expanding the remit of the Office of Groundwater Impact Assessment to provide advice, on request, to government entities on subsurface impacts from petroleum and gas activities.
- Expanding the role of the Land Access

Ombudsman to provide support to stakeholders on a broader range of land access disputes through an alternative dispute resolution pathway.

Coexistence Queensland chief executive Warwick Squire says the organisation is excited by the expanded offerings.

"We're excited our remit will expand to address coexistence matters across the broader energy and resources under our new name, Coexistence Queensland," he said.

"Coexistence Queensland will play a key role in connecting landholders, community, industry and government to work and thrive together.

"It's about ensuring industry development occurs in a socially responsible and sustainable way, with the interests of community at its core." **AMR**

By 2040, it's expected that all four of NSW's coal-fired power stations and 32 of the 39 coal mines will close.



NSW'S SUPPORT FRAMEWORK FOR COAL-PRODUCING COMMUNITIES

The NSW Government has launched the proposed model for the Future Jobs and Investment Authorities to support workers and communities for a future after coal mining.

Led by the Future Jobs and Investment Advocate, the framework will play a central role in supporting the Hunter, Illawarra, Central West and North West regions as coal mines and coal-fired power stations close in the coming decades.

By 2040, it's expected that all four of the State's coal-fired power stations and 32 of the 39 coal mines will close.

The Future Jobs and Investment Authorities will include:

- The Future Jobs and Investment Advocate – a statutory role established to provide advice to the Natural Resources Minister to lead strategic work
- The Future Jobs and Investment Board comprised of the chairs of each regional authority, union, industry association and relevant government agencies
- Office of the Future Jobs and Investment Authorities – a central dedicated delivery unit within the Department of Primary Industries and Regional Development to support the work of local authorities
- Regional Future Jobs and Investment Authorities in the Hunter, Illawarra, Central West and Far West

with representation from local government, community groups, unions and the mining industry

These four authorities will replace the Royalties for Rejuvenation and Expert Panels scheme.

Proposals and projects suggested by the authorities will be tailored for each region so they can drive investment opportunities, advance economically beneficial post-mining land uses, support opportunities for local manufacturing and ensure a ready pipeline of skills to support new industries.

NSW Natural Resources Minister Courtney Houssos commented on framework.

"Coal mining will continue to support thousands of local jobs and underpin the state's energy grid for many years to come," she said.

"But with global demand for col projected to decrease over the coming decades, we want to ensure workers, communities and regional centres are given the support they need."

The authorities will work with the Federal Government's Net Zero Economy Authority to deliver support for workers, industries and communities to take advantage of transformational opportunities. **AMR**



PIPE REPAIR BANDAGE



THE ULTIMATE PIPE REPAIR

Save \$1,000's in costly downtime | Heat resistance: +150°C
Pressure resistance: 2500kPa (360 psi)
Suitable for everything from potable water to acids

Marine & Industrial Marketing Pty. Ltd.

piperepair.com.au



(Image source: NT Government) From left, Tivan chief geologist Stephen Walsh, Northern Territory Mining Minister Mark Monaghan, and NT Geological Survey senior executive director Ian Scrimgeour, at Tivan media event.



LARGE SCALE GOLD MINING RESTARTS IN TENNANT CREEK, NT

Large scale mining is set to restart in Tennant Creek, with Tennant Mining beginning construction on its Nobles gold mine project in the Northern Territory.

Civil work is underway at Nobles with construction and commissioning to be completed in the second quarter of 2025. Gold production is expected to begin in the third quarter of 2025.

The project is forecast to produce an average of 65,000ozpa of gold and it's expected to contribute \$69.9m to the Northern Territory economy each year.

Initially, work will focus on mining stockpiles and tailings at the Nobles open pit mine before the development of open cut and underground mines begin.

Northern Territory Mining Minister Mark Monaghan comments on the restart of operations.

"The resources and mining sector is critical to the Territory's economy and that's why we are working with companies so they can grow and deliver the biggest benefits to the Territory," he said.

"We've supported this project through the Mineral Development Taskforce and the Local Jobs Fund as we continue to grow the Territory's economy and create new working opportunities for Territorians."

Tennant Mining is also building a gold processing facility 14km outside Tennant Creek, enabling gold to be mined and processed onsite ready for market.

The \$94m Nobles mine is expected to create more than 80 new working opportunities

during construction and more than 160 ongoing jobs once operations ramp up over the first two years of production.

Tennant Mining managing director Peter Main says development of Nobles is a major milestone for the company.

"It is exciting times to see the revival of one of Australia's historically highest grade gold provinces and more importantly the resurgence of commercial scale gold mining in Tennant Creek after almost two decades," he said.

"We are excited by the opportunity that presents, not only for the project as it stands, but also the potential of unlocking significant exploration potential and further consolidation in the greater Tennant Creek Region."

Landmark Tivan, Sumitomo deal boosts Middle Arm development

The Northern Territory Government has taken steps forward with the cornerstone Middle Arm Sustainable Development Precinct project with one of its key proponents, Tivan (ASX: TVN), signing an agreement with Japanese giant Sumitomo Corporation.

Tivan, headquartered in Darwin, and Sumitomo will drive the development and financing of the Speewah vanadium project in the Kimberley region of northeast WA.

Tivan executive chairman Grant Wilson says support from the Northern Territory Government and Sumitomo is key to progress.

"The Northern Territory Government has been steadfast in their support of Tivan as we turned the company around over the past 18 months," he said.

"Our strategic alliance with Sumitomo Corporation enables us to progress our strategic goals with confidence, including at the Middle Arm Sustainable Development Precinct."

The Speewah project will supply the Middle Arm Development Precinct, creating a local supply chain for vanadium redox flow batteries (VRFB).

VRFBs are an optimal long duration energy storage solution, with a lifespan of over 20 years, suitable for large-scale integration with the Territory's world class solar and gas resources.

The Middle Arm Sustainable Development Precinct is expected to boost the Territory's economy with 20,000 jobs, providing work opportunities in Darwin and along the Stuart Highway.

This landmark agreement followed a big week in the Territory resources sector, including Top End Energy being granted a petroleum exploration permit in the McArthur Basin and Tamboran Resources expanding their development in the Beetaloo Sub-Basin by 15 new wells.

Gas extracted from the Beetaloo Sub-Basin has the potential to support 13,000 jobs by 2040 and increase the Northern Territory's economic activity by \$17b.

Northern Territory Chief Minister Eva Lawler says these jobs will directly benefit Territorians.

"My common-sense play for the Territory's future will see Territorians fill those high paying roles first," she said.

"It will also see our power prices go down through securing our energy resources

and it will deliver a \$17b boost to our economy."

Tivan and Glen Hill sign HOA for Speewah

In a busy period for the company, Tivan also signed a heads of agreement (HOA) with Glen Hill Pastoral Aboriginal Corporation (GHPAC) to further opportunities for collaboration at the Speewah project.

GHPAC holds the Glen Hill pastoral lease and is the sole sub-lessee of the Doon Doon pastoral lease, both of which are located in or near the area surrounding Speewah.

Under the agreement, Tivan and GHPAC will explore potential opportunities for regional collaboration which includes:

- Early works programs for Speewah including the access road from the Great Northern Highway to the fluorite and vanadium deposits
- Shared infrastructure that could be used by both Speewah and the leases
- Local Indigenous employment opportunities
- Commercial synergies between the proposed mining and processing operations at Speewah and pastoral activities at the leases

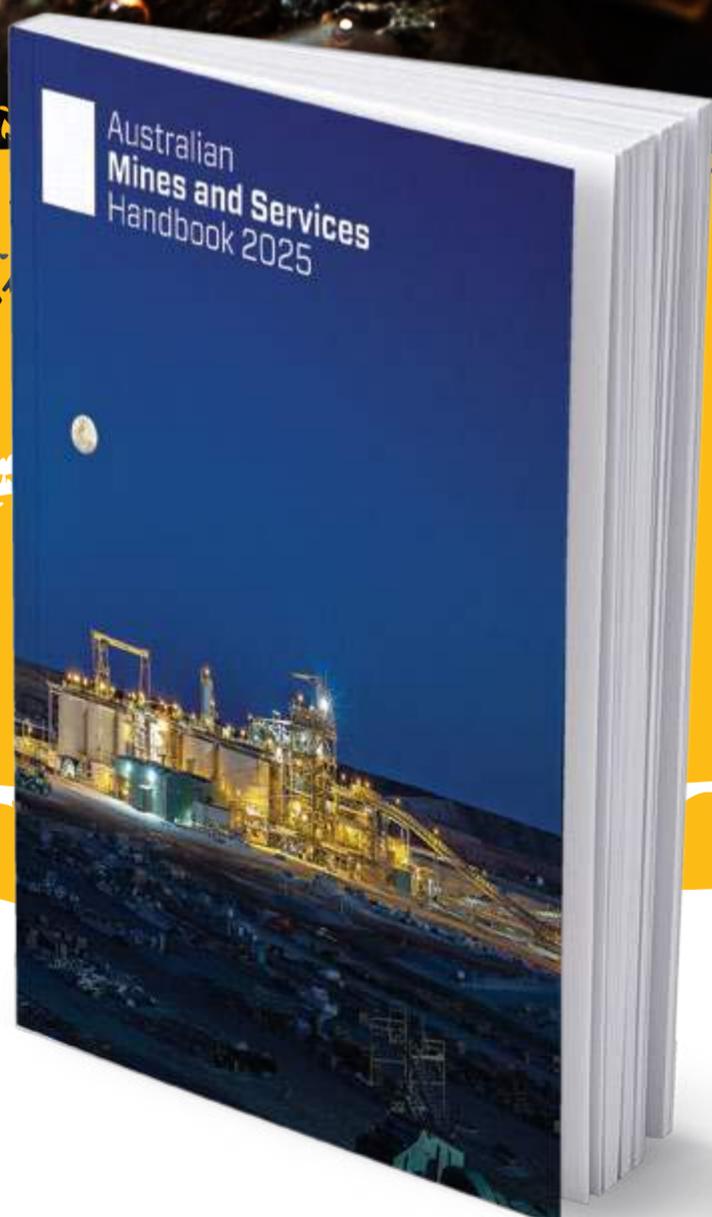
Tivan executive chairman Grant Wilson comments on the agreement.

"Over the past year Tivan has established a strong working relationship with Glen Hill Pastoral Aboriginal Corporation," he said.

"We are delighted to formalise our collaborative efforts today, embedding principles of coexistence and cooperation on country as the Speewah fluorite project takes shape." **AMR**



Australian
Mines and Services
Handbook 2025



**LET US DO
THE WORK
FOR YOU**

Get your boots on
the ground at **every**
Mine Site in Australia

BOOK NOW!

RIO TINTO INCREASES BOYNE SMELTERS INTEREST TO 73.5%

Rio Tinto (ASX: RIO) will acquire Mitsubishi Corporation's 11.65% interest in Boyne Smelters, which owns and operates the Boyne Island aluminium smelter in Gladstone, Queensland.

On the completion of the transaction, and the recent agreement to acquire Sumitomo Chemical Company's 2.46% interest in Boyne Smelters, Rio's interest in Boyne Smelters will increase to 73.5%.

The acquisition, which is for an undisclosed price, is subject to various conditions, including approval from Australia's Foreign Investment Review Board, and it's expected to be finalised in the second half of 2024.

Upon completion of the transaction, the Boyne Smelter joint partners will be Rio Tinto (73.5%), YKK Aluminium (9.5%), UACJ Australia (9.29%) and Southern Cross Aluminium (7.71%).

Operating since 1982, Boyne Smelters is Australia's second largest aluminium smelter. Since it opened, a series of multimillion dollar investments has seen the capacity increase from 210ktpa of

aluminium to more than 500ktpa of aluminium.

Rio Tinto to develop Biolron™ R&D facility in WA

Rio Tinto will invest \$125m (US\$143m) to develop a research and development facility in WA to further assess the effectiveness of its low-carbon ironmaking process, Biolron™.

The development of the facility, located in the Rockingham strategic industrial area, follows successful trials of the ironmaking process in a small-scale pilot plant in Germany.

Biolron™ uses raw biomass and microwave energy instead of coal to convert Pilbara iron ore to metallic iron in the steelmaking process.

When combined with renewable energy and carbon-circulation by fast-growing biomass, Biolron™ has the potential to reduce carbon emissions by up to 95% compared with the current blast furnace method.

It will include a pilot plant that will be 10 times bigger than its predecessor



(Image source: Rio Tinto) Aerial view of Boyne Smelters.

in Germany and will be the first time the steelmaking processes has been tested at a semi-industrial scale, capable of producing 1t of direct iron per hour.

The plant was designed in collaboration with the University of Nottingham, Metso Corporation and WA engineering company Sedgman Onyx.

Fabrication of the equipment will begin this year with commissioning expected in 2026.

Rio Tinto invests \$8m for Pilbara land management

Rio Tinto will invest \$8m over five years to enhance conservation land management and support Traditional Owner ranger programs in the Karijini and Millstream Chichester national parks.

In partnership with WA's Department of Biodiversity, Conservation and Attractions

(DBCA), the Pilbara Conservation Project will protect areas of high conservation value and integrate Traditional Owner's knowledge of the land into conservation land management.

This includes weed management, feral animal control and bushfire management at Karijini, Millstream Chichester and other high conservation value Pilbara sites, through implementation of the Pilbara Conservation Strategy.

The project will also support ranger training and fee for service work for Aboriginal Ranger Groups.

The Pilbara Conservation Project adds to a range of partnerships Rio has with Traditional Owners to support Aboriginal Ranger Programs in the Pilbara, including the Pilbara Ranger Network and partnerships with Aboriginal Corporations to deliver various ranger programs.

AMR



Energy transition takes center stage in State of Play Reports.

ENERGY TRANSITION TOPS GLOBAL MINING TRENDS: STATE OF PLAY

Energy transition is now in the top three global trends that are expected to have the biggest impact on innovation in mining over the next 15 years, according to latest reports by State of Play.

The reports, entitled *Mining Strategy in a Changing World and Unearthing Tomorrow: Trends Shaping the Future of Mining*, analyse surveys and interviews with industry leaders to identify changes in attitudes and practices.

State of Play founder and chairman Graeme Stanway says the reports showcase a significant shift in attitudes towards the energy transition.

"In recent years the survey results were pretty evenly split between environmental pressures and technology. Now, energy is the dominant force," he said.

The energy transition has seen a large shift in predicted impact on innovation in mining, from 54% in 2021 to 71% in 2023.

"The energy transition wasn't even in the survey for the 2017 report. Then from

2019 to 2023 you can draw a straight line up as people respond that it will have the biggest impact on innovation," Stanway said.

METS chief executive officer Adrian Beer says this presents an opportunity for the industry.

"This transition is a revolution, not evolution, for our industry," he said.

"The industry has been renowned for optimising efficiency and productivity and squeezing every last drop out of resources.

"That's how innovation has evolved for decades, but you can't optimise your way to a clean energy transition. It requires fundamental change.

"You can't just flick a switch to turn off existing mining operations which now need to produce more to supply the materials needed for that transition."

Mining industry professionals report increased pressure from community expect-

tations and higher bars for a social licence to operate, despite new mines being essential for an energy transition.

Mr Beer says this results from a gap in understanding regarding what the current mining industry does.

"Scrutiny often focuses on symptoms, not the problem. It's really easy to bash up mining because of the sector's emissions," he said.

Mr Stanway adds that customers distance from the industry contributes to this gap.

"When a consumer of a product is five or six steps away from the process or the provenance, it gets harder," he said.

In addition to mounting community expectations, the reports also reveal that 91% of industry believe they are viewed negatively by society with respect to the climate.

CSIRO discovery research director Dr Sandra Occhipinti says this adds to the challenges of energy transition.

"It's not just about supply and demand anymore – it's the cost of bringing emissions down and shortening discovery timeframes, but it's a very delicate balance. We're on a tightrope."

Dr Occhipinti says transparent communication will be essential for mining companies.

"These reports show that the industry is showing an increased understanding that we need to be better at communicating what we're doing, why we're doing it and how," she said.

The reports also emphasise that acknowledgement of cost pressures and social licence is more critical than ever.

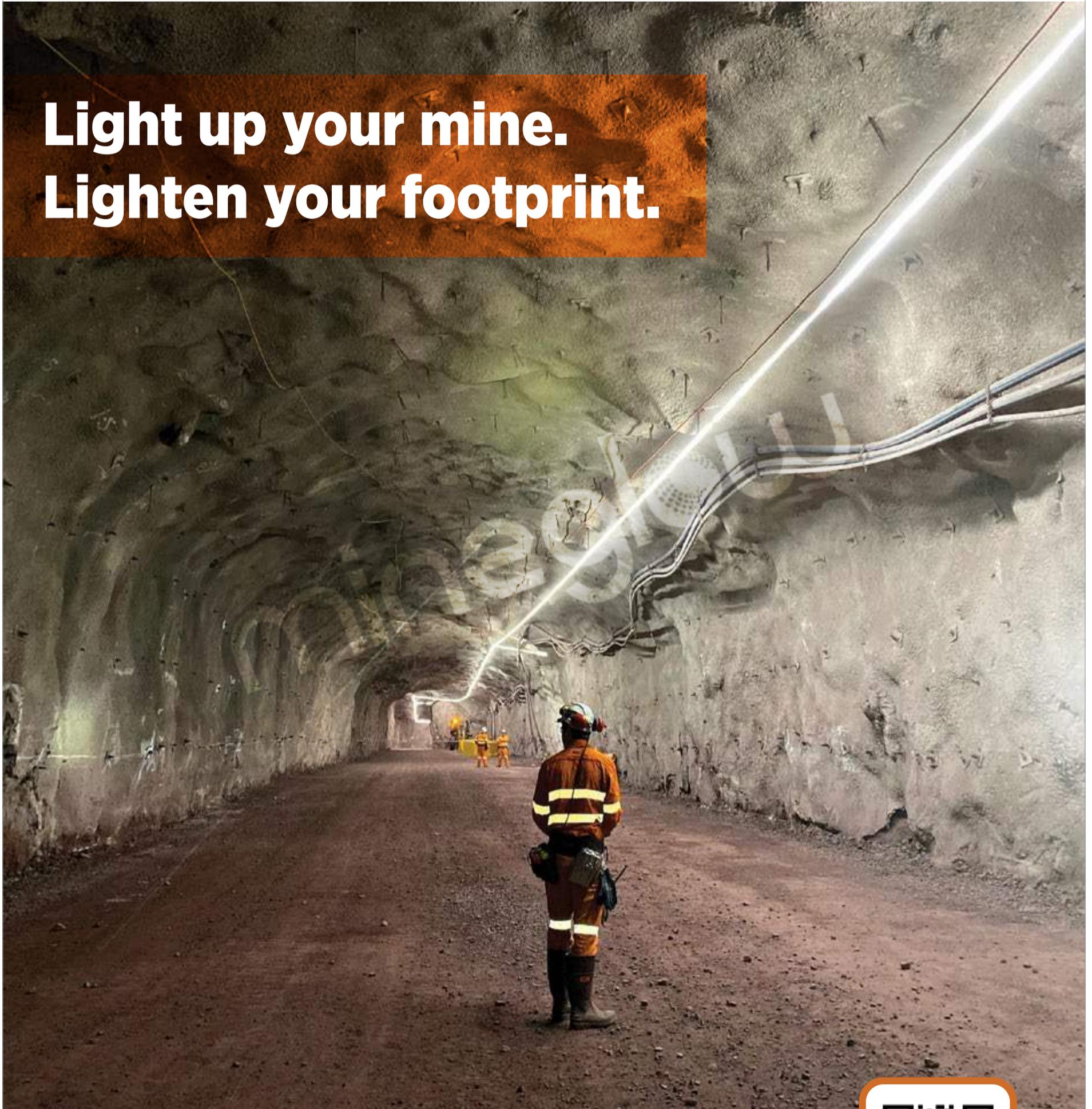
An anonymous research organisation chief executive officer says balancing community desires with profitability is the key to future success.

"Whoever can find a way whereby we can deliver exceptional returns to investors in a way that's acceptable to a broader community – that's what's going to win." AMR

+61 7 3171 3510
 sales@mineglow.com.au
 www.mineglow.com.au

mineglow

**Light up your mine.
 Lighten your footprint.**



MineGlow lighting is the only LED strip lighting that has Environmental Product Declaration (EPD) certification.

MineGlow's LED strip lighting solutions are specifically designed for use in hazardous areas across a range of industries and reduce carbon footprint and improve worker health and safety.

MineGlow LED strip lights:

- ✔ Have low energy and operational costs
- ✔ Have an improved lifespan of up to 10 years
- ✔ Reduce toxic waste and materials
- ✔ Improve worker wellbeing



Contact **MineGlow** today to illuminate your mine sustainably.

HIGHLY ANOMALOUS URANIUM AND VANADIUM MINERALISATION IDENTIFIED AT ASTON

Multiple highly anomalous uranium and vanadium has been identified at the Jailor Bore extension prospect within Minerals 260's (ASX: M16) Aston project in WA.

Jailor's Bore is a 5.5km by 600m uranium radiometric anomaly that is considered high prospective for calcrete-hosted uranium mineralisation.

Up to 1095ppm uranium and 518ppm vanadium was recorded from rock chips,

with the results indicating that Jailor's Bore is part of a larger mineralised system.

Sampling of other radiometric anomalies within Aston returned up to 804ppm uranium and 884ppm vanadium which will be followed up with further reconnaissance.

Minerals 260's managing director Luke McFayden commented on the findings.

"Minerals 260 acquired the Aston project in

March 2023 and since the commencement of our exploration in May 2023, we have been primarily targeting lithium and rare earths," he said.

"Although the Gascoyne Province is well known to host uranium prospectivity, this is the first time Minerals 260 has specifically targeted the commodity at Aston.

"We are excited to continue developing our understanding about the uranium potential as Aston while we also continue



to plan for our inaugural drilling campaign for lithium this year."

Additionally, a heritage clearance survey has been completed over key lithium target at the Jamesons-Malinda trend and Pyramid Hill prospect in preparation for a maiden drilling program. **AMR**

MINING LEASE APPLICATION LODGED FOR LEI

A mining lease application has been lodged for the future development of Lithium Plus Minerals' (ASX: LPM) Lei lithium deposit in the Northern Territory.

The application covers an area of 295ha and it encompasses Lei's existing mineral resource estimate of 4.09mt at 1.43% lithium oxide, making it one of the highest-grade lithium deposits in Australia. The application area also includes additional areas of highly prospective lithium mineralisation adjacent to Lei.

The proposed stage one development at Lei includes an underground mine, a road train loading area, waste dump and crushing and screening facilities.

Mined spodumene ore is expected to be exported to China to feed Canmax Technologies' processing and conversion plant to produce lithium hydroxide that

can be sold worldwide to global battery producers.

Lithium Plus Minerals executive chairman Bin Guo said the application is another significant milestone for the company.

"The submission of this mining lease application marks another significant milestone for our company which further advanced the Lei project toward production," he said.

"The mining lease application is a critical path item for the establishment of what would be a second lithium mine in the Bynoe area."

Lithium Plus is also in the process of completing an Environmental Impact Statement at Lei which is expected to be submitted to the Northern Territory Department of Environment and Natural Resources in Q3 2024. **AMR**



Carnavale Resources (ASX: CAV) has released a maiden mineral resource estimate (MRE) and scoping study for the Swiftsure deposit within the Kookynie gold project in WA.

An initial MRE of 457kt @ 5.8g/t gold for 85koz has been confirmed for Swiftsure, including the bonanza "ounce dirt" gold zone containing 53koz @ 31.2g/t gold.

The resource is shallow and high-grade with 61% of it in the indicated category. Furthermore, it remains open at depth and along strike.

The scoping study highlighted robust financials, an initial mine life of 32 months and an initial mine production target of 62koz @ 4.6g/t gold. It also outlined that exploration upside exists down dip and

MAIDEN MINERAL RESOURCE ESTIMATE RELEASED FOR SWIFTSURE

along strike with the potential to add resource ounces and mine life.

Both the maiden MRE and scoping study were completed by independent consultants, Cube Consulting.

Carnavale chief executive Humphrey Hale commented on the mineral resource and scoping study.

"Swiftsure represents a new discovery in the historic Kookynie mining camp, close to Leonora, and has similar high-grade characteristics of the historic mines 2km to

the east such as Cosmopolitan, Diamantia and Altona," he said.

"This is just the starting position for the Kookynie gold project, as the high-grade shoots that contain "ounce dirt" remain open at depth and there are multiple additional targets along strike that have the potential to host additional high-grade shoots in fresh rock, at depth." **AMR**

Ground Support

United. Inspired.

Customised Mine Support Solutions

At Epiroc, we are leaders in mine support technology and work closely with our customers to develop ground support solutions that enhance safety and mining efficiency, especially in difficult ground conditions. Our product range includes energy-absorbing rockbolts for high-stress environments, quasi-static rockbolts for gravity-induced ground movement, anti-spin cables for pre-tensioning and post-grouting, pumpable resin for easy rockbolt installation, and pre-stressing units for elongate support installation.



epiroc.com.au



Dolly Parton Imagination Library is inspiring a love of reading in Australian children.



The Dolly Parton Imagination Library program gifts children a book in the mail every month.

WHITEHAVEN CONTINUES SUPPORT FOR DOLLY PARTON IMAGINATION LIBRARY PROGRAM

Much-loved community initiative, the Dolly Parton Imagination Library, is set to continue providing free access to books for children across the Narrabri, Queensland, region after securing funding support from the local community and businesses, including Whitehaven Coal.

The free book gifting program is dedicated to inspiring children to love reading from an early age.

Each month, enrolled children from birth to age five receive a high-quality, age-appropriate book in the mail, free of charge. Since its inception in Narrabri in 2022, the program has gifted free books to 271 children in the Shire.

The Narrabri program initially received funding from the NSW Government, however, recently, the Narrabri Shire Council announced that funding for new enrolments would cease from July 1, 2024, prompting a swift response from local authorities to ensure the program's ongoing sustainability.

Council began discussions with the community and local businesses in early March 2024 and within just a month, the necessary funds were secured for the next fiscal year.

Whitehaven Coal community engagement general manager Darren Swain says the program is essential to the future success of the community.

"Early literacy lays the foundation for life-long success; that's why we champion

initiatives like Dolly Parton's Imagination Library," he said.

"This early exposure helps develop crucial language skills, sparks curiosity, and sets the stage for a lifetime of educational achievement."

Whitehaven's support for the Dolly Parton Imagination Library is evidence of the company's commitment to delivering tangible benefits for regional communities and is part of their \$4.35m contribution to community causes and initiatives in FY23.

Council expressed its gratitude and enthusiasm for the overwhelming support, emphasising the importance of the program to the local community.

A Council spokesperson says the program is game changing for Narrabri youth.

"This is a huge result as this program affects the lives of our youth, ensuring they have the best opportunities possible," the spokesperson said.

"It is so great to see community and businesses supporting a project that makes a tangible difference to young people's lives.

"This truly is a game changer in so many ways.

"We are not just talking about education; we are talking about our future."

The Council has declared that securing support for this program will be an ongoing effort and has called on the entire community to rally behind it. **AMR**





Mining pumps that exceed your expectations

It's more than a pumping system, it is an investment in operations security.

Contact us today!



1800 813 677
www.truflopumps.com.au

24020405



CRUSHER & SCREEN SALES PTY LTD
IMS DISTRIBUTOR
for Australia, Papua New Guinea
and South East Asia



Specialist Manufacturers of Quarry,
Mining & Recycling Equipment
Irish Manufacturing Services Ltd | www.ims-ltd.ie



IMS-BP1200-48TB TRACK BLENDER

The New IMS-BP1200-48TB Track Blender, with four five-meter-long feed hoppers holding 12m³ each with separate feed hopper conveyors with attached belt scales and fully automate with a PLC control and recording system that can be operated with an iPad from a loader or site office. Powered by a Cat C7 Generator that can be connected to mains power, driving Nord Electric motors with variable speed and feed hooper stop/start sensors with remote. The genset can also drive a 24-meter radial conveyor. The BP1200-48TB can produce up to 1000 tonnes per hour.

The BP1200-48TB can also work in conjunction with the IMS modular electric pugmill on skids producing up to 500 TPH of water or powder blended material and stockpiled with an IMS 24-meter radial conveyor with auto radial return.



IMS – PM1200-20TB TRACK PUGMILL

IMS – PM1200-20TB Track Pugmill with two separate five-meter-long feed hoppers holding 10m³ each which can be extended to 12m³, the feed hoppers have the option of fitting vibrating hydraulic tipping grids. Both feed hoppers have front of hopper adjustable flow gates, variable speed, and belt scales with the option of being fully automated. There is the option of adding two powder hoppers and two liquids.

John Andersen +61(0)424 181 056 | Chris Wong +61(0)424 180 860
info@crusherscreen.com | www.crusherscreen.com | Unit 4, 181 Sandy Creek Road Yatala QLD 4207
Crusher and Screen Sales PTY Ltd | ABN: 55 150 600 418 Gold Coast QLD 4220 | PO Box 144 Southport QLD 4215



Moranbah State High School electrotechnology students Hayden Bell and Lincoln Nicholas preparing for an underground simulation tour at Resources Centre of Excellence in Mackay, Queensland.



Moranbah State High School electrotechnology students (Back L-R) Jhett Lovett, Grosvenor mine human resources officer Tayla Clarke, Ben Perfect, Lucas Brown, Anglo American Moranbah community engagement officer Niki Debono, Zayne Giffin, Mason Burns and (Front L-R) Ignite Up HQ's Andrea Campain, Brooke Foley and Alexandra Ibbertson before an underground simulation tour at Resources Centre of Excellence in Mackay, Queensland.

MORANBAH PILOT PROGRAM LIGHTS THE WAY FOR A CAREER IN MINING

A pioneering Moranbah, Queensland, program designed to equip local talent with cutting-edge electrotechnology skills is creating career pathways into the mining industry while fostering thriving communities.

Anglo American – which operates five steelmaking coal mines in the Bowen Basin – partnered with Moranbah State High School (MSHS) and Major Training to deliver the electrotechnology course in the region.

The course provides an entry-level understanding of electrical systems, circuitry and safety while allowing graduates to carve six months off an electrical apprenticeship.

With a 100% success rate, the 19 graduating students from Moranbah, Dysart and Clermont will get four credits towards the 20 credits needed to complete their Queensland Certificate of Education.

MSHS student Alexandra Ibbertson, who is about to finish the electrotech course, was also selected as a school-based trainee at Anglo American's Moranbah North mine in January.

Ms Ibbertson says the course and the traineeship have been invaluable for steering her to a career in the mining industry.

"It has shown me a full, in-depth scope of what will come if I end up as an electrician in the field," she said.

"It's taught me about safety, teamwork and how important it is to co-operate in a group.

"With Moranbah being such a small town and mining being the central focus of it, having courses such as these allow

students to transition smoothly into the mining industry and help them secure apprenticeships for the future."

Moranbah North mine offers three school-based traineeships, four mechanical and four electrical apprenticeships and six new-to-industry positions each year.

The company's nearby Grosvenor mine offers three electrical and three mechanical apprenticeships each year, as well as four new-to-industry roles.

Moranbah North mine general manager Paul Stephan says they have received more than 1,500 applications for the 14 apprentice and new-to-industry roles advertised last month and will advertise in August for the next intake of school-based apprentices.

Mr Stephan says this year's three school-based trainees have all been selected from the MSHS electrotech program, which Anglo American funded when it learned there was a pathway gap.

"In supporting this electrotechnology program, we are reinforcing our commitment to local jobs and community development," he said.

"It offers a terrific career pathway as it's a natural step into a mine apprenticeship whether mechanical or electrical.

"By hiring locally, we ensure we retain talent within our region, driving economic growth and sustainability for years to come.

"It keeps kids connected to family and community while providing a talent pipeline to ensure we have sustainable operations going forward and helps to keep our local businesses thriving."

Major Training assessor Terry Turnbull, who is teaching the students in the course at MSHS, says it provides the Certificate 2 basics in electrotechnology.

Mr Turnbull says the students gain knowledge and skills that open up a pathway to not just electrical work but also to engineering or project management.

"My dream is to see these students dream big and take the mining industry by storm," he said.

"They are hidden gems for the mining projects coming forward and it's important they are part of the solution going forward.

"Local talent is important to growing small towns and keeping them sustainable."

The Moranbah electrotech graduates were treated to a visit to the Resources Centre of Excellence (RCoE) in Mackay to celebrate the end of their course.

As well as participating in some project work to visualise stage 3 of RCoE in Moranbah, the students also kitted up for the centre's underground simulation and tried the Anglo American Virtual Reality Training Laboratory.

Moranbah student Bradley Oram says it was an eye-opening, hands-on experience that cemented his desire to work in the mining industry.

Mr Oram says he is hoping to secure an electrical apprenticeship and potentially go to university for an electrical engineering degree down the track.

"I'm looking at an electrical pathway into an apprenticeship," he said.

"I was leaning towards auto electrical but after this electrotechnology program, I'm

definitely open to becoming a high voltage electrician.

"If the school reaches out to you, you get your foot in the door with industry and it makes it easier to figure out what you want to do.

"If you help get the kids into the industry, that's obviously making the town more sustainable."

Fellow graduate Brooke Foley says her electrician father has inspired her to pursue this career.

"I grew up helping him around the house which made me interested in it," she said.

"Having courses like this in school, it builds the future generations to have the incentive to go into mining careers and follow the paths of their elders."

Anglo American's electrical tradespeople maintain the electrical infrastructure that powers underground operations from the longwall to conveyors, the ventilation system and other mining equipment.

Their work includes circuitry, wiring, diagnostic work, communication systems, lighting and atmosphere monitoring systems.

Anglo American mechanical tradespeople maintain the diesel fleet, transportation vehicles, loaders and hydraulic systems.

In Australia, Anglo American operates five steelmaking coal mines in Queensland's Bowen Basin, along with additional joint venture interests in steelmaking coal and manganese, and base metals exploration projects in Queensland and WA. **AMR**

THE COMPLETE HEAVY-DUTY SOLUTION: THE IMPORTANCE OF AIR FILTRATION SYSTEMS

In today's industrial landscape, complying with the new international standard of air control systems (ISO 23875), the design, testing, operation, and maintenance of air quality control systems for heavy machinery is paramount. Whether combating silica dust, chemical fumes or noxious odours, the right filtration system can mean the difference between a safe, healthy work environment and potential hazards.

Large volumes of hard and abrasive dust particles are typical in most mining and industrial processing related applications. These particles rapidly wear out filter media, leading to frequent maintenance or worse: filter leaks. Without effective dust emission control, equipment, processes, employees, and the environment may be at risk, and production could be halted.



The following is a list of some typical areas generating dust that can be controlled by dust collection and/or mitigation equipment:

- Rail or truck dumps
- Crushers and/or screens
- Conveyor belt transfer points
- Silos or bin filling
- Earthworks
- Rail, barge, or truck loading

Helping to comply with ISO 23875 requirements, cabin pressurization is designed to allow operators of equipment cabs or equipment in enclosures to "Breathe Easy" with clean air and to keep those cabs clean. Positive pressure is generated in the cab, pushing dirt out, preventing dust from coming in, and keeping the entire cab and HVAC system clean.

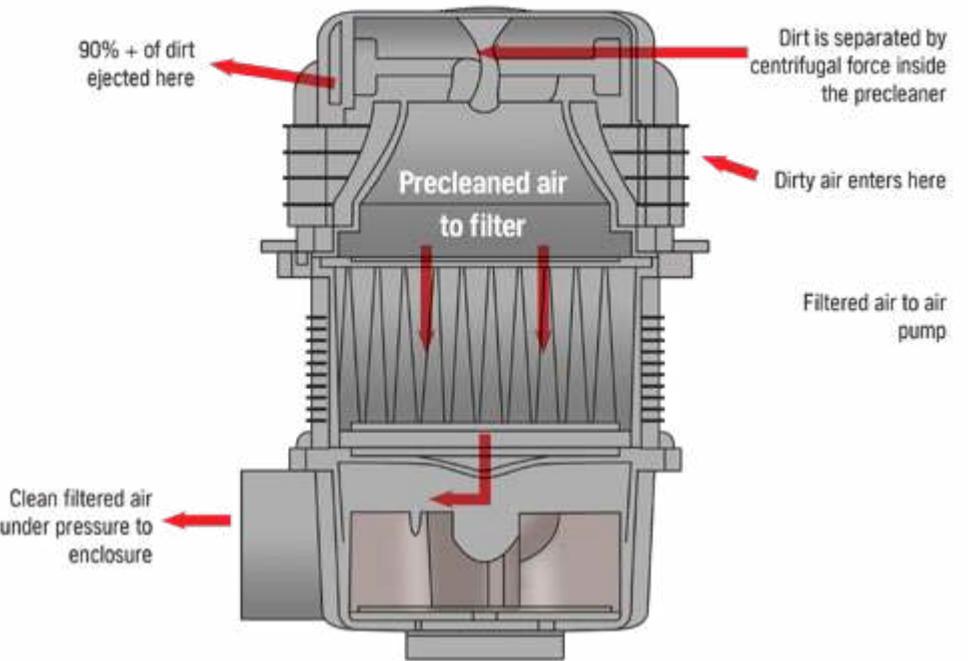
The Red dot "CABAIRE System" incorporates an air pump, patented centrifugal air pre-cleaning, and options of filter media (Cellulose, HEPA, Activated Charcoal) to suit different working environments for above and below ground mining, processing, and distribution.

These systems offer a range of filtration options designed to address specific airborne contaminants effectively. Among these, MERV 16, HEPA, and Activated Charcoal filters stand out for their efficiency and versatility.

Worker Protection: CABAIRE Systems' advanced filtration technology protects workers from dangerous particulates, ensuring a clean and safe working environment.

Regulatory Compliance: By aiding in compliance with OSHA regulations regarding silica dust and chemical exposure, CABAIRE Systems help businesses avoid costly fines and penalties.

Comprehensive Filtration: Whether



trapping silica particles with MERV 16 filters or absorbing gases and odours with activated charcoal, CABAIRE Systems offer comprehensive protection against a variety of airborne contaminants.

Self-Cleaning Mechanism: CABAIRE Systems' over-pressure feature ensures that no particulates escape into the cab, effectively cleaning the environment within the vehicle.

Pressure Monitoring: Integrated pressure monitoring systems keep track of in-cab pressures, providing valuable data for maintaining optimal filtration performance.

Red Dot also designs and manufacture a complete line of heavy-duty off-the-shelf, ready-to-install HVAC units and kits to keep operators comfortable while working in the most rugged and demanding

- environments. These include:
- Rooftop, Backwall & Under-dash units for commercial, industrial, mining, and construction equipment.
 - Direct drive, Hydraulic & Electric Compressors
 - Backwall Units

With a national branch network serving trade, industrial and mining customers, supported by the Know How and Australia's largest leading range, NAPA is well-positioned to help small and large companies meet ISO 23875 requirements.

As Wesley Skewis, NAPA Industrial – Sales Manager explains, "NAPA is more than parts, we're here to take your business further." **AMR**

For more information, contact your local NAPA branch at www.napaparts.com.au

YOUR PARTNER IN MINING.

Transport | Fleets | Hard Parts | Safety | Business Integration

NAPA Auto Parts takes pride in being more than just a parts provider for large-scale businesses and sites. Our dedicated Mining team can work with you to save you time and money through smarter business activities, leveraging the size and scale of a multinational business.



Visit napaparts.com.au/mining for more information



EPIROC

TO ACQUIRE REMAINING SHARE OF AUTONOMOUS SOLUTIONS PROVIDER ASI MINING

(Image source: Epiroc) An illustration of ASI Mining's solutions on a mine truck.

Epiroc has agreed to acquire the remaining share of U.S.-based autonomous mining solutions company, ASI Mining.

Epiroc already owns 34% of ASI Mining, which it acquired in 2018. ASI Mining, based in Mendon, Utah, the US, is a subsidiary of Autonomous Solutions, Inc.

Epiroc's president and chief executive Helena Hedblom commented on this.

"Epiroc and the innovative team at ASI Mining are already collaborating closely to bring the most advanced automation solutions to mining customers," she said.

"We look forward to complementing

their solutions fully with our offering and together continue supporting customers on their automation journey."

The acquisition of the remaining 66% share requires regulatory approval from the US competition authorities, which is expected to be completed in Q3 2024.

The parties have agreed not to disclose the purchase price as the transaction is not subject to a disclosure obligation pursuant to the EU Market Abuse Regulation. **AMR**

KOMATSU WA475-10 WHEEL LOADER ARRIVES IN AUSTRALIA

Komatsu's WA475-10 wheel loader has arrived in Australia and is ready to be put to use across quarry and waste sites.

The 26-wheel loader saves 30% more on fuel efficiency than the previous model and is suitable for any hauling or loading jobs. Komatsu Australia national business manager Nick Vrontas said the upgrades on the WA475-10 make it an appealing addition to fleets.

"The WA475-10 features the newly developed Komatsu's hydraulic mechanical transmission (KHMT), an innovative solution that makes the loader more powerful and more fuel-efficient," he said.

"Variable speed control allows operators to adjust the machine's top speed to meet specific site requirements and the adjustable variable traction control also

limits wheel spin on unstable and slippery ground conditions often found on many quarry and waste sites.

"We've also completely innovated the power control on this latest model. It's never been easier for an operator to find the right balance between traction and lifting power, with the hydraulic speed independently controlled from the accelerator pedal, and the boom speed controlled the hydraulic lever."

A Z-bar linkage system provides much more lift force and a higher tonnes-per-hour production rate plus the response time of the hydraulics and dumping or lifting can be set to specific site requirements.

The loader can be tailored for specific applications and the Komatsu team will work with customers to provide a customised solution.



"The WA475-10 is tier four compliant, and at even low engine speeds the engine puts out high power and delivers more engine torque and performance," Mr Vrontas said.

"The engine's advanced electronic control system manages the airflow rate and

the fuel injection, combustion parameters and aftertreatment functions, which provide optimised performance, reduced emissions and advanced diagnostic capabilities, making it a powerful, yet environmentally friendly machine." **AMR**



LOADRITE[®]
AUTHORISED DEALER

IS YOUR SCALE LEGAL FOR TRADE?

1800 655 860 | WWW.SMARTTECHAUSTRALIA.COM.AU

PERTH. BRISBANE. SYDNEY. MELBOURNE. TASMANIA.
ADELAIDE. ALBURY. DARWIN. TOWNSVILLE. MACKAY.



(Image source: Sandvik) The Sandvik DR416iE is the fourth and largest electrified rig in Sandvik's intelligent rotary blasthole range.

SANDVIK INTRODUCES DR416iE ROTARY BLASTHOLE DRILL

Sandvik Mining and Rock Solutions has introduced the electric Sandvik DR416iE, the next-generation i-series rotary blasthole drill.

The Sandvik DR416iE joins the Sandvik DR410iE, the Sandvik DR412iE and the Sandvik DR413iE as the fourth and largest electrified rig in Sandvik's intelligent rotary blasthole range.

This drill rig is designed to deliver superior performance and sustainability in demanding mining conditions. It's ideal for iron ore and copper applications and can

drill a hole diameter range of 270mm to 406mm.

Powered by a 1044kW electric engine, the electric system of the Sandvik DR416iE incorporates a soft starter to help reduce impact on the mine's power grid, preventing disruption to other equipment.

The multi-voltage and multi-frequency electric motos offer greater flexibility, while the 420m cable reel ensures ample capacity for connecting to the mine substation.

maintenance, as well as the iSeries mast design which offers increase strength, durability and productivity.

Project manager of rotary drills Nellaipan Subbiah commented on the drill. "Sandvik DR416iE represents a significant leap forward in electric blasthole drill technology and delivers rotary customers the option of a seamless transition from diesel to electric," he said.

As will all of Sandvik's drills, the DR410iE features the Dri control system, providing a consistent operating experience and simplified operator training.

For tackling hard rock formations, the Sandvik DR416iE is equipped with a heavy-duty feed system. The hydraulic motor driven chain feed system delivers superior pulldown force and increased weight on bit, resulting in significantly faster penetration rates.

"Sandvik DR416iE uses the same modular platform as our largest diesel-powered rotary rig but with the added environmental benefits of electrification," Mr Subbiah said.

"We now offer customers the ability to convert a diesel-powered unit to a fully electrified version in the field."

"This innovative drill delivers unmatched performance, reliability and sustainability, making it an ideal choice for forward-thinking mining operations."

Sandvik's iSeries of drill rigs simplify operations by using automated functions with an intuitive user interface.

A key component of the series, the Sandvik Intelligent Control System Architecture (SICA) provides the operator with real-time feedback regarding the machine's performance and health, along with tools for drill planning, reporting and analysis. **AMR**

The two-stage rotary head design eliminates the external planetary gearbox, delivering higher torque, improved reliability and reduced service intervals, leading to increased machine availability.

Other features include the traveling centralizer which reduces drill pipe wobble to produce straighter holes faster, extend component life and reduce unplanned

(Image source: Sandvik)

Teralba
TRUSTED HEAT TRANSFER

LEARN MORE



HEAT TRANSFER SOLUTIONS

Applications include:

- | Mineral & Chemical Processing
- | Condensing and evaporating liquid and gas streams
- | Exhaust gas economisers to recover heat

P (02) 4629 3000 E sales@teralba.com W teralba.com

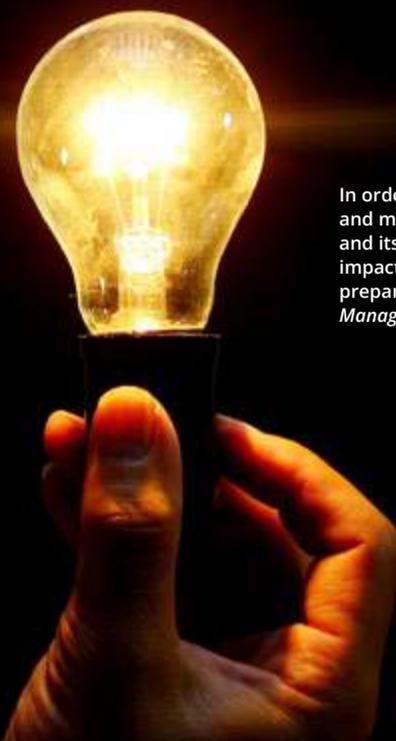


DYNEEMA
TELSTRA ROPE
3 STRAND ROPE
HI-VIS ROPE
HOT KNIFES
CUSTOM LENGTHS
+ MORE

Australia Wide Shipping

VISIT - WWW.SYDNEYROPESUPPLIES.COM.AU

MINERAL RESOURCES DIMS ARTIFICIAL LIGHT USE AT ONSLOW IRON



In order to minimise, monitor and manage artificial light spill and its potential environmental impacts, Mineral Resources prepared an *Artificial Light Management Plan*.

Mineral Resources (ASX: MIN) is taking steps to minimise impacts on marine fauna at its Onslow iron project in the West Pilbara, WA.

While appropriate lighting is important for working safely at night, artificial light can sometimes disrupt the natural behaviours and activity patterns of native fauna – potentially leading to adverse impacts.

For marine turtles in particular, artificial light can cause disorientation among hatchlings.

To minimise, monitor and manage artificial light spill and its potential environmental

impacts, Mineral Resources prepared an *Artificial Light Management Plan* (ALMP).

The plan includes regular monitoring of turtle and shorebird populations, as well as monitoring programs to identify light spill levels and associated triggers for additional management measures, such as adjusted light intensity and wavelength on transhippers or landside operations.

Mineral Resources principal biodiversity Dr Adam Cross says engineering and management solutions that minimise skyglow from the port and anchorages have also been made to minimise impacts of artificial light spill.

“Australia’s marine and near-shore ecosystems are celebrated around the world for their biodiversity and natural beauty. When operating in these areas, we must protect and preserve the iconic wildlife they support,” he said.

“As part of Onslow iron, transhippers will navigate waters between islands that are important breeding grounds for several species of marine turtles and home to various species of whales, dugong, dolphins and other marine species.

“We’re making sure MinRes and our contractors have proper controls in place to protect native fauna from artificial light disturbance – it’s a shared responsibility.”

Outcomes from the ALMP will be monitored bi-annually through light level checks at major islands in the region and through photograph and drone image monitoring of seasonal turtle hatching patterns. Onslow iron already has a unique transhipping solution that transports iron ore from the Port of Ashburton to bulk carriers anchored 40km offshore.

The vessels feature a shallow 7m draft when fully loaded with 20,000t, avoiding the need for a deep-water port and significantly reducing the project’s environmental footprint. **AMR**

**SPECIALISING
IN UNBLOCKING
PASTE FILL PIPES
AND INDUSTRIAL
TANK CLEANING**



Whether it’s been the removal of a rainwater tank in Victoria, cleaning Ammonium Nitrate Emulsion Storage tanks in Mount Isa or the installation of a Waste Water treatment Plant in the Simpson Desert, our attitude is “have tools will travel”.

With nearly **40 years of experience** and a focus on safety, we have the solutions for your mine site problems.

**SAV'S
PLUMBING**

MOBILE: 0418 777 846

www.savsplumbing.com.au

ESG

environmental, social & governance



In this fourth instalment of the six-part environmental, social and governance (ESG) series, the *Australian Mining Review* speaks with industry leaders on mine site sustainability, renewable energy and waste management, including companies specialising on sustainable consulting, mine site electrification and environmental assessments.

This edition, we speak with:

- **Bellevue Gold** chief sustainability officer Luke Gleeson on his introduction into the Power50 list and the company's ESG reporting
- **Gold Fields** executive vice president of sustainable development Mariette Steyn about the company's notable ESG achievements across its St Ives, Agnew, Granny Smith and Gruyere joint venture gold mines
- **Sustainable Minerals Institute** Associate Professor Anita Parbhakar-Fox on effective mine waste management
- **CQG Consulting** on the importance of aligning with the right partner for climate adaptation risk assessments and the soon-to-be-rolled-out Australian Sustainability Reporting Standards
- **Amppcontrol** on the importance of charging infrastructure in the electrification and decarbonisation of mine sites
- **Emergent Group** on how its engineering and environmental consulting arm, Advitech, offers the mining industry an integrated engineering and environmental consulting service

Q&A WITH BELLEVUE GOLD CHIEF SUSTAINABILITY OFFICER LUKE GLEESON

(Image source: Evan Collis Photography) Bellevue Gold chief sustainability officer Luke Gleeson.

AND HIS INTRODUCTION INTO THE **POWER50** LIST

For the second year running, FS Sustainability has released the Power50 list which lists the 50 most influential environmental, social and governance (ESG) leaders in Australia from ASX-listed companies who act on a wide variety of sustainability issues.

Entrants in this year's list are addressing challenges that need urgent attention, such as climate change, with emphasis on renewable energy and net zero targets.

The professionals listed come from a wide range of companies, including financial, mining and consumer goods, just to name a few.

The *Australian Mining Review* speaks with Bellevue Gold (ASX: BGL) chief sustainability officer Luke Gleeson about his and Bellevue's sustainability journeys.

AMR: What does it mean for you to be included in the Power50 list?

LG: With only three mining company executives featured in the Power50 list, it's a huge compliment to the work that we've done here at Bellevue. Mining, inherently, is typically a carbon intensive business and to look at things from a decarbonisation lens and to be recognised for the work we're doing is a huge privilege and it's a reflection of the strategic planning and all the hard work we've done in the last five years.

AMR: How do you feel to be featured alongside the likes of Medibank, Downer, Commonwealth Bank and Orica?

LG: It's very humbling, but again it's a credit to the work that we're doing at Bellevue. We've been very strategic in our thought process with regards to our attitudes to decarbonisation and building a modern day mine. To be recognised

alongside some of those companies and some are ASX20 organisations, I think it's a credit to the work we're doing here. It's a big privilege to be named with those businesses that are a lot bigger than Bellevue.

I think one of the interesting things about ESG is that people will typically refer to decarbonisation as the 'only thing' for mining companies. When you step back and look at the broader work we're doing at Bellevue we have tried to create a competitive advantage through our approach to sustainability and across gender diversity in the business. As an example, last year we were running close to 40% gender diversity in the business which is extremely positive and well above the industry average of 17% participation rates.

The impact that we're having socially as well is very positive, whilst we're ticking all the boxes in decarbonisation, there's more to ESG than just decarbonisation.

AMR: Can you tell us about spearheading Bellevue's ESG strategy and the creation of the company's first sustainability report in 2020.

LG: One of the things we've looked to try and do at Bellevue is create a competitive advantage in our approach to ESG reporting. That's something we really embarked upon early on at Bellevue. Those strategic initiatives that we put in place in the business over the past five years were really a part of the broader strategy of incorporating ESG concepts into our business and we really looked to try and create a competitive advantage with our approach to sustainability.

We were the first ASX-listed company in pre-production to release a sustainability report back in November 2020. Our first sustainability report came out four years ago and we've come out with three reports since then. Over the last three reports we've looked to initially to align with the United Nations Sustainable Development

Goals (UN SDGs). We commenced our Task Force on Climate-related Financial Disclosures (TCFD) alignment in early 2020 and we were the first ASX-listed company to align our employees to the aspirational goal of being net zero by 2026. In the 2022 Sustainability Report, we aligned the business to the UN SDGs and the Global Reporting Initiative (GRI) and Sustainability Accounting Standards Board (SASB) reporting frameworks; and in 2023, we became members of the UN Global Compact and we've continued to refine the reporting of sustainability and look to embed sustainability frameworks over the business.

AMR: You're the chief sustainability officer at Bellevue, what does that role entail?

LG: In the business, I make sure that we [Bellevue] have the systems and processes in place around sustainability reporting and the macro initiatives in the business, particularly on the decarbonisation side.



(Image source:
Evan Collis
Photography)



(Image source:
Evan Collis
Photography)

What we've looked to do is align the project to the carbon mitigation hierarchy of avoid, eliminate, reduce and offset the emissions that we will be emitting.

A large part of my involvement is ensuring that, from a strategic standpoint, that we are creating a competitive advantage out of our approach to ESG and empowering the team to achieve that. When you're building a mine, a big part of that is building all the infrastructure and making sure that we're doing things through the lens of making economic decisions to decarbonise a modern-day mining operation.

AMR: What got you started on the sustainability journey?

LG: I completed a Master of Science in Mineral and Energy Economics in late 2018 and a large part of the study work that we were doing was effectively looking at the economics of mining operations. Given it was a mineral and energy economics course, we were looking at the levelised cost of energy or the economics that sat behind the decision-making process. A lot of the stuff I studied was based on theory, but we've been practically applying that in the building and construction of the Bellevue gold project. It was pretty much bringing theory into practice – the things that were in textbooks at the time – into reality.

AMR: What's the importance of having net zero on mine sites and how is this being implemented at Bellevue?

LG: Investors, particularly in mining and across every sector in Australia, are being

asked to decarbonise their businesses. The importance of it at Bellevue is that we've tried to create some tangible benefits with our ESG initiatives and a large part of that has been investor-led. At Bellevue there's been a big focus on making sure we're doing things that align with our passion, accountability, care and excellence (PACE) core company values. This also aligns with a lot of our employees own personal values and opinions – and decarbonisation is certainly something that's topical. Our approach to sustainability has allowed us to recruit over 200 full-time employees in an extremely tight labour market over the last four years as we built the project.

There's increased investor appetite for companies to decarbonise, particularly in mining. There's also a strategic opportunity to look at insulating the business to future input costs, such as energy inputs, and it's mitigating the risk of carbon risks into the future. From a government standpoint, they could require mining companies to decarbonise at an accelerated rate in the future. There are various ways the government could look at it and the attitude we've taken at Bellevue is we want to try and mitigate a lot of those risks. Doing what we've done, this certainly positions us to be less affected than other companies that aren't running a renewable energy component in their operation.

We'll be running 80% renewable energy from our off-grid power station and this certainly derisks the business from a cost and carbon perspective moving forward. There's the potential with the gold we are producing at Bellevue that we could pick

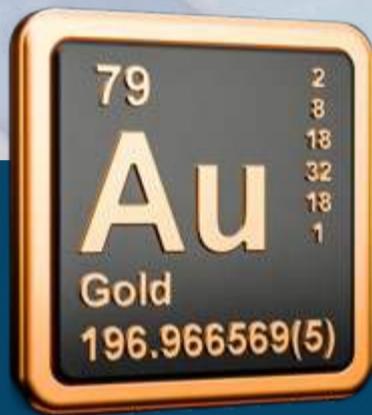
up a price premium for generating supply chain provenance net zero emissions gold.

AMR: What are your stretch targets for ESG going forward?

LG: There are certain internal targets we've got in the business around diversity – that's a target that's important to the business – and decarbonisation, with the goal of being net zero by the end of

2026. We are the first mining company to align our employees to achieving this goal. We are looking at a few other initiatives around environmental initiatives given the business is now in cash flow and in steady state of production. From a social perspective we're aligning ourselves with community sponsorships and donations in accordance with the Bellevue core values of passion, accountability, care and excellence. **AMR**

(Image source: Gold Fields) A solar and battery plant was installed at the Gold Fields Gruyere mine with joint-venture partner Gold Road Resources in 2022.



-SOME ACHIEVEMENTS

Gold Fields is tracking well against the 2030 environmental, social and governance (ESG) targets for its six priority ESG areas – three of them related to its people and stakeholders and the other three to the environmental impacts of its mines.

The *Australian Mining Review* speaks with Gold Fields executive vice president of sustainable development Mariette Steyn about the company's notable ESG achievements across its St Ives, Agnew, Granny Smith and Gruyere joint venture (JV) gold mines in WA.

AMR: What are the latest updates to Gold Field's ESG targets - and why?

MS: Gold Fields is targeting a stronger representation of women across our workforce, with a 30% target by 2030. We are getting close to achieving this, with 25% of women in our workforce, 27% women in leadership positions and 54% women in core roles. We are also committed to implementing all 21 of the recommendations proposed by Elizabeth Broderick & Co in its Workplace Culture review to support its Respectful Workplaces program and our diversity targets.

Gold Fields works closely with our host communities to deliver programs that will make a meaningful difference. We are aiming for 30% of total value created to benefit our host communities. In 2023, we delivered US\$1.09b of stakeholder value directly to our host communities across the globe, equalling 33% of total value.

In 2023, renewable energy accounted for 17% of Gold Fields' electricity. Across our sites across the world, Gold Fields is implementing various decarbonisation activities to reduce our emissions, with

targets of 50% absolute emissions and 30% net emissions reduction from 2016 baseline (Scope 1+2), 10% Scope 3 emissions reduction from 2022 baseline; and net zero emissions by 2050. In 2023, we achieved 12% absolute and 4% net Scope 1 and 2 emissions reduction against baseline, and 3% Scope 3 emissions reduction against baseline.

Gold Fields is also on track with our commitments to tailings management. We are continuing to collaborate with industry on the commingling of waste streams, monitoring technologies and tailings reductions. We have rolled out a new tailings storage facility (TSF) Management Standard and completed a three-yearly global independent review of our TSFs. Gold Fields' target is to conform to the Global Industry Standard on Tailings Management for all TSFs by Q3 2025, and we are pleased to report this program is on track.

One of our key ESG pillars is water stewardship, with a 2030 target to have 80% of all water recycled or reused, as well as a 45% reduction in freshwater use from a 2018 baseline. In 2023, we saw 74% of water recycled or reused, and a 39% reduction in freshwater use.

AMR: How are the Australian operations tracking? Step us through the renewable energy projects happening at each site.

MS: Gold Fields is delivering WA's largest renewable energy project at a mine site, investing almost \$300m at our St Ives operation. Gold Fields will construct a 42MW wind farm consisting of seven wind turbines, a 35MW, 60,000 panel solar farm and 132kV transmission lines to help power our St Ives gold mine. Set to be operational by the end of 2025, the project will deliver 73% of St Ives' energy requirements and reduce the mine's emissions by approximately 50% by 2030. The St Ives renewables project is a first for Gold Fields as we will manage and build the project in-house, leveraging the exceptional expertise of our people and those that support us.

At Granny Smith, we are expanding our solar power capacity. The site will now have a total of 18MW of solar capacity – an increase of 11MW of power, as well as additional capacity through an expanded battery energy storage system. Upon completion, the expansion will enable 21% of Granny Smith's energy requirements to be generated by renewable sources. The solar farm expansion comes ahead of Gold Fields conducting a pre-feasibility study, investigating how it could go on to generate 75% of Granny Smith's energy requirements from renewable sources, including increased solar, a larger battery, and a wind farm later in the decade.

We also continue to recognise the benefits from the hybrid renewable power plant, commissioned in 2019/2020 at our Agnew site which included solar, wind turbine, gas

generator, battery power storage and diesel back-up power solutions and the solar and battery plant that we installed at the Gruyere mine with our joint-venture partner Gold Road Resources in 2022.

AMR: Can you share some of Gold Field's future ESG strategies, policies and programs?

MS: A strong focus of our ESG work is to eliminate fatalities and serious injuries at our mines and projects as we strongly believe that a fatality-free mining business is possible. We have initiated an independent review (being conducted by DSS+, formerly Du Pont) of our Group's safety culture, processes, systems and practices. The review, which commenced in February 2024, is expected to be completed in the first half of 2024, and will identify opportunities to accelerate our safety journey and standardise the safety approach across our business.

Our commitment to safety extends to psychological health and wellbeing, which is key to building safe workplaces. We are continuing to progress the implementation of the 21 recommendations of the Elizabeth Broderick and Co independent review and will conduct a follow-up review in 2026.

We have also announced that as part of Gold Fields' extensive strategic review in 2025, we will be reviewing all our ESG commitments and 2030 targets for our six priority areas and possibly extending these to 2035. This is particularly relevant for our decarbonisation journey, where a longer-term commitment is essential if we are to achieve our ultimate goal of net Zero by 2050. **AMR**



MARIETTE STEYN EXECUTIVE VICE PRESIDENT: SUSTAINABLE DEVELOPMENT GOLD FIELDS

B.Eng (Chem), University of Stellenbosch; MDP, Gordon Institute of Business Science

Ms Steyn was appointed to the position of Executive Vice President: Sustainable Development on 1 June 2024. She joined from South32, where she was Vice President of Health and Safety Culture and also led the Group Risk & Assurance and Group Supply functions. In a career spanning 22 years, Ms Steyn has held various operating and functional leadership positions at AngloGold Ashanti, Samancor Chrome, BHP and, most recently, South32. Geographically she has worked in Australia, Southern Africa and the Americas.

Environment | Engineering | Planning | Sustainability

Queensland firm CQG Consulting is recognised for delivering exceptional environmental, engineering, planning and sustainability consulting services to local, national and international clients since 2003.

Scheduled to be rolled out in 2025, the Australian Sustainability Reporting Standards (ASRS Standards) will be mandatory for many organisations and will require businesses to report against climate-related financial disclosures.

To effectively meet these requirements, businesses will need to engage with their stakeholders and conduct a thorough climate adaptation risk assessment. CQG has experience guiding clients through this complex process, ensuring they identify and address key reporting topics while confidently navigating the evolving regulatory landscape.

The first step in the process is to conduct a gap analysis of operational processes against the relevant spectrum of global standards as well as the new Australian standards.

CQG's team works with its clients to develop action plans and identify key reporting topics through stakeholder engagement and comprehensive risk assessments.

Recently, CQG was engaged by Bravus Mining and Resources and Bowen Rail Company to conduct transparent and



auditable materiality assessments to identify the key areas of their operations in relation to the economy, the environment, and people. The businesses' leadership teams and boards are now using the material topics identified during these assessments to inform key risk management, decision-making, and sustainability reporting to ensure both companies remain well-prepared for future challenges and the incoming mandatory sustainability reporting requirements.

Partnering with CQG will allow your business to streamline compliance and drive sustainable growth in your business.

CQG's sustainability services also include:

- Stakeholder engagement and material impact assessments

- Strategy development and implementation
- Social impact assessments and social performance management
- Climate related risk identification and management
- Sustainability reporting aligned with established reporting standards
- Independent assurance and validation of sustainability reports

CQG also offers a comprehensive suite of services encompassing environmental, engineering, and planning solutions.

Environment

CQG's regional based team of scientists are equipped to assist with a full range of environmental services, including environmental monitoring, impact assessment, compliance and assurance, and ecology services.

Engineering

Providing practical solutions to project challenges from conception through to commissioning, CQG's engineering team assists clients with GIS data management, UAV (drone) surveys and advice.

Planning

CQG's planning team is highly regarded in facilitating development applications, EPBC referrals, permits and approvals for a range of projects.

First Nation Engagement and Social Performance

CQG's team has a strong track record across the State working with First Nation groups, rural landholders, government and clients to achieve positive outcomes.

AMR

Delivering ESG services to the mining sector since 2003

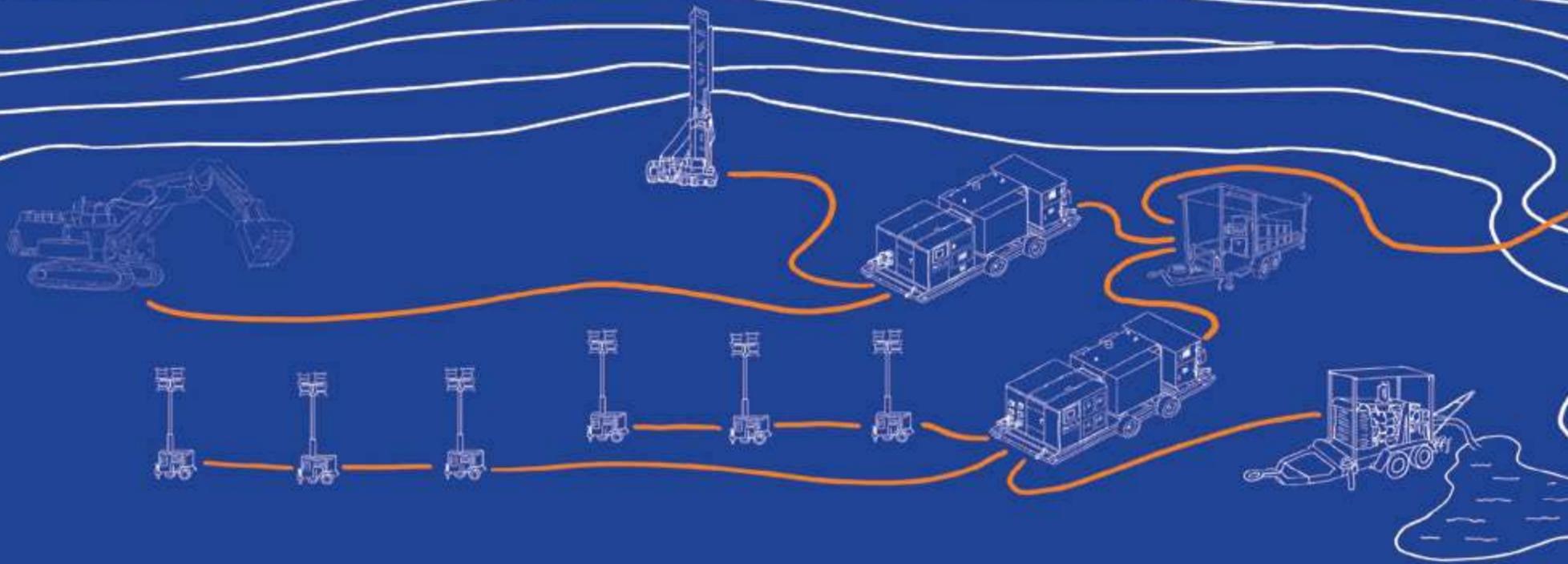
Regional Queensland consulting firm with an excellent safety record, strong relationships with First Nation Groups and proficiency working in remote areas.

CQG services include:

- Environmental monitoring
- Fauna spotter catching
- Ecological assessments
- BioCondition surveys
- Contaminated site investigations
- Impact assessments
- GIS and UAV (drone) services
- Environmental compliance and approvals
- Sustainability and ESG
- Community and stakeholder engagement
- First Nations engagement
- Coordinate cultural heritage surveys

Servicing Australia from Rockhampton, Gladstone, Mackay, Townsville and Brisbane

E: admin@cqgroup.com.au W: cqgroup.com.au



ENERGY MANAGEMENT & CHARGING INFRASTRUCTURE TO PLAY KEY ROLE IN MINE SITE ELECTRIFICATION

Decarbonisation targets are defining the progression of the resource industry, with conversation about mine site electrification now increasingly prominent. Recognising the need for industry collaboration, Ampcontrol is actively partnering with industry and its customers to transform these discussions into actionable implementation plans.

The development of new technologies to enable the transition is just one play. Supporting implementation and maintenance is equally necessary to ensure 2050 targets are met.

Ampcontrol is developing new technologies where identified needs exist and offers custom engineering solutions to improve existing assets. With a holistic offering that encompasses engineering services, power infrastructure assets, implementation support, and advice on operational energy and asset management, the path to net zero for industry can become clearer.

The *Australian Mining Review* caught up with Dominic Montanari, Ampcontrol Electrical Engineer – Battery Electric Vehicles (BEV) to talk about how Ampcontrol approaches electrification of mine sites, with a specific focus on how charging infrastructure is crucial for decarbonisation.

AMR: Can you tell us a little bit about Ampcontrol and the work you do for the mining industry?

DM: Ampcontrol solves complex problems in energy by developing world-first innovations that support decarbonisation. We have more than 50 years of experience in the mining industry, providing custom engineered solutions to meet customer needs. We have a range of products and services developed specifically for the mining industry, that are now being used in innovative ways to support the electrification of mining, alongside innovations that the transition demands. Excelling in battery technology advancements, charging infrastructure, custom power infrastructure assets, energy management and usage modelling analysis; Ampcontrol has the smart minds and the industry experience to support electrification.

AMR: With the industry focusing on electrification, what are the ways Ampcontrol is helping customers and industry to electrify their mine site?

DM: With experience operating across Australia and internationally, Ampcontrol has established an incredible position in the industry earning widespread respect. This was recently recognised when the innovative battery technology in DRFITEX earned Ampcontrol an industry-voted award at the Mine Electrical Safety Conference held in Brisbane in June. The technology is a world first and was developed through engagement with both customers and industry to meet their demand for reduced carbon emissions.

Beyond technology developments, another way we are supporting industry is through our engineering services including Power Supply Studies. Ampcontrol looks at the readiness of mine sites when it comes to electrical demand. We profile and model to each specific site and see how electrical demand would change if new charging infrastructure was introduced. As part of our analysis, we consider the number of vehicles on site and forecast future demand. We consider load scheduling and how to bring peak demand down. We then provide recommendations on how mine sites can make the best use of their existing assets to reduce capital expenditure whilst integrating new assets like Battery Electric Vehicles and charging infrastructure.

At Ampcontrol, we recognise that enabling electrification is not all about new gear. It's about balancing new, and adapting existing assets, whilst managing the increasing electrical demand of a site. The energy management side of things is where we have identified and solved some inefficiencies for our customers through our analysis and modelling work.

AMR: Charging infrastructure has become a key component to enable fleet electrification, can you explain the technology behind Ampcontrol charging solutions?

DM: Ampcontrol has developed a suite of charging infrastructure to meet different



AMPCONTROLGROUP.COM

STRUCTURE TION

requirements for both above ground and underground mines.

Through engagement with customers we develop new products that respond to real market needs. We also offer custom engineering of our products to increase suitability for varying applications. Most recently, this came to life through the Ampcontrol MegaWatt Charger.

The MegaWatt Charger features were developed with customer feedback in mind. We recognised a need to incorporate liquid cooling, upgrade the enclosure material to be only steel and galvanised, and use industry specific plugs. Something we considered with charging infrastructure was how quickly an asset can be charged, given the limited downtime machines have in the mining environment. Our charging infrastructure suite has varied capacity for fast charging, with the MegaWatt charging DRIFTEX, in ten minutes.

AMR: How did industry engagement take place for the development of the new Ampcontrol MegaWatt Charger?

DM: We are fortunate to have good relationships with our customers. We know more electric fleet vehicles are coming, and we know there will be a greater need for charging infrastructure. Right now we are sitting in an interesting period where customers can't be specific about their requirements for charging

infrastructure and voltage. They can only forecast with a low level of certainty to full site requirements. It means we need to take a holistic approach to developing our products for what we forecast industry will need, which is how we landed with the Ampcontrol MegaWatt Charger.

The Ampcontrol MegaWatt Charger is a dual-mode charger capable of charging at up to one megawatt, minimising charging time and operational impact. It can include an isolation transformer to achieve galvanic isolation and be truly standalone. With dual-mode charging, it can charge multiple vehicle types and sizes.

AMR: In the focus on electrification, one of the elements not always front

and centre is the transmission of power, from grids and then across sites. What is Ampcontrol's position here?

DM: Exactly. When you introduce charging infrastructure due to fleet electrification, how does the charging infrastructure get power in the first place? You need to work with transmission organisations to manage load, and on site you need cables for power distribution. Ampcontrol has a long history of delivering full life-cycle cable supply, management and repair across Australia. We've had dedicated cable operations in New South Wales and Queensland for decades. We recently opened a dedicated cables workshop in Kewdale, Western Australia, recognising

the necessity of cables in meeting site electrification.

Enabling the electric mine, Ampcontrol offers a suite of charging infrastructure, Electric Vehicle (EV) packages, engineering service and cable supply that facilitates customers' needs.

AMR

SOURCE:
Ampcontrol
A: 21 Old Punt Road, Tomago NSW 2322
P: 1300 267 373
W: www.ampcontrolgroup.com

MANAGING ESG:

THE BEST STRATEGY IS BASED ON GOOD DATA

Managing environmental, social, and governance (ESG) impacts is crucial for Australian mining companies. From maintaining a 'social licence to operate' to meeting newly introduced requirements to disclose climate-related information, Australian mining companies are facing an increasingly complex set of regulatory requirements and community expectations.

Navigating the regulatory maze is challenging, but achievable with the creation of a strategy that is appropriate for your business. Seeking the guidance of an experienced consultant can take the pain out of understanding your obligations and realising your sustainability goals.

Australian Engineering and Environmental Consulting company Advitech has been partnering with Australian industry for over 35 years to tackle a range of complex challenges. Working across many sectors, including deep engagement with the mining industry, Advitech has employed its engineering and scientific expertise to help businesses achieve their objectives.

Advitech's experience in the mining in-

dustry includes multiple projects covering such areas as functional safety, structural and mechanical design and verification and environmental monitoring and reporting. More recently, the company has been building its capacity in energy and renewables, analytics and optimisation, and ESG strategy and planning.

Advitech's Manager – Environment, Craig Wellings, believes that data is empowering for mining companies.

"Decisions should be based on evidence, and real-time monitoring, feeding into operation management decisions, provides a powerful tool to manage risk," says Craig.

As part of Emergent Group, an integrated collection of technical and scientific companies, Advitech has access to a diverse pool of skills to solve complex problems. Along with sister company Novecom, Advitech provides real-time monitoring solutions for noise and vibration, dust, air quality and weather.

With greater confidence in your environmental management systems, it becomes easier to engage and communicate with



Abby Yates and Craig Wellings of Advitech, bring a coordinated blend of expertise to developing ESG initiatives

your stakeholders. Addressing issues as they arise and having timely information means you can be proactive and responsive.

Advitech's Manager – Sustainability, Abby Yates, talks about sustainability for any business as being a journey.

"Whether you're just beginning to think seriously about sustainability as a business goal or whether you're already quite advanced in that regard, you need to know where you are in the journey and where you're headed," says Abby.

Abby's team specialises in assessing the current sustainability and ESG performance of a business, and working with them to plan a realistic pathway forward. Factors such as energy efficiency, greenhouse gas emissions, waste management, corporate governance, communi-

ty relations, sustainable procurement, and workplace culture all come into play.

"Having accurate data on your ESG performance is critical for planning initiatives for improvement, but just as important is having the commitment and support of your employees. That's why we pay so much attention to behavioural change within the company too," added Abby.

Abby, Craig and their teams at Advitech would be happy to chat with mining companies and businesses servicing the industry to discuss their challenges and goals and walk the pathway to sustainability and ESG together.

For more information, visit www.advitech.com.au

AMR



advitech

Integrated Engineering & Environmental Consulting



waste



path to net zero



contaminated land



acoustics



air quality

Advitech has been partnering with industry for over 35 years to solve complex challenges with our multidisciplinary approach. Our engineers and environmental scientists take the time to understand your ESG, sustainability and environmental management goals. We'll guide you through the relevant regulations, standards, and market expectations to help you to create achievable plans and targets that set you on a path to legitimate sustainable business practices.

www.advitech.com.au

mail@advitech.com.au

+612 4924 5400

a member of  emergent group

Geamana village flooded with waste water from mining, Romania, taken in May 2019.

WASTE NOT, WANT NOT

BY KATE DZIENIS

Effective mine waste management isn't simply about containment. It's a complex relationship between science, technology and economic considerations which aims to minimise environmental impact, mitigate risks to human health and foster sustainable practices that endure beyond the life cycle of a mine.

Whilst mining has been conducted for millennia, the storage and handling of associated waste has only in recent decades been the focus of government and public scrutiny according to Associate Professor Anita Parbhakar-Fox from the Sustainable Minerals Institute at the University of Queensland.

Prof Parbhakar-Fox says if waste materials are not appropriately managed, then a wide range of related environmental issues can easily arise.

"For example, if mine waste contains sulphide minerals like pyrite (FeS₂) then under surficial conditions, this can oxidise and generate acid that can elute into the environment impacting ecosystems," she said.

"Further, if the geotechnical properties of a mine waste storage facility are inadequate or not properly monitored, then failures can occur resulting in uncontrolled release

of mine waste into the environment as we saw in 2019 at Brumadinho, Brazil, where at least 250 people lost their lives."

To avoid events like this from happening again guidelines like the GISTM ([Global Industry Standard on Tailings Management - Global Tailings Review](#)), ICMMs good practice tailings guideline ([ICMM - Tailings Management: Good Practice Guide](#)) and even the GARD Guide ([GARDGuide](#)) are available to better guide industry with the challenge of managing mine waste.

Prof Parbhakar-Fox says it is more important than ever to get it right as the global community acknowledges the need for more mining to meet energy transition needs.

"The UN Secretary General said in April 2024 that we that we 'cannot make the mistakes of our past' when it comes to new mining projects so it's more important now to have the best mine waste management practices in place right at the very start of a mine's life," she said.

"A key to this is designing with the closure, or the end, in mind."

Adopting ESG (Environmental, Social and Governance) Standards

In the past decade, Australia has seen in

the [EY risks in mining survey](#), that ESG, licence to operate and climate change have featured highly (if not in the top five) and Prof Parbhakar-Fox explains that the mining sector knows it must adopt the highest ESG standards for a number of reasons.

"One including that financiers are also demanding higher standards to be met," she says.

"This has led to an explosion of new services and companies offering ESG and LCA (life cycle assessment) guidance as well as companies offering to help the mining sector adopt circular economy practices.

"Mine waste management is very much a part of ESG, so to improve credentials in this area, they must also address improving mine waste management standards."

Major Challenges

According to Prof Parbhakar-Fox, there are three major challenges associated with mine site waste management, which is generally regulated by each state government with environmental impact assessments and environmental permitting requirements before, during and after a mine is operating.

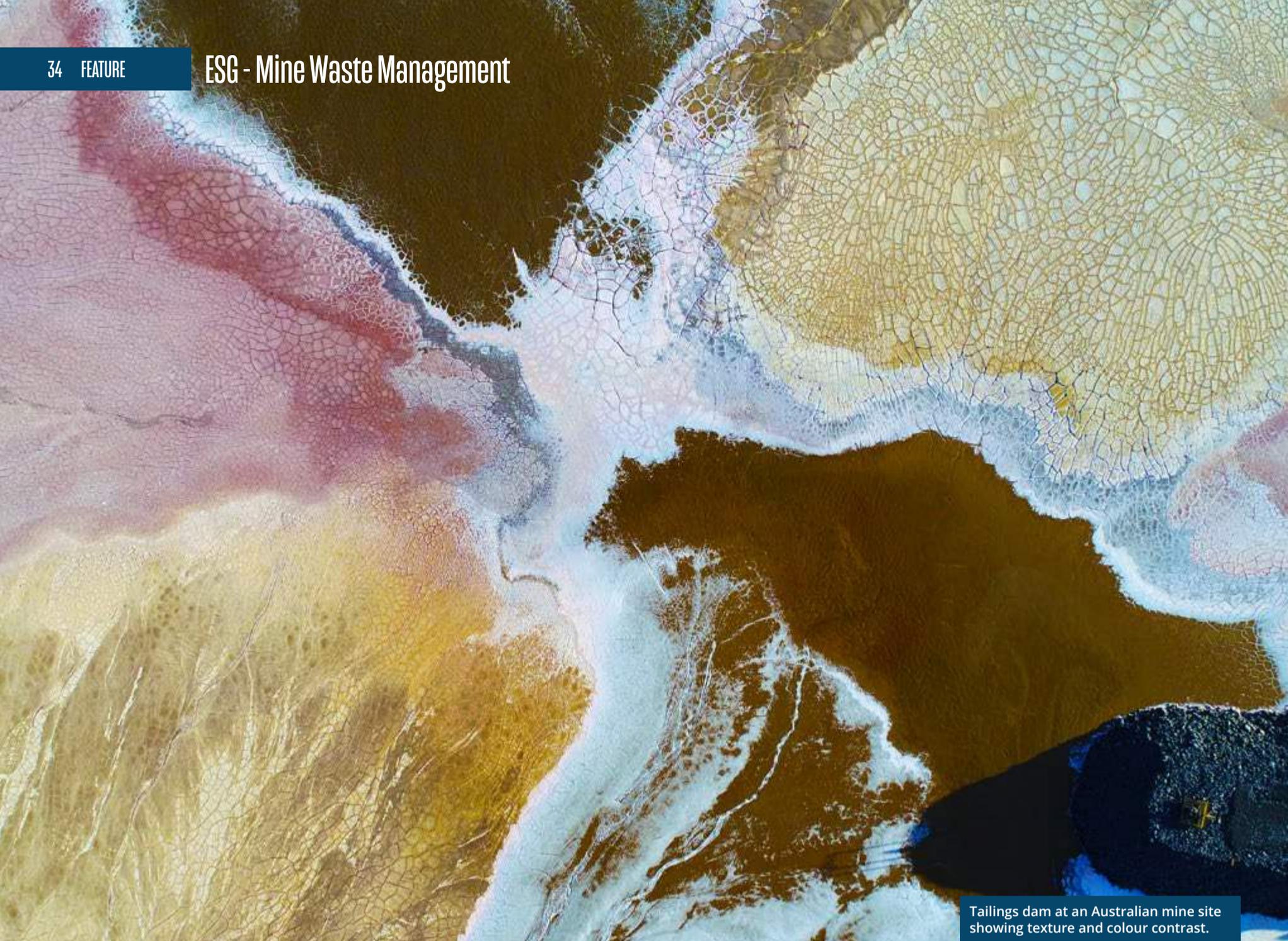


University of Queensland's Sustainable Minerals Institute Associate Professor Anita Parbhakar-Fox.

She explains the first challenge, the most important, is the **geotechnical stability** of a mine waste feature.

"If not well designed, then failures can occur...before the 2019 Brumadinho incident, there was a similar failure in Samarco, Brazil, in 2015 and at Mt Polley, Canada, in 2014, however other mine waste types stored in piles or heaps can fail too - for example, in Turkey earlier this year (the 13 February 2024 landslide at the Copler Mine in Erzincan Province, Turkey)," she says.

"In contrast, **geochemical challenges** such as acid and metalliferous drainage



Tailings dam at an Australian mine site showing texture and colour contrast.

(AMD); the UN once identified AMD as the second biggest environmental challenge facing our global community after climate change, and its impacts can be regarded as more chronic with continual impacts to ecosystems – with one of Australia's most famous examples being in western Tasmania caused by the historic Mt Lyell copper mines.

"The third is the **generation of dusts** from mine waste piles or dumps. As the climate continues to evolve, mine waste dumps, historic slag dumps, and spent heap leach piles are subject to more extreme weathering conditions, minerals are by no means passive, they react to more extreme temperatures, more rainfall events, all of which means, for communities located in proximity to these types piles, they are

at continual risk through either direct inhalation of particulates derived from mine waste or through the settling of dusts into soils."

Australian Practices

Australia has periodically released guidelines on how to manage mine waste with one particularly notable series of guidelines published by what was the Federal Department of Industry, Science and Resources back in 2006 and updated in 2016: [Leading practice handbooks for sustainable mining | Department of Industry Science and Resources](#).

This 17-book series was aimed at providing mining managers, communities and regulators with information on sustainable mining practices and spanned topics from

biodiversity management to mine closure and was translated into Indonesian, Mongolian, Vietnamese, French and Spanish with the intention that they could be used across the Indo-Pacific and Asia.

Prof Parbhakar-Fox says since then, individual state governments have authored their own state-guidelines on specific aspects of mine waste, and more recently South Australia released an equivalent.

"States like Queensland have since 2019 also mandated progressive rehabilitation to help ensure that as an industry, the mining sector is indeed, designing mines with closure in mind and actively contributing towards this goal during operations," she says.

"I believe Australia is quite well advanced in comparison to other countries (in terms of sustainability and environmental impact when it comes to mine site waste management practices) – certainly in terms of making headway for reprocessing and revaluating mine waste as a potential resource.

"Countries like South Africa and Canada have been inspired to also set about mapping mine waste across their countries in an attempt to also establish a mine waste reprocessing sector."

Stakeholder Roles

Communities are demanding more from the mining industry and they are demanding better when it comes to mine waste management.

The advent of social media has helped to showcase the mistakes made by the sector, sharing of acid mine drainage

seepages or mine waste dump failures.

"Communities are demanding better practices, and why shouldn't they?" Prof Parbhakar-Fox said.

"Especially as we will be developing more greenfield mining projects in Australia, as well as growing our waste as a resource sector.

"Every community member has the right to be worried about chronic and acute geotechnical and geochemical impacts from mine waste.

"And indeed, governments are responding to this, at a Federal level; there was a Senate enquiry into mine rehabilitation where they toured the country, spoke to experts to understand what are the impacts, the challenges, and how we can improve this at a federal level.

"Mining companies are continuing to improve their ESG standards and are also looking at their mine waste as a potential future resource, so I think we are seeing a total reimagining of the challenge of mine waste.

"And in my opinion, in order to deal with the future challenges we have, reprocessing or designing out waste from the outset (by finding other reuse opportunities) is the key.

"However, this can only be achieved by thorough mineralogical characterisation. "Without that, we will continue to repeat the mistakes of the past with a higher frequency of failures (due to the evolving climate)."

AMR



Prof Parbhakar-Fox is also MIWATCH leader.

UNEARTHING CLONCURRY

BY KATE DZIENIS

Cloncurry and the near surrounding regions of Queensland have long been supporting the production of commodities including copper, gold and zinc. Located in the state's north-west, Cloncurry is rich in minerals and history but it is copper that's the town's core industry, a resource becoming more and more sought after due to its demand for industrial machinery, renewable energy technologies, plumbing and piping, construction, and electrical wiring and electronics.

As a premier mining district of the state, exploration and future developments are high, and companies have been moving into the region, including Evolution Mining (ASX: EVN), Harmony Gold and Aeris Resources (ASX: AIS) in recent years.

Phosphate Mining

But there is also another mineral being mined just west of Cloncurry that is a vital component used in agriculture productivity – phosphate.

Currently, North West Phosphates' Paradise South project, about 130km north west of Mt Isa, was given the green light by the Queensland Government in early May 2024, and is expected to create 200 jobs during construction with 245 employees required once the mine is operational.

Phosphorous, used in the production of fertiliser for agriculture and also used in technology, has a stable supply chain and was added to the Federal Government's critical minerals list in 2023 because of its well-established industry in Australia.

The global fertiliser market currently consumes annually about 200mt of rock phosphate according to North West Phosphate,

with Queensland Resources and Critical Minerals Minister Scott Stewart saying the grant of the mining leases for Paradise South is a vote of confidence.

"Paradise South will create good local jobs for the region and confirms the North West Mineral Province will continue to be a key driver in Queensland's economy," he has been quoted as saying.

"Phosphorous is an important product not only in the agriculture sector but is also needed for the technologies the world will adopt as it moves to a net zero economy.

"That is why the [Federal] Government has added phosphorous to its new Strategic Minerals list."

North West Phosphate executive chairman John Cotter says the company is very much looking forward to the future.

"We have worked very closely with the State Government in bringing this very difficult and complex project to fruition in the North West and we are excited to reach this significant milestone for our Paradise South project," he said.

"We know that the Mt Isa community is relying on us to deliver local jobs and local opportunities and we will continue to work with the Queensland Government to get this project off the ground as soon as possible.

"As many in the North West region would know, this project was first talked about decades ago, but it is the cutting edge project design underpinned by world class technology that has been put together by the North West Phosphate project team that will make sure this project becomes a reality."

Mongoose West

In early May 2024, it was reported that high resolution ground magnetic work successfully defined a discrete magnetic anomaly over the Mongoose West prospect at Renegade Exploration's (ASX: RNX) project in Cloncurry.

The project also hosts the significant Mongoose deposit that is along strike from the neighbouring Great Australia Mine and features high-grade copper-gold drill intercepts.

Notable hits included:

- 27m at 2.2% copper and 0.35g/t gold from 84m including 10m at 5.4% copper and 0.88g/t gold from 84m (RMG021);
- 74m at 0.7% copper and 0.19g/t gold from 68m including 5m at 1.9% copper and 1.01g/t gold from 68m (RMG019); and
- 86m at 0.63% copper and 0.13g/t gold from 32m as well as 20m at 0.74% copper and 0.22g/t gold from 169m (RMG018).

Renegade chairman Robert Kirtlan said in a press release that the result was critical in defining the potential mineralised zone at Mongoose West, with recent high-resolution ground magnetics (using 20m line spacing) resulted in exceptionally clear and detailed magnetics maps of Mongoose and Mongoose West.

"The ground magnetics survey has successfully delineated a zone of high magnetism which broadly corresponds with the zone of mapped intrusive dolerites which have been faulted, altered, and display gossans at surface," he said.

"This area has not been drill tested by any explorers to date.

"The drilling program will consist of up to 2,000m of RC drilling and will be targeting close to surface supergene and primary mineralisation. Mongoose West appears to be a major structural feature which trends into the Mongoose Deposit.

"As such, the mineralisation is expected to be similar in composition and grade as seen at Mongoose."

The Future Is Bright

It has been suggested that the region surrounding Cloncurry still remains virtually unexplored and is a highly attractive exploration destination.

True North Copper (ASX: TNC) is the latest big name aiming to become a producer at its Cloncurry project.

In February 2024, a restart study was released with a projected 4.8mt of ore to be produced from the Cloncurry project over an initial 4.6-year mine life.

The study reveals it is expected to deliver 35,000t of copper and 29,000oz of gold and, for the past six months, True North has been challenging its investment thesis through analysis and studies.

As of late May 2024, True North completed an entitlement offer and placement, raising \$16.6m for mining operations in Cloncurry, with the company's executive chairman Ian McAleese reported as saying "TNC's immediate focus is to be Australia's next copper producer and we look forward to updating shareholders over the coming weeks." **AMR**

BRC

BELL RURAL CONTRACTING

CONCRETE SUPPLIERS



CONCRETE PUMPING AND MOBILE BATCHING IN CLONCURRY, RICHMOND, MT ISA & NORTH WEST QUEENSLAND

If you need to get your mining or infrastructure project off the ground, you can count on **Bell Rural Contracting**. For 14 years, we've been servicing industrial, commercial and government clients with efficient and reliable concrete batching and pumping. Thanks to state-of-the-art mobile batch plants, we have the ability to batch concrete at remote locations for large-scale projects for the highest quality results.



CONTACT US TODAY

0458 355 275

admin@bellrural.com.au

www.bellrural.com.au

SCREENING OF SAND AT
RICHMOND SAND LEASE.

THINK CONCRETE, THINK BELL RURAL CONTRACTING

Bell Rural Contracting's mission is to supply quality concrete product and pumping services to remote and rural areas across Queensland.

Bell Rural has consistently delivered an incredibly high standard of workmanship and services.

Back by an experienced team and the latest technology and machinery, Bell Rural can service domestic, commercial and industrial clients of all sizes.

In 2007, Bell Rural began operating a concrete batching plant in Cloncurry to increase its services and start delivering concrete to major local clients.

Taking on projects of any scope — from in-ground pools and house slabs, to mining infrastructure and main road culverts — Bell Rural prides itself on being timely, responsive and committed to working closely with clients to meet their needs.

This exceptional customer service and quality assurance has secured Bell Rural the preferred supplier status for the Department of Transport, Main Roads and RoadTek.

Bell Rural supply mobile and fixed batching for remote and mining sectors in North Queensland. Bell Rural is

the only company that has two chiller plants to provide chilled water when required.

"We're a concrete and mix concrete supply company and our main source of business is our concrete plants, which we have four of," Bell Rural owner and director Allen Bell said.

"Even though we're based in Queensland, we service quite a bit of Australia and have worked in the Northern Territory, the Cape and as far down as Ipswich."

Unique Services

The only concrete supplier in North West Queensland to use mobile batching plants, Bell Rural offer significant cost and time savings as trucks don't need to travel long distances to get the concrete to where it's needed. In a region characterised by remote locations and high temperatures (which can impact the quality of concrete), having a batch plant on site is a valuable tool.

These four mobile batch plants are fully capable of batching between 30m³ to 40m³ of concrete per hour in any location that's required.

Another service unique to Bell Rural is its range of spraying services which can be used to concrete hard-to-reach areas, such as angled batter slopes. This service has been refined through extensive

experience in concreting culverts and batter slopes along the Flinders Highway.

All products Bell Rural uses are sourced from accredited suppliers, all mix designs are approved by Cement Australia and trial mixes are tested by a NATA accredited company.

Projects

Since 2009, Bell Rural has received more than \$29m worth of project work across the state for various construction and infrastructure projects.

Valued at \$1.2m per year, Bell Rural has been supplying various civil construction projects to Auscott Civil since 2009. The contract is ongoing.

From 2010 - ongoing, Bell Rural have been supplying mining infrastructure services to Dugald River (valued at \$1.2m) and in 2010 worked on the Cloncurry River Weir project for the Cloncurry Shire Council.

In 2011, Bell Rural worked on the Julia Creek retirement village for Carmichael Builders and in 2013 the company helped setup a processing plant for Cudeco Mine. In 2017, Bell Rural worked with the Department of Transport and Main Roads for construction of the Walkers Creek culvert and Flinders Highway culvert.

Bell Rural have completed projects for NQ

Civil Contractors, South32's Cannington Mine and MMG's Dugald River Mine.

Additionally, Bell Rural has its own sand lease at Richmond, which it screens onsite at its Richmond yard, giving its final product a competitive edge on pricing.

"Main Roads are one of our major clients and we're very proud of that. We've provided quite a bit of our concrete product and pumping services to a number of their projects around the State," Mr Bell said.

Community

Bell Rural is a proud and active member of the North West Queensland community and sponsors local events such as the Cloncurry Muster, clubs such as the Australian Junior Rodeo Association Inc., and undertakes volunteer works for local schools.

Bell Rural also contributes to the Cloncurry PCYC and donates to supply children's books to the Cloncurry and Mt Isa Hospital. "We love partnering with local communities and we sponsor a variety of clubs and associations in Queensland, such as the Junior Rugby League and the children's hospital," Mr Bell said. **AMR**

Call 0458 355 275 or email admin@bellrural.com.au to discuss how Bell Rural can help with your next construction project.



WELCOME TO THE FUTURE OF MINE SURVEYING

Mining operations have long relied on accurate surveying techniques to maintain safe, productive, and efficient assets. Although traditional methods have proven somewhat effective, they are a time-consuming and complicated task often at the expense of production, which can prove costly.

However, advancements in surveying technologies are transforming the way mine operators view their assets, from exploration, mine planning and design, to operational efficiency, compliance, rehabilitation and environmental stewardship.

By leveraging modern technology such as LiDAR, UAVs, laser scanners, GPS navigation systems and mobile base stations, asset owners can obtain highly accurate maps of their operations. Not only do these technologies allow for precise delineation of ore bodies and better resource estimation, but offer real-time continuous monitoring of mine activities, and improved positioning of drilling and blasting equipment for more efficient extraction processes and reduced waste at lower cost.

Over the past 10 years, Mount Isa based Diverse Surveying has redefined how mine owners survey their assets. Servicing Queensland and beyond from their offices in Mount Isa and Brisbane, the surveying specialists utilise cutting-edge technologies for projects of all sizes (<20ha to 4,500ha+) – from mine setups, ongoing stockpile audits, haul road conformance and dam construction, to mine lease development and exploration surveys.

“At Diverse Surveyors, we’re more than just a service provider,” said Managing Director, David Ericson. “It’s about forging long-term relationships with our clients and earning trust by delivering exceptional results. Our dedicated team coupled with quality technology means we can successfully complete projects faster, safer and more cost-effectively than ever before.”

The company’s reputation in geophysical exploration continues to soar to new heights thanks to its investment in the latest drone technology.

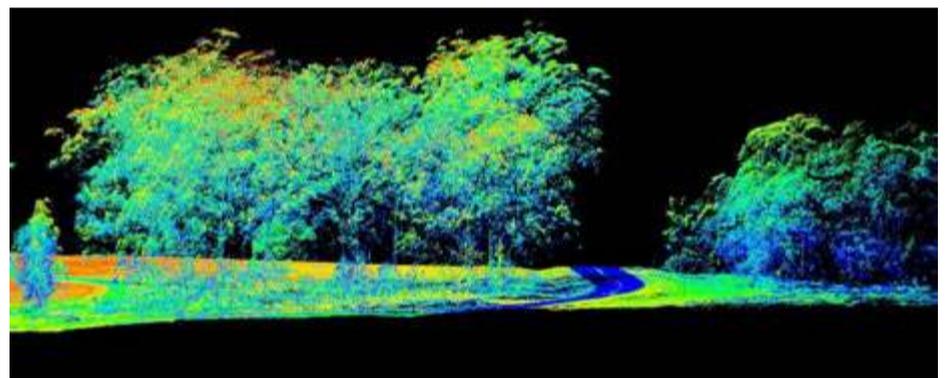
“As a company committed to staying at the forefront of technological advancements and a team of skilled professionals who share our vision, we aim to set new standards and redefine what’s possible in the field of surveying,” said Ericson.

“We’re all about staying ahead of the curve and nailing that sweet spot of accuracy and efficiency. Our new drone technology has only evolved our capabilities, allowing us to improve efficiencies and accuracy levels, while shortening turnaround times, reducing costs and elevating safety onsite.”

Utilising UAVs for Magnetic Surveys

Drone magnetometers are revolutionising the way magnetic surveys can be conducted. They offer a proven solution that not only lowers data acquisition costs, but also delivers higher quality results compared to traditional methods.

Built from over 30 years of magnetic system R&D, Diverse Surveyors’ magne-



tometer components are designed for exploration even in the most challenging environments.

Ericson highlighted that their UAV-based surveys address cost, safety and data quality concerns associated with other ground or airborne survey methods.

“What would typically require 10 days of ground fieldwork can be covered by a UAV in a single day, with far less risk to personnel. This reduced time in the field and the cost involved, combined with easier mobilisation, positions it as a more efficient and economical alternative.”

“Mapping precision is further enhanced by operating at lower altitudes with a high-sensitivity magnetometer, he added. “With arguably the industry’s best heading error and unparalleled sensitivity, our drone magnetometer is able to compensate for potential field equations, while ensuring accurate measurements even at a distance from the source.”

The collected data directly contributes to new understanding and discoveries from a level of information never seen before, which is becoming an extremely valuable resource for critical decision-making and strategic planning for miners.”

Utilising this technology to map underground mineral deposits provides a deeper understanding of geological processes beneath the surface, leading to more precise identification of proposed drill targets.

To complement captured magnetic data, Diverse Surveyors’ RIEGL-based LiDAR system offers incredible canopy penetration and accuracy levels to produce exceptional topographic surface models of the bare earth ground surface.

“Alongside the laser scanner, the system also features dual cameras which capture

high-resolution imagery simultaneously,” said Ericson.

“This enables the generation of a dense 3D coloured point cloud, as well as an orthomosaic from the same dataset, without needing to fly the area again with a different sensor. These combined surveys quickly provide extremely accurate and comprehensive datasets, which assist planning, design and many other applications.”

Surveying the Future

Aside from its magnetic surveying technology, Diverse Surveyors offer a suite of other specialised services, from topographic and pipeline surveys, site plans, aerial LiDAR and photogrammetry, mobile scanning and 3D reality capture, to powerline scanning and inspection, thermal mapping and geotechnical monitoring.

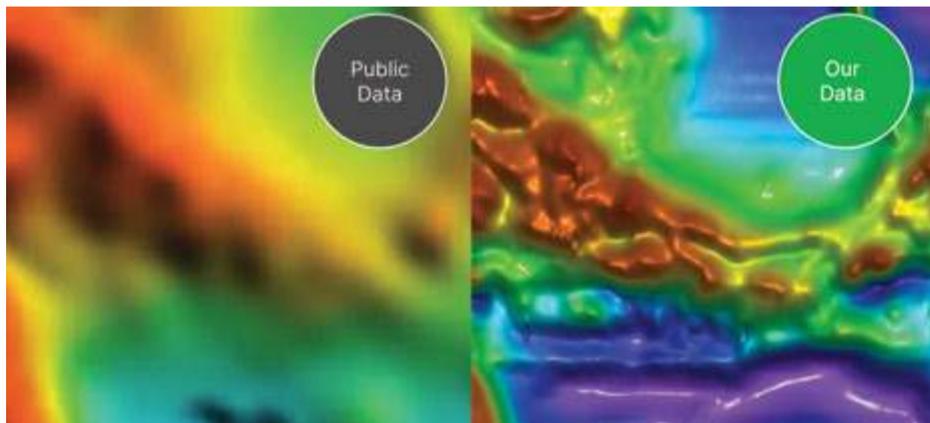
This is testament to the company’s continued investment in reputable equipment brands that feature best-in-class precision and reliability.

“For example, we operate market-leading RIEGL Minivux 3UAV for Lidar surveys, and we have also been developing a purpose-built single rotor helicopter over the past two years, which is specifically designed for aerial magnetic surveys and large-scale operations. It offers optimal endurance, stability and robustness for the harsh conditions it operates in,” commented Ericson.

Customers also benefit from Diverse Surveyors’ equipment hire service that includes a range of equipment including machine guidance, monitoring systems, GPS rover kits and base station systems.

**For more information, visit
www.diversesurveyors.com.au**

AMR



Independent. Professional. Innovative.

Our comprehensive suite of services are tailored to meet the diverse needs of projects ranging from mining to construction and beyond. Our integrated approach ensures efficiency, accuracy and success in every project and our dedicated team is here to support those endeavours from start to finish.

Survey Services

- Survey Control
- Feature Surveys
- Topographic Surveys
- Design Setout
- Site Plans
- Mine Lease Boundaries
- Stockpile Audits
- Pipeline Surveys
- Exploration Surveys

Specialised Services

- ★ Aerial Lidar & Photogrammetry
- ★ Mobile Scanning
- ★ 3D Reality Capture
- ★ Powerline Scanning & Inspection
- ★ Thermal Mapping
- ★ Magnetic Surveys using UAVs
- ★ Geotechnical Monitoring

Equipment Hire

- ◆ Machine Guidance
- ◆ GPS Rover Kits
- ◆ Off-the-grid Base Station Systems
- ◆ Monitoring Systems (Laser/Tilt Sensors)

Find out more at diversesurveyors.com.au

36 Delacour Dr, Mount Isa Qld 4825
Phone: +61 439 034 626
Email: dericson@diversesurveyors.com.au

Diverse **DS**
Surveyors PTY LTD



**VEHICLE AND TRUCK
MAINTENANCE AND
SERVICING**

**MINE SITE COMPLIANCE
AND BRAKE TESTING**

**SERVICING THE
COALFIELDS AND
SURROUNDING AREA**

*'Proud to be associated
with Whitehaven'*

(07) 4982 7077

reception@chrisway.com.au

**PO Box 452,
14 Littlefield Street
Blackwater, QLD 4717**



*We're MRAEL,
the people people*



**Over the last 5 years,
we're proud to have
supported and completed
more than 1,010
Apprentice graduates
through our Apprentice
Employment Organisation
AEO (previously GTO).**

As an AEO we manage, employ and mentor apprentices and trainees on behalf of our clients, allowing them to focus on the day-to-day operations through increased flexibility and reduced administration.

**MRAEL is part of the
IntoWork Group.**

1300 467 235

people@mrael.com.au

www.mrael.com.au

WHITEHAVEN COAL'S

ACQUISITION OF THE BLACKWATER AND DAUNIA MINES

ASHLEIGH DORRELL



(Image source: Whitehaven Coal) Blackwater stockpile.

Last month, the *Australian Mining Review* focused on Whitehaven Coal's (ASX: WHC) existing mines, while this month the focus shifts to the recently acquired Blackwater and Daunia mines.

In April 2024, Whitehaven acquired the Blackwater and Daunia mines from BHP (ASX: BHP) and Mitsubishi Development (MDP).

Both mines were part of the BHP Mitsubishi Alliance (BMA) metallurgical coal joint venture in Queensland.

Whitehaven paid BMA a cash consideration of \$3.03b (US\$2b) on completion, plus a preliminary completion adjustment of \$66.72m (US\$44.1m) for working capital and other adjustments.

There remains a \$1.66b (US\$1.1b) cash payment, payable by Whitehaven to BMA over three years post completion, plus a potential additional amount of up to \$1.36b (US\$900m) in a price-linked earnout may also be payable by Whitehaven to BMA over three years.

Whitehaven managing director and chief executive Paul Flynn commented on the acquisition when it was first announced.

"Daunia and Blackwater produce much-needed metallurgical coal that is in high demand across Asia – including in India and Southeast Asia where population growth and economic development is expected to drive strong demand for steel production and metallurgical coal through to at least 2050," he said.

"This acquisition will increase our exposure to these high growth market segments while expanding our regional footprint through new customers."

Upon completion of the acquisition, Mr Flynn commented on the significant milestone.

"This is a significant milestone for Whitehaven that transforms us into a leading metallurgical coal producer and will deliver benefits for all our stakeholders," he said at the time.

"We are well placed to execute a smooth transition and to integrate the Daunia and Blackwater mines into the Whitehaven portfolio.



(Image source: Whitehaven Coal) Coal handling preparation plant at Daunia.



(Image source: Whitehaven Coal) Workers at the Blackwater mine.

“We are excited to welcome the team at Daunia and Blackwater into our business and we look forward to working with the local community and other stakeholders who will remain an important part of our operation.”

Daunia

Located 30km southeast of Moranbah and 170km southwest of Mackay, the open cut Daunia mine produces a hard coking coal and pulverised coal injection metallurgical coal product.

In addition to the mine, a coal handling preparation plant is present at the site.

The mine opened in 2013, has an expected mine life to 2040, JORC resources of 115mt and produced 431kt of coal in

the December 2023 quarter (BHP’s 50% interest and its last report before selling the mine).

Coal from Daunia is exported to customers across Asia through either the Hay Point Coal Terminal or the Dalrymple Bay Coal Terminal.

Mining at Daunia is undertaken using a mining fleet consisting of one large electric shovel and two large hydraulic excavators for waste removal.

Smaller excavators are used for coal mining and the removal of low productivity waste wedge passes on top of coal.

Once extracted, the coal and waste are loaded by the excavators into a fleet of 27 autonomous CAT793 trucks and seven autonomous CAT797 trucks.

In addition to the autonomous trucks, there’s also 70 light autonomous vehicles and 32 medium autonomous vehicles fitted with proximity awareness technology, 52 ancillary machines with terrain awareness and two communications towers.

Notably, Daunia is currently operating fully autonomous.

Blackwater

One of the largest producing metallurgical coal mines in Queensland, the Blackwater open cut coal mine lies 73km southeast of Emerald on the traditional lands of the Gaangalu people.

Operating since 1967, Blackwater predominantly produces low-ash, low-sulphur metallurgical coal products as well as high energy thermal coal.

These coal products are exported to customers across Asia through the RG Tanna terminal within the Port of Gladstone.

With a strike length of 80km, Blackwater is one of the longest open cut coal mines in the southern hemisphere and exports more than 14mtpa of coal to consumers across Australia and Asia.

Mining at Blackwater is undertaken using a conventional multi-seam dragline strip methodology. Seven draglines are employed in multiple simultaneous pits along the 80km strike in conjunction with a large fleet of trucks, electric rope shovels, hydraulic excavators and dozers.

A separate contract fleet supports pre-strip activities.

Boasting JORC resources of more than 1.83mt and production coal production of 1.18mt coal in the December quarter, Blackwater has an expected mine life spanning more than 50 years.

In December 2023, BMA lodged an application with the Federal Department of Climate Change, Energy, Environment and Water (DCCEE) to extend Blackwater at the northern end of the mine to allow for an extension to the lift of mine so production can be sustained.

In mid-December, a state application was lodged with the Queensland Department of Environment and Science (DES).

A decision by both DCCEE and DES is expected by 2025, however, it’s unsure at this time whether Whitehaven will continue with the extension.

Both Daunia and Blackwater will start to contribute to Whitehaven’s earnings and production in the June 2024 quarter. **AMR**





Supporting the local mining & tourism communities



We service the region 6 days per week

CHOOSE CQ COMMERCIAL LAUNDRY AS YOUR PREFERRED CLEANING PROVIDER

CQ Commercial Laundry provides commercial laundry solutions for local businesses in Queensland. We are passionate about offering a high-quality service to you and making a positive impact on our community and environment.

We’re Central Queensland’s choice of commercial laundry provider to the mining and hospitality sectors.

07 4982 1174
admin@cqcl.com.au
www.cqcl.com.au



Proud Major Sponsor
of the 2024 Queensland
Mining Awards



WHEN DOWNTIME ISN'T AN OPTION, CHOOSE PIRTEK!

- 24/7 Service and Supply of Hydraulic and Industrial Hose and Fittings
- Fleet of Fully Equipped Mining Dedicated Service Vehicles
- World Class In-House and Mobile Testing Facilities
- AURTTA012 Qualified Service Technicians



Come visit us at **Stand A420** at the Queensland Mining Exhibition
Mackay Showgrounds
July 23-25

107 LOCATIONS NATIONALLY

134-222

24 HOURS-7DAYS

PIRTEK.COM.AU



WE'LL KEEP YOU OPERATING.



Join the team today
Pirtek Careers



BUSINESS DEVELOPMENT PACKAGE

SPECIAL OFFER
\$1,695^{+gst}

TOTAL PACKAGE VALUE = \$8,454



Become a supplier of choice to the mining sector.

Our **Mining Business Development Package** is a complete toolkit designed to help your company form relationships with key decision makers on mine sites across Australia.

Engage your prospects directly, stay up to date with the latest industry news and market your business to the right people at the right time.

9 VITAL TOOLS TO GROW YOUR BUSINESS

1. MINING DATABASE



You will receive 12-months' access to the Mining Database with your own personal login, this includes over 650 mines and more than 3000 contacts. Utilise this in conjunction with our other Business Development Package tools. Access to key decision makers:

- CEOs
- Upper Management
- Mine Managers
- Operational Managers
- Purchasing Officers
- HR Managers
- Process Managers
- Exploration Managers
- Maintenance Managers
- Engineers
- HSE (OHS)
- Emergency Response

VALUE \$3,000

2. WEEKLY MINING REPORT



The Weekly Mining report is emailed to your inbox every Friday. Key industry information includes:

- Acquisition
- Developments
- Projects
- Capital Raising
- Exploration Programs

The weekly Mining Report is carefully researched, with real business opportunities and is mine operator specific.

VALUE \$1,500

3. MINES ACTIVITY REPORT



The Mines Activity Report is emailed to your inbox every fortnight and is mine site specific. Key industry information includes:

- Shutdowns
- Projects & Managers
- Machinery Types
- Power Plants & Sources
- Exploration Programs
- Construction
- Upgrades & Extensions
- Associated Infrastructure

VALUE \$1,500

4. MINE SUPPLIERS ONLINE



You receive a 12-month subscription to the Mine Suppliers Online website. Mine Suppliers Online is a well-known directory used extensively by mines in Australia for more than 13 years. Be listed in a category of your choosing (with relevant search terms and keywords) along with your logo, email address and website link.

VALUE \$495

5. SOCIAL MEDIA BLAST



With 8700 Genuine Industry followers across all Publications & Exhibitions platforms, your annual social media blast will be managed and processed by our professional digital team.



VALUE \$499

6. CRITICAL MINING NEWSFEED



You receive critical updates on breaking news across the mining industry in Australia and around the world.

VALUE \$360

7. THE AUSTRALIAN MINING REVIEW



You will receive 12 HARD COPY EDITIONS (monthly) of our highly regarded flagship newspaper, The Australian Mining Review, delivered to you anywhere in Australia and also access to the online digital edition.

VALUE \$360

8. AUSTRALIAN MINES & SERVICES HANDBOOK 2025



Our Business Development Package also includes a **FREE PREMIUM LISTING** in the Australian Mines & Services Handbook 2025 in both print and digital editions with a **hyperlink to your website**.

VALUE \$750

9. AUSTRALIAN MINES & SERVICES HANDBOOK 2024



You will also receive **FREE, The Australian Mines and Services Handbook 2024** edition. It is produced in both hard copy and as an electronic version for our subscribers. With detailed data on over 700 Mine Sites in Australia.

VALUE \$230

www.australianminingreview.com.au/BDP/



Ventilation Engineering - The Heartbeat of Mining

The 12th International Mine Ventilation Congress (IMVC) will be held in Sydney, Australia, from 12 – 16 August 2024.

IMVC 2024 is an opportunity for the mine ventilation community to come together and discuss new technologies and developments with a view to improving and refining ventilation, refrigeration, cooling and health and safety in mines globally.

The IMVC series is the only global gathering of the mine ventilation engineering community and as such presents a unique chance to share knowledge and grow your professional network. We look forward to seeing you there.

Sponsors:



KEYNOTE SPEAKERS ANNOUNCED



Bob Leeming
BSc(Hons) CEng FIMMM
HM Chief Inspector of Mines,
Health and Safety Executive



Stephen Smyth
General Vice President, MEU Mining
and Energy Australia



Dr. Dan Pronk
Director,
Guardian Personal Safety Training
Resident Medic "Dr Dan" - SAS
Australia



Created for industry, by industry

Critical minerals are essential components in many of today's fast-growing clean energy technologies. The increasing appetite and rapid pace of the transition to cleaner energy sources continues to drive the growth in demand for these minerals.

Following AusIMM's inaugural Critical Minerals Conference in 2023, the 2024 event will move to Brisbane, where the conversation will continue around the significant role of mining as the world moves towards a greener, more sustainable future.

Critical Minerals 2024 is set to attract key figures from across the critical minerals value chain worldwide.

Themes for the 2024 program include: international strategy and demand drivers, mineral economics and the supply chain, key investment drivers, project funding, role of government, circularity and ESG considerations, recycling and waste utilisation, discovery and development, lithium flowsheet options, showcasing new technologies, and processing problems and opportunities.

Sponsors:



KEYNOTE SPEAKERS ANNOUNCED



Ken Hoffman
Senior Expert - AP
Global Co-leader EV
Battery Materials Group
McKinsey & Company



Sally Glen
Director
IPA Asia-Pacific



Jan Kwak
B.Eng, M.Eng, Ing,
FAusIMM
Managing Director
Hatch



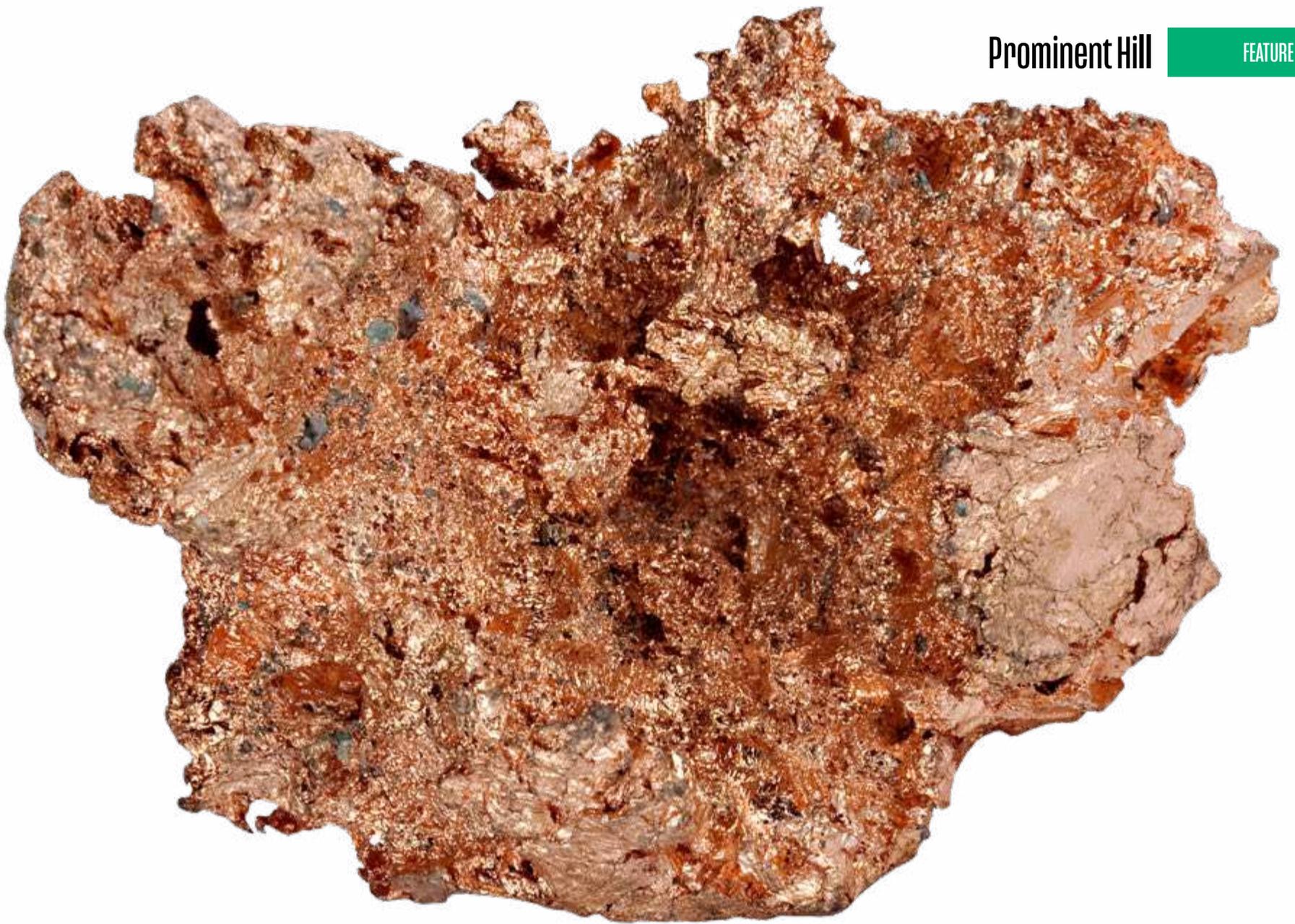
Sean Sargent
Chief Executive
Officer
Green Lithium (UK)



Nigel Steward
Chief Scientist
Rio Tinto



Rowena Smith
CEO
Australian Strategic
Materials



SOUTH AUSTRALIA'S COPPER-CABANA

BY KATE DZIENIS

BHP's (ASX: BHP) Prominent Hill mine, located 650km north-west of Adelaide in South Australia, is a significant underground and surface copper, silver and gold operation producing one of the highest grades of copper concentrate in the world.

The site was originally developed by Oxiana Limited, now OZ Minerals, and in July last year, the company was subsumed into BHP's operations where it continues to produce 4mtpa.

According to financial results for the December 2023 half-year, Prominent Hill assets, together with Carrapateena in South Australia's far north region, have been performing as expected on both the capital side of things and on the operative cost perspectives (in accordance to the Investor and Analyst Briefing Q&A Transcript).

Prominent Hill Update

Today, BHP is getting the best it can out of the asset with half-year production, reported in January 2024, from the South Australian mines increasing by 48% compared with the first half of the FY23.

Speaking at the time, BHP chief operating officer Edgar Basto said there was an expectation that global demand for copper would increase significantly thanks to lower carbon sources of energy being used, and that South Australia was in prime position to the country's best copper resources.

He stated that South Australia had 70% of Australia's copper resources and produced just under 30% of Australia's mined copper production.

In late February 2024, BHP chief executive Mike Henry said at the BMO Metals, Mining & Critical Minerals Conference that the combination of Prominent Hill, Carrapateena and Oak Dam exploration project, otherwise known as Copper South Australia, was one of the world's largest copper resources with significant by-products including uranium, gold and silver.

"We have plans to grow value on multiple fronts in Copper South Australia," he said.

"We are pursuing growth in copper cathode production there to over 500,000tpa."

In the nine months ended 31 March 2024, BHP reported an increased copper production driven by record production at Spence, strong operational performance at Copper South Australia (and the contribution from Prominent Hill and Carrapateena), and improved performance and grade at Escondida.

In particular, production increased by 49% due to the addition of volumes this year from Prominent Hill and Carrapateena, and strong smelter performance at Olympic Dam was supported by ongoing transfers of concentrate from Prominent Hill, for processing to higher margin cathode. Prominent Hill enjoyed a 6.6% quarter-

on-quarter production uplift (12,900t of copper), the mine boosting its production output by 57% since the end of the June quarter 2023.

Powering The Future

With copper in high demand globally, and Australia playing a significant role in supplying this demand from mines such as Prominent Hill, its uses are widely applied across a range of industries.

From electrical and construction, to renewable energy and telecommunications, copper's versatility has allowed it to become a crucial component in many uses. With major operations like Prominent Hill, Australia's rich history in copper mining has provided the country with a strong foundation for it to continue being a significant player in the global market.

Copper's versatility only emphasises its importance in today's society as the world moves towards a more sustainable and technologically advanced future.

The opportunities for South Australian copper in the global economy are tremendous, and by today's standards copper has been classified as arguably the most important mineral in the world's pursuit for low-carbon outputs, or decarbonisation. **AMR**



**ATTENTION ALL
ORGANISATIONS BASED
IN SOUTH AUSTRALIA.**

**YOU CAN SAVE
UP TO \$5,000!**

IQMS Australasia Pty Ltd, with our extensive expertise across multiple ISO standards and systems, is dedicated to enhancing organisational effectiveness. We are committed to bringing you the latest innovations in a practical and cost-efficient manner.

Cloud-based management systems are an innovation and a conduit for improving many business processes.

We are pleased to present a limited-time offer for all organisation's based in South Australia when they engage IQMS Australasia to install a QHSE management system that can comply with one or more ISO standards.

But that's not all!
Combine compliance to multiple standards and save!

support@iqms.com.au
enquiries@iqms.com.au
www.iqms.com.au



- » SITE SERVICES
- » PROCUREMENT & WAREHOUSING
- » ENGINEERING & REPAIR CENTRE



Unrivalled Solutions. Delivered Daily.

In the heart of South Australia's mining industry, amidst the rugged landscapes and vast terrains, Roxby Hydraulics stands tall as a beacon of innovation and reliability in the field of hydraulic solutions. As the largest regionally owned and operated hydraulics solutions provider in South Australia, Roxby Hydraulics embodies expertise, dedication and a steadfast commitment to excellence that sets them apart in the hydraulics industry.

Remote area specialists: understanding the challenges, delivering solutions

Challenges in hydraulics services are diverse. Roxby Hydraulics, being a regionally based company, possesses an intimate understanding of these challenges. Roxby Hydraulics travels all over Australia, bringing unparalleled expertise to clients far and wide. Their comprehensive understanding of production pressures coupled with their adept management of extreme environments and logistical constraints

makes them the go-to partner for clients seeking reliable solutions in the most demanding settings.

Pioneering large-scale projects: from maintenance to turnkey solutions

What started as a maintenance and repairs company has evolved into a powerhouse delivering large-scale turnkey projects, upgrades and new hydraulic systems. Roxby Hydraulics' investment in specialist tooling and equipment has allowed them to grow from a maintenance and repairs company to a leading provider for large-scale turnkey projects, upgrades and new hydraulics, lubrication, pneumatic and engineered systems.

Roxby Hydraulics has been trusted as a reputable and reliable ISO certified shutdown contractor, providing on-site services for clients across Australia. Their rapid-response team can be on-site anywhere in South Australia in less than 48 hours.

Roxby Hydraulics' ability to manage every aspect of a project in-house, from design and engineering to installation and commissioning, ensures seamless execution and unparalleled quality a testament to their unwavering commitment to client satisfaction.

Unmatched service: exceeding expectations at every turn

At Roxby Hydraulics, excellence isn't just a goal; it's a way of life. Their mission to exceed customer expectations permeates every aspect of their operations. With same-day on-site service, seven days a week and a vast inventory of critical components, they stand ready to tackle any challenge at a moment's notice. Their dedication to unmatched workmanship, coupled with access to the latest diagnostic equipment and specialist tooling, ensures that clients receive nothing short of the best every time.

Roxby Hydraulics has invested significantly in industry leading technology, allowing them to extend equipment life for clients. Open 6am to 6pm seven days a week, clients can rely on them whenever they need support.

Quality products and supply chain

Roxby Hydraulics sets itself apart from other hydraulic companies through their robust supply relationships with many manufacturers. Roxby hydraulics purchasing power and access to an extensive offering of products enables them to devise high-value, fit-for-purpose solutions for clients.

Roxby hydraulics is regional South Australia's largest stock holding in hydraulic equipment and accessories. They have a tight supply chain with some of the most world-renowned suppliers and distribution agreements or stockist programs. If clients need it, they can source and supply it, fast.

A commitment to safety, quality and sustainability

At Roxby Hydraulics, safety isn't just a priority it's a fundamental value that guides every decision and action. With robust quality, health, safety and environment (QHSE) management systems in place and certifications that attest to their commitment to excellence, Roxby Hydraulics sets the standard for safety and quality in the industry. Their dedication to sustainability ensures that their operations are not just responsible but also ethical, paving the way for a brighter, more sustainable future for all. Roxby Hydraulics is committed to protection their people, customers and the environment. They have thorough QHSE management systems framework across all operations with the following certifications:

- 9001:2015 Quality Management System
- 45001:2018 Work Health Safety Management System
- 14001:2015 Environment Management System

Roxby Hydraulics continues to evaluate, analyse and monitor operations; They are always seeking to raise the standard of safety and efficiency.

A legacy of excellence, a future of innovation

As Roxby Hydraulics continues to expand its horizons and push the boundaries of what's possible, one thing remains constant: their unwavering commitment to excellence. From remote area specialists to pioneers of large-scale projects, from unmatched service to cutting-edge technologies, Roxby Hydraulics embodies the very essence of innovation, reliability and dedication. With a legacy built on trust and a future driven by innovation, Roxby Hydraulics is not just a company; it's a symbol of excellence in the world of hydraulics solutions. **AMR**



Remote site installation.

Regional South Australia's leading authority in hydraulics, pneumatics, lubrication, hose, and fittings, esteemed for our unwavering commitment to safety, quality, and efficiency



ON SITE SERVICES

including fluid power system optimisation, installation, routine maintenance, testing and commissioning.

IN HOUSE CAPABILITIES

include hydraulic overhaul, fabrication, system upgrades, testing and reporting on condition of componentry.

LARGE INVENTORY HOLDING

as well as supply & sourcing of hydraulic components, hose, fittings, oils and lubricants.

Roxby Hydraulics (RH) is a proudly South Australian company, based in Olympic Dam, strategically founded and structured to service the Mining industry and improve the reliability and performance of hydraulic, pneumatic and lubrication systems that keep production running.

Roxby Hydraulics aims to exceed the expectations of its customers, with a focus on continuous improvement through innovation, teamwork and integrity, whilst embracing community, cultural, and environmental awareness.

The RH team are conditioned to the mining industry's safe and remote approach to executing site-based projects. The experienced team are well equipped and accustomed to remote travel and are available for projects or maintenance requirements anywhere in the country.

Roxby Hydraulics' professional business approach is derived from its fundamental knowledge and experience in the mining industry.

This foundation, in conjunction with the guarantee of quality and innovation, has put RH at the forefront of the fluid power and mining maintenance industry, and is one reason more mining companies are trusting Roxby Hydraulics to design, install and maintain their hydraulic and lubrication equipment. RH prides itself on delivering ahead of schedule and within budget, whilst meeting and exceeding clients' safety, environmental and quality targets.



Improve the life of your assets and eliminate down time.



www.roxbyhydraulics.com.au sales@roxbyhydraulics.com.au (08) 8671 2393



QME: THE HEART OF THE MINING SECTOR

QME returns to Mackay in July, bringing with it a packed exhibition floor and seminar schedule.

The Queensland Mining and Engineering Exhibition (QME) has been educating and exciting the resources sector for over 30 years.

And this trend is showing no signs of stopping, with QME set to return to Mackay in July 2024.

From July 23–25, over 300 exhibitors will pack the floor, with giants like Hastings Deering, Koamtsu, Thies and Hitachi Construction Machinery eager to show off their latest offerings.

But it's not just the expo floor that will wow attendees. Networking opportunities will present themselves across the three days, starting with the QME opening party.

Sponsored by Hastings Deering, the opening party will be held on July 23 at Mackay Showgrounds from 5.00pm. The party lends itself to being the perfect setting to grab a drink and catch up with old friends and colleagues.

The evening of July 24 will see the Queensland Mining Awards held in conjunction with QME. Dubbed "the Oscars for the Queensland mining industry", these awards celebrate the spirit of innovation, excellence and collaboration fostered within our highly competitive industry.

The awards provide a rare opportunity for businesses of any type to present their successes to a large, diverse group of key industry influencers, and to receive the acknowledgement of their peers on several levels.

Award winners will be recognised for the quality outcomes they provide to the resources industry as well as for their commitment to innovation, and the delivery of projects that are safer, smarter, faster and more efficient.

Organised by the Bowen Basin Mining

Club in partnership with the Queensland Resources Council, this is a celebration of mining excellence across Queensland.

This year, the awards will also be celebrating a milestone, with 2024 being their 10th year of recognising and rewarding the Queensland mining industry.

Once attendees have networked and explored the expo floor to their heart's content, they can attend the Komatsu-sponsored seminar series.

Mackay Regional Council mayor Greg Williamson will deliver the opening remarks at the QME seminar series to kickstart three days of dynamic discussions, including keynote ministerial addresses, presentations from subject matter experts, and group panel discussions led by key industry leaders.

With themes covering the future of mining, critical minerals, technology, occupational health and safety, and the investment outlook, the seminar series will have something for everyone.



Leaders from mining companies, consultancy groups and suppliers will take the stage to discuss some of the most important aspects of the Queensland, and broader Australian, mining industry.

Some of the big names speaking at this year's seminar series are Federal Resources and Northern Australia Minister Madeleine King, the Queensland Resources and Critical Minerals Minister Scott Stewart, as well as the Queensland Shadow Natural Resources and Mines Minister Dale Last.

On Wednesday, July 24, attendees can enjoy a talk on the Decarbonisation Program, a partnership between the Resources Centre of Excellence, Greater Whitsunday Alliance, and Local Buying Foundation.

'Decarbonisation Accelerated' will be a one-day program showcasing the growing decarbonisation imperative in operations and supply chains.

The showcase will feature presentations



on innovations from major suppliers, including Komatsu, FLSmidth, WEG and more.

A new engineering masterclass will also be available, covering supervision, practical hazard identification and the optimisation of conveyor belt systems.

The two-hour workshop will see TUNRA Bulk Solids speak to the role of conveyor component testing, as well as typical issues in the sector and how they can be prevented.

QME's Mining Pavilion returns as the epicentre for industry innovation, hosting some of Australia's leading mining companies.

Here, mining giants like Anglo American, BHP and BMA, Glencore and Whitehaven are eager to speak with attendees about job opportunities and supplier needs.

Renowned mining producers and contractors view QME as an indispensable platform to connect with industry professionals, suppliers and talent, while also spearheading recruitment efforts and spotlighting their pioneering initiatives.

With so many opportunities for networking, learning and celebrating the sector, QME is the premier event for everyone participating in or supplying to the Queensland mining industry.

The Queensland Mining and Engineering Exhibition will be held from July 23–25 at the Mackay Showgrounds.

The exhibition and seminar series are free to attend, but visitors are encouraged to register online ahead of the event at www.queenslandminingexpo.com.au

AMR



Queensland Mining & Engineering Exhibition

23-25 July 2024 | Mackay Showgrounds

AUSTRALIA'S LARGEST REGIONAL MINING EXPO & SEMINAR SERIES

5,000+

Industry Personnel

300+

Leading Suppliers

70+

Expert Speakers

REGISTER FOR FREE AT
QMEEXPO.COM.AU



Industry Supporters:



TAKE CONTROL OF YOUR OPERATIONS WITH PROTOBLAST

Established in 1975, Protoblast has emerged as a cornerstone of excellence in the abrasive blasting industry. With decades of experience under its belt, Protoblast's legacy is deeply rooted in Australian craftsmanship and unwavering integrity. What sets Protoblast apart is not just its history, but its steadfast commitment to personalized service and continuous advancements. From its humble beginnings, Protoblast has consistently strived to deliver tailored solutions that meet the unique needs of each client. Moreover, Protoblast's dedication to research and development ensures that it remains at the forefront of the industry, offering cutting-edge technologies that enhance efficiency and drive down operational costs.

Why Choose Protoblast?

Choosing Protoblast means opting for a legacy of excellence that spans generations. With a reputation built on Australian craftsmanship and integrity, Protoblast is the partner of choice for businesses seeking unparalleled quality and reliability. Protoblast's commitment to personalized service ensures that every client receives solutions tailored to their specific requirements. Whether it's a small-scale project or a large-scale operation, Protoblast goes above and beyond to deliver results that exceed expectations. Furthermore, Protoblast's investment in research and development sets it apart, allowing the company to offer innovative solutions that drive efficiency and maximize ROI. When you choose Protoblast, you're not just selecting a supplier – you're investing in a partnership built on trust, reliability, and innovation.

Protoblast's Q1 2024 Highlights

Protoblast's commitment to excellence was evident nationwide in the first quarter of 2024. With ingenuity and precision, the company designed and manufactured a custom blast machine, revolutionizing surface preparation methods for industrial applications which made its way from Picton to Perth. Protoblast and Hitachi's collaboration resulted in the development of a 30,000 cfm dust collector, effectively safeguarding air quality and mitigating environmental risks. Expressway Spares Pty. Ltd. experienced firsthand the impact of Protoblast's expertise, as they received a state-of-the-art blast chamber complete with a 5,000 cfm dust collector and advanced abrasive recovery system, ensuring unparalleled efficiency and control.

WHAT WE OFFER

- ✓ Abrasive Recovery Systems
- ✓ Airless Blast Machines
- ✓ Section Blast Machines
- ✓ Dust Collectors

CONNECT WITH US



1300 895 381



sales@protoblast.com.au



protoblast.com.au



VISIT THE PROTOBLAST QME BOOTH: OP108

SPOTLIGHT ON SERVICE: ITM MINING'S SERVICE CENTRES

Founded on principles of quality and innovation, ITM's Australian operations have continuously evolved to meet the demands of the mining sector. With decades of experience, ITM has honed its expertise in providing durable and efficient undercarriage solutions for OEM's. Now it brings this experience directly to aftermarket customers.

ITM's offering is expansive, covering a wide range of applications including dozers, drilling, excavation, fixed plant and even special projects with custom engineering via its global facilities. But the cornerstone of ITM Mining's success has been the company's superior Track and Frame Shop services.

Operating out of strategic locations in Yatala, Queensland, and Welshpool, Western Australia, the company's Track and Frame Shops exemplify its commitment to superior service. These specialized facilities are equipped with state-of-the-art technology and staffed by a team of skilled technicians, dedicated to delivering top-tier service and support.

ITM Mining's Managing Director Ian Jinks says ITM's Australian operations remain focused on growth and support in the aftermarket sector.

"ITM in Australia has seen immense growth, and we are perfectly positioned to continue to develop the aftermarket business." He said. "As the manufacturer of undercarriage components, we can get these parts to our customers before anyone else, which offers huge advantages."

"It's amazing to hear feedback that ITM parts are exceeding expectations. They can see the results for themselves."

One of the standout aspects of ITM Mining's track services is the industry-leading turnaround time. For track groups, the team requires only two days for a complete inspection and quote. Once a purchase order is received, the works are completed and shipped to the customer within just seven days. This rapid turnaround ensures minimal downtime and keeps mining operations running smoothly.

Howard Du Plessis, Workshop Manager at ITM's Welshpool facility in Perth, says it's great to hear positive feedback from customers.

"There is a clear difference in the quality of ITM aftermarket parts, compared to our nearest competitor. It's great to give our customers that peace of mind when servicing frames or tracks." He said.

"It's amazing to hear feedback that ITM parts are exceeding expectations. They can see the results for themselves."

ITM Mining's Track Shop performs thorough inspections to assess wear and tear, repair and rebuild services as well as assembly and disassembly. The Frame Shop team are skilled in inspection and maintenance services to ensure the integrity and reliability of the track frame, as well as providing repair and reinforcement services to enhance durability. ITM's workshop also offers custom fabrication services to meet specific operations requirements or unique challenges.

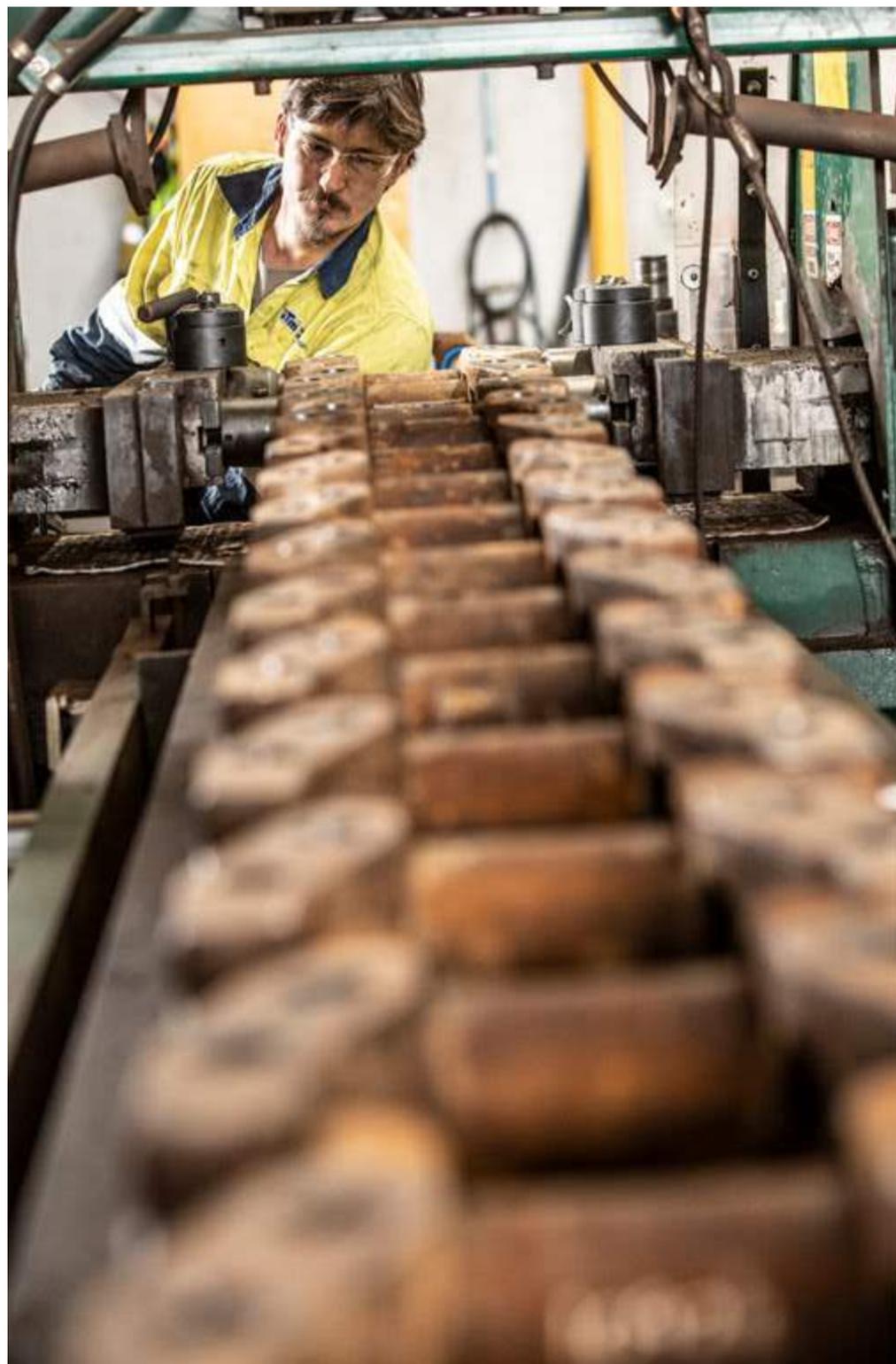
"We have a great range of time critical components, in stock and ready to go."

"We want to work alongside our customers to find a solution that suits them. It might be our custom 'wear packages' for heavy duty applications, or mud relief holes in track plates to reduce packing when conditions get particularly cold and wet." Mr Du Plessis said.

ITM has made significant investment in the Service Centre in Queensland. Located in Yatala, 40 minutes south of Brisbane, the Workshop is managed by Jim Townsend.

"I'm so proud of the team at Yatala and the development of our operations on the east coast." Mr Townsend said.

"Our facility here is state of the art, and we have a great range of time critical



components, in stock and ready to go. We want to make sure our customers can reduce their downtime."

ITM Mining will be an exhibitor at the **2024 Queensland Mining and Engineering Expo (QME)** in Mackay this July.

The ITM team will be on hand to discuss

their extensive range of undercarriage solutions and how they can support your mining operations with unmatched quality, innovation and reliability.

For more information, visit www.itmmining.com.au or search for ITM Mining on LinkedIn.

AMR



VISIT US AT
STAND OS856

ITM MINING QUALITY, INNOVATION, RELIABILITY

Boost your fleet's productivity with world class undercarriage components. Based in Welshpool WA and Yatala QLD, the ITM Mining team provides exceptional service and tailored support to the mining industry across Australia. As part of the ITM Group, we are pioneers in undercarriage sensor technology, ensuring optimum performance and state-of-the-art monitoring with our TRUST ITM® technology.

Choose ITM Mining, where excellence meets innovation.

QUEENSLAND, ITM Mining Yatala, Track shop, 12-18 Link Drive - Yatala, QLD, 07 2104 1100

WESTERN AUSTRALIA, ITM Mining Perth, Track shop, 52 Railway Parade - Welshpool, WA, 08 6118 6300

itmminingsales@group-itm.com



PERFORMING TRUST



KOMATSU'S GD955-7 GRADER LANDS IN AUSTRALIA

The GD955-7 is purpose-built for mining operations, with a strong emphasis on productivity. One of the standout features of this grader is its blade-up design, which allows for more efficient ground penetration. This innovative design ensures that the GD955-7 can handle the rigorous demands of mining environments, making it a valuable addition to any mining fleet.

Michael Hall, Komatsu's National Mining Product Manager, highlighted the excitement surrounding the launch of the GD955-7. "The GD955-7 is a ground-up designed mining grader. It can grade 33% more area per hour than the previous model, with a standard 5.5m blade, or an optional 6.1m blade width for even more productivity. It also has the highest blade downforce in class and the highest engine power in class. It's a durable machine

designed for high-power grading," Michael explained.

This new grader is designed to meet the needs of modern mining operations, where productivity and efficiency are paramount. "With large haul trucks on mining sites, graders need to be larger and be more productive to support them. The GD955 is well matched to larger haul trucks anywhere from 90 to over 240 tonnes, making it a great addition to mining fleets," Michael added.

Safety is another critical aspect of the GD955-7's design. The grader comes standard with Komatsu's 360° camera system, KomVision. This system features a 5-camera setup that provides operators with a comprehensive view around the vehicle through the KomVision monitor. Additionally, there is a rear-view monitor

specifically for reversing and ripping operations. "KomVision increases visibility for operators so they can get a full view of activity around the grader. The monitor informs them if another machine is approaching or in their line of movement, a great safety feature for busy mine sites," Michael emphasised.

The GD955-7 is not only powerful but also robust, being 50% heavier than its predecessor. This increased weight allows the grader to more effectively grade hard-packed road surfaces and tackle more demanding jobs, which is essential for the tough conditions often encountered in mining operations. The grader's enhanced capabilities ensure it can handle a variety of challenging tasks with ease.

In a notable first for Komatsu graders, the GD955-7 introduces a bearing for the blade swing circle similar to that used on the PC300. This feature, combined with the factory-installed autolube, makes the blade circle maintenance-free, eliminating the need for adjustments or replacement of wearplates. The targeted bearing life of 16,000 hours significantly reduces downtime compared to previous components, providing a considerable boost to operational efficiency. This focus on reducing maintenance and enhancing reliability underscores Komatsu's commitment to delivering high-performance equipment that meets the evolving needs of the mining sector.

The GD955-7 grader also stands out for its precise grading capabilities. It features fingertip fine control functionality and a palm steer option, allowing operators to achieve exceptional precision during grading tasks. The steering wheel is

retained for high-speed tramming between job locations, offering flexibility and ease of use. These features make the GD955-7 highly versatile, capable of adapting to different operational requirements and improving overall productivity.

Earlier this year, a select group of customers had the unique opportunity to visit Komatsu's Ibaraki Plant in Japan. This visit allowed them to see where the GD955-7 is manufactured and get a sneak peek before it landed in Australia. "We had really good feedback from the customers who joined us, and plan to start delivering this new model to customers come December," Michael noted. This positive feedback highlights the high expectations and excitement surrounding the GD955-7, as it promises to deliver significant advancements in grading technology and performance.

The GD955-7 grader is set to become a key player in mining operations across Australia. Its combination of power, efficiency, and innovative features makes it a game-changer in the industry. As the roadshow continues, mining customers nationwide will have the opportunity to experience the capabilities of this advanced grader firsthand.

For more information on the GD955-7 grader, visit [www.komatsu.com.au/equipment/motor-graders/318kw-\(46-8t\)/gd955-7](http://www.komatsu.com.au/equipment/motor-graders/318kw-(46-8t)/gd955-7) or contact your local Komatsu branch to find out about grader demonstration dates.

This new addition to Komatsu's lineup is expected to set a new benchmark in mining grading technology, and the upcoming roadshow offers a perfect chance to see its capabilities in action. **AMR**



Introducing the GD955 Grader



318 kW / 426 HP
Engine Power



46,740 KG
Operating Weight



5,486 mm
Blade Width

Built from the blade up

Designed to be a **highly productive unit**, achieved through its market leading **blade down force**, a **426 horsepower engine** and weighing in at **nearly 47 tonnes**, Komatsu's new GD955 really is **built from the blade up**.



Scan the QR code to explore features

Call us today on 1300 566 287 to find out more.



KOMATSU
Creating value together

ENVIROMIST DUST SUPPRESSION TECHNOLOGY

Exposure to respirable dust in mining environments has been shown to lead to lung diseases such as pneumoconiosis (i.e. silicosis), and cancer as well as pulmonary diseases. The Occupational Health and Safety Act and associated regulations - both state and federal - put the onus on mine owners to reduce the risk to both workers and the environment from dust emissions.

EnviroMist is a leading developer and supplier of High Pressure Dust Suppression Systems capable of significantly reducing dust in difficult environments such as ROM Bins and Coarse Ore Stockpiles without affecting ore moisture levels. EnviroMist utilises its R&D findings to implement systems that determine the actions/mechanisms which cause dust creation and then develop solutions to suppress the dust by injecting billions of micron sized droplets to the most appropriate locations. In ROM Bins this normally involves creating a pressure curtain which resists penetration by the air generated during truck dumping operations. COS systems involve positioning the sprays

and increasing the nozzle exit velocity to intersect falling material streams at a location where the material stream separates due to gravitational acceleration. The challenge with COS systems is to design the system to operate efficiently in adverse wind conditions which render low pressure dust suppression systems ineffective.

Research has shown that to effectively capture an airborne dust particle with a water droplet the water droplet diameter needs to be of similar size to the dust particle. When water droplets are much larger than dust particles, the dust particles are less likely to be captured. Most low pressure dust suppression systems cannot reduce the droplet size sufficiently for efficient dust capture, and therefore require the injection of large volumes of water to improve dust capture efficiency. This leads to downstream material handling issues, as ore streams become oversaturated. EnviroMist high pressure systems create an average droplet size of approximately 38 micron - meaning that these systems produce 7 trillion water

droplets in a standard truck dump cycle, yet only consume approximately 200 litres of water per dump cycle. The large number of droplets produced, along with their positioning within the confines of ROM Bins significantly increases the chance of dust capture therefore reducing fugitive dust emissions from the Bin.

Design developments from a recent project have shown that EnviroMist spray bars and nozzles can also operate on much lower pressures without significantly increasing droplet sizes. The main advantage of lower pressure systems is that energy consumption is reduced compared to high pressure systems, but as the exit velocity (or energy) of the water is significantly reduced, lower pressure systems require a higher number of nozzles to resist the air flows from dumping operations and still effectively capture dust emissions.

A recent project at Peabody Energy's Wambo mine resulted in significant reductions in respirable dust around the working areas of the longwall. An existing spray system was replaced with a custom

designed EnviroMist spray arrangement which utilised existing pumps on the longwall for spray water supply. Water consumption levels for the design limited water consumption to a maximum of 63 l/min at the highest operating pressure. After installation and adjustments during commissioning of the system, an independent testing company determined respirable dust level reduction of between 60-80% when compared to the original spray system operations. The impressive results are a result of the combined efforts of the Mine Engineering Team and EnviroMist Engineers.

EnviroMist systems have been applied to many types of ore and operations - from longwalls and other Coal handling equipment in underground mines, ROM Bins and COS stockpiles in Coal surface mines, Iron Ore mines in the Pilbara region, and materials handling equipment within hard rock mining operations.

For more information visit
<https://www.enviro-mist.com.au/>

AMR

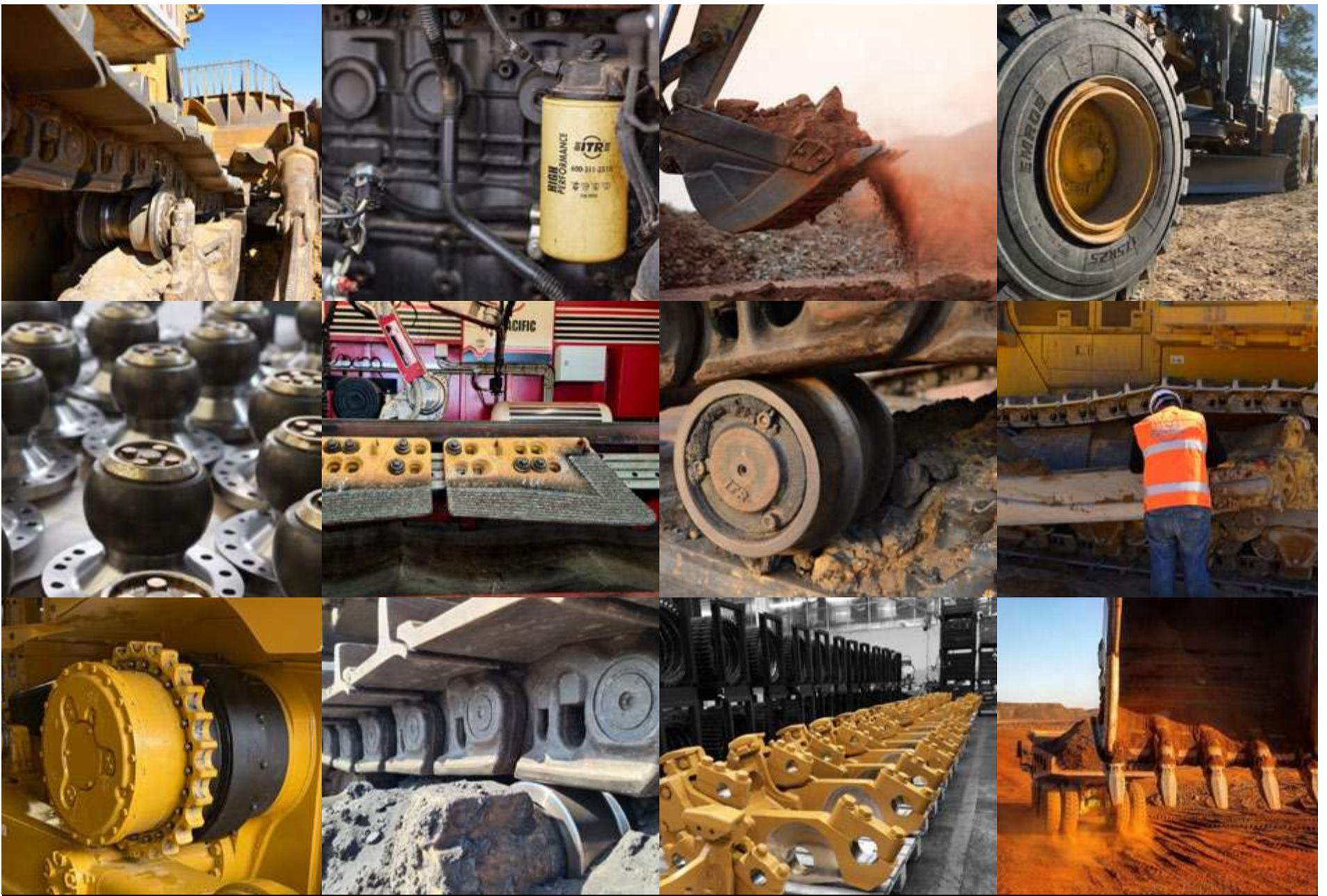


INNOVATIVE DUST SUPPRESSION SYSTEMS

- | ROMs & Stockpiles
- | Transfer Points & Chutes
- | Crushers & Conveyors
- | Mining Machinery
- | Construction Machinery
- | Ship Loaders & Unloaders

EnviroMIST[®]
Micro Mist • Macro Solutions

Contact Us Today | www.enviro-mist.com.au
info@enviro-mist.com.au | 07 3855 2122



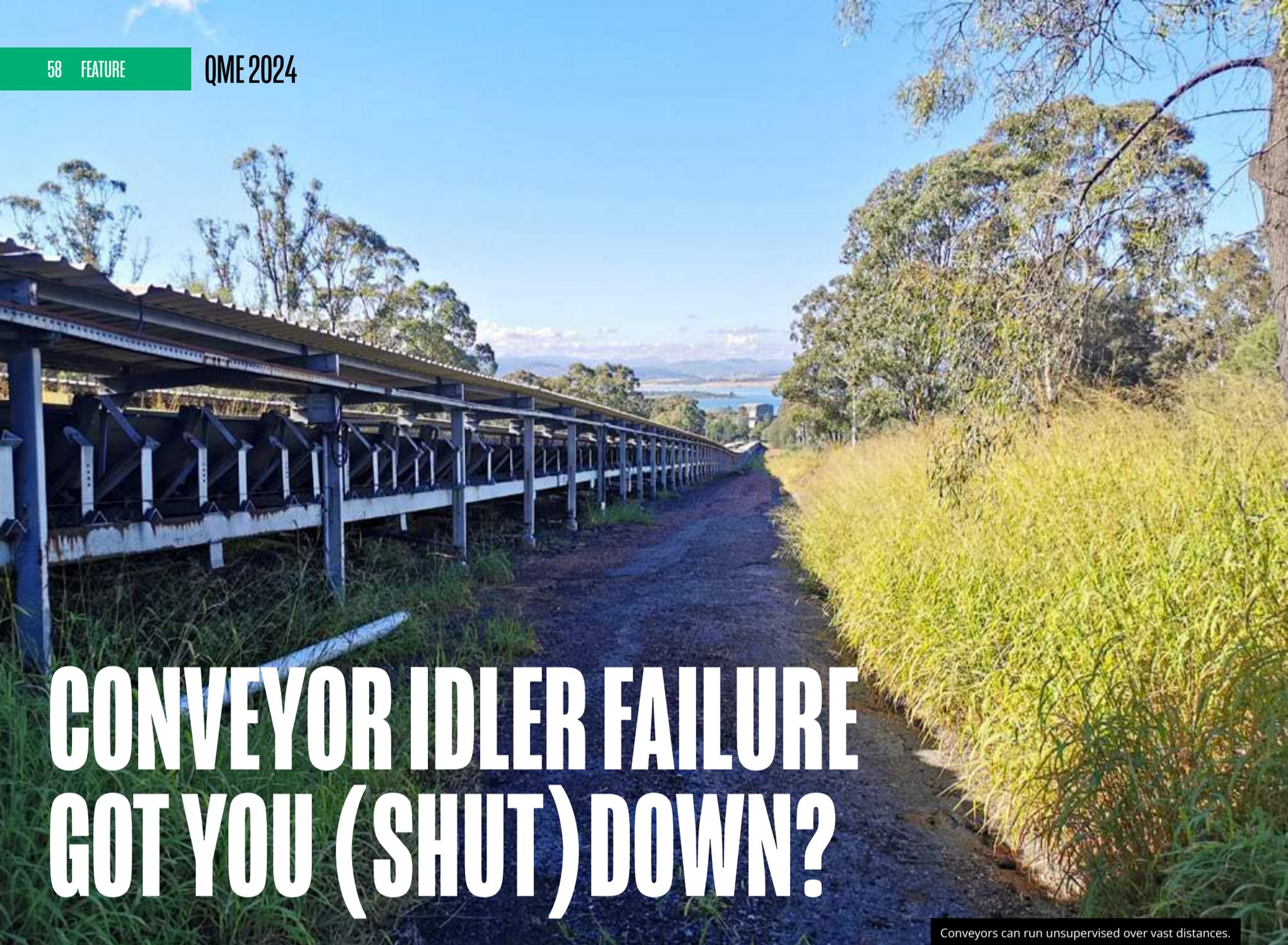
DESIGNED TO PERFORM. MADE TO LAST.

- Undercarriage
- Machine Repair Parts
- Ground Engaging Tools
- OTR Tyres
- Track Frame Refurbishment
- Tungsten Carbide Overlay
- Undercarriage Inspections
- Assembly & Trackbed Services

VISIT US AT 

itrpacific.com.au
1300 820 214





CONVEYOR IDLER FAILURE GOT YOU (SHUT) DOWN?

Conveyors can run unsupervised over vast distances.

Idler failure is one of the most costly and unpredictable issues facing bulk handling operations. Failed idlers form a belt damage risk, which can slice the belt along its entire length or bite chunks out of the contact surface, leading to a belt tear. Both belt tears (across the grain) and belt rips (along the grain) can bring your operation to an expensive standstill.

Further still, seized idlers are a major fire risk due to friction with the moving belt and have the potential of getting red hot. Stopping the idler in this condition can result in an open flame as the belt stops stationary on a red-hot roller. In the event this idler is not detected in this condition, the first warning of a potential issue is often smoke appearing over the horizon, as conveyors rarely have a source of fire detection along their length.

A Conveyor Health Monitoring System automatically monitors for both idler condition and flame detection, meaning that not only is there an increased response time to fire in overland conveyors but also that the primary source of fires on the long, often untraveled overland sections of conveyor belts is monitored on a 24/7 basis for faults, drastically reducing the chance of a failed idler being left in operation on the belt.

Systems of this type vary in construction and methodology of detection, but recent field experience has proven that fiber optic-based systems (such as the Praetorian Fiber Optic Sensing Conveyor Health Monitoring System by Hawk Measurement Systems (HAWK)) have the best performance for the lowest installation and operating cost for conveyor networks in excess of 300m. They provide real-time condition monitoring of all conveyor belts

plus temperature condition monitoring of the belt environment.

A user-customizable report generates an idler inspection list right before each shift so that inspectors have a simple (traffic light-based) system that gives the accurate location of the faulty idlers, their condition, and other parameters that are useful diagnostics for the field operator about the detected fault.

The numerous advantages of a proactive detection system utilized alongside inspection include:

- Reduction in total inspection time

- Greater accuracy in the determination of faults
- Detection and identification of “silent killer” idlers
- Idlers removed in scheduled downtime activities, not causing unscheduled downtime
- Reduced downtime from early identification

This solution utilizes a pair of fibers mounted along the conveyor stringer (or similar structure) which are configured to sense vibrations through the structure created by the mechanical faults in a worn and noisy idler. Due to the extreme

sensitivity of fiber optic vibration sensing, it is possible for the system to produce fault indications weeks before it is possible for human senses to detect them. In the event of an idler undergoing rapid deterioration, fire detection is utilized as an additional line of defense. A third fiber optic cable is suspended just below the weather cover along a catenary wire, and this fiber uses the trapped convection heat from potential flame as it accumulates under the weather cover. This localized increase in temperature provides a real-time readout which, when measured against certain set points, can be used to alarm to the presence of flame and provide responders with an indication of the precise location of that fire.

In both the vibration and temperature sensing, the Praetorian Conveyor Health Monitoring System can, from a single nearby control room, monitor 10km of conveyor belts for idler vibration and 75km of conveyor for flame detection, all at a low cost per meter. HAWK now has years of installation experience in designing, manufacturing, supervising, installing, and commissioning Conveyor Health Monitoring Systems with application success stories across the globe. It has solutions for conveyor belts of any type and is preventing downtime in those applications. Given the significant value of conveyor belts (generally measured in six figures or more per hour), the Return On Investment (ROI) for a system of this type is generally a single preventable outage.

So, if a monitoring solution for conveyor downtime is something that you might like to know about, please feel free to reach out to HAWK with your application or request a product demonstration.

AMR

Conveyor	Frame	Channel	Current Priority	Previous Priority	Fault Range	Date Added
CVR001	100	RHS	2	N	100-101	2024-05-31 16:22:30
CVR001	131	LHS	2	N	130-131	2024-05-31 18:52:54
CVR002	156	LHS	2	N	-	2024-05-31 20:38:07
CVR003	1225	LHS	2	N	-	2024-05-31 12:37:00
CVR003	1667	LHS	2	N	-	2024-05-31 11:21:49

Increased Priority Faults

Conveyor	Frame	Channel	Current Priority	Previous Priority	Fault Range	Date Added
CVR002	1331	RHS	2	3	1331-1333	2024-05-31 13:52:10
CVR003	1290	LHS	1	2	-	2024-05-31 20:38:07
CVR003	1441	RHS	2	3	1440-1441	2024-05-31 11:58:22
CVR003	1525	RHS	2	3	1525-1527	2024-05-31 17:37:43

Summary page of a typical daily report.



Hawk Measurement Systems

Seeing the Unseen: Unique Detection Solutions for Process Control, Asset Monitoring & Fiber Optic Sensing

www.HawkMeasurement.com
www.HawkFiber.com

E: inquiry@hawk.com.au | T: +61 (0)3 9873 4750
15 - 17 Maurice Court, Nunawading VIC 3131, AUSTRALIA

**COME VISIT US
AT QME 2024,
STAND A306**



GET YOUR NITROGEN UNDER CONTROL WITH ATLAS COPCO



Nitrogen is the vehicle that allows oxygen to sustain life on our plant, but due to characteristics making it ideal for many industrial applications, it does more than just keep us alive.

Nitrogen is an inert gas, meaning it's slow to react with other substances, making it ideal for any application in the prevention of slow and fast oxidation.

While nitrogen is available in abundance, it doesn't mean it's ready for use in industrial applications. It can be obtained in three ways: companies can lease an on-site nitrogen tank, have the gas delivered in high-pressure bottles or generate their own.

As the first two options rely on a third-party supplier, they are inconvenient, inefficient and costly. Generating nitrogen in-house enhances production flexibility and eliminates constant order processing, refills and delivery costs.

How do nitrogen generators work?

Nitrogen generators work by separating nitrogen molecules from the oxygen molecules within compressed air, resulting in a purified nitrogen supply.

Generating nitrogen can be done with a membrane nitrogen generator or a pressure swing adsorption (PSA) nitrogen

generator connected to a compressor.

Atlas Copco Rental offers nitrogen generators that allow businesses to generate nitrogen onsite to a desired purity level up to 99.5%. Atlas Copco's rental generators are available with high efficiency membranes, which when combined with high-pressure boosters, can supply nitrogen up to 300 bar.

NGM750

Atlas Copco's nitrogen units provide a continuous and reliable flow of nitrogen with flow and purity rates adjustable to exact requirements. The fleet ranges from 95% to +99% purity with flow rates up to 2000 CFM and is comprised of medium and high-pressure units.

With the most comprehensive rental fleet of onsite nitrogen generators in Oceania, Atlas Copco's fleet use advanced membrane technology to extract nitrogen directly from the surrounding air, giving a reliable and continuous supply of nitrogen.

The nitrogen generators have a maximum inlet pressure up to 25 bar, nitrogen outlet pressure up to 23 bar, nitrogen purity range up to 99.5% and nitrogen flow range up to 4850m³ per hour.

The easy plug and play operation can be deployed as a total solution or a stand-

alone operation, and the fully containerised design protects the generator against all weather conditions.

Qualified service technicians can commission and operate the units onsite to ensure optimum performance.

Recently a client in WA needed nitrogen for a hydrogen plant. Initially a smaller nitrogen unit was used but it quickly became clear that more flow was required. The NGM 750 suited the application perfectly. Not only providing nitrogen at the exact purity but also at a medium pressure. This allowed for the use of an electric compressor to support the nitrogen production and meet the sites green energy requirements.

PTE 900 VSD+

When it comes to oil-free compressed air, Atlas Copco is known for its emergency deployment of temporary oil-free compressed air plants, providing a stable on-site supply.

Until recently, there were two options to provide onsite oil-free air — the diesel driven PTS compressor range which provides the ultimate robustness regardless of the circumstances, and electric driven stationary compressors which have no emissions but aren't designed to move around and be installed quickly.

There's now a third option — PTE 900 VSD+ — which offers the known robustness and ultimate reliability of the PTS with an electric driven VSD+ engine; made to move and operate in the toughest circumstances.

Sustainability was a key focus when designing the PTE 900 VSD+ compressor which is electric-driven and 100% oil free. It has 0 exhaust, 0 risk at air contamination and 0 fuel is needed to keep it up and running.

The variable speed drive delivers several ecological benefits and no power is wasted. The low starting current and intelligent controls make it easy to optimise the setting for ultimate efficiency.

With a compact build, the PTE compressor can be placed near the point of use, minimising pressure loss and the smaller and lighter designer means it's easier to transport, limiting the logistical footprint.

Earlier this year, a major beverage can manufacturer in Queensland experienced a major compressor failure and used Atlas Copco's PTE 900 VSD+ compressor to keep operations running. **AMR**





Atlas Copco: Home of industrial ideas

A global leader in providing industrial productivity solutions, Atlas Copco's range of products and services are designed to meet the needs of various industries, such as general engineering, manufacturing, process industries, mining, construction, oil and gas, automotive, electronics, wastewater treatment and much more.

Since 1950, Atlas Copco Rental has been offering high quality equipment rental to suit your project needs, including:

- Oil free and oil injected electric and diesel compressors
- Compressed air dryers
- Nitrogen generators
- High pressure boosters
- Steam Boilers
- Accessories
- 24/7 emergency support



+61 296 219 999

atlas-copco.com/en-au

Atlas Copco

**Atlas Copco
Rental**
Making Agility Count



LET'S TORQUE ABOUT CALIBRATION



Torque tools are precision instruments which should be serviced, calibrated and tested on a regular basis to ensure accuracy and optimum performance.

A specialist in calibration services, Xcalibration focuses on the highly specialised needs of the torque control industry.

Onsite Calibration Services

When businesses use precision instruments, it's important they are kept in precise and accurate working condition. Xcalibration offers convenient onsite calibration services to help ensure this is achieved.

These professional onsite calibration services deliver the same benefits of traditional services without the need to ship them off to be restored.

Torque Multipliers

Powered torque multipliers have a large presence in the mining industry due to the nature of equipment that is

being regularly serviced and maintained where very high torque values are required.

Commonly referred to as torque guns, nutrunners, norbar guns or rad guns, these high-powered tools are used for applications such as ball mills, wheel nut bolting, cutting edges and undercarriage work – just to name a few.

Traditionally, these have been air powered with shortcomings related to the air supply, so the user needs to be mindful of the air pressure and the supply to the tool while in use.

The advent of battery powered torque multipliers has overcome these air supply issues allowing a more compact tool kit to be used in its place with a torque display on the tool to show the delivered torque output.

Hydraulic Wrenches

Hydraulic wrenches have a place in industries when extremely high torque

requirements are called for, where it's not unheard of to see these tools being used up to or above 25,000ftlb capacity.

They are more commonly used throughout the mining industry in the 1000 to 10,000ftlb capacity range.

Calibrations performed on these tools are presented in chart and tabular format for ease of use and include uncertainty calculations as per the standard.

Pressure Gauges

Calibration can ensure hydraulic wrenches are performing within their specified ranges, but the results may be affected if a separate pump with a pressure gauge is attached to it.

As these gauges control the input pressure to these tools, it's critical to ensure they're also calibrated to be fit for use.

Torque Wrenches

Torque wrenches tighten nuts and bolts to a specific torque value.

They are used for many types of bolting jobs but become particularly important when used in critical applications, such as engine rebuilding.

As a minimum, all torque wrenches should be calibrated yearly or every 5000 uses, whichever comes first. However, users should consider the amount of use, the working environment and the critical nature of the bolting application to assess whether these calibration intervals should be reduced.

When a torque tool comes in for testing, the team at Xcalibration will form a sound understanding of who the customer is to determine how they will treat the tool.

If it's of a critical nature, will still adjust even the smallest of errors to bring it back as close as possible to the nominal torque setting, to extend the life of the calibration. Some of the digital wrenches can achieve outstanding accuracy within a 0.2% margin of error while mechanical wrenches can achieve 0.5%. **AMR**



Specialists in Calibration Services

xcal.com.au | 07 3048 1551 | info@xcal.com.au

Specialising in servicing industrial clients, Xcalibration is your go-to for all your calibration and testing needs. We'll take care of all your specialist requirements from sales to hire and repairs.

Our precision calibration services are second to none, with tool and instrument calibration completed to ensure optimum performance. This means you and your staff will be as safe and accurate as possible when using your equipment.

DON'T WASTE ON WASTE

Don't spend more on tailings than you have to.

Weir Minerals' unmatched technology and expertise means you can find a solution that's built to your operational and site requirements. We've reduced customer energy consumption by 51%, average water usage by 76% and lowered TCO all while safely improving the stability of tailings and reducing the tailings footprint. Plus, we can even help re-purpose waste into useful materials for dam wall construction and backfill that saves valuable resources and increases efficiency.

Now it's your turn to re-think tailings with a Weir Minerals tailored solution.



global.weir/rethink_tailings

Copyright© 2023, Weir Minerals Australia Ltd. All rights reserved.

WEIR
Minerals

MLT BRINGING MORE THAN 70 YEARS OF INNOVATION TO YOUR OPERATION



Conveyor belt splicing specialist MLT is constantly looking to build on its business offering which includes the manufacture of technical belts and equipment for conveyors and the support of its industry leading Super-Screw® offering.

As a leader in its field, MLT has constantly pushed the boundaries of innovation and excellence.

Through a number of success stories, the company has highlighted its commitment to quality and the value it brings to its customers.

These success stories have included its work in the Australian mining sector, with the company supporting a range of operations in different locations.

Part of its local history since 2008 includes MLT Belt Fasteners in Australia which came under the full control of MLT Group and became MLT Asia Pacific in 2015.

Technology and reliability with original Super-Screw® products at the forefront

Technology and the reliability of its service has always been at the forefront of MLT's successful operations.

A recent point of emphasis has been highlighting the importance of using original Super-Screw® Products compared to the risk of using copies.

The Super-Screw splice has proven its worth around the world since it was created by MLT nearly 30 years ago. Many users have highlighted their satisfaction with the product, their loyalty and the gain in productivity they have achieved as a result of utilising it.

Sadly, for a period of time now, some players in the industry have been commercialising copies of MLT's Super-Screw® 1st generation splice, even though this is still under patent protection.

Significantly, it is only MLT's expertise and nearly 30 years of experience that mean that it is able to fully master its technical skills and provide clients with a quality, high-performance, safe and reliable product.

As a confirmation of the product's superiority, MLT has recently published the results of dynamic endurance tests with the results speaking for themselves.

MLT has also introduced numbered "certificate of authenticity" in all Super-Screw® splice packages. The purpose of this document is to assure that you have acquired the genuine product made 100% in France, but above all the experience and expertise of the MLT Group. Importantly, this will protect users from the risk of using copies instead of the original and protecting their investment, installations and their people. **AMR**



Dynamic test

Test bench configuration :

- 2 rolls Ø500
- 4 rolls Ø350 :
- Constant hydraulic tension with compensation of the belt elongation
- Speed 5.23 m/s
- 24-hour operation

Splices :

SUPER-SCREW® Evolution

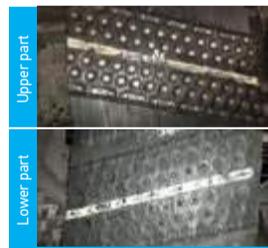
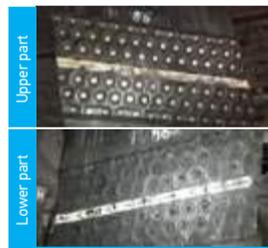
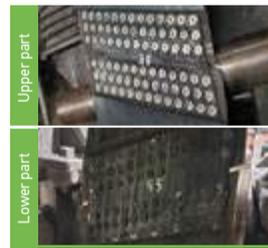
Model : 80
Installation 1/3
Conveyor belt : BW 300 mm 800/3 6+2 LG

SUPER-SCREW® Original

Model : 80
Installation 1/3
Conveyor belt : BW 300 mm 800/3 6+2 LG

Imitation copy

Model : 80
Installation 1/3
Conveyor belt : 800/3 6+2 LG



Lower part of the splice ripped in the central axis



NO STAFF, NO TIME, NO PROBLEM WITH YOUR BELT SPLICE
MLT SUPER-SCREW® FLEXIBLE JOIN IS YOUR SOLUTION



**MORE THAN +
 70 YEARS OF
 INNOVATION AT
 YOUR SERVICE**



Problems with Abrasion Wear On your Heavy-Duty Rubber Conveyor Belt Join?
MLT Super-Screw Premium Polyurethane Flexible Belt Splice is Your Solution



The only flexible screw splice in **POLYURETHANE**

+ In order to meet the most extreme environments and the most demanding requirements, **MLT** created the **SUPER-SCREW® PREMIUM** : the first flexible splice to screw in **POLYURETHANE**, designed for extremely abrasive applications*. The polyurethane that composes the upper part of this new **SUPER-SCREW®** splice provides a considerable gain in abrasion resistance (15 mm³), while maintaining the flexibility, perfect integration and strength of **SUPER-SCREW®**.

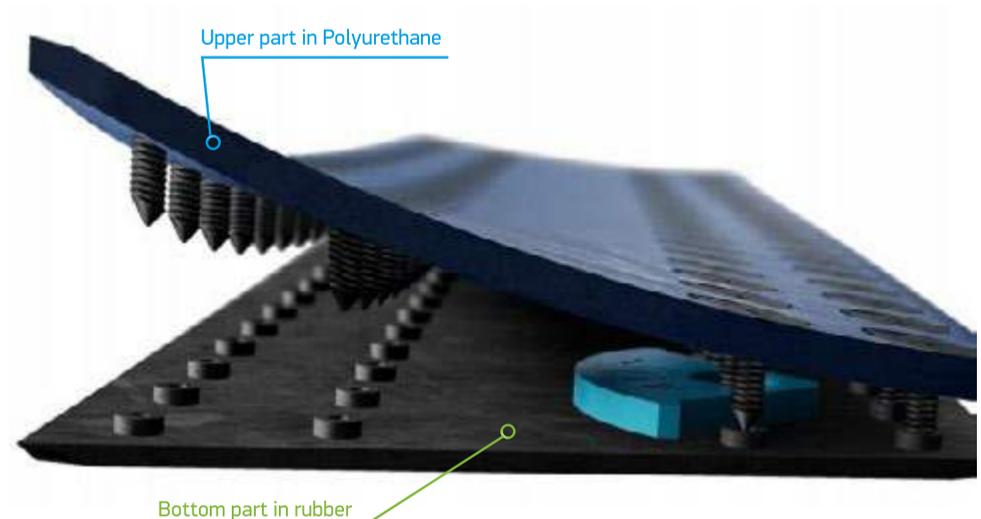
+ Applications



VERY HIGH ABRASION RESISTANCE (15 mm³)

THE ADVANTAGES

- Very high abrasion resistance (15 mm³)
- Polyurethane: reduced friction
- Permanent solution
- Reduces downtime of your conveyor
- Optimizes your productivity
- Easy and quick to install (1 to 2 persons)
- Self installation, low cost investment
- Leak proof and flexible
- Compatible with small pulley diameter
- Compatible with conveyor scrapers



MLT Asia Pacific

A: Unit 2, 4 Shaw Road Ingleburn NSW 2565 **T:** +61 2 9605 6555
E: sales@mlt-lacing.com **W:** www.mltgroup-conveyor.com

ELECTRIC & HYBRID VEHICLES

SOLUTIONS FOR EFFICIENT CABLE ROUTING, SAFETY AND PROTECTION



CABLE WRAP



CABLE GLANDS



GROMMETS



BUSHINGS



CABLE TIES



CONDUIT



WIRE SADDLES



WIRE CLAMPS



ACCESS SO

ENTRY AND SEALING



HEAVY DUTY LATCHES



HINGES

HYDRAULIC & PNEUMATIC PROTECTION

ENSURE OPERATOR SAFETY AND REDUCE DOWNTIME



SPIRALGUARD



BURST DIFFUSION SLEEVE



FIRE SLEEVE



SPECIALIST CAPS AND PLUGS



HIGH TEMP

PROTECT DURING M



SILICONE CAPS AND PLUGS

DO YOU HAVE A HEAVY VEHICLE PROJECT? **SPEAK TO ONE OF OUR**

Mining & Construction Vehicles

SOLUTIONS

LOCKING SOLUTIONS FOR ACCESS PANELS AND ENCLOSURES



TEMPERATURE MASKING

MANUFACTURING AND TRANSIT



OUR EXPERTS

essentracomponents.com.au

SOLUTIONS WE CAN OFFER:



Route, manage and protect cables and wires to prevent damage



Ensuring electronic components are watertight and secure in demanding environments



Easy access to panels and enclosures for maintenance and security



Reducing wear on hydraulic hoses and safeguarding against pin-hole bursts



Vibration reduction on body and access panels



Protecting cut outs, threads and panels during paint, manufacturing and transit

65+ YEARS EXPERIENCE

GLOBAL MANUFACTURER

FREE CADs

FREE SAMPLES



MAKING IT EASIER

DY-MARK MINE MARKING FLAMMABLE TOLUENE FREE

NEW IMPROVED FORMULATION

Dy-Mark Australia, the experts in mine marking solutions, introduce a new and improved toluene free formula that delivers excellent performance and better safeguards the end-user.

Dy-Mark Australia has gained trust and loyalty as a supplier within the mining industry by consistently delivering superior marking products for over 40 years. Renowned for their expertise,

Dy-Mark Australia has recently set its focus on the Mine Marking Range and introduction of a toluene free formula.

What does a toluene-free formula mean for the mining industry?

As a result of growing demand for sustainable, lower toxicity products, especially in industries where end-user safety is important, Dy-Mark have prioritised the wellbeing of workers in

the mining sector and their surrounding environment by introducing a **toluene free solution**.

Product features and benefits

The new and improved Dy-Mark Mine Marking Flammable Toluene Free offers a wide selection of colours specifically formulated to deliver marks with exceptional opacity and brightness. The specially designed no-clogging formulation ensures optimal performance by ensuring smooth uninterrupted marking during application. The use of high-quality resins offers robust adhesion to rough surfaces, making them well-suited for the demanding conditions often encountered in mining environments.

Dy-Mark Mine Marking toluene free features a 360° valve that significantly expands the range of application angle. This feature enables precise and efficient marking, even in challenging and hard-to-reach areas.

All aerosol products in the range are packaged in durable 2Q cans with higher bar ratings (15-18 bar), ensuring exceptional strength and resilience to withstand the harsh conditions prevalent in Australian mining operations. To cater to different requirements, Dy-Mark Mine Marking is available in two options: Horizontal, which is ideal for marking walls, and Vertical, which is designed primarily for marking ceilings and floors.

Applications

The various applications include general marking, directional markings, marking waypoints and drill hole locations, colour coding, safety mesh anchor points, identification, marking pit walls, and delineating ore zones in grading control and survey grid layouts.

In addition, the **Dy-Mark Mine Marking Handle** is recommended to extend reach (up to 5m), allowing users to mark areas that are harder to reach. This additional reach not only enhances efficiency but also assists in preventing back strain, by eliminating the need for excessive bending or stretching. The handle's lightweight aluminium construction further contributes to its ease of use, making it comfortable to handle and reducing fatigue during extended marking sessions.

Dy-Mark Australia remains dedicated to delivering unparalleled performance. Whether you need highly visible marks for safety or precise markings for accurate measurements, Dy-Mark Mine Marking is the reliable choice that will not let you down.

When it comes to mine marking solutions, Dy-Mark Australia is the name that mining professionals trust. With their new and improved toluene free formula, Dy-Mark Mine Marking continues to lead the way in providing cutting-edge, high-performance products that prioritise safety without compromising on quality.

Dy-Mark Mine Marking – setting new standards in safety and performance for the mining industry.

To learn more about this range and more, visit www.dymark.com.au

AMR





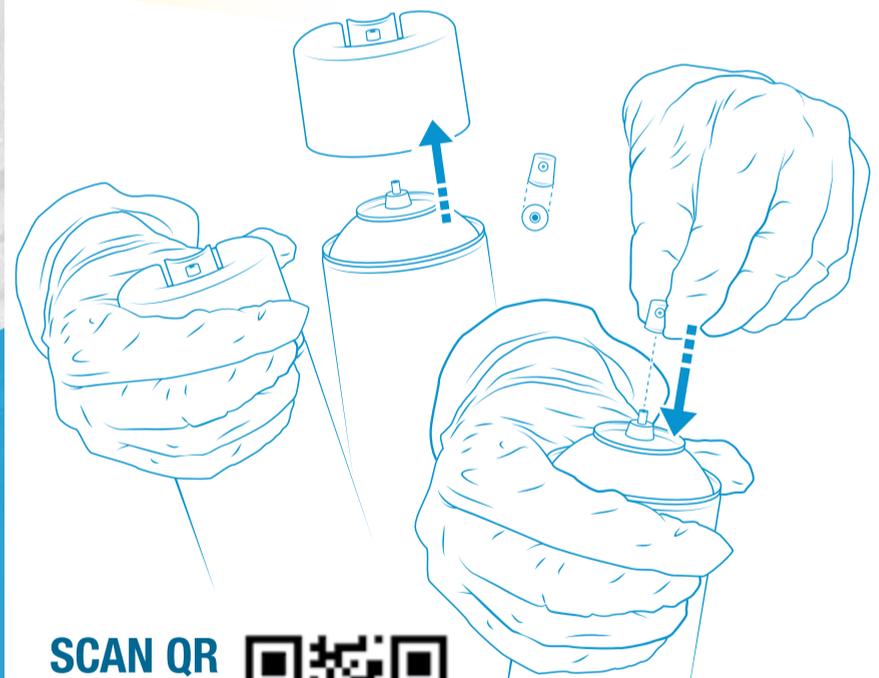
BETTER MARKING SOLUTIONS

Features & Benefits

- Australian Made
- 360° Valve
- 2 x Spray Options in the 1 can (Vertical or Horizontal Spray)
- Toluene-Free Formula
- Highly Visible Marks
- Purpose-Built Accessories

Mine Marking

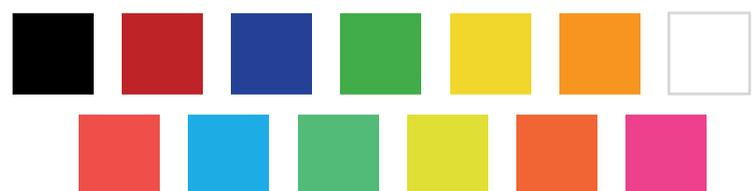
1x CAN
2x SPRAY OPTIONS



SCAN QR CODE TO WATCH VIDEO



Available colours:



For more information visit:
www.dymark.com.au



IMPACT
DRILL & BLAST

More Production. Less Cost.

THAT'S IMPACT

Impact Drill and Blast is a merged company that builds on the expertise and resources of four family-owned businesses in Australia. As a subsidiary of Yahua Industrial Group, we have access to the resources of one of China's largest explosives manufacturers.

Our focus is on making a positive impact on our clients' businesses in the mining industry by providing technical support, design, drilling and blasting services. We continuously transform our business with the aim of improving safety, reducing costs, adding value to customer operations, and enhancing overall business performance. We have integrated our services to streamline the process using technology, advanced bulk product formulations and design optimisation.

An integrated drilling and blasting service for the mining sector.

Our distinct advantage is our integrated service that covers every aspect of drilling and blasting for the mining sector. From manufacturing our own bulk emulsion, providing a technical design service, drilling and blasting, to handover, we deliver an efficient and effective end-to-end solution.

TECHNICAL DESIGN

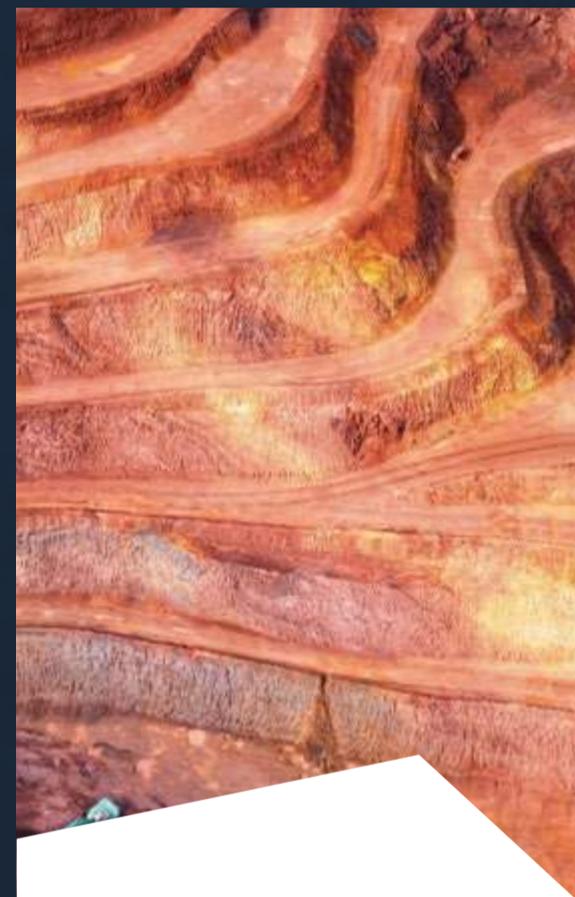
Forge a competitive edge for your mine site by partnering with us. Experience safe, optimised blasting, predictable outcomes, and prompt, reliable delivery—all contributing to less cost and more production. Our blast designs prioritise the optimisation of fragmentation, diggability, reduced dilution and productivity while managing noise and vibration to align with your site environmental controls. To maximise ore extraction, we reduce contamination with innovative drilling and blasting processes and techniques. Partner with **Impact Drill and Blast** for a fully integrated solution that enhances your mine site's performance and sustainability.

PRODUCT DEVELOPMENT

Mining hot and reactive ground requires specialised formulations to increase the safety of your operation. Our experienced chemists can develop hot and reactive ground emulsion formulations to withstand high temperatures and chemical reactions, using innovative materials to enhance product stability and safety in your mine. We can tailor emulsion formulations to provide the energy that your ground requires for mining efficiency and ore recovery.

Overall, our product development team aims to provide innovative, effective solutions for safer, more productive, and sustainable blasting outcomes in your mine.

Let Impact Drill & Blast help you to optimise your mining operations with innovative blasting techniques, and matching the right bulk explosive product, to address the challenges in your mine.



Benefits

- ★ Optimising the recovery of ore
- ★ Improving blasting safety
- ★ Minimising dilution
- ★ Optimising throughput
- ★ Improving digging performance
- ★ Improving plant throughput
- ★ Meeting project timelines

**More Production. Less Cost.
More You. Less Us.**

IMPACT
DRILL & BLAST

impactdrillblast.com

 1800 2 IMPACT

 sales@impactdrillblast.com



THIS IS **MOTION**

MORE CHOICES. MORE SOLUTIONS.

Agriculture | Food and Beverage |
Mining | Manufacturing |
Quarry and Cement | Waste Water

MORE CHOICES, MORE SOLUTIONS WITH CONSOLIDATED MOTION

The story of Motion begins over a century ago, spanning the supply of bearings, industrial drives, motors, lifting, sealing and fluid power solutions as well as engineering services. Motion lives by the promise to provide Australian industrial businesses with 'more choices, more solutions'.

The Motion family includes long-established businesses BSC and CBC – which have traditionally supplied bearing and power transmission products to industry – as well as businesses that specialise in fluid power such as AIP, Hardy Spicer and Powell, and the hydraulic engineering business, CRAM. Each of these businesses offer a vast inventory of branded products – totalling over 600,000 individual items – supported by a network of over 1600 employees, 180 branches, 30 repair and service facilities and 12 distribution centres.

“Over the past few decades Motion has shifted its focus from being a supplier of componentry to being a full solutions provider,” explains Ryan Kendrigan, Executive General Manager of Engineering and Services at Motion. “We came to the decision through our relationships with customers, and learning what their needs are.”

Stephen Forbes, Executive General Manager of Fluid Power Solutions at Motion, says that Motion’s approach is still fundamentally a family-business.

“For most of our history, we’ve operated as a group of family-owned companies and this heritage is reflected in the approach we take today, which is relationship focussed,” says Forbes. “Our customers are looking to us to make it easier for them. They trust us, the brands that we supply, and the expertise we have to now provide full-service solutions.”

Broadly, Motion’s business can be grouped into three key areas – Industrial

Solutions, Fluid Power and Engineering Services.

“Being able to go to industrial businesses with a holistic offering – that incorporates everything from traditional rotating componentry to hydraulics, hoses and fittings to bespoke engineering services, training, and even energy efficiency reviews – is hugely beneficial,” says Nick Kerwin, Executive General Manager for Industrial Solutions.

Engineering Growth

“We started out as a bearing company that provided engineering support for traditional rotating equipment,” Kendrigan says. “Now we can look at anything that’s operating in rotary motion, linear motion or hydraulic motion and provide a turnkey solution that will maximise the efficiency and output of that equipment.”

Kendrigan provides an example of a solution that was delivered to a steel manufacturer.

“The customer needed a custom-built acid tank and one of the key constraints was the space in their facility was very tight. We came up with a solution where we half-built it in our workshop, then we dropped through the roof, coming through a whole bunch of different pipework at the sides, slotted it in position, and then built the top part of the tank once it was in-situ,” he explains. “Once upon a time this would have required six or seven different companies to make that happen. Instead, we created the process, and saw the solution executed from concept

to delivery – ensuring it was working effectively afterwards.”

“It’s being able to offer that turnkey solution. We can design a concept, manufacture a concept, install it, maintain it. It’s a full-service offering.”

A Fluid Approach

Motion’s Fluid Power Solutions side of the business encompasses hydraulic hoses, industrial hoses, mobile service units, and general fluid power componentry.

“It’s quite a large market, and one that has been fragmented with lots of smaller, specialised businesses,” he says. “A key advantage of us having these specialised businesses under the one umbrella is it really makes it a lot easier for customers. We only provide products that meet strict Australian standards, and can provide technically precise solutions.”

Forbes stresses that the consolidation of brands under the Motion banner will not come at the expense of the small business mindset.

“It’s still vital that we have regional sales representatives with strong local connections and knowledge,” he says. “But as part of Motion, they also have access to our extensive network of expertise, which will help them deliver the right solutions and advice to their customers.”

A Solutions-Focussed Industrial Supplier

“We’ve got a solid foundation in the bearing, power transmission and mechanical drive solutions space, largely due to the

relationships forged over the years with our legacy companies BSC and CBC,” says Kerwin. “What’s exciting is being able to customise solutions so that businesses don’t have to consult with various suppliers to get what they need.”

“Our purpose is to keep the world moving,” he says. “That is what our customers want. They want to keep producing and maintaining their equipment to keep them moving, productive, and profitable.”

The Future Is In Motion

What does the future hold for Motion?

“There are thousands of customers that deal with Motion, but only a fraction of those have engaged with engineering services – I see this expanding, and am looking forward to providing more value to people over time,” says Kendrigan.

“We’re always looking for opportunities to extend our capabilities to cover any gaps in our offering, and are very conscious of exploring emerging technologies. We’re looking to invest further into our e-commerce capability to enable customers to easily access the whole Motion offering,” Forbes states.

“We’re working hard on integrating our business operations so that it’s completely seamless for customers. We strive to provide our customers with the experience that best suits their needs. This is the plan we have in Motion, and we’re steadfast in our commitment to delivering on it,” Kerwin concludes. **AMR**

THIS IS *MOTION*®

MORE CHOICES. MORE SOLUTIONS.

30 Repair & Service Centres

12 Distribution Centres

200 Locations

600,000+ Products

Agriculture | Food and Beverage | Mining | Manufacturing | Quarry and Cement | Waste Water

1300 211 954 Motion.com.au

MOTION

NOBLES: A CENTURY OF ENGINEERING EXCELLENCE AND INNOVATION IN LIFTING AND RIGGING SOLUTIONS

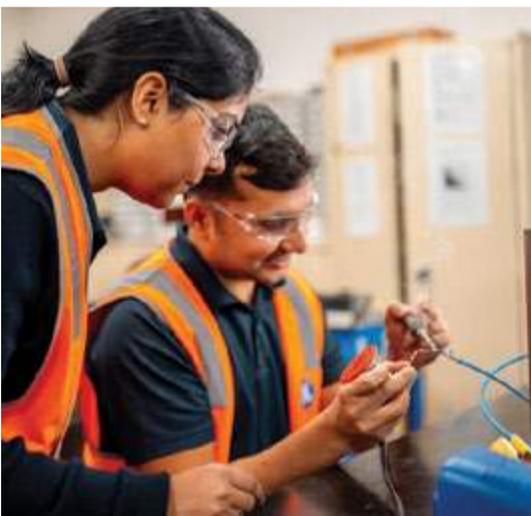
TRUST | EXPERIENCE | INNOVATION

DEDICATED TO EXCELLENCE IN LIFTING AND RIGGING

Since 1911, Nobles has been at the forefront of providing specialised lifting and rigging solutions in Australia. Their commitment to safety, reliability, and innovation has made them the trusted partner for blue-chip clients across the nation, serving a wide array of industries with excellence and expertise.

KEY SERVICES

- Overhead Crane Installation and Servicing
- Rigging Equipment Inspections
- Non-Destructive Testing
- Engineering Solutions
- Height Safety Systems
- Asset Management
- Digital Solutions



LEGACY AND FUTURE

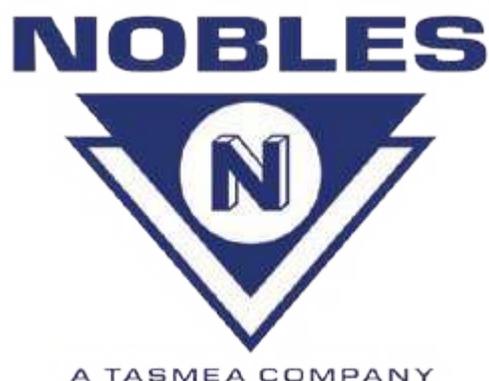
With over a century of expertise, Nobles remains a leader in the lifting and rigging industry, poised for future innovation. The company harnesses strong global partnerships and robust in-house engineering to address complex client needs effectively. Nobles' commitment to safety, efficiency, and advanced solutions ensures it continues to set industry standards, providing tailored, reliable lifting operations.



INDUSTRY INNOVATORS

Engaging Nobles for lifting and rigging solutions brings numerous benefits that enhance operational excellence and safety across a variety of projects. With over a century of industry expertise, Nobles ensures that every aspect of client lifting requirements is managed by highly skilled professionals. Their comprehensive services, which include overhead crane servicing, rigging inspections, advanced engineering solutions, and asset management, are tailored to improve the

efficiency, safety, and reliability of client operations. Nobles stands out by adhering to rigorous Australian Standards, utilising advanced technology, and having the capability to manage large-scale projects even in the most remote parts of Australia. Clients choosing Nobles benefit from their commitment to delivering innovative solutions that not only meet but exceed expectations, ensuring smooth, safe, and efficient operation of equipment and systems.

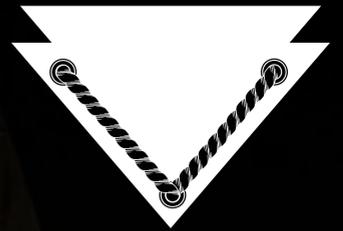


CONNECT WITH US

 1300 711 559

 nobles.com.au

 sales@nobles.com.au



SCALING NEW HEIGHTS AND REDEFINING INDUSTRY STANDARDS

Since its establishment in 2015, Tasman Rope Access has cemented its position as a leader in rope access solutions across Australia. This Australian-owned enterprise was founded on a strong commitment to excellence, a principle that continues to propel its success in various sectors.

Safety is paramount at Tasman Rope Access, with a rigorous adherence to achieving zero harm, zero lost time injuries, and zero environmental incidents. These standards permeate all aspects of their operations, emphasising health, safety, environmental care, and quality to ensure comprehensive protection for both personnel and the environment.

Tasman Rope Access offers a wide array of specialised services, enhancing their role as

a preferred provider in the industry. Their service offerings include:

- Asset management
- Protective coating
- Blasting and painting
- Non-destructive testing
- Inspection and reporting
- Rigging services
- Tension netting
- VDeck solutions

These services are provided with a focus on cost-effectiveness and efficiency, particularly in challenging and confined spaces, and are driven by a commitment to innovation and safety.

Another pivotal aspect of their operation is the South Australia Training Centre, set to open in July 2024. This IRATA accredited facility is designed to provide rope access training for new and existing rope access technicians to obtain certification and further advance their skills, all while meeting high industry standards.

As Tasman Rope Access continues to expand its Australian presence, the company steadfastly upholds the highest standards of safety and service excellence. With a rich history, robust safety protocols, a comprehensive suite of services, and a state-of-the-art training facility, Tasman Rope Access is shaping the future of the industry and ensuring a legacy of excellence.

TASMAN ROPE ACCESS



A HEALTHY WORK ENVIRONMENT STARTS WITH FRESHFILTER

SmartTech Australia is raising the bar when it comes to workplace health and safety standards with their Freshfilter systems, an innovation in cabin air filtration for the mineral resources sector.

The cutting edge products combine stainless steel durability with high grade HEPA filters and digital controllers, enabling operators to monitor cabin pressure, carbon dioxide levels and hydrocarbons.

Clients can choose from a variety of purpose-built systems, including the F20, F33-R and FF Multibox XS.

With a diameter of only 350mm, the F20 is a particularly compact solution for tight-fit arrangements, while the F33-R is also limited in height and considered perfect as a roof unit.

SmartTech Australia Mining BDM Brendan Villiers said the FF Multibox XS was designed specifically to protect operators against severe dusts and gasses, making it the ultimate safety solution for domestic mining projects.

He said the 3000 Series Controller unit was also a highly-sought after solution, and popular for its stainless steel components and optional hydrocarbon sensor.

"The Freshfilter 3000 series control system is the standard choice," Mr Villiers said.

"It's a robust, stainless steel design with capacity to regulate air flow to maintain cabin air pressure.

"It has audible and visual monitoring and can be upgraded with a hydrocarbon sensor.

"Meanwhile, the 6000 Series Control System is the advanced option in controllers.

"It's similar to the 3000 Series but can be upgraded with both a CO² Monitoring and hydrocarbon sensor."

With offices nationwide and a highly experienced team, SmartTech Australia was trusted to be the exclusive distributor of Freshfilter systems, underpinned by the ability to provide both installation and support for clients.

The company's extensive offering to the civil and mining sectors is backed by a highly experienced team with their finger on the pulse of the latest market and technological trends.

Launched in 2017, Australian specialist has its roots in SITECH WA, where it first expanded from with just four employees.

Within a year, the exciting new company had acquired LOADRITE dealerships across the Northern Territory, Queensland, Victoria, Tasmania and New South Wales.

Combined with SITECH WA, SmartTech Australia is now the world's biggest Trimble LOADRITE dealership and has grown to more than 45 experienced technicians.

Mr Villiers said his consulting teams offered clients a first rate experience that hit the mark every time on safety and budget, giving operators a strong competitive advantage.



"SmartTech Australia has you covered, no matter the tech you want to engage, data you need to collect, reporting you need to provide and the industry you are in," Mr Villiers said.

"Through us, you can learn how easy it is to utilise technology that makes significant improvements in project workflow and solves your biggest challenges

"With the addition of On-Board Weighing, Safety and Software solutions to your civil construction and mining projects, you're in a stronger, more competitive position.

"You'll experience new levels of productivity that will enable you to earn the bid and be profitable, project after project.

"Only one partner offers the broadest, deepest and most advanced set of tools, advice and support to revolutionize your construction workflow – SmartTech Australia."

Watch this space for a very exciting announcement around Freshfilter soon to be announced! **AMR**

A FRESH STANDARD

All Freshfilter systems utilise advanced cabin air filtration technologies that are designed to combat any health issues due to poor air quality now, or into the future.

Each Freshfilter Cabin Air Filtration System has been designed to comply with:

- International Standards ISO 10263 & ISO 23875
- Recognised Standard 20 (RS20) Queensland Mining Safety • HEPA Filter International Standards EN1822 / 29463
- Active Carbon Filters International Standards EN14387
- Australian Construction and Mining Industry Standards

CUSTOMISATION AND REPORTING

The SmartTech Australia team has extensive experience pulling data from a variety of new and existing hardware/software options in the market.

The company's development team can help scope and deliver:

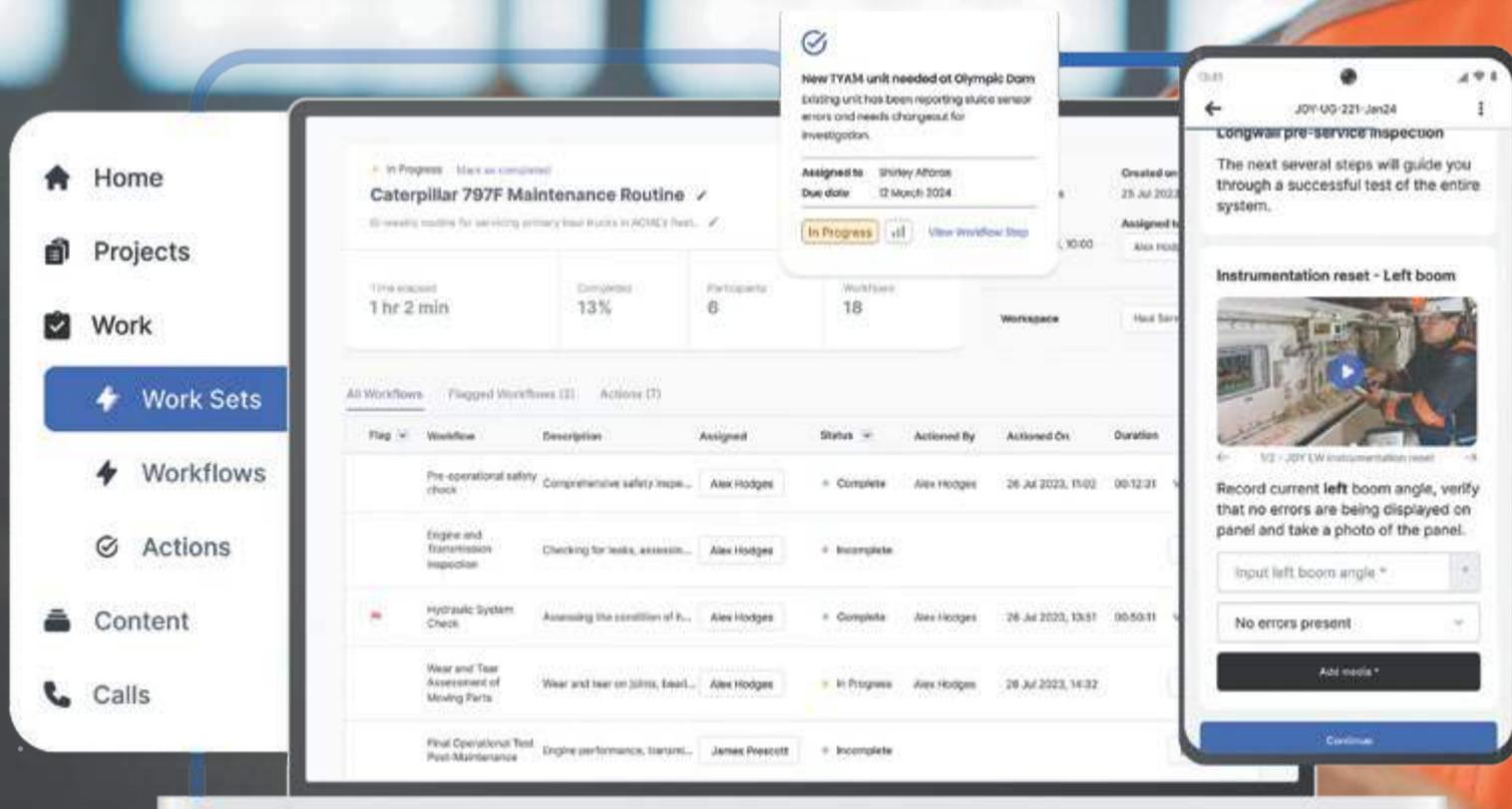
- User Interface customisation
- API Integration
- Management reporting
- Critical site dashboard tools

SAFETY, SITE AND PROJECT CONSULTING

SmartTech Australia has project teams that have worked across almost all categories of the industry in Australia during the past. These dedicated teams provide clients with consulting services that focus on the safe application, design, installation and maintenance of various technologies.

The Guided Work Instructions Platform

Guarantee that every job, from your production floor through to routine field maintenance, is completed to your highest standard. No exceptions.



New TYAM unit needed at Olympic Dam
Existing unit has been reporting splice sensor errors and needs changeout for investigation.

Assigned to: Shirley Afloras
Due date: 12 March 2024

Caterpillar 797F Maintenance Routine
30 weeks routine for servicing primary haul trucks in ACM's fleet.

Time elapsed	Completed	Participants	Workflows
1 hr 2 min	13%	6	18

Flag	Workflow	Description	Assigned	Status	Actioned By	Actioned On	Duration
	Pre-operational safety check	Comprehensive safety inspection	Alex Hodges	Complete	Alex Hodges	26 Jul 2023, 15:02	00:12:21
	Engine and Transmission Inspection	Checking for leaks, assessment...	Alex Hodges	Incomplete			
	Hydraulic System Check	Assessing the condition of P...	Alex Hodges	Complete	Alex Hodges	26 Jul 2023, 13:51	00:50:11
	Wear and Tear Assessment of Moving Parts	Wear and tear on joints, base...	Alex Hodges	In Progress	Alex Hodges	26 Jul 2023, 14:32	
	Final Operational Test Post-Maintenance	Engine performance, start...	James Prescott	Incomplete			

Longwall pre-service inspection
The next several steps will guide you through a successful test of the entire system.

Instrumentation reset - Left boom

Record current left boom angle, verify that no errors are being displayed on panel and take a photo of the panel.

Input left boom angle *

No errors present

Add media *

Continue

Give it a go: Upload any procedure, manual, mud map or operational checklist and we'll turn it into a HINDSITE Workflow, ready to use.



TRUSTED BY HIGH PERFORMING METS OPERATIONS ACROSS AUSTRALIAN MINES

GroundProbe

Hastings Deering



IMDEX **RTI**

REAL TIME INSTRUMENTS



hindsiteind.com

Know how.

A FAMILY-OWNED COMPANY WITH A PASSION FOR QUALITY

A family company that began operations in 2004 in a 132m² shed and only one truck, Tefol has not only expanded the scope of products and services it supplies but now also works across more regions.

Whilst line boring was the core of the business when trading commenced, Tefol has expanded and diversified into many areas.

Its fleet of dual system line boring service trucks were the first in the Hunter Valley and its fully scalable and portable mobile milling equipment is the product of continued investment and research and development.



This gives customers all over Australia a far more efficient and professional result. Tefol's manufactured products, such as its machinery access ladder systems and solar/self-powered trailers, were the result of working with businesses to understand exactly what is needed.

Mining

Tefol provides a range of mining services, including line boring, freeze work, boiler making, mobile milling, refurbishment, machining, laser alignment and body building.

Tefol introduced the first dual-system mobile boring service vehicles in the Hunter Valley back in 2004 and its line boring services provide superb quality boring that is always precise.

All boiler making and servicing is done by Tefol, including mechanical, electrical, machine shop, fabrication, onsite portable machining, HVAC-R, preventative and predictive, vibration analysis, dynamic balancing and infrared thermography.



Transport

Local experts in heavy vehicle transport, Tefol provides truck and trailer servicing and maintenance, engine repairs and rebuilds, heavy vehicle wheel alignments, auto electrical, air conditioning, custom stainless fit-outs and spare parts sales.

Other transport services include fleet servicing, RTA authorized inspections, brake testing, wheel alignments, spare parts, complete engine overhauls and 24/7 breakdown service.

Ladder Systems

Experts in ladder access systems, Tefol carry out refurbishments and provide comprehensive parts and service solutions for all leading ladder makes and models, including those from other manufacturers. All TefSteps ladder access systems are built using premium steel from Australia and are hand made in the Hunter Valley.

Emergency Services

Tefol is exclusively employed and contracted by the RFS, SES and Corrective Services to service and maintain their emergency service vehicles.

Engines and Water Pumps

Carrying a huge range of diesel engines and water pumps from brands such as Deutz, Yanmar, Hatz, Perkins and Kohler, Tefol can supply a pump to a range of industries such as mining, machining, automotive, marine and agricultural.

Spare Parts

Tefol has been supplying premium and cost-effective spare parts and products in the Hunter Valley for nearly a decade. The company provides a huge range of parts for all vehicles and machinery, including firewall safety enhancements, armature lifting fixtures, alloy walkways and engine access platforms. **AMR**

Tefol

Mining. Transport. Manufacturing

(02) 4015 3600 

marketing@tefol.com.au 

tefol.com.au 



TEFOL, INVESTORS IN QUALITY SOLUTIONS

We provide world class refurbishment and reclamation services predominantly to the mining industry. In addition to operating a comprehensive transportation service centre, our company also excels in the engineering and production of a diverse range of products. These include innovative ladder access systems, mobile lighting towers, and advanced solar-powered remote trailer solutions, all tailored to meet the needs of leading corporations and organisations.

WE ARE PROUD DISTRIBUTORS OF:

-  HATZ Engines and parts
-  Yanmar Engines and parts
-  DEUTZ Engines and parts



ENGINEERING & HIGH PERFORMANCE
PLASTICS SPECIALISTS



Premium TIVAR® UHMW-PE & QuickSilver® Truck Lining Systems
E-Plas Bulk Handling & Flow Promotions Solutions Range by MCAM



Learn More

Australia Wide Delivery & Service VIC QLD NSW SA WA
Ph: 1800 806 475 www.eplas.com.au sales@eplas.com.au
Stock Shapes, Cut to Size, Custom CNC Manufacturing



HARNESSE PRO AUSTRALIA:

PROVIDING ULTIMATE OEM HARNESSE AND WIRING SOLUTIONS

Established in 2017 as a division of Jenmar Australia, Harness Pro Australia offer innovative, dependable and customised electrical harnesses to ensure smooth operations for equipment and businesses.

All harnesses are Australian-made and produced at Harness Pro's manufacturing facility in Mackay, Queensland. With supply centres across Queensland, NSW, Victoria and WA, no matter where you are in Australia, you'll be covered with the shortest possible delay.



All products adhere to the highest quality control standards, and once assembled, every harness undergoes rigorous visual and computerised testing for capacitance, resistance, diode polarity and continuity.

Braided Harnesses

Instead of using the corrugated conduit, Harness Pro surpasses current industry standards by braiding the wires which holds the internal wiring tight and prevents any movement.

The braided harnesses are woven with a



high tensile, multifilament coating which gives the underlying wiring superior protection from external abrasion and environmental factors.

Advantages includes:

- Greater protection against abrasion
- Prevents internal wire movement
- Higher fire resistance
- High tolerance to oil, grease and other engine fluids
- UV resistance
- Withstands higher heat ranges up to 150°C
- Reduces overall diameter, allowing the harness to fit into restricted areas

Apprentice Programs

As part of its apprentice programs, Harness Pro internally promoted a trade assistant to become an apprentice in its workshop with a second to start shortly. Harness Pro has also worked with BHP/BMA to host apprentices, also in the workshop, and give them industry experience.

OEM Replacement

As fast supply is not often possible for OEM supplied replacement harnesses, the timeline for equipment maintenance, rebuild or repairs can be derailed if the lead time for replacement harnesses is up to several months.

As Harness Pro is all local, there is a short turnaround time and companies don't have to worry about equipment being out of action for extended periods while parts are sourced.

Harness Pro has built a reputation for supplying high quality harnesses to repair contractors and OEM companies within lead times required to keep rebuilds on schedule.

OEM replacement harnesses are available for all equipment brands, including major companies such as CAT, Komatsu, Liebherr, Epiroc, Toyota and Hitachi. **AMR**



Quality BRAIDED HARNESSES

Manufactured in Mackay

- Braided OEM Replacement Harness
- Braided Custom Harness
- Control Boxes
- Cab Rebuilds
- Braiding
- Accessories



www.harnessproaustralia.com.au • Ph: (07) 4952 8780
sales@harnessproaustralia.com.au

Celebrating their 300th Dragline Bucket, CR and industry partners raise \$60,000 for Mackay ATSIChS health services

CQ001, the First EarthEater, 1998



Founded in Mackay in 1979, CR Powered by Epiroc has been a long-trusted partner in the mining industry in Australia and globally.

Through innovation and unrivalled customer service, CR has disrupted the dragline industry by developing advanced "first-in-class" bucket designs, from the EarthEater in 1998 to the Hurricane 2.0 in 2016. With productivity gains 16% higher than conventional dragline buckets, it's no surprise that nine out of ten draglines in Australia are fitted with CR buckets.

45 years on, CR is delivering its 300th dragline bucket (CQ300) to the South Walker Creek mine in Mackay. Marking this milestone, CR has joined forces with Bisalloy Steels and other major industry partners to support our local communities. Together, the partners raised \$60,000 for Aboriginal and Torres Strait Islander

Health Services in Mackay — a local NFP organisation committed to providing holistic health care to Aboriginal and Torres Strait Islander people.

This milestone would not have been possible without CR's strong industry partnerships.

Bisalloy Steels has been a trusted partner of CR for almost 30 years. Since the EarthEater in 1998, 'BISPLATE 80' has been used in the bucket build, eliminating the need for wear strips.

"The Q&T steel used in the Hurricane buckets not only withstands the intense pressures and abrasive environment of the mining operation, but it is also a testament to our commitment to quality and performance."

"CR has chosen BISALLOY® Steel for our buckets due to its unparalleled durability and strength — crucial qualities for the demanding conditions our buckets face. The Q&T steel used in the Hurricane buckets not only withstands the intense pressures and abrasive environment of mining operation, but it is also a testament to our commitment to quality and performance", says Eddie Hutcheon, CR's Facility Manager.

This process significantly reduced the bucket's overall weight and drag energy, resulting in less fuel being burned, which in turn reduces the energy consumption by generating fewer emissions. A Hurricane bucket delivers a 19% reduction in drag energy, saving an estimated 2,217 tonnes of CO₂ per annum.

The BISALLOY® Steel range has enabled CR to innovate, further optimising bucket performance whilst increasing payload capacity. The CR team works with the technical team at Bisalloy Steels to ensure continual improvement in bucket efficiency, cycle times, energy consumption, and maintenance downtime.

Breakthroughs in design and material selection pave the way for a more efficient and sustainable future for the mining industry. Here's to the next 300 buckets.

Hurricane 2.0 dragline bucket since 2016



"Unparalleled durability and strength."

BISALLOY® Wear & Structural steel range



As Eddie Hutcheon, CR's Facility Manager can testify, BISALLOY® Structural and Wear steel is unparalleled in durability and strength. That's why it's an essential ingredient in CR dragline buckets. Bisalloy Q&T plate helps achieve market-leading productivity and efficiency gains, by reducing weight but retaining load-carrying capacity and resistance to wear and impact.

Bisalloy

bisalloy.com.au/products

LINKFORCE: WHERE WE WORK, WHERE WE GROW



David Fiscaro Operations Manager East Coast at Linkforce Mackay, Queensland.

What started as a small team of shutdown specialists and a single utility in the Pilbara, WA, has transformed into a leading integrated maintenance, engineering and project services business with locations across Australia. Linkforce is dedicated to delivering positive outcomes for clients in the mining, industrial, telecommunications and energy sectors.

Linkforce boasts a fully integrated delivery model paired with a capable workforce of more than 3,000 personnel, a fleet of modern vehicles and advanced equipment and industry expertise formed over its 17 years of operations. Underpinning all aspects of operations are Linkforce's values of people, unity, agility, determination and delivery.

Shutdown and maintenance specialists

Linkforce is an experienced maintenance specialist with proven capabilities in executing shutdown works on fixed plant and coal handling and preparation plant (CHPP) infrastructure. Linkforce's highly skilled team specialises in repairing, maintaining and replacing all components of industrial mining plants and equipment. By focusing on extending asset life and maximising production value, Linkforce has established itself as a leading maintenance provider for blue chip clients within the resource sector. As a high-volume supplier, Linkforce consistently delivers outcomes with a high productivity completion rate, a strong safety culture and substantial cost savings for clients.

Integrated service offerings

Linkforce is committed to providing an end-to-end delivery model through its integrated in-house services, extensive industry knowledge and experienced operational workforce. Its multidisciplinary services include mechanical, fabrication, rope access, scaffolding, electrical, crushing services, precision maintenance, high density polyethylene, telecommunications, transport, and construction.

As a leading integrated maintenance provider for Australia's largest mining companies, its comprehensive service offering enables Linkforce to deliver efficient and cost-effective shutdown solutions.

Investments into regional infrastructure

Linkforce operates across Australia, with facilities in Perth, Pilbara, and Goldfields in Western Australia, and now extending their reach nationwide with a presence in Mackay, Queensland. Linkforce has developed the practice of 'we live where we work' and has aligned its business operations to build significant infrastructure near its regional work fronts. This regional presence enhances operational effectiveness and allows Linkforce to positively contribute to local industry and the development of the wider community.

Linkforce officially opened a Mackay, Queensland, operations hub in 2023. This expansion now serves as the central hub for all east coast operations. **AMR**



Electrical maintenance.

DELIVERING OUTCOMES



LINKFORCE IS AN EXPERIENCED MAINTENANCE SPECIALIST WITH PROVEN CAPABILITIES IN EXECUTING SHUTDOWN WORKS ON FIXED PLANT AND CHPP INFRASTRUCTURE, FOCUSING ON EXTENDING ASSET LIFE AND MAXIMISING PRODUCTION VALUE.

OUR MULTIDISCIPLINARY SERVICES INCLUDE:

MECHANICAL	FABRICATION
SCAFFOLDING	ROPE ACCESS
ELECTRICAL	CRUSHING SERVICES
PRECISION MAINTENANCE	HDPE
TRANSPORT	TELECOMMUNICATIONS
	CONSTRUCTION

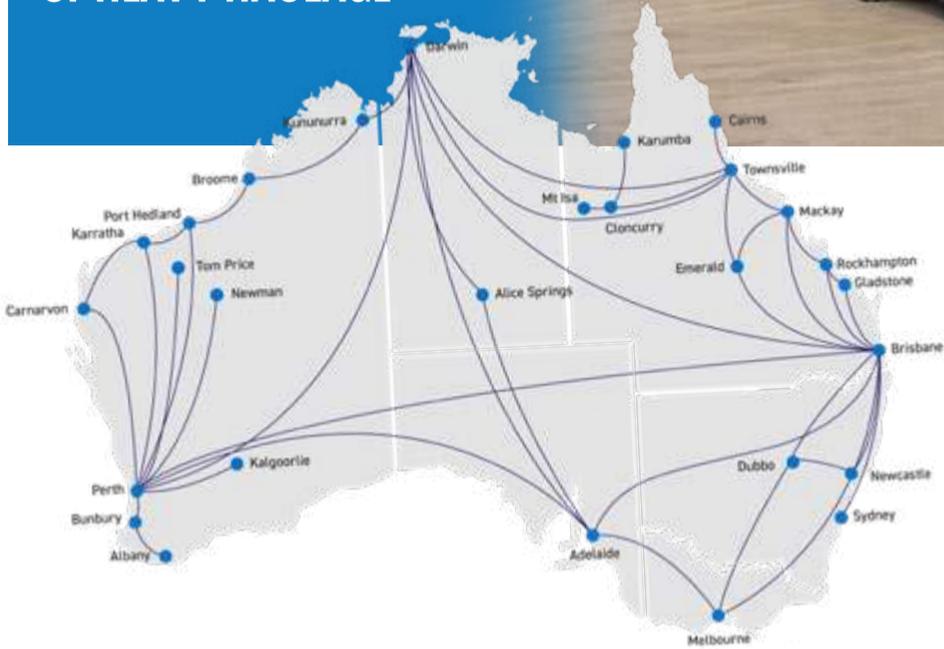
WE ARE COMMITTED TO PROVIDING AN **END-TO-END** DELIVERY MODEL THROUGH OUR INTEGRATED IN-HOUSE SERVICES, EXTENSIVE INDUSTRY KNOWLEDGE AND EXPERIENCED OPERATIONAL WORKFORCE.



LINKFORCE.COM.AU

CENTURION

MAKES LIGHT WORK OF HEAVY HAULAGE



Leading Aussie heavy haulage provider, Centurion, is no stranger to the mining industry. As a privately owned company with more than 50 years' experience in transport and logistics, Centurion has become renowned for its integrated services suited to Australia's harsh, remote and resource-rich regions.

Since the early 1970s, the business has played an integral role in many large-

scale mining, oil and gas, and retail projects, supporting both construction and operational phases. From explorers and suppliers, to contractors and EPC's, Centurion provides critical equipment, special project support, tailored distribution and supply-base solutions.

To meet the unique demands of the mining and heavy haulage industry, Centurion leverages a dedicated project manage-

ment team that collaborates closely with OEMs, suppliers and vendors, to oversee detailed route surveys, journey and traffic management. This is backed by over 2,000 assets and advanced logistics technologies, delivering safe and reliable storage and transportation solutions.

"Our vehicles travel millions of kilometres each year across Australia to ensure mines receive their freight and equipment on-time and on-budget," said Centurion General Manager of Heavy Haulage, Marc Pritchard. "When you choose Centurion for your mining and resource freight services, you'll be partnering with one of the leading transport and logistics companies in the country."

Pritchard added that, on the East Coast Centurion's heavy haulage division specialises in transporting gear weighing between 20 and 165 tonnes.

When it comes to cranes and rigging projects, Centurion's cranes, heavy lift and shift projects division offers turnkey logistics solutions to suit jobs of all sizes.

The fleet is capable of handling loads of up to 250 tonnes, which cover everything from mine shutdown works, to lift studies and transport engineering.

"Our turnkey project capabilities encompass everything from planning, and route surveys, through to logistics scheduling, supply chain and contractor management, and OH&S compliance," said Pritchard.

"We offer a single point of contact for transport, crane importation services, freight forwarding, and post-completion services, including continuous improvement and maintenance works. When dealing with major industrial players, there's nothing more important than delivering safe and compliant solutions that give our customers the peace of mind they will receive their freight, when and where they need it."

For more information on Centurion's national heavy haulage services, email eastcoastsales@centurion.net.au or visit www.centurion.net.au/mining/

AMR



PROVIDING SAFE AND RELIABLE NATIONAL SUPPLY CHAIN SOLUTIONS

Centurion has provided our mining clients with customised distribution, special projects, IT support, and supply-base solutions for over fifty years.



LIVETEST WIRELESS DEVICES: CONNECTING TO SAFE SOLUTIONS

The team at LiveTest are keeping operators out of the line of fire since 2017 with BlueDial and BluePSI wireless measurement devices. These wireless products allow for measurements to be taken remotely with intuitive software, reducing operator exposure to high-risk situations and improving safety.

These types of products are crucial in the mining industry for checks, as miners working on a 24-hour rotation on multiple machines are at great risk of injury during live testing.

LiveTest has established themselves as a solutions-driven supplier from their inception. LiveTest was initially purchased to solve a safety concern in the metal working industry, but quickly expanded by identifying the need for wireless, remote devices in the mining sector and beyond.

A customer asked LiveTest director Arthur Alexiou if there was a product to measure capable of providing accurate live readings from a distance, reducing risk to operators. After searching, LiveTest found the solution.

The BlueDial incorporates Bluetooth Low Energy technology and a dial indicator to measure movement. The BluePSI is a wireless pressure sensor used for the measurement of liquid or gas pressure as well as temperature.

Other items such as Bluetooth tachometers and range finders are in the product lineup.



BlueDial and BluePSI integrate Bluetooth, allowing the user to remotely access measurement readings on their phones, tablets, and Windows PCs via the MultiGage app.

"BlueDial and BluePSI allow users to get the data they need from a safe distance; allowing them to run their machines without risk of hydraulic injection or being crushed by heavy machinery," said Arthur.

"The whole premise behind the product is you can do a measurement of equipment at a distance and out of the line of fire.

"Take hydraulic injection for example, you have the potential to kill somebody if you're at the machine and something fails.

"You can put this device on the machine and walk away from any danger and test a piece of equipment while it's live and following the correct device procedure, you're reducing the risk to the operator," he said.

BlueDial and BluePSI ensure operators have access to readings from anywhere, and most importantly, that they get home safely at the end of the day.

The BlueDial and BluePSI have broad applications and have been applied in metalworking, power stations, rail, construction and renewable energy.

LiveTest director Arthur Alexiou expanded further on these applications.

"The point of difference between our product and other similar products on the market is our software; the software on our platform is thought through and users can change it to suit their application," he said.

"It's intuitive; operators can read and record measurements on the software, they can stream on MultiGage cloud view and share their readings to another user, name the device or input data to create and personalise their dashboard on up to 14 devices.

"We customise the kits ourselves according to the customers' requirement.

"You can also test different points simultaneously with different devices giving your more information about machine wear and premature failure, identifying the problem before it becomes a risk to the operator or damaging machinery.

"For example, the Go / No Go Judgement feature will show the user if the machine is operating within the determined parameters."

In improving safety, these devices increase productivity and reduce costs, as they require only one operator to test from the cab.

"Put simply, people need this product, and we need to educate people on the potential of the product," he concluded. Ensure your operators stay safe and get out of the line of fire with LiveTest. **AMR**

ELIMINATE LIVE WORK

CUSTOM KITS FOR TESTING HEAVY MACHINERY

- Hydraulic Pressure
- Movement Checks
- RPM Measurement
- Boom Sag & Track Testing
- Rotor Runout
- Vibration Analysis
- Crankshaft Deflection

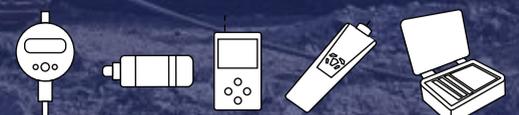


One Application, ALL Devices.
MultiGage Capability with Software on PC, Tablet & Mobile.



LIVETEST
GET OUT OF THE LINE OF FIRE

02 4017 0198 | sales@livetest.com.au | livetest.com.au





SOMETHING BIG IS COMING!

Find out more visit us at

QME

STAND OS400

JULY 23-25



WELDING INDUSTRIES AUSTRALIA



WELDING.COM.AU



With over 20 years of OEM experience, Maxim Maintenance Solutions provides maintenance services, asset health and equipment management solutions.

Services include, providing labour support requirements for servicing, maintenance repairs, component rebuilds and shut-downs on mining plant equipment, civil construction, road haulage network, rail, on-highway heavy commercial vehicles, oil and gas sectors.

Maxim provides maintenance systems auditing and supply cost-effective solutions for identified bottlenecks of defects ratifi-

cation to set goals, attain smoother operations and asset health reliability.

Heavy Duty Machine Services

Maxim's resourcing specialists will work with you to assemble a highly qualified asset management team to enhance the workforce and equipment performance. Both short-term and long-term services can be provided to offer continuity and build a service history.

Mobile Diagnostic and Key Programming

Maxim offer advanced and unique all-in-one OE level mobile diagnostic, advanced maintenance and key programming solutions for more than 80 US, Asian and Euro-

pean vehicle makes and models. The team of highly skilful technicians combined with state-of-the-art equipment and facilities ensures world-class and reliable solutions are delivered every time.

Advanced maintenance solutions include electronic parking brake reset, diesel particulate filter, SAS testing, oil reset, battery management system, tire-pressure monitoring systems and tire-pressure sensor ID relearn.

Non Destructive Testing

Non destructive testing and non destructive examination apply predominantly to industrial inspections but the techniques used are similar to those in the medical industry such as X-rays and ultrasounds. Methods range from simple techniques to far more advanced technologies, with innovations and advancement continually being introduced.

Maxim performs visual and optical testing, magnetic particle testing, ultrasonic testing, penetrate testing, electromagnetic testing,

leaking testing, acoustic emission testing and thermal imaging.

Innovative Solutions

Maxim's innovative solutions use technology, 5's and Six Sigma methodologies to continuously improve maintenance strategies that effectively integrate with operations and service delivery, and support and dispatch its services in a way that maximises performance and asset life.

The company has signed equipment maintenance contract with Permacast and the company supports maintenance teams for major companies such as BHP, WesTrac, RHT, Emeco, Hitachi, Harness Master, Carey Mining and Thiess, plus sub-contracting to RIO, Caper Group and Clark Equipment.

Additionally, Maxim supports and carry out shutdowns and maintenance throughout the Goldfields, Pilbara and Perth Metro areas on fixed and processing mining plants, heavy mobile, construction, rail, offshore and road networks.

AMR

Heavy duty maintenance solutions

Pick Maxim Maintenance Solutions for all your heavy duty maintenance services, Asset Health and Equipment management solutions.

We are dedicated to providing unmatched maintenance services and solutions in the mining, offshore, rail and construction industries.

We offer:

- Comprehensive maintenance services
- Advanced diagnostic solutions
- Component rebuilds
- Supporting maintenance teams in ongoing services and shutdowns
- Equipment Asset Health & Reliability services

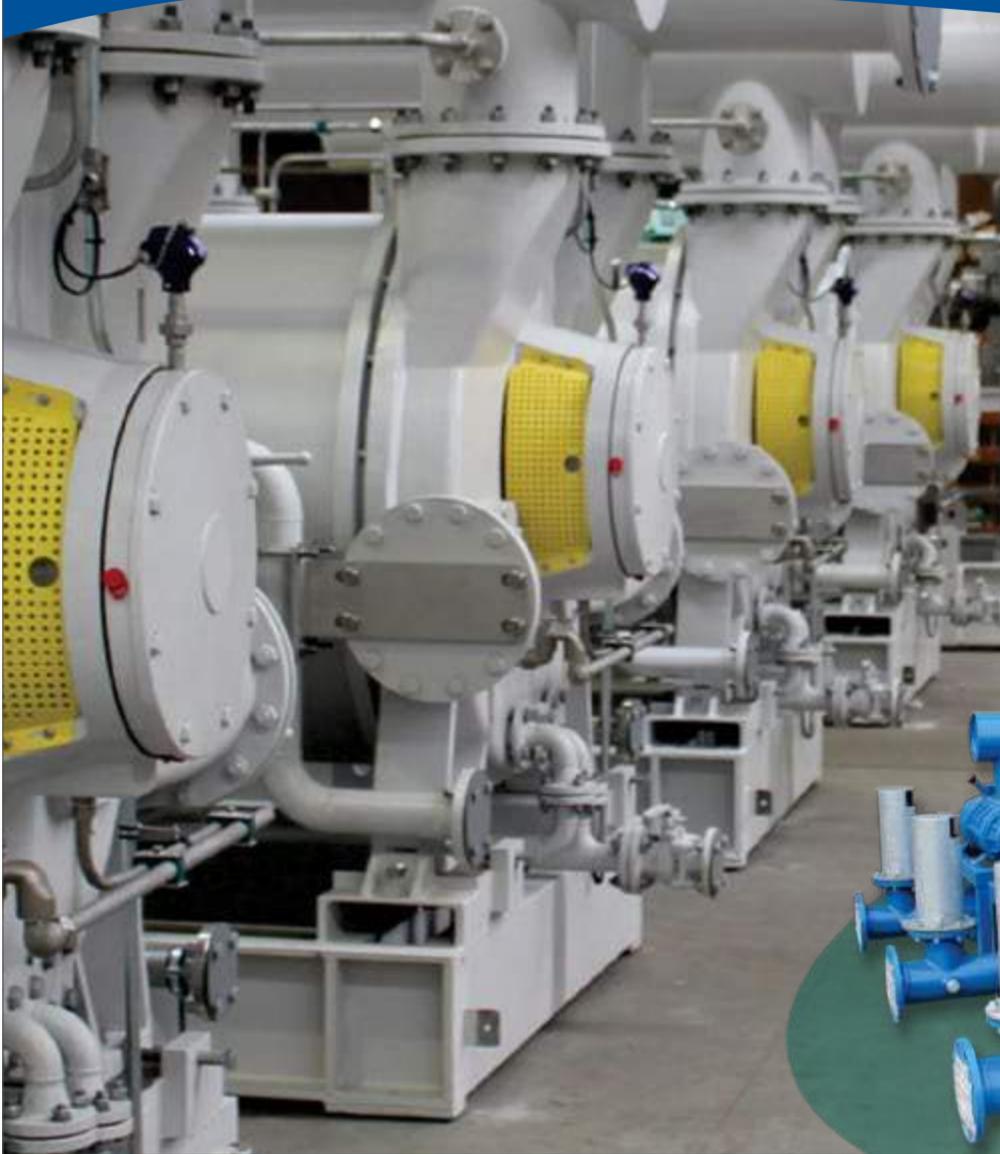
📞 0499 595 287
 📞 0499 596 026
 ✉️ admin@maximmaintenancesolutions.com
 🌐 maximmaintenancesolutions.com





EMTIVAC

VACUUM PUMP & SYSTEM ENGINEERS



PRODUCTS

- Liquid Ring Vacuum Pumps
- Liquid Ring Compressors
- Positive Displacement Blowers
- Turbo Blowers
- Multistage Centrifugal Blowers

APPLICATIONS

- Vacuum Filters for Mineral Processing
- Coal Mine Methane Extraction
- Flotation Cells, Heap Leaching, Acid Plants
- Pneumatic Conveying

SERVICES

- Repair, Refurbishment & Servicing of Blowers & Liquid Ring Pumps
- Spare Parts for Blowers & Liquid Ring Vacuum Pumps
- On Site Efficiency Testing of Vacuum Pumps
- On Site Services: Installations, Laser Alignment, Condition Monitoring
- System Design & Troubleshooting Consulting Service



Dandenong South, VIC 3175, Australia
Ph: 1300 791 199 Email: info@emtivac.com

www.emtivac.com.au



FLO-MASTER

- Mine Water Management & Dewatering Solutions
- Dust Suppression
- Process Plant Applications
- Efficient & Reliable End Suction & Splitcase Pumps

Ph: 1300 791 199

Email: info@emtivac.com

www.flo-master.com.au

EFFECTIVE PROTECTION FOR STEEL AND CONCRETE COMPONENTS

Steuler's rubber linings provide effective protection for steel and concrete components against chemicals, mechanical attack and organic contaminants.

Depending on the medium and temperature, Steuler uses materials based on natural rubber, halobutyl rubbers, chloroprene and styrene-butadiene rubbers.

Steuler's rubber linings are used at temperatures up to about 120°C. A unique feature is its KERABUTYL HT, which extends the application range of rubber linings up to 150°C.

Rubber linings offer:

- high chemical resistance to a wide range of different media;
- high flexibility, which allows use even with movement in the substrate;
- high resistance to abrasive loads;
- high resistance against diffusion.

As a full-service supplier, Steuler offers the optimum quality for every application, every timeframe and every installation situation.

Steuler has extensive internal tests to assess their rubber lining's chemical resistance and many years of experience in application and external tests, such as technical approvals or confirmation of suitability in the potable water sector.

ON-SITE RUBBER LININGS

Steuler's on-site rubber lining systems are

the means of choice when the application of rubbing lining is required directly on-site at the construction site or at our customer's plant.

They are used, for example, when vessels are too large and heavy for transport or vulcanisation would be technically impossible or too time-consuming.

For large or built-in vessels, Steuler draws on a range of rubber linings that can be vulcanised on-site without the need for an autoclave.

These rubber linings achieve similar properties to autoclave vulcanised materials to be lined.

If on-site vulcanisation is not possible, self-vulcanising grades that vulcanise even at ambient temperature can be used.

Alternatively, pre-vulcanised grades can be used, which are ready for use just a few hours after bonding.

The focus is on easy transport of the sheets

already vulcanised at the workshop, extremely safe processing with Steuler's new KERATEX adhesive, as well as fast commissioning.

WORKSHOP RUBBER LININGS

For transportable components such as smaller tanks, pipelines and filter plates or mobile units such as transport vessels and ISO tank containers, rubber lining at the workshop is an option.

Thanks to the use of unvulcanised and thus easy-to-process rubber sheets, even highly complex components such as filter plates or fans can be lined without any problems.

The final vulcanisation in the autoclave leads to optimum adhesion in the seams and between rubber and steel.

Steuler's materials for workshop rubber linings are optimised for easy application in combination with maximum chemical and thermal resistance:

From conductive hard rubber linings with

high tolerance to organic contaminants even at temperatures above 100°C to soft rubber linings for the alternating transport of a wide variety of media such as waste acids, mixed acids, chlorine bleaching lyes and rubber linings for pipes subject to high abrasive loads.

In Steuler's portfolio, clients can find the right system for every application.

REPAIR SYSTEMS

Even the best rubber lining can be damaged at some point.

Minor damage caused, for example, during the cleaning of vessels or the installation and removal of scaffolding or built-in parts can be quickly and easily repaired with the help of our repair mortars in order to maintain operations.

Depending on chemical and thermal load, these mortars can serve as a permanent repair or at least provide corrosion protection until the next scheduled period of downtime and repair with the original material. **AMR**

THE **ULTIMATE** IN CORROSION PROTECTION

+61 7 5443 2991

enquiries@steuler-kch.com.au

www.steuler-kch.com.au

STEULER | Linings



SAFETY FIRST:

GREYMANOPS REDEFINES INTEGRATED PEST MANAGEMENT SOLUTIONS FOR MINING AND RESOURCES COMPANIES WITH AI DRIVEN TECHNOLOGY

In the dynamic world of mining and resources, where safety is paramount and environmental stewardship is a moral obligation, the challenge of pest management looms large. Pests present occupational health and safety (OHS) risks to mine workers from feral animals, accidents caused by pigs, deer and other animals on and around mines and present large costs to operations to replace vehicles, interruptions to production and most importantly, injury (or worse) to workers.

GreymanOPS stands out as a leader in innovation, redefining the industry with their comprehensive Integrated Pest Management (IPM) programs. At the heart of GreymanOPS's approach lies a commitment not just to efficacy, but to optimising safety and environmental sustainability through the integration of cutting-edge thermal drone technology.

GreymanOPS understands that traditional pest management methods can pose risks to workers and neighbouring communities. Chemical treatments, manual inspections, and physical barriers, while effective, often require workers to navigate hazardous terrain and exposure to potentially harmful substances. The

collateral damage to the environment and nearby rehabilitation areas can undermine the very principles of responsible resource extraction. GreymanOPS works closely with senior site executives and open cut examiners to co-develop comprehensive workplace risk assessment and control documentation to guarantee safety of all site users and equipment.

To address these challenges, GreymanOPS has embraced thermal drone technology as a cornerstone of their tailored IPM strategies. These advanced drones are equipped with state-of-the-art thermal imaging cameras, capable of detecting pest activity with unparalleled precision. By conducting aerial surveys, GreymanOPS can identify pest hotspots and nesting sites from a safe distance, minimising the need for ground personnel to venture into potentially hazardous areas. GreymanOPS is also developing AI to enhance tracking and monitoring of movements.

The immediate benefits of this innovative approach are manifold. For mine workers, the integration of thermal drone technology means reduced exposure to physical hazards and toxic chemicals, leading to a safer working environment and enhanced morale. Neighbouring

communities also stand to gain, as the risk of pest infestations spreading beyond the confines of the mine site is significantly mitigated, safeguarding public health and well-being and drastically reducing significant biosecurity threats such as African swine flu, foot & mouth disease, lumpy skin disease and others that are spread by feral pigs.

The environmental impact of GreymanOPS's IPM programs are profound. By minimising the use of chemical pesticides and adopting a targeted, precision-based approach to pest management, they reduce the risk of contamination to soil, water and air. This not only protects fragile ecosystems but also supports the rehabilitation efforts of mining and resources companies, ensuring that disturbed areas can be restored to their natural state with minimal disruption.

GreymanOPS has proven success in IPM on sensitive and restricted sites—particularly mine sites. One aerial destruction program they delivered over six days removed 551 feral pigs, 20 wild dogs and seven feral cats over two operating mine sites near Blackwater, Queensland in November 2023. In February 2024, they removed 48

pigs in one night with a precision ground marksmanship program, which was followed up with a comprehensive baiting program that is still underway.

Cattle stations and properties neighbouring the mines have benefitted significantly by participating in GreymanOPS programs, as mines subsidised most of the costs associated.

GreymanOPS' integration of thermal drone technology represents a paradigm shift in the field of pest management for mining and resources companies. By prioritising safety, environmental sustainability, and community well-being, they demonstrate that effective pest control need not come at the expense of human health or ecological integrity. As the industry continues to evolve, GreymanOPS stands as an example of how innovation and responsibility can go hand in hand, paving the way towards a safer, more sustainable future for all.

GreymanOPS plans to deliver further aerial destruction programs at other mines in September 2024 and March 2025. Contact GreymanOPS to ask how they can help develop site specific IPM for your mine. **AMR**



Integrated feral animal solutions for mines

Greyman OPS is your premier provider of comprehensive aerial and ground animal control operations on mine sites.

- ✔ licensed (QPS & CASA) & insured (PL & PI) professional animal control company
- ✔ nationally accredited for Humane Destruction of Animals using firearms
- ✔ certified by CASA to carry and discharge from aircraft nationally
- ✔ operate UAVs day and night under ReOC (Chief Pilot UAV) license
- ✔ significant experience delivering complex and remote animal control projects discreetly
- ✔ perfect safety record

Greyman OPS

Environmental & Biosecurity Solutions

ops@greyman.com.au



OLI AUSTRALIA

POWERS NEW HARD ROCK PROCESSING PLANT BY RIDGE PROJECTS

The Australian mining, quarrying and hard rock processing sector continually pushes the boundaries of technology and engineering to maintain its competitive edge in the global market. A prime example of this innovation is the new hard rock processing plant built by Ridge for Alex Fraser Group in Epping, Victoria. This state-of-the-art facility represents a significant milestone in the industry, particularly in its adoption of advanced vibratory technology supplied by Oli Australia.

Alex Fraser, a leading supplier of recycled construction materials, engaged Ridge to deliver a turn-key crushing facility at their Epping site. Ridge is a leading provider of innovative bulk materials handling solutions to Australia's quarry and mining industry. Adopting cutting edge technology, the new crushing facility enables Alex Fraser to reduce their costs of production, increase safety in maintenance and operation, and boost annual throughput to meet the demands of the growing market.

The project, executed in two stages, underscores the importance of precision engineering and reliable equipment. Ridge

worked with ToThinkEngineering to supply two critical Pan Feeders for the plant, each designed to handle the rigorous demands of processing road based materials. These feeders are central to the plant's operation, ensuring consistent and efficient material flow to various crushing stages.

The first Pan Feeder, a VRF 1200 x 3000, is equipped with twin MVE5200/1E vibrators from Oli. This feeder is a powerhouse, delivering in excess of 350 tons of hard rock to a Horizontal Shaft Impactor (HSI) to produce aggregate. The robust construction and reliability of the MVE5200/1E vibrators were key factors in their selection for this demanding application. The ability to maintain consistent performance under heavy loads ensures minimal downtime and maximizes productivity, a critical factor in the mining industry.

The second Pan Feeder, a VCF 1000 x 4000, also features twin Oli vibrators, specifically the MVE6500/1E models. This feeder is tasked with handling oversize material, directing it to a high-performance HP Cone Crusher. The MVE6500/1E vibrators are engineered to provide the necessary force and durability required to handle large,



abrasive materials. Robust construction ensures long-term reliability, even in the harshest mining environments.

The choice of Oli vibrators for these feeders was a strategic decision based on their proven track record in the hard rock processing sector. Known for their reliability and robust construction, Oli vibrators are built to withstand the extreme conditions often encountered in mining operations. Their European design, combined with advanced manufacturing technology, positions Oli at the forefront of the market. The vibrators undergo rigorous factory testing to ensure they meet the highest standards of quality and performance.

Oli Australia's contribution to this project goes beyond just supplying equipment; it represents a commitment to supporting the Australian mining industry with top-tier products and services. With a well-stocked warehouse based in Melbourne, Oli Australia ensures that most requirements can be fulfilled within 24-48 hours, providing a critical advantage in maintaining the operational efficiency of rock processing projects. The new processing plant by Ridge for Alex

Fraser is a testament to the importance of collaboration and the integration of advanced technologies in mining operations. By leveraging the expertise of ToThink Engineering and the reliability of Oli Australia's vibrators, this project sets a new standard in processing plant design and operation.

As the hard rock processing industry continues to evolve, the role of reliable, high-performance equipment becomes increasingly vital. Oli Australia is proud to be at the forefront of this evolution, providing the tools necessary to power the future of mining, hard rock processing, and quarrying in Australia. For companies seeking robust and reliable solutions for their surface operations, Oli Vibrators offer unmatched performance and durability, ensuring they remain the preferred choice for projects across the sector.

For more information on Oli Australia and their range of vibrators, contact them 24/7 and join the growing family of companies that benefit from their exceptional products and services. **AMR**

**For more information visit
www.olivibrators.com.au**



THE WORLDWIDE LEADER IN VIBRATION TECHNOLOGY

INDUSTRIAL VIBRATORS

Designed for industrial sectors

OLI is the world's top selling manufacturer of electric and pneumatic vibrators. The high level of customer service, guaranteed by 18 trading subsidiaries worldwide, and long-lasting and performing products make us always ahead.

Our vibrators are designed for industrial applications in all sectors, from the most extreme environments such as quarries, mines and foundries to the food and pharmaceutical.



OLI Vibrators Pty Ltd. 7 Jellico Drive, Scoresby Vic 3179, Australia - Phone: +61 3 9764 9988 - Mail: info@olivibrators.com.au - www.olivibrators.com.au



CS GAS is your partner for high performance industrial equipment.



Every step of manufacture, instrumentation and installation is overseen by the CS GAS team.

CS GAS CELEBRATES 20 YEARS

As CS GAS celebrate 20 years of business, they invite you to embark on a journey of innovation and commercial success. CS GAS manages the end-to-end process of projects entirely in-house. This means every aspect of each project undergoes meticulous optimisation and execution, guided by precision and expertise, to help clients surpass even the most ambitious innovation, environmental and commercial targets.

From manufacturing to instrumentation and installation, each step is overseen by their in-house team, ensuring seamless operation. The manufacturing and engineering teams deliver high-quality solutions tailored to a range of industrial ap-

plications and engineering, procurement and construction (EPC) requirements.

CS GAS' history of delivering high-performance industrial equipment forms the cornerstone of their innovation capability. CS GAS is your partner for enhanced cost-effectiveness, streamlined management and elevated safety standards, all with a single point of accountability.

Optimising Commercial Outcomes

CS GAS recently worked with Kestrel coal mine, where their expertise was sought to propose a gas drainage solution. It had been identified that the estimated gas drainage requirement for Kestrel's next panels were considerably higher than the previous panels. With CS GAS managing

the entire process end-to-end, they had the agility to add an extra blower and flare during the equipment build and still deliver on budget and on time. CS GAS completed the project within the original project timeframes and demobilised from the site six weeks ahead of the contractual date, ensuring full functionality and health, safety and environment (HSE) requirements.

Exceeding Environment and Innovation Targets

Treating workover fluid has traditionally been a costly and time-consuming process, requiring trucks to transport water to and from job sites. CS GAS was engaged by a major coal seam gas client to design and manufacture a solution for treating

workover waste fluids with an objective to improve effectiveness and increase speed of operations.

By combining trusted technologies in a new way, CS Gas' engineering and manufacturing teams worked closely together to create a new standard of water processing. Their innovative Workover Solids Treatment Trailer fits within a single road transportable package and improves safety, environmental and commercial outcomes by significantly reducing trucking operations, costs, non-productive time, water and wastewater requirements.

Want to learn more?
Visit www.csgas.com.au

AMR

CELEBRATING 20 YEARS OF ENGINEERING INNOVATION

For over two decades, CS GAS has provided high-quality industrial equipment solutions for the mining, gas, water, and industrial sectors. Push the boundaries of possibility.

Challenge us, we're ready!



 (07) 3273 4222 | csgas.com.au



WORLD'S FIRST EXCLUSION ZONE FOR MOBILE PLANT. BECAUSE EVERYONE DESERVES TO GET HOME SAFELY.

In a world where safety is paramount, Incident Zero has pioneered a groundbreaking innovation, setting a new precedent for workplace safety. The ethos is simple: a safe return home for every worker, every single day. And with the advent of the Safety Halo™, that vision takes an unprecedented leap forward.

At the heart of this evolution lies an unexpected collaboration—a synergy between an Australian truck driver and a luminary laser engineer from the United States. What began as a chance encounter after a speculative email blossomed into an extraordinary partnership, driven by a shared passion for safety innovation.

The Safety Halo, a testament to this partnership, employs a revolutionary concept: harnessing low-powered red laser light to delineate a distinct exclusion zone around mobile machinery. Developed over a rigorous seven-year research and development phase, this system redefines safety standards within mining environments.

Behind its brilliance lies a profound understanding of human-eye biophysics, intricate laser engineering, and an

unwavering commitment to meeting global safety standards. The result? A laser system that defies convention—resilient, bright, long-reaching, and impervious to the harshest rigours of mining sites while maintaining an impeccable safety classification.

What sets the Safety Halo apart isn't just its technological finesse; it's the intuitive design that speaks a universal language to all.

The stark red zone signals danger in a way that transcends language barriers or educational levels. It triggers an innate response, compelling individuals to instinctively steer clear of potential hazards, making it arguably the most effective mobile plant exclusion zone system available today.

Unlike conventional systems reliant on driver input, the Safety Halo stands as an autonomous guardian, a beacon of safety ensuring that the riskiest human-machine interactions become a thing of the past.

For more information about the Safety Halo™ by Incident Zero, please visit www.incident-zero.com or phone 1300 845 451.

LASER SAFETY HALO™

 INCIDENT ZERO



Dedication to our
Customers,
Carriers
and Cargo




+61 7 3908 1999

team@wrlshippingau.com

WWW.WRLSHIPPING.COM.AU

- Ocean, Air, Rail & Road Freight
- Biosecurity Management
- Customs Clearance
- Marine Insurance

ADVANCING MINING OPERATIONS: SPOTLIGHT ON SIL2 & SIL3 SOLUTIONS

In the dynamic world of mining, safety and efficiency reign supreme. Tele Radio® and Telemation®, two industry leaders, have joined forces to offer tailored solutions that address these critical needs head-on.

Safety Integrity Level 3: A Standard for Safety Excellence

Tele Radio's remote control systems adhere to Safety Integrity Level 3 (SIL3), underscoring their unwavering commitment to safety in mining environments. Given the inherent risks of heavy machinery and challenging work conditions, stringent safety measures are essential. SIL3 compliance ensures that Tele Radio's remote control systems meet rigorous safety standards, instilling operators with the confidence needed to navigate potentially hazardous environments safely. By embracing Tele Radio's SIL3 compliant solutions, mining companies can significantly reduce the risk of accidents and safeguard their most valuable asset—their workforce.

Enhanced Operational Efficiency through Automation

Telemation's automation solutions (PLC's) are engineered to elevate productivity and efficiency across mining operations & can for fill SIL2 safety standards. Mining tasks are intricate, demanding precision and accuracy. Telemation's drill rig systems, for example, facilitate fully autonomous operation, minimising manual intervention and downtime. By harnessing advanced automation technologies, mining firms can optimise their operations, boost throughput, and slash operational expenses. Telemation's mining automation solutions empower companies to stay competitive by fostering operational excellence.

Tailored Solutions for Heightened Productivity

Recognising the unique challenges of the mining sector, Tele Radio and Telemation offer bespoke solutions tailored to specific requirements. Whether deploying remote control systems for drill rigs or



designing automation solutions for mining processes, the team collaborates closely with clients to devise tailored solutions that enhance productivity and efficiency. Drawing upon Tele Radio's remote control expertise and Telemation's automation proficiency, the partnership delivers comprehensive solutions that yield tangible results for mining companies. This collaborative approach ensures that each solution is meticulously tailored to meet clients' unique needs, driving productivity and operational excellence.

Shaping the Future of Mining

Tele Radio and Telemation aren't merely providing solutions; they're shaping the future of the mining industry. Their unwavering commitment to safety,

efficiency, and innovation positions them as trusted partners for mining firms seeking to optimise their operations and foster sustainable growth. Armed with cutting-edge technologies and industry expertise, they empower mining companies to overcome challenges, maximise productivity, and unlock new avenues for success. As the mining landscape evolves, Tele Radio and Telemation remain at the forefront, delivering innovative solutions that propel the industry towards a safer, more efficient future.

Explore the comprehensive range of products and services offered by Tele Radio and Telemation to revolutionise your mining operations and unlock your business's full potential. **AMR**

telemation
Customised automation & control solutions for the mining industry

Contact us!
+61 (0)8 6253 4000
sales@telemation.com

Our partners:
CROSSCONTROL EPEC INXPECT blink TROMBETTA

tele radio
wireless solutions

CAT3 PLd SIL3 PLe

**SAFE INDUSTRIAL
REMOTE CONTROL
FOR MINING**

Follow us!
[QR Code]

ALL WEST ENGINEERING GOES ALL OUT



As a diversified contractor managing projects for some of the world's largest mining companies, going above and beyond is all part of a day's work. Aussie company All West Engineering (AWE) understands how to approach large-scale projects, all possible through state-of-the-art facilities and an expert workforce.

As an Australian company conveniently located across key partnering areas in Western Australia, Queensland and Victoria, AWE provides a range of solutions for on-site and off-site engineering and maintenance support - from turnkey engineering solutions, design and drafting, line boring and mobile maintenance, to fixed plant shuts, custom manufacturing and site installation services.

AWE Managing Director Sandra Harris said the company's skilled tradespeople

play a pivotal role in delivering specialised services for both mobile and fixed plant environments.

"Onsite field maintenance, rostered support and shutdowns, we are confident our team will deliver high quality and cost-effective solutions to every project. We're focused on meeting timeframes and exceeding customer expectations so they benefit from reduced downtime and streamlined productivity."

When asked about their 'we go beyond' philosophy, Ms Harris explained that when it comes to safety, quality and service, it's about stepping up serviceability and leveraging our suite of solutions.

"We can mobilise teams and equipment quickly, whether it's one person or a large team, short-term or long-term placement,

across multiple trades, to ensure all our clients' needs are covered," she said.

"We also have a facility in Perth specialising in refurbishment and fabrication of mobile equipment assets, such as buckets, booms, arms and trays. We have over 4,000sqm of workshop floor with 80-tonne overhead crane capabilities and an in-house design team, all of which are geared up for turnkey services and tight delivery timelines."

AWE can manufacture attachments designed for high productivity, lightweight or heavy-duty hard rock applications across a range of commodities like iron ore, coal, gold, lithium and mineral sands. Our rebuild capacity for offsite repairs of mine assets, sees the company utilise its own induction heating system to control welding pre-heat, maintain interpass temperature, and conduct post-welding

heat treatment. Each rebuild is delivered with a manufacturers data report (MDR) for traceability and give clients confidence the asset has been designed and constructed to the highest standards.

"We also take our ESG agenda seriously," added Harris. "We are committed to reducing our footprint across all areas of our business, and will leverage technology and team capabilities in our effort to balance greenhouse emissions with equivalent offsets. For instance, our workshop undertakes active steel recycling to direct all waste into scrap metal collection, and we work closely with our clients during the design and development phase to achieve lightweight bucket designs for reduced steel consumption and lower emissions during field operations." **AMR**

For more information, visit www.allwesteng.com.au

WE GO BEYOND



AWE

We're an Australian company conveniently located across key partnering areas in Western Australia, Queensland and Victoria. At AWE, we proudly partner with some of the world's largest mining operators and contractors, providing solutions for on-site and off-site engineering and maintenance support.

- Turnkey Engineering Solutions
- Design and Drafting
- Line Boring
- Mobile Maintenance (HD Fitters, Boilermakers, Auto Electricians)
- Fixed Plant Shuts (Mechanical Fitters, Boilermakers, Riggers)
- Site Support Services

Let's Discuss How We Can Work Together either as a client or a future career in the industry

📍 49B Nardine Close, High Wycombe, WA 6057
 ☎ 08 6117 9704
 🌐 allwesteng.com.au





PROTECTING WORKERS FROM THE DEPTHS BELOW

Operators working on industrial sites are constantly exposed to safety hazards as they go about their day-to-day tasks. In water and wastewater maintenance, the risk of falls is a real threat, particularly when working in and around open pump station voids. These open pits are unavoidable as they are the primary access point to critical water and wastewater infrastructure. That's why functional safety access solutions are so important in order to eliminate the risk of potential falls.

One company leading the charge to protect operators in these environments is Austral International. The company has worked closely with the wastewater industry to develop and refine innovative safety access solutions that are both functional and fit-for-purpose.

"Whether you're a mine operator, civil contractor, engineer, water authority or local council, our aluminium safety covers, fall arrest solutions, and lifting gantries, are

designed with specific site requirements in mind," said Austral General Manager, Jacob Colledge.

Designed and manufactured in Australia, the quality safety access covers and portable fall arrest and lifting gantry, are dedicated to improving operator safety.

Colledge explained that both products are ideally suited for the water and mining industries, particularly in areas above confined space entry points and underground tanks.

"Although initially designed for the wastewater market, we are seeing our access covers used in many other industries, including mines and above/below ground tanks. These are ideal in protecting personnel from the dangers of pump station maintenance.

"They are lightweight, ergonomic, feature a fold-up safety grate with four-sided access protection, and are compliant to handrail

height requirements of 900mm. The full aluminium construction offers corrosion resistance and longevity, while the safety grate design allows the access gates to operate independently, which enables access to one pump at a time, whilst still maintaining a four-sided barricade."

Both the FSP Premium series and the TSP dual safety grate series meet AS 3996-2006 (access covers and grates) and AS/NZS 1665:2004 (welding of aluminium) industry standards.

Austral's portable fall arrest and lifting gantry on the other hand, is a versatile solution ideal for any confined space entry work or recovery operation. It combines the large working span of a fixed gantry beam with the lightweight portability of a tripod.

"Developed to mitigate safety concerns when using traditional tripod or davit systems over large openings, our gantry offers adequate clearance over large

safety barriers and an adjustable span capable of providing sufficient offset for the user's anchor point to be positioned directly above the work position, reducing the risk of pendulum falls," said Colledge.

"It's engineered as a two-person fall arrest system, making it ideal for confined space work or rescue operations requiring two people, or as a fall restraint attachment point for a spotter."

Although it's primarily designed as a height safety system for personnel, the portable safety gantry doubles as a 1,000kg goods lift when used in conjunction with correct materials handling accessories. The lifting gantry can also be used for lifting large pumps, valves and other components from within pump stations.

For more information, visit
www.australint.com.au

AMR



 **Austral**
international

**Safe, innovative
& functional
access solutions
for the water and
mining industries**

At Austral International, we're committed to safety. From mine operators, civil contractors, and engineers, to water authorities and councils, our aluminium safety covers, fall arrest solutions, and lifting gantries, protect operators when undertaking maintenance on critical water and other below ground services.

📞 1300 010 151 ✉️ sales@australint.com.au 🌐 australint.com.au

REVOLUTIONISING DUST CONTROL IN MINING WITH CURTpro



With CURTPro software, site wide dust issues can be managed by computer or tablet from a central control room.

Efficient dust control is critical for maintaining a safe and productive work environment. Enter CURTpro, the latest innovation in automatic dust management from EmiControls, designed to address the unique challenges faced by mining operations. CURTpro sets a new standard in dust control with advanced features, ensuring optimal performance, ease of use and seamless interconnectivity.

CURTpro's automated management system offers unparalleled control by monitoring all dust controllers, spray systems and connected components of a plant in real-time. This smart, easy-to-operate system allows for complete customisation and configuration to suit specific operational areas. Linked sensors enable CURTpro to react automatically to changing conditions, ensuring optimal dust suppression without constant human intervention. This reduces the burden on workers and enhances resource utilisation. One of CURTpro's standout features is its ability to be tailored to each operation. It

can be centrally controlled via an interactive dashboard, or remotely controlled, offering flexibility and convenience. The system's automated processing and sensor technology ensures autonomous operation based on preconfigured rules, adapting to external inputs as necessary. This level of automation is crucial for maintaining consistent and efficient dust management, helping to identify optimisation opportunities without additional staff resources.

Key advantages of CURTpro include:

- **Complete custom configuration:** Tailor the system to each operation



Dust control equipment can be completely automated, triggered by dust monitors, environmental sensors or signals from equipment.

area and control it through an interactive dashboard or remotely.

- **Automated processing and sensor technology:** The system works autonomously via preconfigured rules, responding to external inputs and adjusting operations accordingly.
- **Efficient dust & odour management:** Continuous monitoring and reporting help identify optimisation opportunities, freeing up staff for other tasks and improving overall efficiency.

Integration with existing systems is seamless for the CURTpro software. The system's granularity allows for precise and targeted dust control, maximising effectiveness. The user-friendly dashboard and sleek interface make it easy for operators to control and monitor dust management operations. This technology mitigates potential human error and creates efficiencies by freeing up staff for other responsibilities on-site.

According to industry experts, implement-

ing CURTpro can significantly enhance the site wide management of dust, improving both safety and productivity. The automated features of CURTpro not only optimise energy and water usage, but also ensure compliance with environmental regulations, which is increasingly important in today's mining operations.

For those looking to enhance their dust control measures, CURTpro represents a cutting-edge solution. Tecpro Australia, the exclusive distributor for all EmiControls dust and odour control products in Australia, offers expert consultation and support for implementing CURTpro in your operations.

To learn more about how CURTpro can revolutionise dust control in your mining operations, contact Tecpro Australia's team of technical experts today. Transform your site dust management and ensure a safer, more efficient work environment with CURTpro. **AMR**

Zero Emission Dust Control Vehicle DUSTCAT 5000

Introducing the Dustcat 5000. A revolutionary fully-electric dust suppression vehicle. Distributed exclusively by Tecpro Australia.

- > Full-electric, offering total autonomy & flexibility
- > Equipped with an all-terrain crawler chassis
- > Resource-saving & highly efficient operating all year round
- > 5,000 liter water tank & 6h battery operating time

Contact us for your free brochure
1800 832 776
info@tecpro.com.au

Tecpro
AUSTRALIA
Technical Solutions You Can Rely On

SITE SAFETY - LOCK OUT STAY SAFE

**GROUP LOCK BOXES
OF ALL SIZES**
One person, one lock

**QME
Stand
A512**



If more than one person is working on the same plant, each person should attach their own personal padlock to each isolation point to prevent the equipment being operated.

The isolation procedure should identify common lock out points to ensure energy cannot be restored while someone is still working on the plant.

To avoid the need for multiple locks on each lockout point, a group lock box will often be used.

Group lock boxes are a great solution for isolating energy points when a large team is working.

Using a group lock box allows you to dramatically reduce the number of locks required on a job, as well as limiting the weight on each isolation point by eliminating the need for lockout hasps and multiple padlocks, plus it provides a quick overview of who is still working without going to each energy point to check.

Under this system each lockout point is locked by only one lock (usually the supervisor).

The keys to the locks of the plant's lockout points are placed inside a Group Lock box, which is locked by all the individual locks of people working on the same plant.

As each worker's task is completed, he or she removes their own personal lock.

When all locks have been removed, an authorised site supervisor verifies all workers are out of danger before reactivating power supplies or equipment.

There are many options available when it comes to group lock boxes and their sizes.

Currently Cirlock stock options from 16 to 84 padlock holes, also in varying designs to suit the needs of the job.

Larger group lock boxes also include storage hooks for padlocks when not in use and instruction holders can be fitted to some models.

Group lock boxes play an important part in site safety and efficiency.

Now with even a custom-made option available there are no excuses for compromising site safety and all employees can be kept safe using the most up to date equipment to enforce the most stringent procedures on your site.

Contact: sales@cirlock.com.au

Tel: 07 5445 2910

www.cirlock.com.au

AMR

CIRLOCK

LOCKOUT / TAGOUT EQUIPMENT

LOCKOUT EQUIPMENT

GROUP LOCK BOXES

When multiple people need to work on the same equipment, a Group Isolation Box is often used. The equipment is Locked Out by a maintenance padlock (or a supervisors padlock), the key is placed inside the Group Isolation Box and all workers place their keys on the outside of the box preventing access to the Equipment Key until all work is complete.

LOCKOUT PADLOCKS

Cirlock's Lockout Tagout Padlocks come in 8 different colours, with various shackle sizes and shackle types (Non-Conductive and Stainless Steel) and can be keyed differently, keyed alike or master keyed, to suit your requirements.

Cirlock Padlocks are available for immediate dispatch.



See our full range on our website: www.cirlock.com.au

lockout@cirlock.com.au | 1300 889 738

**VISITING
QME?
COME
SAY HI
- STAND A512**

PLASMA WEAR PARTS:

Elevating Grader Blade Innovation



In the competitive and demanding environment of the mining industry, equipment efficiency and safety are paramount. As high-level maintenance superintendents and decision makers, you understand the critical role of cutting-edge technology in achieving operational excellence. Enter Grader Link, developed by Valley Blades Ltd and distributed in Australia by Plasma Wear Parts, a groundbreaking solution designed to enhance your mining operations.

Safe and easy fitment

One of the standout features of Grader Link is its safe and easy fitment. Traditional grader blades often require cumbersome lifting equipment and multiple personnel for installation, posing safety risks and consuming valuable time. However, Grader Link, transforms this process. Its sectional design limits the weight of each

blade to a mere 20.9 kg, enabling a single person to fit it without the need for any lifting equipment. This innovation not only streamlines the installation process, but also significantly reduces the risk of injury, ensuring a safer working environment for maintenance staff.

Moreover, the dual Nord Lock system incorporated in Grader Link ensures superior alignment and rigidity of the blades. This advanced locking mechanism prevents bolts from coming loose during long service hours, enhancing the durability and reliability of the blades. The result is a robust solution that withstands the rigors of continuous use in harsh mining conditions.

Extreme wear life

The most compelling advantage of Grader Link is its exceptional wear life. Lever-

aging a triple carbide design, combining tungsten carbide overlays with tungsten inserts, Grader Link achieves wear hours up to eight times longer than standard original equipment manufacturer (OEM) grader blades. This remarkable longevity translates to fewer blade replacements, reducing downtime and maintenance costs. The unique welding pattern on the end blades further enhances wear resistance, ensuring consistent performance throughout the blade's lifespan.

Customisation

Customisation is another key benefit of Grader Link. Understanding that mining conditions vary, Plasma Wear Parts offers multiple wear patterns to suit different operational needs. Whether you require straight grader blades or serrated options, the tungsten inserts can be configured as single or dual pattern to optimise

wear performance based on specific site conditions. This level of customisation ensures that you receive a solution tailored to your unique requirements, maximising efficiency and cost-effectiveness.

Final word

At Plasma Wear Parts, we are excited to bring this innovative product to the Australian mining market. Grader Link promises to deliver substantial savings for your site, minimise changeovers, reduce risk, and free up your maintenance staff's time for more critical tasks. Embrace the future of grader blades with Grader Link and experience the transformative benefits it offers to your mining operations.

AMR

We are looking for interested mine sites to trial this product on CAT 24 graders. Are you ready to elevate site safety and halve your grader procurement costs? If that sounds like you, we would love to hear from you!

GRADER LINK™ PATENTED

VBL ValleyBlades LIMITED

- UP TO 8 TIMES LIFE OF STANDARD OEM BLADES & TWICE LIFE OF STANDARD HARDFACED BLADES
- SAFER 1-MAN FITMENT (20.9KG MAX PART WEIGHT)
- CUSTOMISED OPTIONS FOR TAILORED SOLUTION



0450 372 229
sales@plasmawearparts.com.au
www.plasmawearparts.com.au

PLASMA
WEAR PARTS

REINVENTING THE WHEEL

Mining wheels and rims have always been a point of discussion among dump truck owners and operators.

Balancing hours of use with product longevity has always been tricky, with product utilisation hours often determined by the wheel's weight.

But this is where OTR's newest innovation comes in – a game-changing product that challenges conventional thinking about wheel and rim utilisation.

OTR's Australian Engineering and Design team has created the Ultra-Life-eXtreme (ULX) wheel, which uses smarter materials and design principles to address the balance between utilisation hours and product longevity.

"Time and money are very closely linked in a lot of industries, and mining is definitely one of those," says Travis Parsons, OTR General Manger Sales.

"By being a heavier duty item with data backed fatigue reductions, the ULX wheel will allow operations to extend compulsory testing and replacement regimes. In turn, this will save downtime and money."

The team conducted data-backed finite element analysis and gathered histor-

ical in-field usage data, allowing them to create a product with a substantial gain in overall wheel life and extended wheel service interval requirements with proven fatigue reduction in critical areas.

The OTR team works closely with the end user to extend wheel life and service intervals, so they realise the best possible value for money, while maintaining compliance to the service standard requirements. Travis says this communication is key to how OTR does business.

"Most of our product designs come from our end users," he says. "It's that ability to interpret their voice and convert it into a product that works that sets us apart."

"It's all about partnerships – that's what we offer. We aim to become a part of people's business, an extra division to their operations."

With the ULX wheel, dump truck owners and operators can rest assured that safety concerns will be addressed, and their end-of-life strategy for wheel and rim usage

will be challenged. This means increased production availability, reduced safety concerns, and reduced maintenance costs.

By converting to the OTR Ultra-Life-eXtreme wheel, new or existing fleets can enjoy these benefits while reducing their carbon footprint, making it the perfect solution for sustainable mining operations.

"Without progress in design, materials and manufacturing techniques, innovative product offerings will halt," Travis says. "We work closely with our customers to offer products that both suit the task at hand and offer market-leading pricing. Additionally, sustainable manufacturing techniques are key to our business as one of the only manufacturers left in this space in Australia."

The ULX wheel has also been designed to deliver extended lifespan without compromising safety or performance. Dump truck owners and operators no longer need to worry about balancing product longevity and payload weight reductions.

"With over 70 years' experience, OTR is a team that you can trust," Travis says. "Plus, we're Australian owned, and our products are Australian engineered and Australian manufactured."

"By adopting this brand-new technology, dump truck owners and operators can enjoy increased production availability, reduced safety concerns, and reduced maintenance costs, while also helping pave the way for a more sustainable future." **AMR**

To learn more about OTR's Ultra-Life-eXtreme wheel and the many benefits they can bring, contact OTR – Tyres, Wheels and Axles on 1300 CALL OTR, or visit www.otraustralia.com or scan the QR Code to hear more about the product.



The biggest range of OTR tyres & wheels for the Mining, Industrial & Construction sectors

OTR Australia supply earthmover, agricultural, truck, bus and light vehicle tyres and rims from 6" through to 63" in diameter, to blue chip mining, civil contracting, road transport companies, agricultural dealerships and end users.

We maintain a healthy inventory of new and used earthmover tyres of critical sizes and have the ability to custom manufacture Australian Made wheels in 1 of our 10 locations Australia wide.

SALES PHONE 1300 CALL OTR | www.otraustralia.com
Please send us an email with any enquiries to sales@otraustralia.com

Yatala, QLD | Perth, WA | Mildura, VIC | Muswellbrook, NSW | Emerald, QLD | Karratha, WA | Port Hedland, WA | Kalgoorlie, WA | Geraldton, WA

OTR
TYRES WHEELS AXLES

EXHIBITOR REFERENCE GUIDE

JULY 23-25 2024

@ The Coalface
 4PS Software & Mackay Safety
 4PS Software (Mackay Safety)
 A Class Business Finance
 Acu-Tech Piping Systems
 Advance Rockhampton
 Advanced Spatial technologies
 Aeolus Tyre Co. Ltd
 Affirmer

A363 A-FLO Equipment
 A812 Airesafe
 A812 Al Marwan Machinery
 A810 Alcolizer Technology
 B534 Alemlube
 A234 Amcap Industrial And Paton Diesel Services
 A563 Amphenol Australia
 OS720 Andrew Wilcox Mp
 B926 Anglo American

OS118 Apex Welding Safety Pty Ltd
 A564 Aps Lighting & Safety Products
 C400 Aps Power
 A144 Asi Solutions
 A238 Assa Abloy Australia Pty Ltd
 OS148 Atom
 A304 Ausproof
 OS256 Austart Air Starters
 B316 Austdac Pty Ltd

C302 Austral International
 OP902 Australian Concrete Mats
 OS864 Australian Diversified Engineering Pty Ltd
 C116 Automation Group
 A760 Avk Industrial Australia Pty Ltd
 A216 Awe Mechanical
 A460 Bata Industrials (Bata Shoe Company)
 A326 Bharat Wire Ropes Limited (Bwr)
 A168 Bhp/Bma

A544
 OP104
 A670
 B520
 A462
 C314
 A130
 A860
 B228





MACKAY SHOWGROUNDS

Bisalloy Steels Pty Ltd

- Bk Recycling Pty Ltd
- Black Moth
- Blackrock Mining Solutions
- Blue River Water Pty Ltd
- Boa Hydraulics
- Bosch Power Tools Australia
- Bowen Basin Mining Club
- Brady Australia Pty Ltd
- Bravus Mining And Resources
- Bray Controls Pty Ltd
- Bronto Skylift Aust/Nz
- Brooks Equipment Sales
- Btp Group
- Buma
- Bus 4~4 Group Of Companies**
- Busch Anz Pty Ltd
- Caplugs Australia
- Ccg Cable Terminations
- Centurion Accommodation & Modular
- Centurion Transport**
- Challenger Valves & Actuators
- Chesterton
- Cirlock**
- Cleanaway Industrial & Waste Services
- Cma Contracting
- Coates
- Coerco
- Commodore Australia Pty Ltd
- Complete Business Technologies Pty Ltd
- Container Domes Australia
- Containit Solutions
- Control Systems Technology Pty Ltd
- Corehesion
- Cotral Hearing Protection
- Cquiversity Australia
- Cr Powered By Epiroc/Cq Rescue
- Crc Industries (Australia)
- CS Gas Pty Ltd**
- Cse
- Csm Service Bodies
- Danfoss Pacific
- Daywalk
- Detection Services
- Direct Logistics
- Dneo Co.,Ltd
- Don Kyatt Group / Terrain Tamer
- Donly Australia
- Dredge Robotics
- Drive Systems
- Dynapumps
- Earthtrack Group Pty Ltd
- East Coast Lubes
- Eaton Electrical Australia
- Eco Solar Lighting
- Emerson
- Emtivac Engineering Pty Ltd**
- Endress+Hauser
- Enerflow
- Enmach
- Envinomist Pty Ltd
- Enware And Watts Water Technologies
- E-Plas**
- Equipment Placement
- Expressway Spares Pty Ltd
- Fan & Blower Co Of Australia
- Field Solutions Group & Maxhub
- Fire Protection Industry (Ods & Sgg) Board
- Flexco Australia Pty Ltd

- A676** Flotech Controls
- B700 Flsmidth Pty Ltd
- OP906 Form Direct
- A108 Fulton Hogan Pty Ltd
- C218 Ggc Cranes, Rigging And Scaffolding
- OS300 Glencore
- OS110 Global Water Group
- B118 Gough Plastics/Northern Plastics
- A328 Graphex Gloves
- B134 Grydale
- A176 Haian Rubber
- A162 Hammelmann Australia
- OS238 **Harness Pro Australia**
- B916 Harvey Hire
- B128 Hasemer Materials Handling
- OS878 Hawk Measurement Systems Pty Ltd**
- OS852 H-E Parts International
- C318 Henan Naiceram Grinding Materails Co.,Ltd.
- A712 Hengtong Cable Australia Pty Ltd
- C402 Hidrive
- OS700 High Amp**
- OP120 Hillcock Industrial
- A226 **Hindsite Industries**
- A512 Hitachi Construction Machinery (Australia)**
- B620 Holistic Asset Management
- A764 Hosch
- A450 Hoses24
- A772 Huesker Australia Pty Ltd
- OS252 Icutter Industries
- OP910 Ifm Efector Pty Ltd
- OS860 Imatech
- B516 **Incident Zero**
- A556 Incinolet Australia
- A308 Iqs Solutions
- C404 Isenring
- A624 Isringhausen Pty Ltd (Isri Seats)
- A560 Itero Australia
- A612 **ITM Mining Pty Ltd**
- A174 Itr Pacific**
- A206 Jb'S Wear
- OS200 Jiangsu Jusung Intelligent Industrial Techn Co.
- A256 **Kaesar Compressors Australia**
- OS138 Keldan Commercial Pty Ltd
- A856 Kennametal Australia Pty Ltd
- OS232 Knl Engineering
- C212 **Komatsu**
- B622 Kraus & Naimer
- A856 L&M Radiator Pty Ltd
- A548 Laserbond Pty Ltd
- A434 Leveltec Engineering Pty Ltd
- A160 **Lincoln Electric Company**
- OS800 Lincom Group
- A722 **Livetest**
- A112, A428 Loctite (Henkel Australia)
- A104 Lpg Fire Australia
- A774 M&Q Equipment
- B910 Macht Tools Pty Ltd**
- A208 Mackay Airport Pty Ltd
- C304 Mackay Regional Council
- A562 Mackellar Group
- OP222 Macmahon Contractors Pty Ltd
- OP508 Makita Australia
- A246 Mammoth Equipment & Exhausts**
- A300 Marechal Australia
- OS128 Mastermyne
- C224 Mates In Mining
- A340 Mato Australia Pty Ltd
- A146 Matrix Design Australia
- A400 Mcneall Plastics

- C202 Metabo Power Tools
- B920 Metso Australia Pty Ltd
- A872 Milwaukee Tool
- A766 Minemend
- OP906 Mining Elements & Co Pty Ltd
- B216 Mining Warehouse
- C200 Mobile Test 'N' Cal, A Trescal Company
- A763 Motion
- A128 Mountain Road Holdings Pty Ltd
- A264 Mw Group
- C110 N.C.R. Rubber Industry Co., Ltd.
- OP222 **NAPA Parts**
- A800 Nautitech Mining Systems Pty Ltd**
- OP518 Nb Industries
- OS834 Nilfisk Pty Ltd
- A306 Nitto Kohki Australia Pty Ltd**
- OS248 Nivek Industries Pty Ltd
- A142 Nit Digital Solutions
- C222 Nobles
- OS228 Norbar Torque Tools (Aust) Pty Ltd
- OS882 Norman G. Clark (A/Asia) Pty Ltd
- A124 Norweld Australia
- A646 Ok Foreign Trade & Mining**
- OS340, OS338 Oliver Footwear And Honeywell Safety Products
- B524 One Industries
- A842 Ontoto Pty Ltd
- OS210 Original Mattress Factory (Omf)
- A524 Orix Australia Pty Ltd
- A442 **OTR Tyres Australia Pty Ltd**
- A200 Ox Trailers
- B932 Parker Hannifin Australia Pty Ltd
- A412 Pathtech**
- B624 Pedders Suspension & Brakes
- A542 Pemo Pumps & Pump Power Australia P/L
- A550 Pinnacle Hire
- A426 **Pirtek Fluid Systems Pty Ltd**
- OS874 Plantman
- OS856 Portwest**
- OS846 Pramac Generac Australia
- A156 Prime Creative Media
- A600 Prime Mining
- OP218 Pronto Software Pty Ltd**
- B626 Proreman Pty Ltd
- A150 **Protoblast**
- B924 Psah Group
- OS418 Pump & Abrasion Australia Pty Ltd**
- A263 Pump And Abrasion
- A404 Qml Pathology
- A456 Queensland Hydro
- A350 Radical Torque Solutions Pty Ltd
- OS812 Radicon Transmission Australia Pty Ltd**
- A626 Rainstorm
- C332 Rapid Crushing & Screening Contractors Pty Ltd**
- A660 Red Earth Eng & Logistics Solutions
- OP124 Regal Rexnord
- C214 Remote Energy Pty Ltd
- A830 Revizto
- A850 Richie'S Engineering Services & Ett
- A616 Safe Fleet
- B122 Safegaug / Torctight
- OP922, OP926 Sandvik Rock Processing Australia
- A360 Scanreco
- C310 Schaeffler Australia Pty Ltd
- A448 Seat Shop Australia Pty Ltd
- A520 Sedgman Pty Ltd
- B116 Seme Solutions
- A416 Sentis
- A704 Sheffield Group Pty Ltd
- A508 Signal To Noise

- C410 Sime Darby Industrial Services
- B526 Sitech Construction Systems
- A870 Sixt Australia
- A166 Skylovec Australia
- A642 Skytrans
- C408 Slingco Australia
- OS868 Smc Corporation (Australia) Pty Ltd
- OS350 Soft Rigging Solutions
- C100 Soil Rehabilitation Inputs
- A204 Solid Engineering
- A346 Source Pumps
- A656 Southern Cross Industrial Group**
- A546 Spa - Salary Packaging Australia
- A334 Spee3D
- A838 Ssab Swedish Steel Pty Ltd
- A348 Stabilised Pavements Of Australia
- OP202 Statewide Bearings
- A822 Sulzer Australia Pty Ltd
- C122 Sutton Tools Pty Ltd
- A356 Sync Lift Engineering
- A312 Team Global Express
- OS838 Techking Tyres Australia Pty Ltd
- C420 Technogym
- A504 Techware Pty Ltd
- A240 **Tefol North Qld X Tex Services**
- A900 Teksal Safety
- A628 Tele Radio Australia**
- A804 Testo - Measuring Solutions Specialist
- OS828 The Seat Shop**
- OS100 The University Of Queensland
- OS410 Thiess Pty Ltd
- A148 Tnc Cranes
- A834 Torque Tools Australia
- OP730 Trhc Pty Ltd
- OS314 Trivantage Manufacturing
- A420 Tsubaki Australia Pty Ltd**
- C118 Tutt Bryant Equipment
- A116 Union Alloys
- OP127, OS902 Unitech Industries Pty Ltd
- A148 United Forklift And Access Solutions
- C312 United Safety & Survivability Corp
- A464 Valmet Filtration & Flow Control
- A663 Vereco
- OP108 Victaulic**
- OS218 Vigil Antislip
- C306 Vision Intelligence
- C306 Wales Industries Pty Ltd
- A152 Weg Australia
- A728 **Welding Industries Of Australia**
- A126 Wesco Anixter
- A746 Whitehaven Coal Limited
- C102 Wilo
- A364 Wiremarkers Australia
- C406 Wyntec
- B528 Zyfire Hose Corporation
- C104
- A852
- A864
- A162
- A648
- A244
- A908
- A904
- A408
- A362
- C322
- B522
- A100
- C418
- A816
- A634
- A662
- A734
- A262
- A808
- A138
- A106
- A463
- OS824
- A826
- A820, OP212
- A608
- A664
- A848
- B928
- A534
- A902
- A228
- A770
- C114
- A438
- A172
- A120
- OP112**
- A742
- B600**
- A866
- A604
- A666
- A446
- B650
- OS310
- OP208
- C320, C322
- A528
- OP502
- A342
- OP512
- OS158
- OS900, OP522
- A846
- A424
- A212
- A526
- A868
- A708
- A638
- OS400**
- A134
- B328
- C204
- A672
- A876
- C210



CLICK HERE
or scan the QR code to view the live interactive QME Floorplan

CUSTOM SWITCHROOM & SWITCHBOARD SOLUTIONS

Bentrol started its journey in 2011, initially engineering and installing control systems for critical infrastructure projects across Australia. With these projects increasing in size, we found the need to bring the design & manufacture of switchboards in-house. From there we have grown to a substantial team of 70 passionate staff, comprised of engineers, electricians and fabricators.

We offer both custom and modular switchboards in-house, ranging from IP42 Indoor to IP56 Outdoor, ensuring suitability for every environment. Additionally, we manufacture and provide custom prefabricated and containerised air-conditioned switchrooms, with the capability to dispatch Australia-wide and internationally.

To support the growing demand for our switchroom solutions, we are excited to announce the addition of a new 2000 square metre factory. This expansion will significantly enhance our production capabilities, allowing us to increase output, streamline processes, and deliver our high-quality switchrooms more efficiently to clients both domestically and abroad.



SWITCHBOARDS

Our switchboards come in all different shapes, sizes and capacities. With well-established partnerships, we are always able to offer a customised solution to suit the site. Comprehensive AS/NZS 61439 testing ensures compliance with high standards, with a particular focus on robust outdoor aluminium solutions catered to the industrial sectors.

We are committed to providing solutions that perfectly align with your specific requirements. Our mining focused solutions also offer compliance with AS/NZS 2081.

SWITCHROOMS

Our switchroom solutions, ensure that the delivered product meets your specifications. Our solutions adhere to stringent Australian building standards, guaranteeing quality, compliance, and customer satisfaction. Choose between our containerised solution or a custom steel frame prefabricated switchroom with an FRL of 120/120/120 available.

We are able to integrate various equipment such as VSDs, air-conditioning, fire detection & suppression systems. Our team can create customised solutions from the ground up. These switchrooms are perfectly packaged with our switchboard solutions to create a turn-key product.



A SOLUTION FOR EVERY PROJECT...

BENTROL CUSTOM

(Aluminium, Mild Steel OR Stainless Steel)

- 3mm 5005 Aluminum - Known for its corrosion resistance and lightweight characteristics, reducing hazards and risks on site.
- 2mm Zinc Anneal Mild Steel - Ideal for indoor use.
- 2mm 316 Stainless Steel - Offers unmatched strength and corrosion resistance.
- IP54 Indoor or IP56 Outdoor (ventilated) - Ensuring protection in any environment.
- ~1250A - Unlock the full potential of your setup.
- 36kA Icc functional units with 50kA for 1 sec busbar (Icw)
- Robust construction for long-lasting performance.
- Efficient design for optimal power distribution.
- Our switchboards are verified with using Schneider Electric switchgear.

SCHNEIDER PRISMASET

(Modular System)

- Choose between the sturdy 1.6mm or 2mm Zinc Anneal Mild Steel, ensuring long-lasting reliability.
- Only for indoor use with IP42 or IP54 ratings, catering to your specific environment.
- Empower your operations with a capacity of 3200A and flexible Form 2 to Form 4 options.
- Experience seamless power distribution with a dependable performance of up to 85kA for 1 sec.
- Maximize space and efficiency with full height tiers, perfectly suited for power distribution purposes.
- Add an extra layer of security and safety with the optional IK10 rated Glass Front Doors.
- Stay within budget with our economical modular option, custom-tailored to fit your unique requirements.

Manufactured in Australia by B&R Enclosures for use with Schneider Switchgear.

CUBIC

(Modular System)

- Premium switchboard solution featuring high-quality materials for gear trays, frames, etc.
- Option for stainless steel construction.
- Choose between IP42 or IP54 (indoor only) for a perfect fit and protection.
- Capable of handling up to 6000A.
- High resilience with up to 120kA for 1 sec / 65kA for 3 sec for reliable performance.
- Versatile system tailored for use with most major brands of switchgear.
- Available in fixed, plug-in, and fully withdrawable configurations for added convenience.
- Enhance your electrical installation using this dependable and versatile switchboard solution.

MINE SURFACE PRIMARY VENTILATION SYSTEM NOISE

Environmental noise from Primary Ventilation Systems located on surface have and are increasingly being subject to stricter noise attenuation requirements, both for local area personnel safety and far field noise at mine boundaries and critical receiving points. Furthermore, beyond pure compliance to regulations, the mining company's social license and internal policies dictate that they meet community expectations.

Mine Ventilation System performance and consequently sound power levels are increasing with deeper mines and longer main airways increasing the fan pressure requirements. The resulting impact is that noise attenuation requirements have become a significant element of the ventilation system capital and operating cost and are increasingly contributing to system reliability issues and problems with meeting requirements. In recent years, environmental noise impacts and the consequences of not meeting regulatory requirements and consent conditions has significantly impacted mining operations.

Environmental noise regulations mandate not only total sound pressure level at critical receiving points, but cover noise frequency spectrum limitations to prevent intrusive noise characteristics from tonal and low frequency noise. Not meeting tonal and low frequency noise along with A-weighted total sound pressure level limits represents a risk to mining operations, potentially limiting ventilation system operation capacity in cases where attenuation design is not adequate. These risks have been highlighted in recent years with several mining operations having to turn down their primary ventilation system capacity to meet environmental noise requirements, resulting in unplanned production limitations. Retrofitting noise abatement measures to an existing ventilation system to achieve design capacity within noise limits and allow the required ventilation necessary to realise the mine production plan can require significant capital expense and ventilation system downtime.

Effective noise attenuation begins with the

specification of noise level requirements tailored to the specific operational context and regulatory mandates. These noise limits should be considered from the earliest concept stages of project planning. Noise abatement can be a high capital and operating cost element of a surface primary ventilation system installation, not including this cost and additional footprint in the early planning stages can result in significant deficiencies in the ventilation system project plan.

Typically, Mine Operators have provided noise specification limits to the ventilation system designers and manufacturers like Howden as a breakout and open discharge or inlet sound pressure level. Specifying in this way has assured local area noise for personnel health and safety are below mandated limits but has not necessarily resulted in far field noise limitations being met, particularly in instances where duct system surface areas are large and or low frequency and tonal noise characteristics are present. To ensure noise limits are met at mine boundaries and neighbouring sensitive receivers Howden is recommending a change of practice to specify surface primary ventilation system noise limit as a single point noise source sound power level limit of the system, in addition to the local area breakout noise limit for local safety.

Specifying a sound power level limit requires a primary ventilation system contractor to consider the noise contribution from all the system elements including the fan casings, openings to atmosphere, number of fans operating, motors, all auxiliary equipment such as pumps, generators, air conditioning and the duct surface area which can have a higher contribution at far-field than a fan discharge with silencer. Specifying in this way allows Howden to assess the extent

of noise attenuation necessary to achieve compliance.

Should it be determined the ventilation system will require noise abatement to meet the specified noise criteria the extent of attenuation requirements can vary broadly from simply changing the configuration of the ventilation system opening to atmosphere to fully lagged and silenced systems.

Typically, the first level of attenuation will be incorporating silencers to the duct opening to atmosphere. There are three types of silencers generally employed in surface primary ventilation systems: absorptive (dissipative), reactive and reactive-dissipative. In higher noise sensitive applications, acoustic lagging is employed to attenuate the breakout noise of the fan casing/s and ducts. Where motors or other auxiliary equipment require attenuation to meet noise criteria than acoustic enclosures are utilised.

Howden attenuation technologies have demonstrated the feasibility of operating large surface primary ventilation systems in highly noise sensitive environments. Of particular application to mine exhaust systems is the Howden reactive-dissipative silencer which combines purely reactive and reactive-dissipative chambers, utilised to provide a broad band spectrum attenuation characteristic with narrow-band attenuation features tuned to the fan noise characteristic. The Howden reactive-dissipative silencer is uniquely applicable to mine exhaust systems as the attenuation does not degrade significantly over time in typically contaminated mine exhaust applications.

Assessing the ventilation system sound power level and consequent noise level and characteristic at critical receivers allows Howden and Mine Operators to consider the various attenuation options given the noise sensitivity of the installation environment. Howden's comprehensive range of attenuation technologies provides the Mine Operator with the full gamut of attenuation options available, allowing clear cost benefit analysis, considering risk to operations vs capital and operating cost. **AMR**



Total Mine Ventilation Solutions



As a global company with bases in NSW, QLD and WA, we operate all across Australia to deliver mine ventilation planning, primary air fans, auxiliary fans, heaters, mine cooling, chillers and our industry leading Ventsim™ mine ventilation control system fully integrated with Ventsim Design.

Howden is Australia's leading provider of primary air fans for the mining industry and a new generation of auxiliary fans to complement our engineered range.

These secondary fans offer a highly efficient and versatile solution that is easily installed and maintained.

All our fans can be remotely monitored and managed using our digital Ventsim and Howden Uptime technologies to increase efficiency, safety and profitability.

Our support teams are based in workshops with overhaul and service facilities in all the key mining regions across Australia and are on call to our customers 24/7.



For more information visit:



Revolving Around You™

IDENTIFY FLOOD AND WEATHER RISK FOR YOUR MINE SITE

Weatherzone Business, a DTN company, provides hyperlocal weather monitoring to mitigate weather impacts and support flood risk assessment for your mining operations.

Australian mines in the Pilbara, Northern Territory and Queensland are still mopping up after multiple category 2 and 3 cyclones hit during the 2023/24 season. Currently, at the time of writing, the National Oceanic and Atmospheric Administration (NOAA) predicts a 69% chance that La Niña will reappear in July-September, making it the fourth La Niña event in five years - an anomaly that's only occurred twice since the year 1900.

The increasingly extreme weather events worldwide are unlikely to abate, so diligent site preparation and enhanced situational awareness are key for mine operators to manage local weather challenges and mitigate risk.

Flood Impacts on Mining Operations

Heavy rainfall and flooding affect mines in a multitude of ways, impacting worker safety, equipment, infrastructure, logistics, and production. Inundation and inrush can cause tunnel collapse - potentially resulting in loss of life, affecting underground haulage, as well as polluting groundwater for surrounding communities. On the surface, tailings dams can overflow into surrounding rivers and streams, or protection levees may collapse, causing irreversible environmental harm. Inundation of open pits can trigger landslides and damage equipment and materials. Wet ore affects processing equipment and is more challenging to transport, reducing its value. Damaged infrastructure, including workers' accommodations, integral roadways and railways, and airport closure, can all heavily compromise safety and operations.

As sites are developed, or risk management strategies are put in place for existing mines, the considerations are complex and reach well beyond the mine site itself.

On-Site Weather Stations and Monitoring

Weatherzone Business offers [Miningzone](#) - a weather monitoring and environmental

solutions interface purpose-built for the mining industry. Deployed at over 400 mines worldwide, it's designed to serve the individual needs of your company, providing a swathe of intuitive decision-making and environmental monitoring tools. The actionable insights offered take the guesswork out of responding to weather threats, helping to inform rapid critical decision-making, and streamline site-wide communication.

Miningzone's hyperlocal forecasting, storm tracking and severe weather alerting provide a framework to help identify dangerous conditions in advance,

Actionable insights take the guesswork out of responding to weather threats, helping to inform rapid critical decision-making.

so you can prepare and respond to heavy rainfall with greater confidence. Storms are mapped directly over your site infrastructure via [Stormtracker](#) - our GIS severe weather alerting system - so you can visualise which parts of your site are at risk and focus on protecting people, infrastructure and machinery.

Utilising an on-site [weather station](#) enhances forecasting accuracy, providing precise observations to verify forecast models. Miningzone can ingest observations into our [ObsConnect](#) system from any existing weather station on your site, or we can provide hardware compliant with international standards.

The powerful modelling and verification inherent in Miningzone's forecasting system serve mine sites globally, no matter how remote. With sensitive, hyperlocal forecasts, mine operators can gain a greater lead time ahead of predicted flood

events. With more time comes a better opportunity to evaluate risk and prepare the site proactively - before the deluge hits.

Rainfall Monitoring for Your Site Catchments

The Weatherzone Business Flood Risk System (FRS) provides flood risk visibility on site. It enables you to monitor real-time and forecast rainfall intensity and accumulation across unlimited geofenced site sections or culverts. Rainfall is measured across established catchments, with alerting calibrated to your individual thresholds. Audible and visual alerts are raised, via the FRS interface, when thresholds for any section are approaching or have been breached. This gives operators targeted risk visibility to inform their flood level assessment, operational response, and emergency management.

Weather Risk Communicators

To mitigate the on-site risks associated with severe weather systems, preparing well in advance is key. The Risk Communicators at Weatherzone Business offer a comprehensive risk management approach, beginning with an initial assessment of your site and operations. Mining-specialist meteorologists get to know the in-depth workings and requirements of your site, helping to

Risk Communicators monitor your local weather conditions, providing enhanced awareness of the interplay between weather conditions and your site.

identify the ways weather poses risk. We then suggest tailored solutions (such as the [7-Day Tropical Cyclone Forecast](#), operational forecasting or the FRS) that provide invaluable analytics and data to

streamline your decision-making. Risk Communicators also assist in developing your Trigger Action Response Plans and

Proactively assess flood risk and implement flood control measures before severe conditions hit.

building communication structures. Once the foundation has been laid, based on a thorough risk assessment, our experts deliver ongoing support via regular or on-demand meteorological briefings. They also continuously monitor your local weather conditions, providing enhanced awareness of the interplay between weather conditions and your site.

If your site is affected by a major flood or weather event, our Risk Communicators can prepare a Post-Storm Report (PSR): an impact assessment that analyses the conditions and operational response. This can inform your risk response evaluation and planning, and support insurance claim verification.

Proactively Prepare for Wet Times Ahead

As Australia faces another period of potentially high rainfall, we'll work hard to give you the best chance to mitigate weather risk. We are here at every stage - before, during and after weather events - providing expert guidance to support your operations with actionable insights. Here's to being prepared and proactive in the face of the shifting climate. **AMR**

Get in touch

1300 883 650

sales@weatherzone.com.au

business.weatherzone.com.au



Powering smarter weather decisions

RaptorTech
EVOLVE YOUR THINKING

Collision Avoidance & Prevention

Percept's Cutting-Edge Collision Avoidance

Designed from the ground up to achieve a high level of functional safety

- 4 Layers of technology working together to detect vehicles / people / obstacles.
- Multiple redundancies built in to minimise the likelihood of missed detection – while also filtering false alarms
- Sensors designed for minimal maintenance (self-cleaning or no maintenance), no moving parts.

Percept 01

STEREO VISION

- Experience the power of AI
- Self cleaning lens technology
- Categorise the Risk!

Percept 02

4D RADAR PERCEPTION

- AI driven data fusion
- All weather reliability
- Long Range
- Real time collision projection

Percept 03

PEER 2 PEER

- Safety at the speed of light
- Ultra-wide band
- Undercover, underground
- Low cost, quick installation

Percept 04

HIGH PRECISION GNSS

- Unmatched precision
- Real time survey pickup
- Functional safety in motion



Collision Prevention System

A intervention control system to boost reaction times & avoidance in emergencies

Percept auto

AUTO BRAKING

- Interoperable with any CAS
- Automatic braking (EMERST Level 9) designed and manufactured by RaptorTech
- Data and Reporting
- Functional Safety Design
- Powerful Machine Learning
- Cost-Efficiency
- Easy Installation
- Available for OEM integration

ZERO Capital Upfront, Managed Service, Delivering Safety Outcomes

RaptorTech.com.au

AUSTRALIA'S LEADING 4X4 CONVERSION AND 4WD BUS COMPANY

The Bus 4x4 Group of companies specialises in delivering innovative solutions to transport groups of people in off-road conditions comfortably, reliably and safely.

Australian-owned and globally-renowned, their people mover solutions lead the sector for 4WD conversion products, accessories and parts.

4x4 conversions

Bus 4x4 expands your 4x4 horizons with professionally engineered AWD conversion kits to suit Toyota HiAces and Toyota Coasters.

As the latest advancement in Bus 4x4's fleet, the Toyota HiAce 4x4 Conversion Kit is design to turn the Toyota 300 Series HiAce into a transport vehicle worthy of operations. The kit comes standard with Full-Time High & Low Range 4x4, heavy-duty steer knuckles and modified front and rear suspension.

This vehicle is ideal for transporting workers to and from mining and industrial sites where greater control is needed over challenging terrain.

An Australian icon, the Toyota Coaster is favoured for its reputation as a high-quality people mover. Bus 4x4's Coaster bus conversion kit turns the vehicle into an off-road transport vehicle, capable of venturing to remote and hard to reach locations.



Developed in house, the Toyota Coaster 4WD conversion comes standard with full time high and low range 4x4 and modified front and rear suspension. This results in the vehicle having a 210mm lift over the factory standatrd, enabling it to have bettern control and traction over challenging terrain.

Bus 4x4 hire

Bus 4x4 Hire specialises in long term hire to the mining, tourism and government



sectors. The growing fleet of over 140 vehicles consists of Toyota HiAce and Coaster Buses. All are fitted with the Bus 4x4 GoKit Conversion, providing an easy, reliable and cost-effective way to transport people through the challenging terrain.

Bus 4x4 has a large range of cuses in its fleet and all are well-maintained to ensure passengers ride only in vehicles of the highest quality. Along with the standard 4x4 options, Bus 4x4 provide buses that are specifically designed for mining and tour use.

Some buses feature Seat Sense, a seat belt alarm system, plus first aid kits, fire extinguishers and other accessories needed in the case of emergencies.

The buses seat between 10-22 people, depending on the model.

**For more information, visit
www.bus4x4.com.au.**

AMR

 INCIDENT ZERO

Safety 

WORLD'S FIRST EXCLUSION ZONE FOR LARGE-SCALE MOBILE PLANT.

Because everyone deserves to go home safely.

Safety Halo™ by Incident Zero is the world's first exclusion zone for large-scale mobile plant that leverages neuroscience to positively affect human behaviour and induce safety. Projecting large distances, and built to withstand the rigours of large-scale machinery, the Safety Halo is the most effective exclusion zone system for mobile plant in the mining industry.

Scan the QR code to see the Safety Halo in action, and come visit us at QME Stand A412.

Contact Us
Phone 1300 845 451 | Website www.incident-zero.com



LASER SAFETY HALO™

CUSTOM BUCKLES AUSTRALIA

DESIGN CREATE DELIVER



We've been designing, creating and delivering custom products in Australia since 2008.

Custom buckles are our specialty but we also make custom awards, medals, badges, key rings, bottle openers and plaques. Every job we do for our clients is unique and custom made, so you know there is nothing else on the market like it. When it comes to your projects, milestones, special events, suppliers or staff recognition, a custom job really does show your appreciation.

- ✓ Amazing Detail & Finish
- ✓ Really Quick Quotes
- ✓ FREE Design Service
- ✓ Lifetime Guarantee on all products



CALL NOW: 1300 650 934
cusbuckles.com.au

USE CAMPAIGN CODE
MY10%24 TO GET 10%
MORE ON YOUR ORDER



Celebrate key milestones at your mine site with custom-made belt buckles to commemorate significant events.

Whether it's your 40,000th barrel of gold or hitting the ore body in time, Custom Buckles can design, create and deliver custom metal products suitable to your needs.

As Australia's original custom belt buckle manufacturer since 2008, Custom Buckles has produced tens of thousands of individualised and unique belt buckles for momentous occasions.

They are perfect for showing your appreciation for projects, milestones, special events, suppliers or staff recognition.

Every job Custom Buckles does for its clients is unique, with nothing else like that on the market.

Their client approach is straightforward: Design→Create→Deliver.

Design
 Send your design to the team at Custom Buckles or just your logo and images for the team to do the design work for you.

REWARD AND RECOGNITION IN MINING



COMBO PACK:
STARTING FROM \$69

- ✓ Custom buckle
- ✓ Silver display tin
- ✓ Black leather belt
- ✓ Presentation box

Custom Buckles will then send you a mock-up graphic design of how your product will look.

Amend the design as many times as you need to get it exactly how you want.

Create
 Once artwork is approved, the team at Custom Buckles creates your unique mould and begins production on your custom product.

Enamel paint is injected for colour if re-

quired, the metal finish is applied and then the team antiques for the final stage before polishing off.

Only the best quality metals are used and the team ensures each item is perfect, polished and packaged before it is sent out.

Deliver
 Each item is individually wrapped and the packaging is tailored to client needs.

The entire order is placed in a solid box and delivered right to the client's doorstep.

The Custom Buckles team understands that no two jobs are the same and will work out a tailored pricing package based on individual client needs.

While production time takes 4-6 weeks depending on quantity ordered and the design detail, the team can also work with clients on delivery time frames.

Buckles generally start from \$35-\$45 each for the minimum order of 30 units.

Key rings, medals and bottle openers start from \$12-\$15 each for the minimum order of 50 units. **AMR**

Revolutionising Fuel Storage

Fuelfix Boosts Energy Efficiency in Mining Operations

As the world transitions towards a low emissions future, the demand to combine traditional fuels with renewable and next generation alternatives continues to gain pace. Fuelfix is committed to helping its customers in their energy transition journey by identifying the ideal fit-for-purpose solution whilst maintaining operational performance. Through their comprehensive range of fuel, hybrid, battery-driven equipment, and national branch network, Fuelfix delivers a suite of integrated services to improve operational energy efficiency and emissions without impacting reliability.

Sustainable Fuel Handling Practices: Reducing Operational Costs and Mitigating Environmental Impact

The mining industry understands the importance of a reliable, efficient fuel infrastructure.

Often operating in remote areas with heavy machinery that demands substantial amounts of fuel, it can be challenging to establish a safe, efficient, and optimised fuel storage facility.

While still heavily reliant on fossil fuels to power operations, mining companies are expected to be more efficient in their use of hydrocarbons and a growing emphasis on ESG (Environmental, Social and Governance) continues to reinforce this.

Fuelfix offers three ways to maximise existing fuel infrastructure, improve efficiency, and deliver operational cost savings.

1. Prioritise preventative maintenance programs that focus on maximising uptime

Effective oversight of fuel storage and dispensing infrastructure is essential for remote mines to prevent unexpected breakdowns and limit machine downtime. Fuelfix can design a comprehensive maintenance schedule of the fuel infrastructure that not only extends the lifespan of mining equipment but also optimises fuel consumption, prioritises safety, and reduces waste.

2. Customise a maintenance program to suit specific site requirements

Each customer has its own unique pathway to navigate to optimise energy efficiency and emissions without impacting reliability. In response to operational requirements, Fuelfix can develop a comprehensive repair and maintenance program to ensure your fuel facility continuously operates at its peak and important site equipment is not put at risk.



3. Reconciliation of fuel use for financial accuracy, sustainability, and efficient fuel management

Fuel reconciliation is an essential process in the mining industry, especially for operators who use fuel extensively as it directly impacts operating costs, efficiency, and sustainability. One of the biggest challenges that Australian mine operators face is the lack of accurate and actionable fuel consumption information to facilitate infrastructure and process improvements and maintain transparency in fuel-related operations.

Fuel Data Management Systems

Proficient Fuel Data Management systems and processes contribute to overall operational effectiveness. With the right data management policies and physical dispensing controls in place, data analysis can be reliably performed, leading to actionable insights. With an ongoing review and analysis process, operators can identify inefficiencies and implement preventive measures to minimise fuel losses, ensure accurate financial statements and operational efficiency and optimise overall costs.

With 16 years of history in providing innovative Fuel Management Solutions to the biggest mining companies in Australia, Fuelfix is well placed to assist miners gain insights from their fuel management data.



The micro-efficiencies created through Fuelfix data driven initiatives compound to significantly improve equipment and infrastructure utilisation including reduced fuel consumption, lower Scope 1 emissions, extended plant life, lower maintenance costs, and optimised fuel delivery infrastructure.

Conclusion

By upgrading fuel infrastructure, switching fuel usage, or changing the way fuel equipment is controlled and operated, Fuelfix can recommend and provide impactful solutions to meet current demands, accurately measure fuel usage, and make improvements that reduce or displace diesel.

This work is already achieving tangible results with some major mining companies who are partnering with Fuelfix to move closer to their cost savings and emissions reduction targets.

Simon Fracaro, General Manager for Western Australia, says

"Fuelfix is ready to assist miners to identify how they can improve their operational fuel efficiency, maximise equipment uptime, and reduce their Scope 1 emissions through innovative energy management and storage solutions".

AMR

Case Study

East Pilbara Mine Site

With an overarching goal to reduce operational costs, limit downtime, improve asset utilisation, safeguard the environment from any accidental spills, and gain maximum value from every litre of fuel, Fuelfix designed a clear pathway to target those key deliverables.

Working collaboratively with the client's team, Fuelfix conducted a full audit of the fuel infrastructure to identify any possible deficiencies affecting safety and operations and developed a 4-phase plan for improvement over 18 months.

As part of its scope, Fuelfix repaired and upgraded equipment as well as implemented improved systems to ensure both compliance and safe operation of the facility. Since Fuelfix commenced its servicing regime, the system has been efficiently filtering fuel used for the company's equipment on site. This has resulted in an immediate positive impact on their operational costs with extended plant life with reduced risks of breakdown.

Phase 1: Optimise Fuel Train Unloading

Phase 2: Improve Fuel Quality

Phase 3: Upgrade Heavy Vehicle pumping system for efficient dispensing and easy ongoing maintenance

Phase 4: Implementation of an on-going preventative maintenance program



Through an integrated approach, Fuelfix delivered a detailed report following each site visit providing insights on the fuel infrastructure operating performance, outlining recommendations to improve facility operations and highlighting areas that required attention to meet the AS1940 guidelines.

Ultimately, this report helped our client provide evidence that the facility was operating safely and with minimal risks to people, property and the environment.



Focused on Your Fuel Transition

Committed to helping customers in their journey to a clean energy future through innovative energy management and storage solutions.

Through our comprehensive range of fuel, hybrid and battery driven equipment, and nationwide branch network, Fuelfix delivers a suite of integrated services to improve operational energy efficiency without risk to reliability.

Data Analytics & Insights

Equipment Hire & Sale

Fuel Monitoring & Management

Repairs, Maintenance & Upgrades

Facility Management

Engineered Solutions



Find out more about our services, visit:

fuelfix.com.au

FOELFIX
energy & emissions solutions
TANKS2GO[®]

ULTIMATE UTILITY MACHINE

The Ultimate On-Site Machine

Welder – 50Hz Generator – Compressor



Lincoln Electric Australia® has produced an excellent all-round, 3-in-1 Welder, Generator and Air Compressor.

The Ultimate On-Site Machine Welder – 50Hz Generator – Compressor

The Air Vantage® 600X Plus is a powerful CAT C Compliant, multifunction machine that offers up to 600 amps of IEC rated welding output, 20kW 415V / 240V 50Hz of auxiliary power & 60 cfm of compressed air in a single package.

This is a 3-in-1 workhorse, designed to meet the most challenging jobs & environments.

By combining the latest technology and innovation, the AV600X Plus continues to evolve and advance the iconic arc performance of our legacy chopper control machines. The AV600X Plus delivers you the ideal solution no matter what job you are given.

Whether you are looking to gouge out that truck bucket, weld in a new tray, run some additional inverter welders or run your remote campsite, the Air Vantage® 600X Plus delivers the performance and versatility you need to get your job done.

Software Optimised Arc Performance = The World's Most Advanced Welding Arc

Like other Lincoln Electric engine driven products, the Air Vantage 600X Plus features patented Chopper Technology to provide a premium welding arc, including easy arc starts, smooth and consistent arc characteristics, low spatter, and excellent bead appearance.

The AV600X Plus comes with the addition of software-optimised modes for, Gouging, Downhill Pipe, CV-MIG, FCAW-SS/GS & Lift TIG. Also available are Synergic & Pulse modes for Stainless, Aluminium & Steel?.

CrossLinc® Technology = Less Walking + More Welding

The AV600X Plus comes standard with embedded CrossLinc Technology, which helps to promote productivity, safety, and quality improvements in your operations since operators have full control of volts and amps at the welding arc without the need for additional cables.

True Voltage Technology™ (TVT) will also compensate for voltage drop further improving conformance & weld quality when using the latest LN25X & Activ8X across the Arc Feeders.

Easy Maintenance Access = Fast & Easy Daily Pre-checks

The AV600X Plus provides a variety of design features to make machine maintenance easy when mounted in tight spaces such as a truck bed or trailer. Including, small footprint, sliding engine

door, one only single external Air Cleaner, tilt-down control panel, easy battery tray access, tool less radiator access, a raised fuel cap & 95L Tank offering 20+ hours between refills.

Suited for the most challenging job sites, the rugged Air Vantage 600X Plus can handle a wide array of unique tasks from heavy-duty carbon arc gouging, powering industrial tools or an additional 3Ph Inverter Welder enabling a Dual Operator capabilities.

Available for ordering TODAY!!

For more information, please visit www.rebrand.ly/av600xplus

AMR

1. Requires CrossLinc enabled wire feeder or remote
2. Requires ArcLink Communications accessory.

Ultimate On-Site Machine

Air Vantage 600X Plus Welder/Generator



Scan Code
to Discover More

50Hz POWER
415V / 32A
240V / 15A

The Air Vantage 600X Plus has a powerful 64HP diesel engine, with an integrated 60 CFM air compressor and 50Hz auxiliary 415V (32A) and 240V (15A x 2). Loaded with expanded welding capabilities and CrossLinc Technology which allows you to weld more and walk less.

The Lincoln Electric Company (Australia) Pty. Ltd. | 35 Bryant Street Padstow NSW 2211 Australia | Ph: 1300 728 720 (AU) | 0800 728 720 (NZ)
www.rebrand.ly/av600xplus

LINCOLN®
ELECTRIC

A ONE-STOP-SHOP FOR INDUSTRIAL CABLE MANAGEMENT SOLUTIONS



Harsh environments are no problem for Igus Energy Chain®.

Treotham has been integrating Igus products to keep Australia's mines running smoothly for over three decades.

The mining industry is no stranger to massive automation equipment, processing millions of tonnes of rock daily. But if things go awry, operators need a quick and effective solution.

Treotham offers a one-stop-shop for



E-chain systems as an alternative to slip rings, cable reels and festoon systems.

industrial cable management solutions on which Australia's mines can rely.

Treotham supplies over 10,000 high-quality components and systems to industries nationwide, with a keen eye on mining.

Treotham has partnered with German-based manufacturer Igus to deliver solutions to mine sites Australia wide. The two companies have fostered a relationship built on sharing knowledge and staying on the cutting edge of technology solutions.

The partnership has set Treotham up with a method for success for its customers.

According to Treotham's Igus product manager John Sharp, "We understand our product applications on a deeper level, and we can identify potential problems at the design stage. Our whole product range is mass customisable depending on the customer's application."

"No two systems will be exactly the same,

so we're not just offering what's in stock off the shelf."

Treotham boasts a workforce of engineering experts who are able to harness the creativity required to customise a unique solution for each project.

"Typically, a client comes to us with a concern or problem they need to solve. We find the quickest way to analyse the issue is to arrange a site visit to understand the problem fully and propose replacing the failing equipment with an Igus system. For clients who are seeing the efficiency Igus systems provide for the first time, it can mean change. So, moving away from the "old" to the "new" can seem like making a big decision, but once the designs have been produced to the specifications and efficiencies realised, a new level of understanding and appreciation is achieved," Sharp said.

"It's all about creating the best result for the customer," Sharp said. "In collaborating with an international

partner like Igus, we often find they have insight into similar applications and can work with us to deliver the best solutions."

Finding the best solution to a problem comes from having the best data. Across its centres in Sydney, Melbourne, Brisbane and Perth, Treotham can work with mine operators across Australia to determine their needs as issues arise.

"Operators can be hesitant to overhaul a system, and understandably so. However, we ensure our solutions bring measurable improvements to a site our customers will remember, so they know they can trust us. The end result is our customers see a huge payoff in the form of less maintenance and more productivity."

"Servicing and inspecting our solutions is also highly important to us," Sharp said. "Customers want equipment that runs efficiently without thinking about it."

"Once our customers see what we have to offer, they keep coming back." **AMR**



Engineered Mining Solutions

Project management

- Complex projects
- Systematic planning
- Manage timelines
- Monitoring
- Coordinate resources

Product knowledge

- Extensive expertise with all igus products
- Specialised knowledge on mining applications
- Tailored solutions ensuring optimal performance

Product supply

- Comprehensive range of igus products
- Readily available
- Products specifically for mining including cables and connectors
- Local supply in all states

Installation

- Trained personnel
- Systematic approach to planning
- Executing, monitoring and completing projects efficiently and effectively.

Maintenance

- Treotham provides support to all projects.
- Completing projects efficiently and successfully.



Contact us today on **1300 65 75 64** or email info@treotham.com.au

SCAN FOR



WEB PAGE



earthtrade

• SPECIALISTS IN ENVIRONMENTAL MARKET SOLUTIONS •



Earthtrade are a family-owned Australian business and are Australia's leading environmental market solution specialists.

Earthtrade can offer you a complete solution to your regulatory and ESG needs, from sourcing through to commercial and regulatory finalisation.

Environmental market products such as biodiversity offsets and carbon credits are complex both technically and

commercially. However, when approached in a pragmatic, strategic manner, offsets that achieve a Net Gain are achievable.

At earthtrade, we also have an established relationship with environmental market regulators, enabling us to assist you with your regulatory negotiations and project approvals process.

There are many solutions that can be considered, depending on your corporate requirements, for example:

Tailor-made – offsets and projects developed on an impact-by-impact basis. These are predominantly appropriate for impacts that are large relative to their landscape

Co-located – projects impacting species and environmental communities can have their offsets similarly structured.

Furthermore, areas not used for one type of credit or market (e.g. biodiversity) can often be infilled with another (e.g. carbon),

allowing synergies in management and environmental benefits.

Advanced offsets and biobanking – Earthtrade strategically acquires areas for the express purpose of providing offsets for our clients. This allows clients to reap the commercial and compliance benefits of a knowledgeable supplier while driving an exponentially greater outcome for the environment at large. **AMR**

Specialists in environmental market solutions



Earthtrade are Australia's leading environmental market solution specialists, offering a full suite of pricing, assessment, negotiation, procurement, management, monitoring, and auditing services.

At Earthtrade, we also have an established relationship with environmental market regulators, enabling us to assist you with your regulatory negotiations and obligations.



Contact us to start your ESG journey today

1300 036 401

info@earthtrade.com.au

earthtrade.com.au

No more mess with the

FLANGELOCK TOOL FROM CKC EQUIPMENT



Trust CKC Equipment to supply you with the FlangeLock Tool, an ultimate contamination control tool for protecting any hydraulic system.

Produced in the US, the FlangeLock Tool is an easy-to-use cap which slides over the flange and is sealed by tightening the bottom plug by hand, keeping oil in and contaminants out.

CKC Equipment imports the FlangeLock Tool into Australia and sells it nationwide through the company's extensive network of distributors.

Greg Molloy, inventor of the FlangeLock Tool, needed a solution to using plastic bags and rags when preventing contamination and leaks, and so created a prototype which eventually led to manufacturing what is now known as the FlangeLock Tool.

With an easy on, easy off process the FlangeLock Tool offers a leakproof solution to hydraulic system and environmental cleanliness that is guaranteed to stop the mess and reduce the need for expensive clean ups.

The reduction in oil leaking from hoses also

drastically reduces the risks associated with slip and fall hazards, resulting in a large benefit to staff safety as well as a decreased chance of environmental contamination.

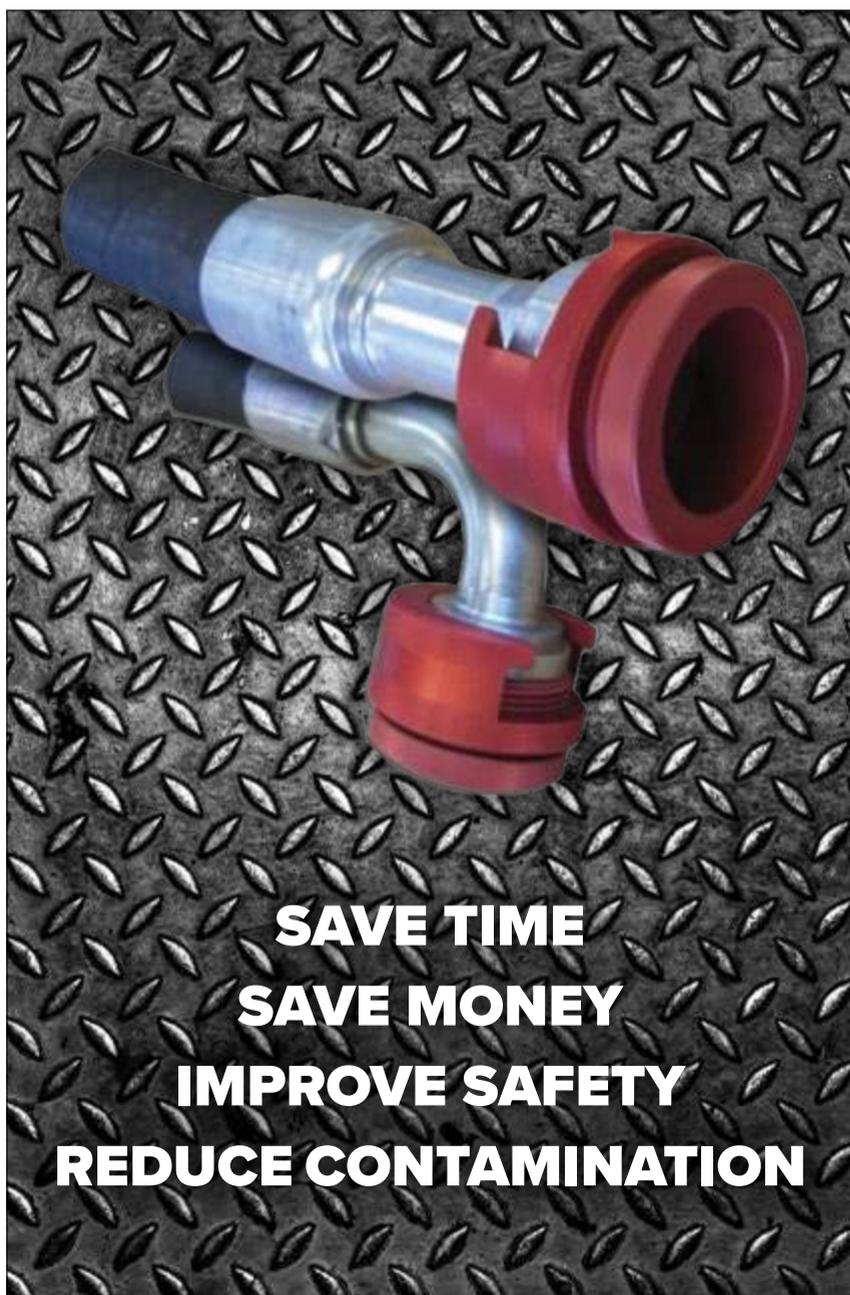
The FlangeLock Tool can be used across a breadth of industries including construction, mining, oil fields, dredging applications, wind turbines and large machine tools.

Currently manufactured in lightweight aluminium, it is produced in 12 sizes for 8, 10, 12, 16, 20, 24, 32, 40, 48, 56 and 64 in SAE Code 61, 62 and CAT.

Other advantages of the FlangeLock Tool are that no tools or expensive hardware are required while rags stuffed into hoses and messy plastic caps are a thing of the past.

Installation and use is quick and easy, requiring just one hand, with no additional equipment required. **AMR**

GET YOUR FLANGELOCK TOOL NOW BY CLICKING HERE!



**SAVE TIME
SAVE MONEY
IMPROVE SAFETY
REDUCE CONTAMINATION**



A leakproof solution to hydraulic system and environmental cleanliness.

The FlangeLock Tool allows for the simple sealing of open SAE Code 61, 62 & 62 CAT-Style hydraulic flanges without tools. Constructed out of lightweight high tensile strength T2200 anodized aluminium. Easy on, easy off.



20/32TBS Kit

A selection of common sizes including 2062, 2462, 3261, 3262 to suit both code 61, 62 and CAT flanges including blanking discs and o-rings.



08/32TBS Complete Kit

Complete selection of all sizes up to 3262ARK including blanking discs and o-rings. Perfect for mobile vans and workshops.



www.ckcequipment.com.au | 07 3881 2862

PATHWAYS TO ZERO ENTRY UNDERGROUND



In underground mining drill and blast operations, the task of cleaning and surveying blastholes is both dangerous and cumbersome. To address this, Universal Field Robots (UFR) has developed a groundbreaking solution aimed at enhancing safety and efficiency, UFR AutoPrep.

UFR AutoPrep is a robotic system designed for production hole preparation and surveying, aimed at removing personnel from hazardous work areas while providing real-time survey data for every hole without production delays. Traditionally, preparing drill holes for charging is a labour-intensive and dangerous task that requires three workers, exposing them to falling debris, silica, other toxic contaminants, and a high risk of musculoskeletal injuries. UFR AutoPrep can be operated by a single operator from a protected cabin or remotely, significantly

reducing labour requirements and the risk of lost-time injuries and silicosis.

Over the past three years, UFR AutoPrep has undergone several successful trials and refinements at South32's Cannington Mine in Queensland and Gold Fields' Agnew (New Holland and Waroonga) Gold Mine in Western Australia.

The first release of the UFR AutoPrep robot will still require one operator to sit in an air-conditioned, sealed cabin to move the machine and initiate the automated process with the push of a button. Ultimately, as the technology advances, UFR AutoPrep aims to eliminate the need for any human entry, enabling autonomous and tele remote operations from above ground.

According to UFR Managing Director Jeff Sterling, automating the cleaning and

surveying of underground blastholes is a complex process, and UFR is at the forefront of this industry innovation.

UFR AutoPrep is a perfect example of a pathway on the industry-wide journey to move people away from higher risk jobs underground by 2030, as identified by the Global Mining Guidelines Group. While a framework is yet to be set, it is clear that technology such as UFR AutoPrep represents an important step change towards zero entry.

FEATURES OF UFR AUTOPREP:

Safety and efficiency

Traditional blasthole cleaning and surveying in underground mining pose significant safety risks, with a high chance of dislodged material falling on operators. The task involves strenuous work such as pushing pipes and pumping air and water

overhead. Additionally, workers face exposure to silica dust post-drilling and potential flyrock incidents. UFR AutoPrep currently addresses these issues by relocating two out of three workers to safer areas, requiring only one person to operate underground from an air-conditioned cabin.

UFR AutoPrep employs an industry-proven blasthole survey tool to measure toe and collar positions as well as hole angles. This data is crucial for detecting deviations from the planned blast holes. By integrating this information with a blast planning tool, engineers can optimise and adjust the blasting parameters to minimise re-drills, thereby enhancing the efficiency of the drill and blast process.

AMR



**Accelerate
your journey
to zero entry**



Collaborate for success

🏠 universalfieldrobots.com.au

☎ +61 7 3666 0006

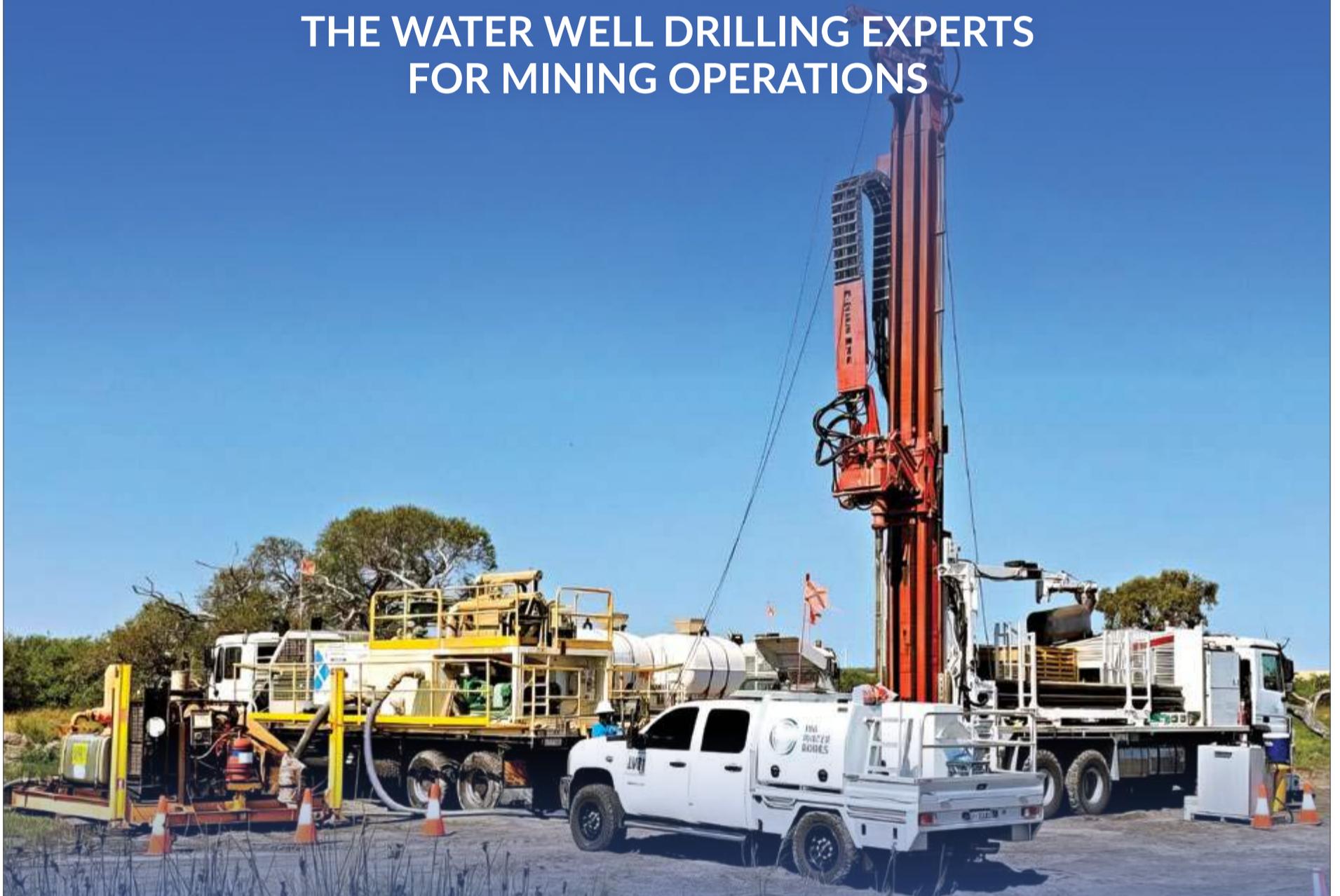
✉ hello@universalfieldrobots.com.au



**WA
WATER
BORES**

WA'S WATER BORE SPECIALISTS

THE WATER WELL DRILLING EXPERTS
FOR MINING OPERATIONS



DO IT RIGHT, DO IT ONCE

Specialising in all aspects of water well drilling including:

- Mud Rotary & Rotary Air Hammer Drilling
- Water Exploration Drilling
- Mine Site Dewatering
- Water Monitoring Bores
- TSF Geotechnical Holes
- Complete Bore Field Installation
- Mine Site Water Supply
- TSF Recovery Bores
- Piezo Installations
- Plus More

FLEET OF 5 DRILL RIGS

LARGE RANGE ANCILLARY EQUIPMENT

ALL DRILLERS WITH MIN. 15 YEARS EXPERIENCE

FULLY AUTOMATED IMS SYSTEM

Contact James Harrington 0429 695 538 | james@wawaterbores.com.au



DOMESHELTER™ FABRIC STRUCTURES

ADAPTABLE SHELTERS FOR AUSTRALIAN MINES

From hot, dry conditions and soaring temperatures, to storms, floods and cyclones, the Queensland landscape presents a number of challenges for mining and resource operations. Protecting people and assets is a top priority, one that relies heavily on the availability of high quality, reliable infrastructure built for the specific environments in which they are used.

DomeShelter™ Fabric Structures are designed and manufactured in Australia to strict international standards including ISO 9001 and ISO 45001, providing Fit-For-Purpose Solutions to withstand such harsh conditions.

In late 2017, DomeShelter Australia installed two massive Structures at Sun Metals in Townsville, North Queensland. Sun Metals, located 15km south of Townsville,

is an integral part of Queensland's mining industry, specialising in the production of high-grade zinc products.

These two DomeShelter™ Fabric Structures each span 30 meters wide and 85 meters long, which is testament to the adaptability of DomeShelter™ Solutions in meeting the needs of Queensland. Supported by forty-two 40ft containers, these Structures are among the largest Fabric Shelters in the state. Despite their size, they were delivered and installed efficiently, showcasing the company's ability to mobilise quickly in response to the fast-paced demands of the industry.

DomeShelter™ Sales Manager, Roy Fawkes, said the company offers rapid delivery of standard-sized Container Mounted Shelters anywhere in the country to ensure timely solutions for diverse

mining and industrial needs. "Whether it's for workshops, warehouses, maintenance facilities, or other applications, our Structures provide a reliable alternative to traditional steel buildings when catering to dynamic work environments."

The installation of DomeShelter™ Structures is streamlined – either installed by the clients' own team, or external support from DomeShelter™'s trusted installers. This process has been refined through years of experience, with the nature of mining operations in mind where disruption must be kept to a minimum to avoid unnecessary downtime out in the field.

"Our Shelter Solutions are designed for the unique challenges faced by heavy industries, reflecting the adaptability and durability required to thrive in challenging conditions," said Fawkes.

"With more than 30 years of industry experience, DomeShelter Australia has installed over 8,000 DomeShelter™ Fabric Structures globally, many of which are in Queensland. We remain committed to delivering durable, adaptable Shelter Solutions to protect both people and assets from the harmful elements."

As the mining industry continues to evolve, DomeShelter Australia remains at the forefront, offering innovative solutions to meet its ever-changing needs. With a focus on safety, efficiency, and sustainability, DomeShelter™ Fabric Structures continue to play an integral role in supporting operations and driving economic growth.

For more information, visit www.domesheelter.com.au/

AMR



High Quality, Australian Made Fabric Shelters

ENGINEERED TO PROTECT

DomeShelter™ Structures are the ideal solution for versatile, easy to install Fabric Structures, even in the remotest of sites.

- Australian Made
- Unique Design Methodology
- Globally Delivered
- 30+ Years of Industry Experience

 DOMESHELTER™
AUSTRALIA

www.DomeShelter.com.au

sales@domesheelter.com.au

+61 8 9690 1100



Design your own Shelter today!



9-10 October 2024
Perth Convention & Exhibition Centre

Attend Western Australia's Leading Mining Technology Event

Join thought leaders, experts, and academics at the **WA Mining Conference and Exhibition** as they showcase the technological and digital evolution shaping Western Australia's mining industry. Featuring a highly targeted paid conference, a free-to-attend seminar and 100+ leading suppliers across the entire value chain, it is a must-attend event to experience the forefront of mining innovation.

Key Themes



Future Outlook
Sector Update and Future Growth Prospects



Future Technology
Tech-driven Mining Operations - A Window to Enhanced Efficiency and Precision



Decarbonisation
Decarbonisation isn't just An Obligation; it's An Opportunity



ESG
Incorporating Circular Economy Principles in Mine Restoration



Data Analytics
DiiMOS - The Future of Distributed, Integrated and Intelligent Mining Operating Systems



Scan to pre-register

For more information visit www.waminingexpo.com.au

Three layflat pipelines up the high pit wall.

BENEFITS OF FLEXIBLE HOSE FOR OVERLAND PIPELINES

Flexible hose for overland piping are beneficial because they are easy to handle and can adapt to various terrains. These qualities makes hose a versatile choice for a wide range of applications and emergency situations. Crusader Hose Waterlord® flexible overland pipelines offer a reliable solution when temporary pipelines are needed most.

Mines are reliant on temporary overland pipelines to manage excess water. Overland pipelines made from flexible layflat hose are particularly useful when efficiencies are required, navigating varied or complex terrain, dealing with dewatering emergencies, and planning to retrieve and reuse the pipeline or store it for future use. Crusader Hose, Australia's leading layflat hose manufacturer, provides versatile temporary and emergency overland pipeline solutions for projects of all sizes. Their reel systems allow for quick deployment in emergency situations, and their temporary solutions can remain in place for 20 years or more. Crusader Hose are the experts when a reliable, efficient, and cost-effective pipeline solution is called for.

Pumping water out of deep pits or open-cut mines is critical to mining operations, keeping the work area dry and safe. Water can accumulate due to natural groundwater flow, rainfall, or seepage from surrounding sources. Removing this water maintains mining operations, as it ensures access to the valuable orebody and supports worker safety.

As a certified ISO 9001:2015 business, Crusader Hose is committed to offering quality products and services. Its world-standard layflat hose is manufactured in its Melbourne factory. With 38 years of experience, Crusader Hose has provided many dewatering solutions with their layflat overland pipelines. Francois Steverlynck, Managing Director of Crusader Hose is confident that as flexible layflat hose is better understood, it will add to the options available for overland pipelines.

Advantages of Flexible Overland Pipelines

Crusader Hose's layflat hose offers numerous advantages. Its flexibility allows it to be rolled up to a compact size, enabling longer lengths to be transported with fewer trucks. This not only saves time and money but also enhances operational efficiency.

Another advantage is quicker deployment compared to HDPE or rigid pipe. Quicker deployment brings with it many benefits and cost efficiencies. As layflat hose is wound into a flatpack or onto a reel, it is much easier to handle than welded-

together HDPE or steel lengths, especially when setting up larger-diameter pipelines.

Quicker deployment reduces downtime, leading to better productivity and reduced operational costs. A quicker pipeline setup ensures that critical responses are not delayed in times of emergencies.

The engineers at Crusader Hose have developed Waterlord for overland pipelines that handle high pressures of up to 4000 kPa. UV-resistant and able to handle extreme temperatures, the 6" diameter 4000 kPa working pressure pipeline weighs only 3.4 kg/m and exceeds the qualities of its poly counterpart. This makes Waterlord ideal for pumping water up high pit walls.

Besides its high-pressure capability, Waterlord's inherent flexibility allows the pipeline to conform to various terrain. Deployed from the top of the pit, Waterlord follows the profile of the steep benched and sloping mine wall. The water's weight inside the flexible hose keeps the pipeline in place on the sloping terrain without putting strain on the top of the pit. This decreases the overall environmental impact of the overland pipeline.

"With the downward force nearly eliminated, the hose is not prone to sliding or falling down, removing a major handling and safety risk," said Francois Steverlynck, Managing Director of Crusader Hose.

Eliminate the need for Complex Anchoring

This adaptability to various terrains increases the surface frictional contact, thereby eliminating the need for anchoring at the top of the pit.

Recently returned from a large mine in Western Australia, Francois saw firsthand the versatility of their flexible pipeline.

"With a flexible layflat pipeline, having as little as 10m laid flat at the top eliminates the need for a complex anchor," said Francois. "One of the dewatering supervisors at a major iron ore mine in the Pilbara told me that they use 15-ton concrete blocks for anchoring poly pipe. With our Crusader Layflat Hose System, you remove one big safety risk by not having to position 15-ton concrete blocks at the surface."

Emergency Pipelines

Dewatering flooded areas caused by natural disasters or by a burst in a fixed pipeline rely on speed to minimise damage. Deploying layflat pipelines can be executed in a fraction of the time it usually takes to set up a poly pipeline. "Working with lengths of 200m, the couplings are joined together and there is no welding involved. A 4km pipeline can be transported on one truck and installed by a crew of three in one day," said Francois.

UV-stabilised and constructed with thermoplastic polyurethane, layflat hose is robust and will endure extreme temperatures up to 70°C. Crusader Hose temporary, flexible overland pipelines will last for 20 or more years.

Australian Made Crusader Hose is committed to supporting the mining industry in their fluid logistics by pioneering safe and cost-effective solutions using flexible layflat hose. **AMR**



Layflat adapts to steep terrain.



4km of layflat hose easily transported on a truck.

Exactly What You Need

When You Need It

Field Machine Tools is Australia's largest stockist of specialist onsite machining and portable maintenance equipment.

We offer for hire and sale one of the most comprehensive ranges of portable equipment suitable for a large range of applications, materials and specifications.

FMT is a dry hire only company - we never compete against our customers for on-site service work - with conveniently located branches in Queensland, Victoria and Perth.

Maximising equipment up-time is critical to shortening project completion times and increasing bottom line profits.

Removing equipment from the job site to a repair facility can delay project completion and put a damper on profits.

This is where Field Machine Tools can help. FMT has the on-site repair and maintenance machines that will minimise maintenance times and keep equipment working for companies and their customers.

Keeping equipment and plants in top operating condition is a constant challenge for today's mining, oil, gas and power generation contractors.

Our wide range of portable equipment

is available for rent or purchase, Australia-wide from our three branches, and include equipment for machining applications such as Portable Milling Machines, Portable Lathes, Clamshell Pipe Lathes, Flange Facers (OD and ID mount), Line Boring Machines, Vessel Grinding Machines and Pneumatic Magnetic Based Drills.

For welding applications, there are Bore Welding & Cladding Machines and Induction Heat Treatment Equipment.

For valves, there are Valve Test Equipment, Valve Repair Equipment and Portable Valve Actuators and, for heat exchanger, condenser and boiler manufacture, repair and maintenance there are Tube Pulling Systems, Tube Cleaning Systems, Heat Exchanger Tools, Torque Controlled Rolling Motors and Australia's largest stock range of Tube Expanders and consumables.

FMT is the Australian agent for major international brands including:

Climax Portable Machine Tools, an impressive range of highly-sought after industrial equipment designed by a market leading manufacturer for the rugged challenges facing Oil, Gas, Mining, Chemical & Power Generation Industries.

CLIMAX pioneered the portable machining revolution in 1966.

For more than 50 years they have been the innovators and technology leaders in the industry they invented.

They're #1 for a reason!

Modec Motors and Portable Valve Actuators and Modec vane air motors have been used for 30 years as an alternative to traditional electrical motors in many demanding applications.

They supply OEM replacement motors to a wide variety of industries and application-specific motors to customer specification.

This includes a versatile range of Portable Valve Actuators for preventative maintenance of valves, even in the most demanding of environments, and incorporates a reaction device designed to reduce the risk of strain injury to the operator.

Krais Tube & Pipe Tools has been delivering top quality tube tools for over 40 years.

Designed and manufactured by their engineers, the whole process from paper sketch to producing the tools is controlled in-house with one of the biggest and most modern machinery and production line in the EU.

There is a comprehensive range of Condenser, Boiler Tube Expanders, Tube Roll-

ing Motors, Tube Installation Tools, Tube Cutting and Removal Tools, Tube Pulling equipment and Accessories.

Goodway Technologies is a USA-based manufacturer of specialised industrial maintenance products for HVAC, Energy, Manufacturing, Food and Beverage Production markets.

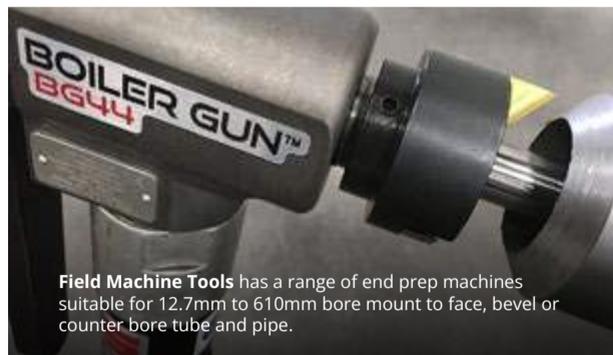
Since 1966, facilities and plant maintenance personal have used their innovative products to maintain HVAC systems, plant machinery, hazardous material clean-up, surface cleaning and other critical maintenance needs.

Established in 1995, Field Machine Tools (FMT) is a privately owned Australian company that provides engineering solutions for field applications to minimise downtime.

The scope of operations is to provide the most complete product lines available to OEM equipment manufacturers, maintenance providers, field service companies, power stations, petro chemical plants, mining industry and other related industries.

Call Field Machine Tools on **1300 FMT FMT** (1300 368 368), email **sales@fmt.com.au**

or visit **www.fmt.com.au** for more information. **AMR**



Field Machine Tools has a range of end prep machines suitable for 12.7mm to 610mm bore mount to face, bevel or counter bore tube and pipe.



Field Machine Tools has rugged and innovative portable flange facers for 19.1mm to 5054mm (0.75 to 199 inch) diameters. Several of the machines can be configured for facing, milling or both.

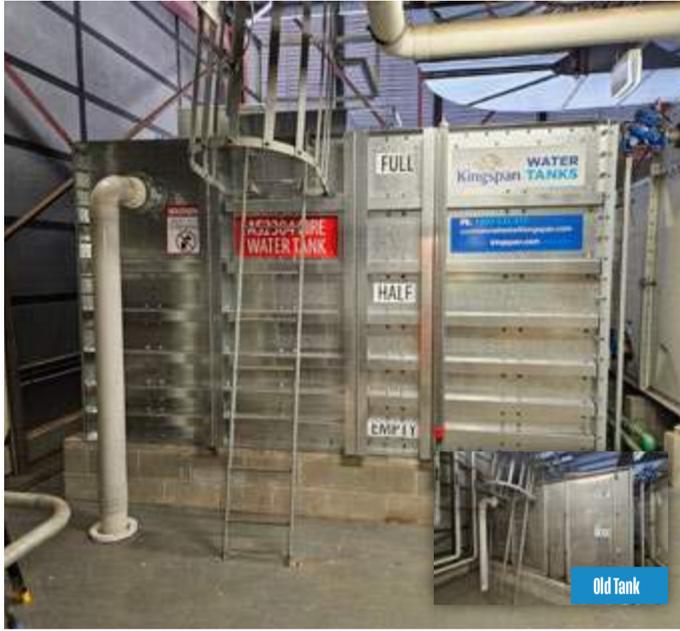


Field Machine Tools has OD mount flange facers suitable for 0mm to 3050mm (0 to 120 inch) diameters. Several models can handle flat face, raised face, RTJ, tongue and groove, lens ring, Grayloc and compact flanges.



Field Machine Tools has a range of Clamshell Lathes suitable from 33mm to 1676mm OD pipe preparation whether severing, bevelling or counter boring.

KINGSPAN COMMERCIAL & INDUSTRIAL TANK SPECIALISTS



Old Tank



Kingspan Water Tanks offers a range of commercial and industrial water tanks built to withstand Australia's harsh environment.

Kingspan's commercial & Industrial water tanks are ideal for storage and applications such as AS2304 fire water, Hydrant, AS4020 potable water, commercial rain-water harvesting, stormwater detention, Process Water Storage, Desalinated Water, Demineralised, Raw Water, treated water storage and for many other applications. Industrial Tanks are available in Galvanised Steel, Stainless Steel, and painted options with various liner types to suit most commercial and industrial uses.

Industrial Square and Flat Panel Round Tank designs can be Engineered to suit your requirements for most applications and small to large volumes. All Kingspan's

industrial and commercial water tanks are manufactured in QLD and /or WA under a quality management system certified to ISO 9001.

Model KSR - Round Tanks are available as liner tanks and are suitable for a wide range of storage applications with a variety of different liner membranes to suit the chemical analysis and source of water to be stored. Tanks are Engineered and designed to AS2304 and certified to suit Wind, Seismic, Importance level, Terrain category and the stored fluid with focus on Design and Service life. KSR Tanks are constructed using our purpose made hydraulic jacking system. Tanks are flat packed for national or international transport.

Model KSS - Square/rectangular Tanks are available as a single tank or, with

divisions to separate the water contents into separate compartments. Our Tanks may sit on a flat level concrete slab, walls, piers, beams, or a combination of foundation types. Design life, Service life may be custom-made to suit site conditions and the Environment. KSS tanks are available in Galvanised finish, Stainless Steel 304, 316 and may also be Powder Coated on request to our clients preferred colour. Fully AS2304 Compliant for Fire, Sprinkler, Hydrant or Booster use. Tanks are flat packed for national or international transport.

KSS Project

Kingspan Water & Energy embarked on a project: replacing a corroded fire tank at a hospital in Perth, Western Australia. In just seven action-packed days, the team emptied the old tank, dismantled it, and installed a cutting-edge AS2304 Compliant

Fire Tank, complete with a lateral partition. This upgrade not only matched the old tank's size but also cleverly accommodated existing infrastructure while boosting capacity.

Measuring 4 metres long, 3.5 metres wide, and 2 metres deep, the new tank is a marvel of engineering, divided into two equal compartments for maximum efficiency. These compartments, each 3.5 metres long, 2 metres wide, and 2 metres deep, are designed to handle cleaning, servicing, and maintenance tasks with ease. Plus, with sturdy division walls capable of supporting loads from either compartment, this tank ensures seamless operations.

For more information on our range visit www.kingspanwatertanks.com.au

AMR

THE TRUSTED WATER TANK BRAND SINCE 1934



- Corrugated Commercial Tanks
- KSS Industrial Square Tanks
- KSR Industrial Flat Panel Round Tanks
- Glass-Fused-to-Steel Tanks

Kingspan WATER TANKS

1800 632 410
commercialtanks@kingspan.com
kingspanwatertanks.com.au



ALL ABOUT LIFTING AND SAFETY:

YOUR TOTAL LIFTING EQUIPMENT AND HEIGHT SAFETY SPECIALISTS



With a head office in Brisbane, we have grown from a small business into a leading inspection, testing, service, repair, and certification company with three branches across South East Queensland. A true local!

BIG TOW RECOVERY STROPS

Have you had bogged machinery from all the recent rain in Queensland?

We have you covered!

The Big Tow Recovery & Tow Stropps are the lighter and safer alternative to heavy chains and wire ropes. Available in a variety of working load limits and lengths.

- Manufactured from Lankhorst SK-78 genuine DSM Dyneema
- Made to order in Australia
- Can be manufactured from 1T to 1300T and from 1m through to 200m
- Many protective sleeve options including polyester, braided, heavy duty Aramid & Kevlar
- Sleaving can be manufactured to be removed for inspection
- Half the weight of a Kevlar strop, and 1/8th of the weight of a steel wire strop
- Extremely low stretch with limited linear recoil, much safer than steel wires
- Can be manufactured with many end termination options to suit your application

ONSITE SERVICE CENTRE

We are fully accredited IKAR service and repair agents. Our mobile IKAR service centre means we can come to you to complete any necessary IKAR services and repairs.



Now available for hire!

AIRHOOK LITE CUBES

Complete overhead fall protection systems for one worker up to 7m. Offering both fall protection and an overhead anchor point, the AirHook Lite is a must have and the ultimate piece of equipment for ensuring your safety while working at heights.

AIRHOOK LITE TRAILERS

The AirHook Trailer is a complete overhead fall protection system that complies to Standard AS/NZS 5532:2013 and is mounted on a tow-able road registered trailer suitable for all road conditions.

- Maximum working overhead anchor point height of 7m and with a 1.30m offset mast rated for two workers.
- When not in use, the AirHook Trailer mast folds down effortlessly into the trailer and is securely held in place.
- Counter weighted for two (2) workers.
- The AirHook Trailer takes around 5 minutes to set-up for use and a similar amount of time to lower the unit after use.

AIRHOOK MAX TRAILERS

The AirHook Max is a suitable fall protection device for a wide range of applications including working on a large variety of earth moving plant machinery, highway and off highway trucks, shipping containers and portable buildings and other plant equipment that may require access and involve working at heights.

- Designed with a minimal footprint allowing it to be positioned close to the equipment being accessed
- Maximum fall protection for up to two workers at a maximum working overhead anchor point height of 14m.
- The AirHook Max can be set-up for use by one person in less than ten minutes.



CONTACT US FOR ANY HIRE ENQUIRIES

(07) 3889 7774
 admin@allaboutlifting.com.au
 www.allaboutlifting.com.au
 BRISBANE | SUNSHINE COAST | GOLD COAST



MOXI TRAINING COURSES

Long experience, flexible training courses and relevant, practical teaching from skilled industry trainers are what set MOXI apart as the leading registered training organisation for the Oil and Gas, Mining, Minerals, Utilities and Infrastructure sectors.

Based in Australia, MOXI provides training courses and training services both nationally and internationally. In all training, the mission is to Reduce Risk, Demonstrate Competency and provide Training Management Solutions for all their industry clients, both large and small.

Industry Training Provider Meeting Demand

Stricter corporate governance and regulations for many industries has seen an increase in the demand for accredited competency-based training, technical and commercial due diligence, and independent verification services.

MOXI's trainers ensure that all courses deliver up-to-date training which complies with the latest industry standards and workplace requirements.

This includes local, state and federal regulators, state authorities and agreed national competencies.

Continually Improving

As a leading industry training provider, MOXI is constantly developing new strategies, competency-based programs and training to better service potentially hazardous working environments such as in the Oil and Gas and Mining Industries.

Internet technology is also changing the method of delivering the best training, where their new e-Learning facility which offers flexible training options for all clients, the world-over.

Customised Training

MOXI can customise training to meet

your specific workplace and industry requirements.

Offering diverse training options and flexible delivery based on best-practices.

We look at the broad scope of your company's strategic plan and goals, employees' job roles and potential career paths, while also factoring in practical things like your current work schedule, staff availability and workplace location.

World-class Training Material

Sourcing the best available training solutions from local and international industry training providers.

MOXI's Alliance Partners are established training providers with world-class material which can be adapted to suit local standards and industry regulations.

Professional Trainers and Assessors

MOXI's strong team of professional trainers have worked across a range of industries including, Oil and Gas, underground Coal Mining, Safety Management, Power Generation and Electrical Design.

From their own experience, they understand what you need to get the job done efficiently, while satisfying safety requirements and industry regulations.

Why not make MOXI your preferred registered training organisation for all your competency training requirements?

Don't sweat over compliance in industry, be proactive and train your staff well.

As an experienced industry training provider, MOXI will take you through, step-by-step, in the development of a complete training program for your company that meets both immediate and ongoing training needs.

Any hazardous areas audit is a systematic and critical examination of the installation,

equipment, its operation and safety systems.

To say a piece of equipment is compliant is to say that:

- The installation has been correctly classified
- The equipment selection is correct
- The equipment has been installed as per the certificate of conformity and/or manufactures specifications
- Accessories and terminations comply, have been done correctly and, where relevant to a correct torque
- Equipment has been electrically tested and deemed safe
- The inspector is trained, competent and authorised

Currently there are two states (Queensland & Victoria) in Australia which the state government requires electrical installations in hazardous areas to be inspected/audited.

In Queensland the Electrical Safety Regulations 2013, Section 221 requires that an accredited auditor inspects electrical installations in hazardous areas prior to connection or reconnection to a source of electricity if:

- The installation is being connected for the first time
- Electrical installation work has been performed on an electrical installation within a hazardous area

In Victoria the state government regulations require hazardous area installations be inspected by a Class H Licensed Electrical Inspector.

Although not legislated in other states, it is still good practice to have the installation audited. This is not done to delay completion but to allow another set of qualified and experienced eyes to ensure the finer details have not been overlooked. These overlooked details can be common

when the personnel completing the project construction/ installation are also responsible for the compliance audit process.

Another problem that can arise is when the person(s) in charge of the area do not understand the risks, or their obligations when it comes to hazardous areas. In these instances when auditors do get called in to audit the installation they are usually faced with a barrage of questions and can be seen to be holding up the process. This is usually because they feel they (the person(s) in charge) have had competent people design, install and commission their equipment, unfortunately this is not always the case.

Keep It Simple

Auditing is the process involving systematic examination of a system. Developing this process and following it is critical to ensuring the plant and equipment is compliant, safe and no details are missed.

So, if you have been asked to Audit an installation, before rushing out there and getting your hands on the equipment, ensure:

1. The equipment owner actually requires an audit to be performed
2. The equipment owner understands their responsibilities and obligations

Ask the MOXI Team for our invaluable experience and support to get your Audit right the 1st time. **AMR**

- RTO#51160
- EC011916

WHAT MAKES AN EEHA DOSSIER?

EEHA DOSSIER

CLASSIFICATION REPORT

MAINTENANCE MANAGEMENT PLAN

MANUFACTURERS
DOCUMENTATION

CERTIFICATES OF
COMPLIANCE

HA CLASSIFICATION
DRAWINGS

EQUIPMENT
SCHEDULES

CABLE SCHEDULES

P & ID DRAWINGS

INTRINSICALLY
SAFE
CALCULATIONS

ELECTRICAL DRAWINGS

DOCUMENTARY RECORDS

INITIAL DETAIL
INSPECTION ITRs

HISTORICAL
INSPECTION
RECORD ITRs

Call or email us to discuss your hazardous areas

Moxi HA Services

P: +61 (0)8 9479 3841

E: enquiries@moxi.com.au

W: www.moxi.com.au

RTO #: 51160

Electrical Contractor #: EC11916

MOORVALE MAKES EARTHWORKS A BREEZE



Since starting out servicing mines back in 2002, Moorvale Earthmoving has continued to make its mark as a specialist earthmoving services provider for the country's largest mining companies. Growing to employ between 200 and 300 people, Moorvale maintain a reputation as leaders in mine rehabilitation, the team's core focus is earthworks, from mine development and maintenance, through to haul road construction, tailings dam and storage cell construction.

Moorvale runs an expansive fleet of heavy machines, including dozers, scrapers, excavators, articulated trucks, graders, water trucks and service vehicles, all of which are operated by qualified and safety driven crews, and fully supported by its sister company, SimlaQuip.

Moorvale Earthmoving's Managing Director, Aaron Deguara, said the company had invested a significant amount of time and money over the past two years in transitioning its fleet into the new age of earthmoving.

"As part of our growth and to stay at the forefront of what we do, we've not only invested in new earthmoving gear, but also innovative monitoring and control technologies that allow us to improve efficiencies across different projects."

New additions to the fleet that replace some of the company's older units include two CAT 988K loaders, three CAT 150 graders, three CAT dozers, five CAT 651 scrapers, three Komatsu HD605 dump trucks, four Volvo A60H articulated haulers, two semi water trucks, as well as several service trailers and light vehicles.

"Sixty percent of our Caterpillar D11 dozer fleet are fitted with Cat Super U-blades," said Deguara. "The U-blade design allows the D11 blade to hold and carry more material efficiently, which provides an increased push production of approximately five to 10 percent. It also reduces fuel usage per bank cubic metre."

Moorvale has extensive experience in

profiling highwalls, particularly around open cut pits and landforms. They understand the risks involved in such activities and have therefore invested in new technology and specialised operator training. Not only do trainer assessors conduct training for specific earthmoving operations, but all machines have been fitted with GPS and there is now a requirement to have a substantial volume of material left between the dozer and the open face. The GPS allows 'geofencing' of work areas, which alerts operators if they pass a predetermined offset safe distance of an exclusion zone close to the open face.

"We've also integrated GPS monitoring systems to all of our light vehicles," added Deguara. "Road safety and fatigue compliance is critical for our employees that travel between worksites. A similar monitoring system has been fitted to major plant equipment in our fleet to provide accurate reporting of usage and real-time monitoring of machine health and operator performance."

Moorvale utilises the Hastings Deering HD360 App and the Caterpillar VisionLink to monitor equipment. VisionLink is a software platform designed to provide users with real-time information about their Caterpillar equipment, such as location, fuel usage, CO2 emissions, maintenance needs, and productivity. This improves efficiency and reduces downtime. All via a user-friendly interface for tracking equipment performance and making data-driven decisions from the office or via a mobile device in the field.

Moorvale Earthmoving's main headquarters are located in Mackay, with several offices and servicing hubs in Coppabella and Moura, including a workshop facility that provides in-house maintenance services for major repairs and onsite field maintenance support.

For more information, visit
www.moorvaleearthmoving.com.au

AMR



MOORVALE EARTHMOVING

we move the earth

BULK AND CIVIL EARTHWORKS | SURFACE MINING | MINE SITE MAINTENANCE | REHABILITATION

At Moorvale Earthmoving, we specialise in the provision of contract services to the mining, construction and rural sectors. For over 15 years, we have expanded our footprint and capability in Queensland's Bowen Basin. Our extensive fleet and equipment solutions continue to support critical projects that are reshaping the landscape.

Contact Moorvale Earthmoving today to learn how we can support your next project!

MACKAY OFFICE

Phone: (07) 4952 2550

COPPABELLA OFFICE

Phone: (07) 4941 8145

Email: reception@moorvale.com.au

www.moorvaleearthmoving.com.au

HARRYBILT ENGINEERING

TURNKEY VEHICLES REDEFINE RAIL MAINTENANCE

With an ever expanding rail infrastructure network across Australia, there's no disputing the role equipment providers play in these large-scale projects. Machinery must be able to withstand severe working conditions, but meet the unique challenges faced by operators, while keeping them safe and productive.

For nearly 40 years, the Ballarat based, family-owned business, Harrybilt Engineering, has met the growing demands of the rail industry by designing and manufacturing custom rail guidance systems and rail maintenance equipment.

Their turnkey solutions – Rail Guidance System (RGS), Hi Rail and Hi Brid Rail Systems for both wheeled and tracked excavators – are transforming the way operators tackle complex rail infrastructure projects. In partnership with Hitachi Construction Machinery and Komatsu, the S-Series rail machine has been developed for operators with safety and versatility top of mind.

Harrybilt Engineering's marketing manager, Beth Martino, said the S-Series is one of the safest rail machines on the market, manufactured in Australia for Australian conditions. "It's a true reflection of our



turnkey solutions capability, and ability to engineer machines that are 'rail ready' when they leave the workshop, all suitable for most rail networks around the country."

The S-Series RGS features retractable rail wheel assemblies that are installed on the excavator, which positions the vehicle on the rail, while allowing the tyres to continue to provide traction and braking. The blade end has a mechanical twist mechanism that meets strict Australian standards.

The Hi Rail System on the other hand, is a Triple Gauge Design, and can be set to either Narrow, Standard, or Broad Gauges.

The Hi Brid Rail System has been developed for customers that work predominantly on Narrow and Standard Gauges. The excavator's tyres provide acceleration and braking on the rail when running on standard gauge. On the narrow gauge, the machine's tyres contact a drum that drives

the rail wheels (known as friction drive).

"Our new RGS Hi Ride version is a standard gauge setup that uses a friction drive mode to travel over train stops and work along some train platforms," said Martino.

"This AS7502 compliant system features integrated disc service brakes and fail-safe tread brakes on the rail wheels. It is also has direct drive rail guidance for superior stability and stopping performance with a revised load chart and a compliant twist mechanism for each configuration."

In March 2024, Harrybilt Engineering announced the release of the K18 S-Series, a triple gauge 18-tonne machine using the Komatsu PC138US-11 as the base excavator. This provides another versatile solution in addition to the Hitachi models, to suit the evolving needs of the rail industry.

For more information, visit www.harrybilt.com.au

AMR



WE'LL KEEP YOU ON TRACK

Since 1985, Harrybilt Engineering has manufactured equipment to meet the unique challenges faced by the rail industry. From Hi Rail and Rail Guidance Systems for excavators (wheel and track) and trucks, to rail maintenance equipment and civil machinery, they are a one stop shop for all specialist rail needs.



www.harrybilt.com.au



ADROIT CELEBRATES 10 YEARS



When you're dealing with the evolving demands of surface and underground mining operations, as well as the challenging applications of the modern fabrication workshop, the right contractor is more important than ever. Western Australian-based Adroit Mining Services is a contractor specialising in these specific markets, one that's built on the cornerstones of safety, quality, service, accountability and delivery.

Whether it's paste reticulation and plant maintenance, dewatering circuits, deluge systems, fan booster installation and ventilation upgrades, egress systems, fire suppression fit-outs, or general fabrication and fitting applications, Adroit has you covered underground.

The same level of expertise applies to its

surface mining capabilities, which includes everything from infrastructure upgrades, surface dewatering, poly welding, machining and concreting, through to small earthworks, carpentry and building services, mill maintenance, and crusher rebuilds.

In 2024, AMS marks its 10th anniversary, which reflects its commitment to the mining industry and proven experience working on major projects.

"We're all about client relationships and dedication to every project no matter the size or work volume," said Director Kane Piggott. "We deliver on what we promise and adapt to our clients' needs to achieve the most successful outcomes possible. This is why we have continued to grow from strength to strength since inception back in 2014."

As Adroit enters its tenth year in business, it's a time of reflection on the company's achievements, how these have contributed to the type of company AMS is today, and its journey ahead.

As Mr Piggott explains, "things like leading by example, delivering results, acting like an owner, being team players, and remaining accountable are key to success in this business. Our team always strives for the one percent wins, pushing outside their comfort zones all the while looking for innovation rather than obsolescence."

Like many businesses that start out in the mining space, the road is a tough one – Adroit initially operated out of a dirt floor shed with four employees, and has overcome challenges such as mounting labour

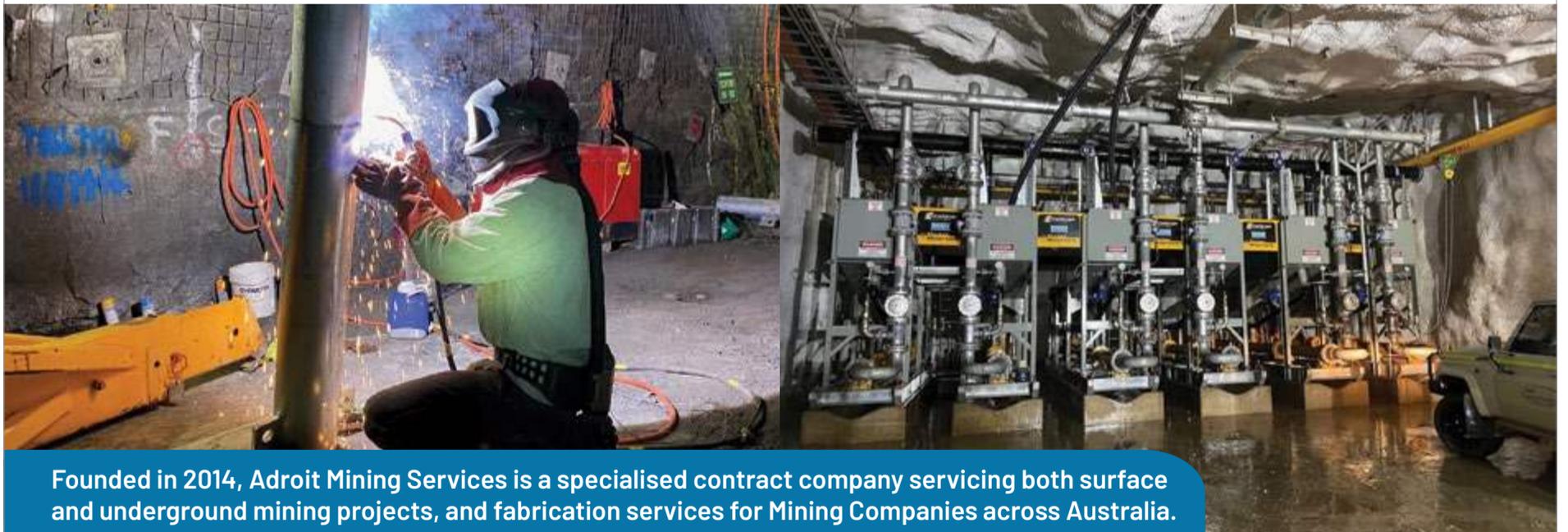
shortages, high wages, ever-increasing insurances, emergent tax implications and a global pandemic, to become a 40-plus strong team with comprehensive equipment fleet and a modest fabrication workshop.

Adroit has been an active contributor to its local community since inception, where it supports apprentices, schools, sporting groups and multiple charity organisations Australia wide. Looking ahead is a focus on innovation and continued diversity, with a team that is well prepared to manage both industry and company change in an effort to build upon its holistic service offering.

For more information, visit
www.adroitms.com.au

AMR

📞 08 9027 3851
✉ info@adroitms.com.au
🌐 www.adroitms.com.au



Founded in 2014, Adroit Mining Services is a specialised contract company servicing both surface and underground mining projects, and fabrication services for Mining Companies across Australia.

Underground

- ✓ Paste Reticulation, Installation and Plant Maintenance
- ✓ De-watering Circuits, Installs and Maintenance
- ✓ Surface and U/G Deluge systems
- ✓ Ventilation Upgrades, Doors, Brattices, Hangers and Fan installs
- ✓ Egress Systems, Installation, Maintenance and Repairs
- ✓ Onsite Maintenance and Preservation
- ✓ Air Leg/Machine Installs and U/G Service Works
- ✓ General Mine Site Fabrication and Fitting

Surface

- ✓ Infrastructure Upgrades
- ✓ Surface Dewatering, Holding Ponds and Turkey's Nests
- ✓ Fabrication, Poly Welding and Machining
- ✓ Carpentry/Building/Small Earthworks and Concreting
- ✓ Mill Maintenance, Pumps, Conveyors, Transfer Stations
- ✓ Primary Crusher, Concave and Mantle Rebuilds
- ✓ Boilermaker, Fitter, Carpenter and T/A Labour
- ✓ Franna Craneage



LEARN MORE



**Nicholsons
of
Nymagee**
*Your trusted contractor
company*

Discover top-notch civil construction, labour hire, heavy haulage, and earthmoving services with Nicholsons of Nymagee. Established in 1910, we bring over a century of expertise and a fleet of state-of-the-art machinery to your projects. Our skilled and enthusiastic team believes that safety underpins quality work and productivity, ensuring high-quality, reliable solutions for all your construction and mining needs.

Contact us today to see how we can help you with your next project!

Disclaimer: Nicholsons of Nymagee ensures all work is conducted following industry safety standards. Please contact us directly for detailed terms and conditions of our services.



Matthew: 0429 373 841
Stephen: 0429 373 845
admin@nicholsonsofnymagee.com
nicholsonsofnymagee.com.au

**TARGETED
TECHNICAL
ONLINE
PACKAGE**

TECHNICAL ARTICLE

Written by our journalists after interviewing your company's expert.



- INCLUDES SEO KEYWORDS & BACK LINKS
- CAN INCLUDE VIDEO
- UP TO 2000 WORDS, PLUS IMAGES

**EDM
(ELECTRONIC DIRECT MAIL)**

Our EDMs consistently exceed industry averages for open and click-through rates.

- Our clients regularly achieve open rates of between 15 and 45%.
- We will create an EDM with you to clearly convey your message to our 40,000 subscribers.
- Our EDMs deliver an instant message and include calls to action, driving traffic to your website, landing page or email.



**SOCIAL MEDIA
PROMOTION**

We have multiple social media platforms that give our clients access to thousands of followers across the mining sector in Australia.



In the last calendar year we had over half a million impressions across our social media platforms.

We also create links to these posts and send them to you – allowing you to share them with your network.

**MINE SUPPLIERS
ONLINE DIRECTORY**

Our comprehensive online directory for mine services has been in operation for many years.



**455
ACTIVE
MEMBERS**

- You will receive a free Deluxe listing on the platform for 12 months.
- The main listing and free cross references ensure that all key areas of your company are covered.

CMI 11KV COUPLER RANGE

FOR ABOVE GROUND MINING

CMI Electrical manufactures the Minto brand of couplers and adaptors for the Australian Mining industry.

Minto have been supplying couplers for underground mining in Australia for over 40 years.

As a local manufacturer, with a comprehensive range of Explosionproof couplers, compliant to Australian and European standards, our couplers and adaptors are used throughout Australia and exported to mining installations throughout the world.

The Minto range of Restrained plugs, Couplers, Receptacles & Bolted Adaptors are well known and have recently

released a range of above ground couplers specifically designed for open cut mining, tunnel and roadway construction applications. Introducing the Cobra Series of 800A, 11kV couplers.

This new range of bolted couplers are easy to use and designed to perform for long periods between maintenance cycles.

The 11kV COBRA product can extend service life of couplers with the use of innovative design features and materials.

Below is a summary of some of the key features for the Minto 800A, 11kV COBRA coupler:

- Fully rated for a continuous operation

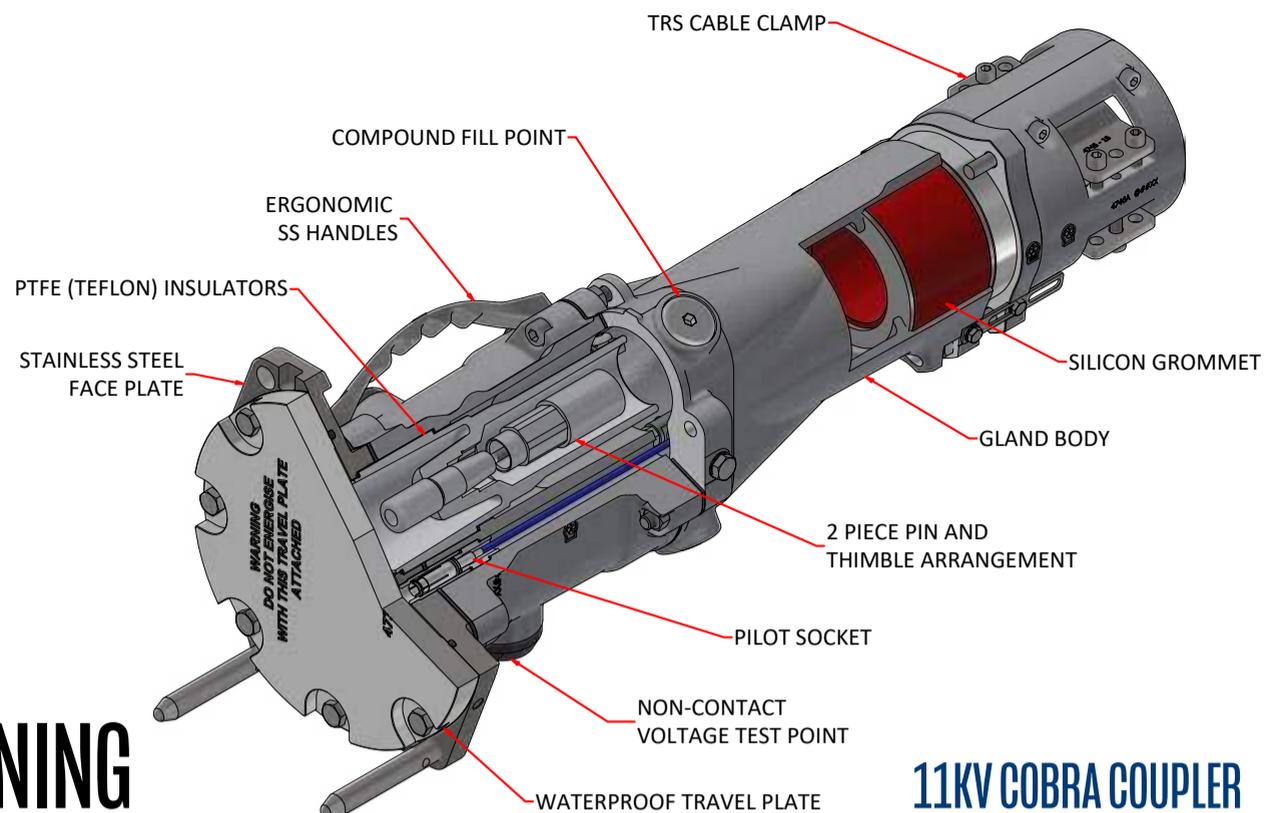
11kV @ 800A

- 3 x Non-Contact Voltage Test Points, one for each phase
- Teflon Insulators
- Silver plated high purity copper current path elements
- Lower heat losses for longer service life
- Removable Stainless-Steel faceplate, which can be easily replaced
- Choice of small or large cable gland
- Easily opened for inspection and re-termination
- 3 filing apertures for ease of compound filling (if required)
- Small and Large Gland body to suit cable type and size
- Choice of Rubber Cable or Steel Wire Armoured cable glands

- Unique gland design offering ease of use and additional cable support
- Custom designed ergonomic handles for lifting and handling

For more information on this product, you can get in touch with CMI on 1800 264 222, or go to their website at <https://www.cmielectrical.com.au>

AMR



11KV COBRA COUPLER

Specialists in Electrical Cable & Mining Connectors

Expertise and Precision is our purpose.

CMI Electrical Products are specialists in the manufacture and distribution of electrical cables and associated components for industrial, mining, infrastructure, commercial, petrochemical and information technology applications throughout South East Asia and Oceania.

CMI QLD-Brisbane
(07) 3863 0749
32 Duntroon Street,
Brendale QLD 4500
southqldsales@cmielectrical.com.au

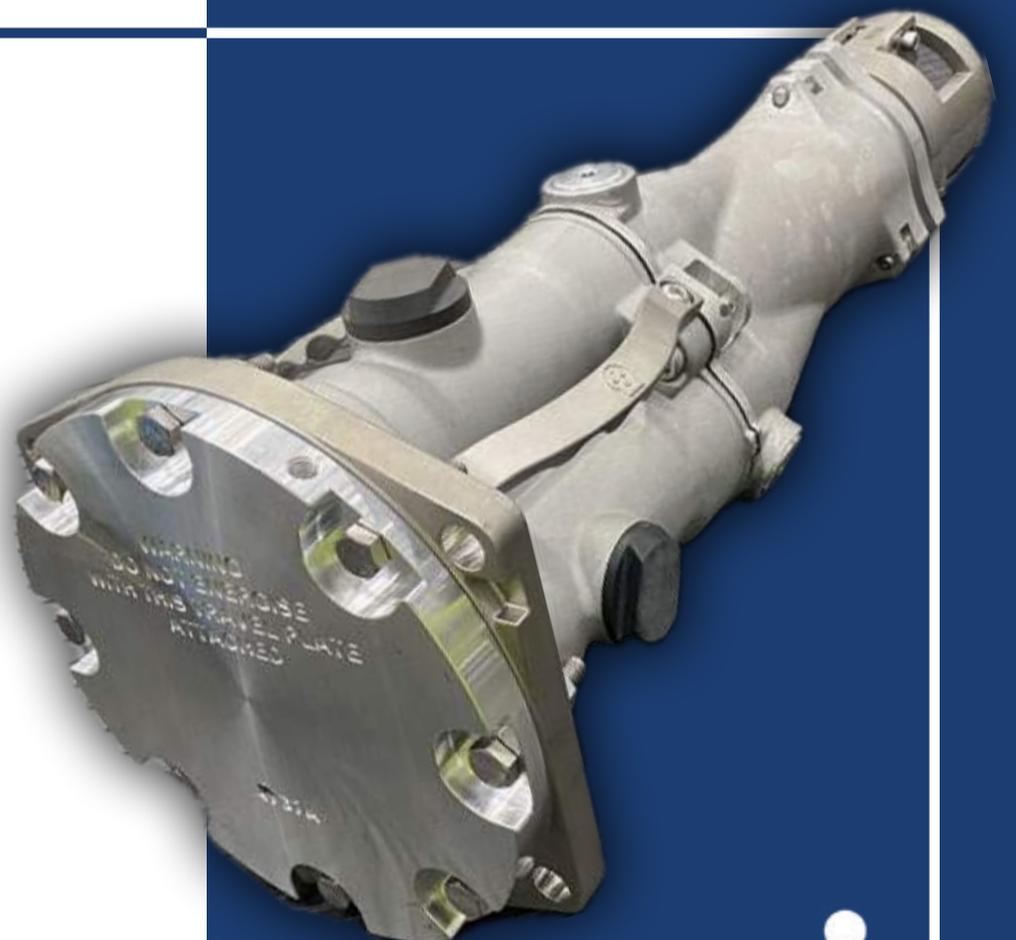
CMI VIC
(03) 9532 1233
3 Dissik Street,
Cheltenham VIC 3192
vicsales@cmielectrical.com.au

CMI Head Office NSW
(02) 9807 6155
F3 3-29 Birnie Avenue,
Lidcombe NSW 2141
nswsales@cmielectrical.com.au

CMI QLD-Rockhampton
(07) 4921 0978
Shop 3 at 76 Hollingsworth Street,
North Rockhampton Qld 4701
northqldsales@cmielectrical.com.au

CMI WA
(08) 9358 1788
36 Division Street,
Welshpool WA 6106
wasales@cmielectrical.com.au

1800 264 222
cmielectrical.com.au



cmi
Electrical

DONT BE LEFT IN THE DARK.



Keep up to date with the latest industry specific news.

THE AUSTRALIAN
MINING REVIEW
your **Gateway** to the **Mining Industry**

Subscribe to The Australian Mining Review today or visit us online for full news coverage and industry specific products.



australianminingreview.com.au

CDS - THE ABLE IN CABLE

Celebrating 25 years in 2024

Cable Distribution Services is a premium cable supplier and leading distributor of quality power, communications and fibre optic cables, connectors and accessories for the electrical and communications industries.

In the energy sector, Cable Distribution Services specialises in a wide range of underground and above ground low and medium voltage power cables and systems for the mining and heavy industrial industries.

For your communications needs, Cable Distribution Services offers specialised products for mining, marine and off shore installations as well as a comprehensive range of optical fibre and copper cables and connectivity solutions.

From concept to completion, Cable

Distribution Services delivers tailored cable and system solutions to meet your requirements - including design, manufacture, testing and approval of custom cables - with typically the lowest Minimum Order Quantities (MOQs) in the industry.

Cable Distribution Services was founded by Ross Wasserman who began his cable career as an apprentice electrician in South Africa with a large cable manufacturer, commissioning and maintaining an array of cable manufacturing lines. He emigrated to Perth in 1995, working for a cable specialist, and eventually founded CDS in April 1999.

This year marks Cable Distribution Services' 25th year in operation.

Another milestone soon to be achieved

is that of the company's General Manager, Ross Jackson, who next year will celebrate 40 years in the cable industry. With an extensive manufacturing, sales development and management background across the mining, power utility, marine, oil and gas, infrastructure, communications, renewables and OEM industries, Ross joined Cable Distribution Services in 2016 and has been an integral part of the company's diversification and growth.

Together with their dedicated team, they are always willing to go above and beyond to service your needs and exceed your expectations.

Comprehensive Services

Cable Distribution Services has one of the most comprehensive stock holdings in the industry available for despatch in standard packs or cut-to-length, supplied with the correct cable accessories for your project.

With a global network of suppliers, they can assist in supplying items unique to you or your project and delivering them in the quickest possible time, whether by air or by sea.

An innovative strength of the business is their reverse logistic solutions and end-of-project material demobilisation model, offering best 'green business' practices, and value add services from cut-to-length cables for both power and communications.

THE RANGE

Water: One of CDS main strengths is the supply of cable for pumping and dewatering - stocking a wide range of flexible cables since their inception.

A new development in the expansion of this range is the recent release of their Aquable screened rubber cables with pilot conductors; which are a culmination of extensive R&D to ensure their performance and suitability when installed in the often rugged conditions encountered in Australia.

Mining: Heavy Duty Flexible Reeling and Trailing Cables supplied to AS/NZS2802 for Underground Mining applications and AS/NZS2802 for Other Mining applications. These cables are generally manufactured to a spec that surpasses the most stringent International Standards. Typical Type 241. Type 409 Type 441. We are able to supply the majority of configurations as required by the Australian Mining Industry.

Oil & Gas: When the project demands a combination of sophisticated technology and rugged durability, CDS have the solution with a diverse range of products for the offshore and onshore, petrochemical and marine industries.

Data Comms: CDS offer end-to-end connectivity with harsh environment fibre optic cables, patch cords, fibre trays, adaptors and connectors, including custom pre-configuring and assembly of fibre optic breakout trays (FOBOTS) and pre-terminated fibre optic cables for mining, industrial and ruggedised applications, assembled in their in-house purpose-built fibre termination facility.

Industrial: A wide range of application-specific energy and communications cables including flexible, LV power, control, rubber, submersible, armoured, instrumentation, EMC/VSD and fire rated products.

Material Handling: Energy chain, drag chain, pendant, festoon and reeling cables to suit any hoist and crane application.

Cable Distribution Services aim is to be more than just a supplier, but a true partner, delivering products in full and on time, to specification, and at the lowest cost possible.

With technical experience spanning more than 100 years and the backing of some of the world's leading and most innovative cable manufacturers, their reputation is built on a history of reliability, high quality and integrity. There is a reason that they are commonly referred to as The **able** in Cable. **AMR**

ENERGY
CABLES



MINING
CABLES



COMMUNICATIONS
CABLES



COMMUNICATIONS
ACCESSORIES



CONNECTORS



Freecall: 1800 GET CABLE (438 222)

Email: sales@cabledistribution.com.au

Web: www.cabledistribution.com.au

**Cable
Distribution
Services**



Cable Distribution Services



AQUABLE® SCREENED NEOPRENE CABLE



CDS AQUABLE® cable is designed for both flexible and fixed installations where an electrical screen is required, indoor, outdoor, industrial, mining, quarries. VFD EMC compatible. Motor mains and submersible pump applications, in various water conditions. AD8 permanent submersion to 500m depths under certain circumstances.

APPLICATIONS:

- Designed for pumps in waste water
- (EMC) Compatibility
- Mining & Dewatering
- Industrial sites, Chemical plants
- Hazardous locations
- Seawater

FEATURES & BENEFITS

- Mechanically tough for Australian conditions
- Pilot (control) Cores (x4) included
- Flame-Retardant IEC 60332-1-2
- Australian Core Colours - Red, White, Blue, GN/YW
- Pressure Extruded EPR inner bedding
- UV Resistant
- Oil Resistant

STOCKING RANGE:

- 3core & earth (Plus 4x Pilots) 6mm² to 120mm², other sizes available on manufacture
- Available in 500m drum lengths or cut to length



CDS - Approachable, Reputable and Dependable

Freecall: 1800 GET CABLE (438 222)
Email: sales@cabledistribution.com.au
Web: www.cabledistribution.com.au

The **able** in cable®

POPE MOTORS DESIGNED TO SURVIVE



Fully designed and supported by the Pope engineering team in Adelaide, Pope electric motors have set the benchmark in the design of heavy duty industrial electric motors.

Available in three specifications — Extreme IP69, MinePak IP66 and TruPak IP55 — the motors provide extreme durability and customisation, resulting in reduced maintenance and inventory requirements.

The motors are manufactured to AS/NZS 60034-1, IEC 60034-1 standards and are extremely modular with sizes available from 63 to 400 frame. Pope FlexiFrame motors can be converted or modified without the need to dismantle the motor using the standard fastening points. They are adaptable for new and existing installations; terminal box positions can be left / top / right side.

Pope FlexiFrame motors and brake motors are all about heavy duty, efficiency, modularity and reliability. The extra strong cast iron construction with bolt on feet and bolt on flange rings provides the platform

for hundreds of mounting and assembly configurations and options.

The motors can be ordered for IECEx Hazardous zones, including Ex db Group I, Ex db Group IIB, Ex eb Group I, Ex eb Group IIC, Ex ec Group IIC (Ex nA), Ex tb Group IIC (DIP), all models available with enclosure ratings IP69, IP66 & IP55, Ex db & Ex tb available as inverter duty.

Standard on frames 132 and above, the Pope Tru-flush greasing system allows for continuous bearing lubrication while the motor is in operation so that no valuable production time is lost. Fresh grease flushes the old grease from the motor, allowing for extended bearing life. The V-ring seal and grease slinger provide an extra layer of ingress protection and act to distribute grease and prevent over greasing.

All models have as standard, inverter duty windings and winding protection devices, Extreme and MinePak models have class H insulation, frames 250 and above are available with insulated bearing housings

and inbuilt microfibre shaft grounding rings.

Pope Extreme IP69

With multiple barriers of protection and rated to IP69 water and dust protection, the patented Pope Extreme shaft seal has several barriers of protection, together with O-ring seals fitted to external machined mating joints, water and dust is prevented from entering the motor, making it ideal for harsh wet and dusty conditions.

Common applications include high pressure washdown wet areas, mining, heavy industry, cooling towers, food and beverage, marine and extreme tropical cyclone conditions.

Pope MinePak IP66

Adhering to mining standards, the MinePak IP66 is a true high efficiency mine specification motor.

The motor is protected against heavy seas and strong jets of water from all directions, while it is dust tight. It is commonly used in

mines, quarries, heavy industries, oil and gas, and harsh environments.

Pope TruPak IP55

Designed for general use, the TruPak IP55 motor is ideal for general industrial applications such as HVAC, food and beverage, and irrigation.

It has general water resistance from splashes and jets of water and limited dust protection.

Pope Australia provides technical support for legacy Pope motors, together with spare parts and direct replacement motors.

Pope motors are available from 63 to 700 frame, 0.12kW to 8000kW, 2P, 4P, 6P, 8P, 10P & 12 pole, 2-speed, high voltage, force cooled, liquid cooled, brake motors 0.18kW to 500kW. special application motors locally designed and made to order. **AMR**

SETTING THE BENCHMARK IN HEAVY DUTY INDUSTRIAL ELECTRIC MOTORS



POPE Electric Motors continue to remain in service in excess of 40 years, ensuring customers will benefit for many years.

1000s of choices from just one modular frame design.

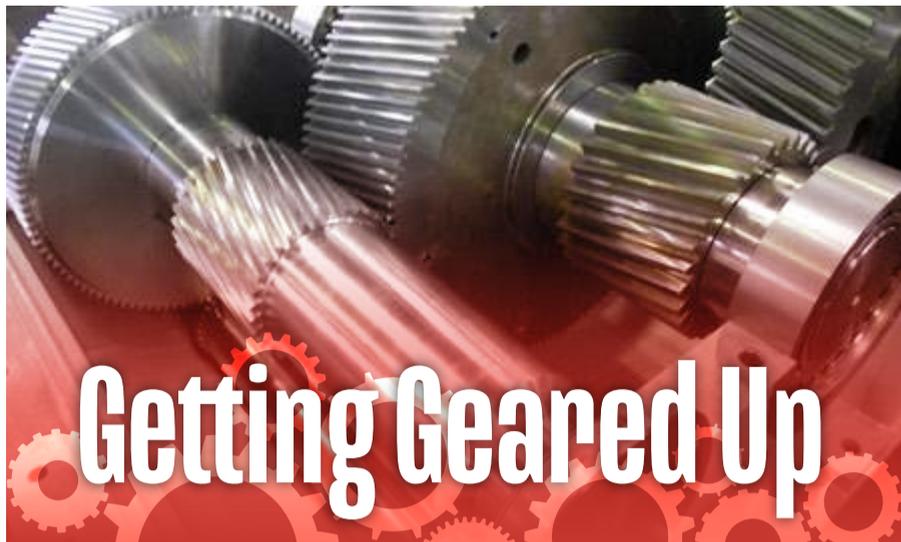
One high strength cast iron frame can be used for numerous mounting options and motor types.

- Ease of maintenance
- Inventory can be dramatically reduced
- Interchangeability of spares

"Thousands of POPE Electric Motors have successfully operated in harsh conditions for decades, saving millions of dollars in energy, down time, replacements, rewinds, stress and lost production time."



W: rototech.com.au P: 08 8295 5566 E: POPE@rototech.com.au



Getting Geared Up

Shute-Upton Engineering is keeping the wheels of the Australian mining industry turning with their first-rate industrial gear services.

Established in 1957, the Queensland based company is a leading manufacturer for all types of industrial gears and gearboxes, performing all design, cutting, grinding and hobbing in-house.

With a dedicated and highly trained staff, the business is able to specialise in all areas of industrial gears precision machining as well as general work and metal fabrication.

On the team are several evaluation and inspection professionals, qualified tradespeople, and support staff, making the 65-year-old company a market leader in mining engineering, design, repair, and gear manufacturing, as well as winches and other industrial parts.

Shute-Upton Chief Executive Officer Ian

Thomas said the company uses materials such as high-strength heat treated steel and advanced manufacturing tools like CNC gear cutting machinery to deliver a durable product.

He said these measures guaranteed a high-quality service and very fast turnaround times.

"To start, clients receive a free quote and project timeframe," Mr Thomas said.

"We have in-house design and reengineering wherever needed and can offer total disassembly, cleaning, inspection and condition analysis when a gearbox needs to be repaired.

"It is essentially a full project management offering, with substantial quality control measures and testing.

"And, because we know a lot of projects operate continuously, we offer blanket 24-hour emergency support.

"You can reach us when you are in critical need at any time."

Among the company's most popular services was the repair, overhauling or refurbishing of existing gear, which has been proven to save project operators on downtime costs.

Comparisons have found gear restoration to original specifications was often cheaper than re-ordering a replacement part, while any upgrading of materials or design parameters could be easily made when necessary.

With some clients in need of parts that have become unavailable or hard to find, Shute-Upton has also added reverse engineering to its service offering. The business can extend the service life of existing industrial equipment and systems by accurately and quickly remanufacturing any industrial gear.

Mr Thomas said Shute-Upton had a pro-

cess based on experience that had been developed for over half a century and was uniquely placed to accommodate the mineral resources sector.

He said operators interested in learning more should not hesitate to get in touch.

"We operate from a large and technologically advanced factory workshop in Brisbane," Mr Thomas said.

"We are a modern workforce of professionals with an unrivalled pool of knowledge.

"Get in touch for all your gear and gearbox needs."

For more information, visit www.shute-eng.com.au

AMR

Get into Gear with Shute-Upton Engineering

- Winch manufacture, design and overhaul
- Manufacture of gears, shafts, splines, sprockets to drawings or samples
- Overhauling all makes of industrial gearboxes
- Ratio changes
- CNC gear cutting and profile tooth grinding
- Heat treatment - hardening of gears, splines and sprockets
- CNC machining and grinding
- Manufacture and machining of any and all parts to keep the mining industry moving

(07) 3277 5822
sales@sueng.com.au



shute-eng.com.au



What makes us different



Emergency 24/7 Service



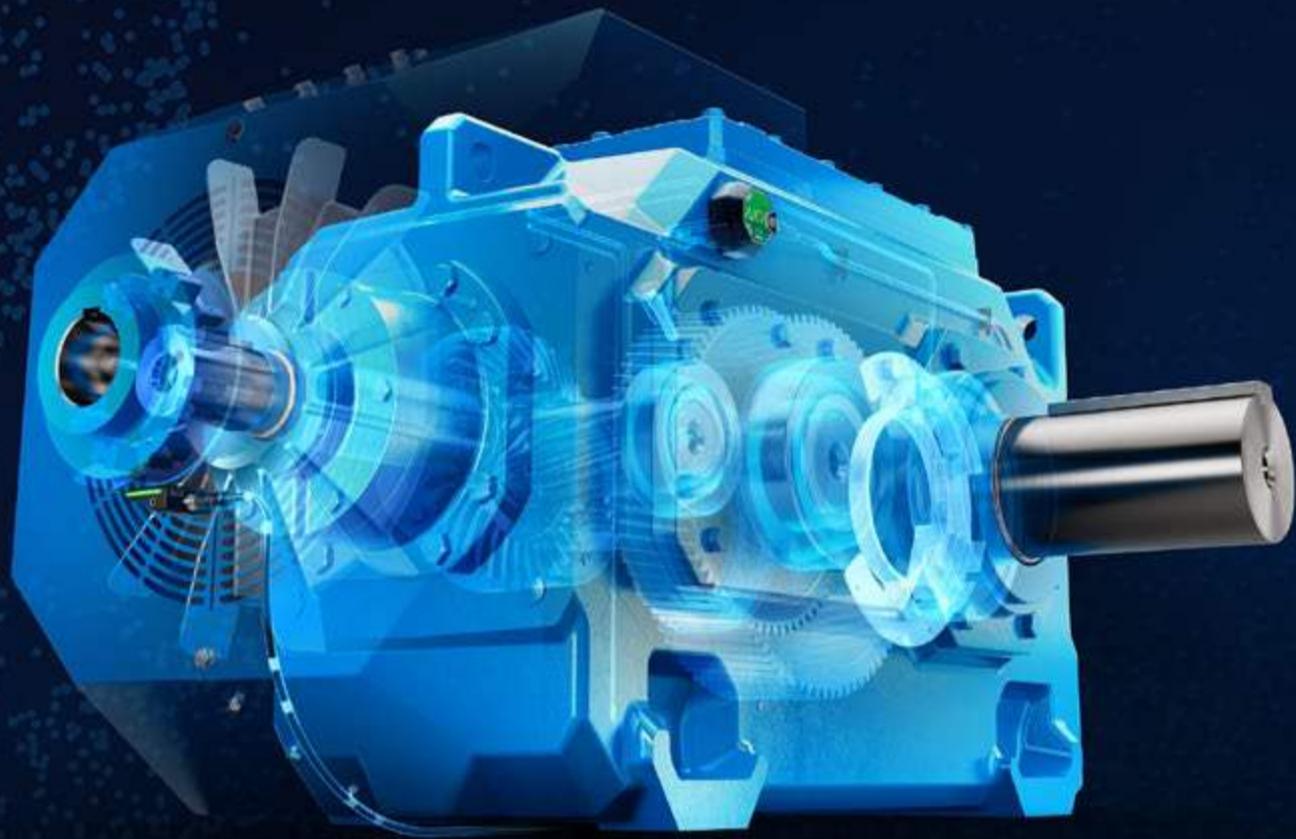
Free Service Quotations



All Job Dimensions



Over 56 Years' Experience



THE NEW FLENDER ONE INDUSTRIAL GEAR UNIT

Welcome to the new era of industrial drive technology

FLENDER

Your plant is just as individual as your company. Anything unnecessary is out of place. You only buy what you need. You don't want to waste anything. This is particularly important in conveyor belts, mills, pumps, stirred equipment and other rotating equipment applications where gear unit design and thermal capacity can have a huge impact on profitability.

That's where the FLENDER ONE earns its stripes. It's more than just a new gearbox generation, but the successor to the well-established FSG standard gearbox series that had become the grey standard in many industries around the world.

With a market that demands more efficient and faster-to-deploy gearbox solutions, FLENDER ONE is as individual as its predecessor, with higher efficiency, which results in lower OPEX. It also features AIQ smart condition monitoring out of the box, ensuring higher uptime than ever before.

Flender Head of Sales, Joe Bruford, said the new FLENDER ONE is highly geared toward mineral processing and materials handling applications synonymous with Australian mine sites.

"It boasts a 30 percent higher thermal capacity, 80 percent longer bearing life, and lower weight than its predecessor. It is also available in nearly any configuration and as individual as a tailor-made gear unit. The higher efficiency also lowers operating expenses, and with AIQ pre-installed, operators will benefit from less unplanned downtime and can expect to cut their maintenance costs significantly."

The upcoming multi-stage models of FLENDER ONE are best suited for belt conveyors and bucket elevators, whereas the single-stage FLENDER ONE is designed for use in pumping, water and wastewater applications.

In conveyor belt applications, FLENDER ONE minimises OPEX thanks to its outstanding

energy efficiency. Additionally, all FLENDER ONE gear units are equipped with the performance-optimised METAPERFORM® gear teeth, marking a major step forward in the field of industrial gear units.

"Thanks to its improved roll-off characteristics and even more uniform path of contact, the power dissipation of the multistage gear unit has been reduced by up to 20 percent in comparison with earlier models," said Bruford.

"FLENDER ONE offers gear unit intelligence straight from the factory. With the digital monitoring and intelligent onboard analytical functions, you always have your gear unit and your processes in view, which improves reliability, predictability and ease at the highest level. The system also enables you to avoid damage and reduce unplanned downtime by up to 70 percent, with data and need-based maintenance intervals reducing service costs by up to 40 percent, and service-related downtime by up to 50 percent."

Since 1979, leading international manufacturer of mechanical and electrical drive systems, Flender, has supplied gear units and couplings that have played an integral role in driving the Australian mining industry forward.

This year, the company celebrates its 125 year anniversary globally, which represents a remarkable breadth of knowledge and experience in which the Australian team draws upon locally. In Australia, Flender has one of the largest install bases of drives in the country, and has expanded its service footprint to cover Perth, Sydney, Rockhampton and Melbourne, all of which are equipped to provide full OEM support, repairs and testing.

Unlimit your Gearbox. With FLENDER ONE.

Flender
18 Powers Rd, Seven Hills NSW 2147
1300 457 169
www.flender.com/one



Australian
Mines and Services
Handbook 2024

HAP '220

Australian Mines and Services Handbook 2024

**OUT
NOW!**
CONTACT US TO GRAB
YOUR COPY TODAY.

**INCLUDES DETAILED DATA
ON OVER 730 MINES SITES
IN AUSTRALIA**

**DON'T MISS OUT
on 2025!**

Let them find you in the Bible of
the Australian mining industry.

BOOK NOW!



mininghandbook.com.au

SPECIALIST REHABILITATION OF MINE WATER ASSETS



No mine site can operate without water. Whether you have too much, not enough, or the balance is just right, management of water is integral to the success of any coal or metalliferous operation.

Every site employs a system of impoundments designed to hold and treat mine-affected water of varying grades. Maximising the volume capacity available in each, means larger margins to work within when dealing with unexpected events, and lower risk of uncontrolled discharges into undisturbed areas.

Capacity loss to silting over the design life is often overlooked when impoundments are designed and engineered. Where this has been considered, it regularly proves insufficient. Years of operation, weather events, constantly changing surrounding infrastructure and ever-extending service life can leave water assets with a fraction of their nameplate capacity. Sometimes, there is none left at all.

Maxitool Australia specialise in rehabilitating these poor-performing mine water assets. The company operates a diverse fleet of mine-spec dredges, both manned and unmanned, pumping and piping infrastructure and support equipment.

"We can deliver solutions for almost any onshore body of water" said Maxitool Australia General Manager Douglas Paterson. "Leveraging our team of experts, we can design and execute cost-effective solutions for the most difficult dredging projects."

"We can safely dredge HDPE lined ponds, so there is no need to take them offline and attempt this with earthmoving equipment, almost inevitably causing damage to the liner. Keeping the water in the ponds throughout the procedure allows them to remain online, meaning no processing downtime or complex work arounds. If there's no water in the pond, we regularly start from a zero-capacity state where we dig a hole and drop the dredge in".

Silt in some cases can also contain valuable material. MA can tailor productivity and flow rates to suit tailings reprocessing. Additionally, flow and density characteristics can be carefully monitored using their non-nuclear density meter.

"We've had clients in the past kill two birds with one stone and remove problem silt, while financing the project by processing it" added Paterson.

Maxitool isn't a marine dredging contractor dabbling in mining, it was born as a mining contractor which has since diversified to service other industries, while mining remains the core focus. Other dredging contractors may face a steep learning curve when it comes to thorough risk assessment, regulatory compliance, and medical surveillance associated with working safely in mining. MA effectively and safely operate (often working out on the water) in this environment every day.

Paterson added their solutions are especially designed to suit remote areas, and

all dredges can be transported on a single trailer, with support equipment for larger machines usually loaded on a second. "This translates into swift and cost-effective mobilisation between remote sites, or those located far from our North Queensland base. From the Bowen Basin to Groote Eylandt, the Hunter Valley and West Wyalong to Cape York and remote islands in the Torres Strait, we've serviced projects all around the country and beyond."

Supplementing onsite services is a well-equipped design and engineering office, and manufacturing facility in North Queensland, which enables Maxitool to deliver niche market tooling and fabrication to the mining industry. With broad capability in this space, the company can design and implement solutions to suit unique client requirements, such as mill liner handlers, bespoke plant and custom-built dredging and pumping equipment.

For more information, visit
www.maxitool.com.au

AMR



Founded in 2007, Maxitool Australia is a multi-service solution provider to the mining, industrial, marine, and wastewater industries.

- ✔ Dredging
- ✔ Bathymetric Surveying
- ✔ Water Management
- ✔ Dewatering
- ✔ Tailings Reclamation
- ✔ Design, Engineering and Manufacture

+61 7 4255 8615 **P**
dredging@maxitool.com.au **E**
www.maxitool.com.au **W**

DREDGING WITH DISTINCTION

Since 1995, Dredging Systems has consolidated its position as a leading dredging, mining and marine specialist. The company utilises a unique skillset and equipment fleet to tackle dredging, underwater civil, marine weed and underwater clean-up projects of all scales.

Dredging Systems operates across Australia, Papua New Guinea and Singapore. It has successfully completed projects for mining companies, oil refineries, government agencies, marinas and private properties. Its highly manoeuvrable and transportable dredges are built to mine specifications, and are backed by a fully trained team capable of working safely and efficiently in large mines and sensitive environmental and historical sites.

The seasoned dredgers understand what it takes to clean and maintain everything from mine tailings dams, industrial ponds, lakes and lagoons, creeks and rivers, to

council wastewater treatment plants, marinas, beach renourishment projects and wetlands.

The fleet also features remote-controlled dredges that can work safely in lined dams and polluted or toxic liquids, and the team has specialist expertise in measuring water volumes, water depths and sludge volumes with transportable bathymetric equipment.

Dredging Systems director Anto Pratten says the company offers an extensive range of services covering dredging, dewatering and civil applications. "We complete both hydraulic work (cutter-suction dredging) and mechanical dredging (excavator and weed rake work)," he explains.

"We have dredges that can either unload 'walk' themselves into ponds and dams or can be craned into water or tight-access areas where required. For example, the multi-purpose dredge offers multiple



functions within a single machine that excavates, pumps and removes weeds, all with the ability to be transported by truck anywhere in Australia. Our fleet includes amphibious dredges, remote-controlled dredges for polluted water, weed harvesters, barges, floating and submersible discharge pipes, and booster pumps."

As pumping and digging is only half the dredging job, the company specialises in dealing with dredged material, using equipment and skills to dewater, dry, treat and dispose of mud, tailings, sand, weed, rubbish and other underwater material. Depending on the job, dewatering geobags, demountable dewatering pools and mechanical dewatering equipment is also available, with reclaimed material pumped back into treatment plants as required.

From a civil perspective, the team has the capability to work on underwater pipe-

lines, bridges, wharves, dam walls, pump inlets and other industrial systems. Pratten says, "we use discharge pipelines, barges and related booster pumping equipment to enable material transportation over distances of more than four kilometres. All our dredges and barges can be dismantled for road transportation and are supported by land and water-based equipment."

A standout for Dredging Systems is its ability to leverage amphibious dredges to remove years of material build-up, including sludge, weed, reeds and rubbish from environmentally sensitive waterways. By increasing a river's capacity and returning it to its original depth, the water flow rate is increased, water quality is improved and flooding to the surrounding area is reduced.

For more information, visit www.dredgingsystems.com.au

AMR



dredgingsystems.com.au

DREDGING MINING & MARINE EXPERTS

Dredging Systems has tackled dredging, underwater, civil, marine weed and underwater clean-up projects for over 25 years. Whether you're a mining company, oil refinery, government agency, marina or private property, we've got the specialist equipment and innovative solutions to meet your unique dredging needs.

- Mining & Tailings Dams
- Industrial Ponds & Dams
- Marinas
- Bridges & Wharfs
- Riverways & Waterways
- Wastewater Treatment
- Weed Harvesting
- Beach Renourishment
- Dewatering Geobags
- Portable Dewatering Pools
- Pipelines & Pump Inlets/Outlets

P: 1300 DREDGE (373 343) E: info@dredgingsystems.com.au



GALLET F2XR

ONE HELMET FOR MULTIPLE RESCUE MISSIONS



Setting the new standard for head protection across multiple applications, the GALLET F2XR was designed to meet the demanding requirements of the fire, rescue, and emergency services across the globe. Modular and lightweight, it's the first helmet of its kind – suitable for diverse rescue operations and ready to take on future challenges.

Wildland fires are on the rise, especially



prevalent in the rural and regional areas of Australia where mining operations exist. Increasing in numbers whilst becoming more difficult to control, these longer, often deadlier interventions call for a helmet that's optimised for extended periods of use in hot environments.

The GALLET F2XR has an optional vented base on the top and sides and is fully breathable to aid wearer comfort on long duration missions in high temperatures. Meanwhile, the new responder goggles quickly and easily attach to the helmet, utilising intuitive on/off positions and providing a tight fit on the face to make the most of their critical eye protection function.

Technical rescue missions in the age of our changing climate can be unpredictable and require first responders to act with the utmost caution. To provide the necessary support in these volatile environments, the GALLET F2XR features superior eye and face protection to guard against arc flash injuries and other hazards.

The helmet's integrated ocular visor with individual height and depth adjustments adapts to the face of the wearer. It's made to be versatile and adaptable in multi-hazard environments, just like the first responder wearing it.

Search and rescue missions are on the rise. Responding to crises in unstable conditions, it's critical for first responders to be able to quickly adapt to hazardous and often unpredictable circumstances. The GALLET F2XR is the ideal helmet solution for these missions, providing reliable protection no matter the situation.

Improving safety when the stakes are high, the helmet is equipped with innovative features that helps you see and be seen, such as the integrated headlamp. This lighting module provides both proximity and spot beam functionality, as well as a taillight with three colours, which makes first responders more visible even when retroreflective stickers aren't enough.

Equipment that's optimised and adaptable for **applications at height** is key to undertaking missions like these safely. The GALLET F2XR, with its powerful lighting module and hearing protection with integrated communication system, is ready to take on long-lasting height rescue missions with optimal safety. **AMR**

For more information click on the link below
<https://bit.ly/3WVWpHm>

MSA

The Safety Company

A NEW ERA OF HEAD PROTECTION

In a rapidly changing world, MSA continues to set the standard for state-of-the-art head protection. Prepare to meet the helmet platform that adapts to new dangers.

Designed for the challenges of a shifting climate, it's the only helmet of its kind. Tested and certified for wildland firefighting, technical rescue, urban search and rescue, climbing, and water rescue, the GALLET F2XR is here.



P: 02 9688 0333

E: aus.customerservice@msasafety.com

[CLICK HERE TO LEARN MORE](#)

BRINGING 24 x 7 ACCESS TO FIRE SUPPLIES ACROSS AUSTRALIA

Transforming the way businesses distribute products, FIREX has been rolling out 24 x 7 self-service warehouses across Australia for the past six years. The FIREX solution has allowed businesses to enhance their operations by seamlessly accessing critical products and consumables around the clock, seven days a week, 365 days a year.

FIREX recognised a significant gap in the market noticing customers and fire technicians were wasting precious time driving to all corners of the city in the search of suppliers that stocked their required products. Often stuck in traffic or arriving late, this meant they serviced

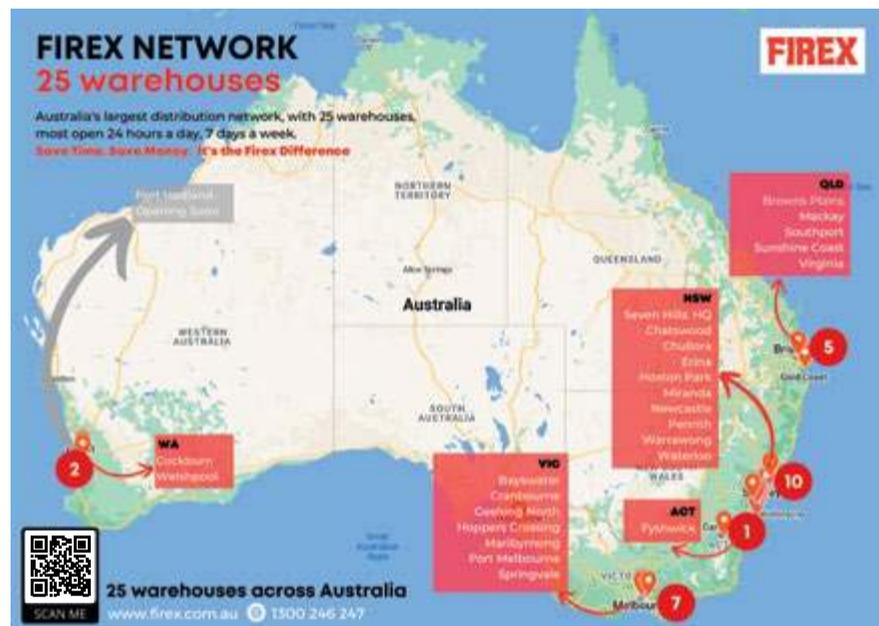
fewer customers, which is a common issue impacting many industries.

Today, backed by over 40 years of industry experience, the Aussie owned and operated company is building upon its reputation as a leading manufacturer and wholesaler of portable fire protection equipment with this innovative warehousing solution.

In a first of its kind, FIREX partnered with Kennards Self Storage and National Storage to roll out their network of 24 x 7 Self-Service warehouses, taking convenience and timesaving to the next level.

“As we know, delivery timelines have evolved and those businesses still offering two-day delivery are falling behind; customers now expect same-day or next-day access to products, which means suppliers must adapt,” said FIREX’ Ali McGovern.

“The solution is our 24 x 7 self-service warehouses, known to fire technicians as ‘FIREX sheds’. These warehouses are strategically located closer to our customers and offer faster, cheaper and more efficient access to products.”



OPEN 24 x 7, 365 DAYS A YEAR

Aside from the genuine time and cost savings, FIREX sheds allow customers to collect stock any time, including weekends and public holidays. The FIREX shed network utilises the national footprint of the major storage companies, their central locations and short-term flexibility.

FIREX launched their first 24 x 7 Self Service Distribution Unit (SSDU or shed) in December 2018 in Waterloo, Sydney. The company have since expanded to Melbourne, Canberra, Perth and Queensland, with two new sites set to open in Mackay and Port Hedland to meet the growing demands of the mining industry. FIREX now have 21 SSDUs operating 24 x 7 around Australia supported by four traditional warehouses operating from 7.00am to 4.30pm.

“Our customers simply place their order, receive a PIN code to their mobile, drive to

the nearest the warehouse and pick their stock,” said McGovern.

“Using high-definition cameras, electronic sensors and PIN codes to identify each customer and track the items they select, we offer our customers the convenience of collecting their fire protection equipment, day or night. Purchases are billed to customers’ accounts when they leave the shed.”

FIREX offers customers access to Australia’s largest network of warehouses - conveniently located, readily available stock, no wait times, easy access, significant cost savings and most importantly flexible operating hours – a true win-win situation.

For more information, call the FIREX team on 1300 246 247 or visit <https://firex.com.au/ssdu>

AMR

FIREX



24 x 7 SELF-SERVICE WAREHOUSING

We’re the leading manufacturer and wholesaler of portable fire protection equipment for the Australian market, with the largest distribution network in the country.

1300 246 247 
 sales@firex.com.au 
 firex.com.au 

Powering Australian Pipelines



Caman Engineering is strengthening industry supply chains with solar-powered manufacturing – a move that has put a welcome green spin on flange production.

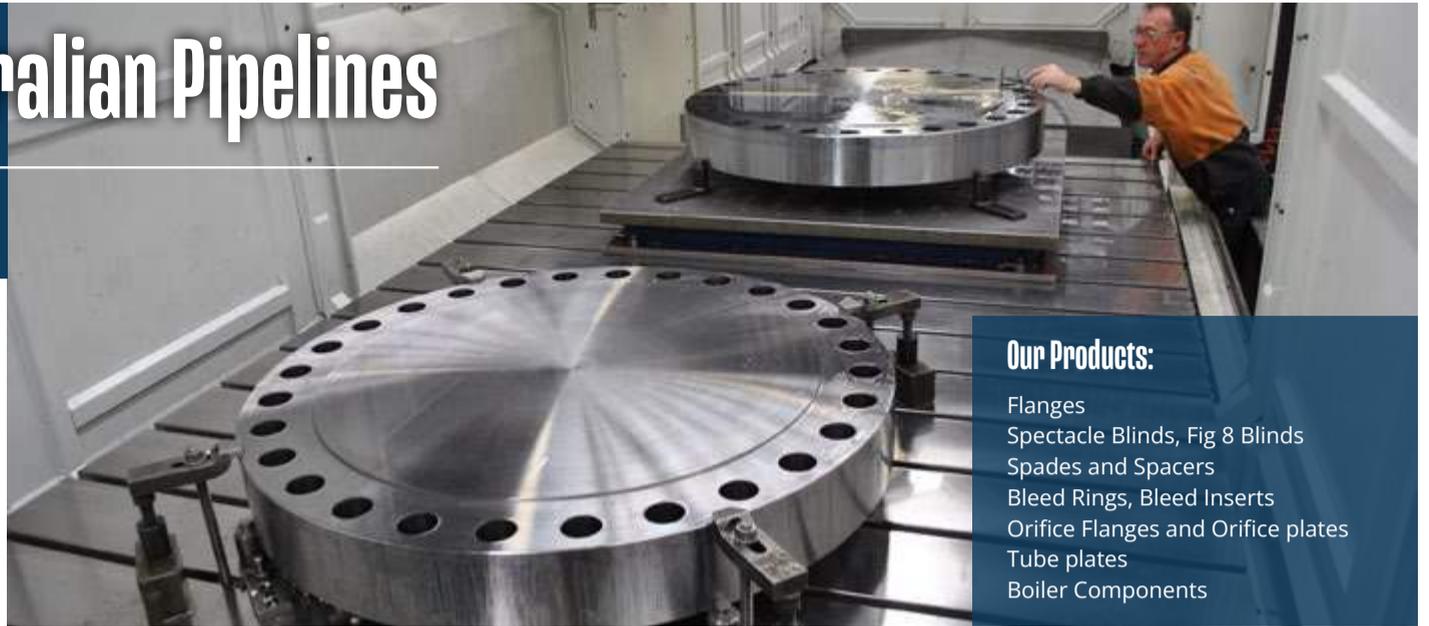
Following 70 years' of service, the Australian-owned company has pivoted to a sustainable production solution that accommodates the increasing number of operators prioritising environmentally friendly mine sites and suppliers.

The family business' in Sydney and Perth now has 100kw solar systems installed to power flange-manufacturing machines in its factories, which supports a variety of oil, gas, mining and petrochemical companies throughout Australia.

Caman Engineering Director Mark Cavanagh said the company boasted the nation's **largest independent stockist of flanges** and had become a mainstay in the mineral resources sector for its durable and well-designed products.

Mark explained the flanges were manufactured to various standards to meet process conditions, but the company was more than capable of supporting clients with unique or complex requirements.

"If a specific engineering requirement dictates the need for special material or



Our Products:

Flanges
Spectacle Blinds, Fig 8 Blinds
Spades and Spacers
Bleed Rings, Bleed Inserts
Orifice Flanges and Orifice plates
Tube plates
Boiler Components

manufacture, we are absolutely able to meet that need," Mr Cavanagh said.

"We are a manufacturer with full ISO 9001 certification, and we can package flanges according to either engineering or project specification, capped off with remarkably short delivery times."

Caman Engineering's comprehensive flange stock is matched only by its diverse range of valve products.

As well as flanges, Caman also does bleed rings, spades, spacers and spectacle blinds - amongst many other products. To suit customer needs and demands, the range of products constantly evolves and a large range in stock is on hand and ready to go.

The major valve supplier leverages forged steel, stainless steel and cast steels to make unrivalled components for a

range of mechanisms spanning screwed, flanged, and socketed.

The quality products can withstand a vast array of demanding and challenging environments, including extreme pressure, fire, and other high-temperature applications.

Clients unsure of the products best suited to their requirements are supported by a dedicated and highly experienced sales team, which provides data sheets and drawings detailing the capabilities of each product.

With investment in state-of-the-art computer operated drilling and turning machines and a holistic understanding of industry needs, Mr Cavanagh said Caman Engineering would only continue to be a trusted and key supplier to the mineral resources sector.

"Caman Engineering is 100 per cent Australian and owned by the same family that started the company in 1954," Mr Cavanagh said.

"We have evolved with the Australian mining sector, with knowledge passed down through the generations.

"Our leadership have built and sustained a successful business centred on customer service and high-quality products.

"We are an accredited company and approved manufacturer and supplier, able to fulfil the needs of oil, gas, mining and petrochemical companies all across Australia."

For more information, visit www.camaneng.com.au

AMR



Australia's largest independent stockist and manufacturer of pipeline flanges since 1954.

- Machines powered by Solar ■ Pipeline flanges ■ Valves ■ Orifice plates & flanges
- 24 hours breakdown machining & supplies ■ Spec blinds, spades, spacers
- Hydro-test blinds ■ Nozzles & long weld necks ■ Tubesheets & baffles ■ Flanges on site
- Heat exchangers ■ Machining of specials up to 2,200mm diameter ■ Full CNC machining

Sydney

4 Clerke Place Kurnell NSW 2231

Tel. 02 9540 2355

Email. sales@camaneng.com.au

Perth

6 Brewer Road Canning Vale WA 6155

Tel. 08 9277 5666

Email. camanwa@camaneng.com.au

New Larger Premises

Celebrating
70 years
Supplying quality
products to mining,
oil and gas
industries

VISIT OUR ONLINE CATALOGUE AT WWW.CAMANENG.COM.AU

ROXSET PROVIDING CUSTOMISED FLOORING FOR THE MINING INDUSTRY

After being founded over 30 years ago to resolve production flooring issues, Roxset continues to pioneer a range of innovative solutions to address flooring integrity, employee safety and workplace practices.

With its large in-house team and refined installation process, Roxset offer a 24x7 service throughout Australia, including remote locations.

From its large modern factory facilities incorporating a diverse fleet of trucks — ranging from small utes to HD semi-trailers — Roxset can provide customised tailored flooring to large, small and regional clients.

Roxset services a range of industries including food processing, pharmaceutical, industrial and mining, wineries and hospitality and clubs.

Roxset aims to provide a custom-tailored solution to suit all requirements and has developed a range of unique epoxy flooring and wall solutions called ROXSET SE to meet HACCP, BRC and AQIS Compliance.

The Roxset WS Super Bonding Agent allows for the bonding of cementitious screeds and provides superior bonding and ultimate strength while their expansion joints are made from pourable grade epoxy and provide a flexible result. Roxset's flooring systems have a graded finish

to waste outlets, ensuring liquid is correctly and efficiently drained.

Their flooring covering technology is unique in that it connects walls and floors to create a seamless 'One Surface' solution. By using wall to floor covering, excess waste liquid can be dispersed quickly, avoiding the effect of harmful bacteria growth.

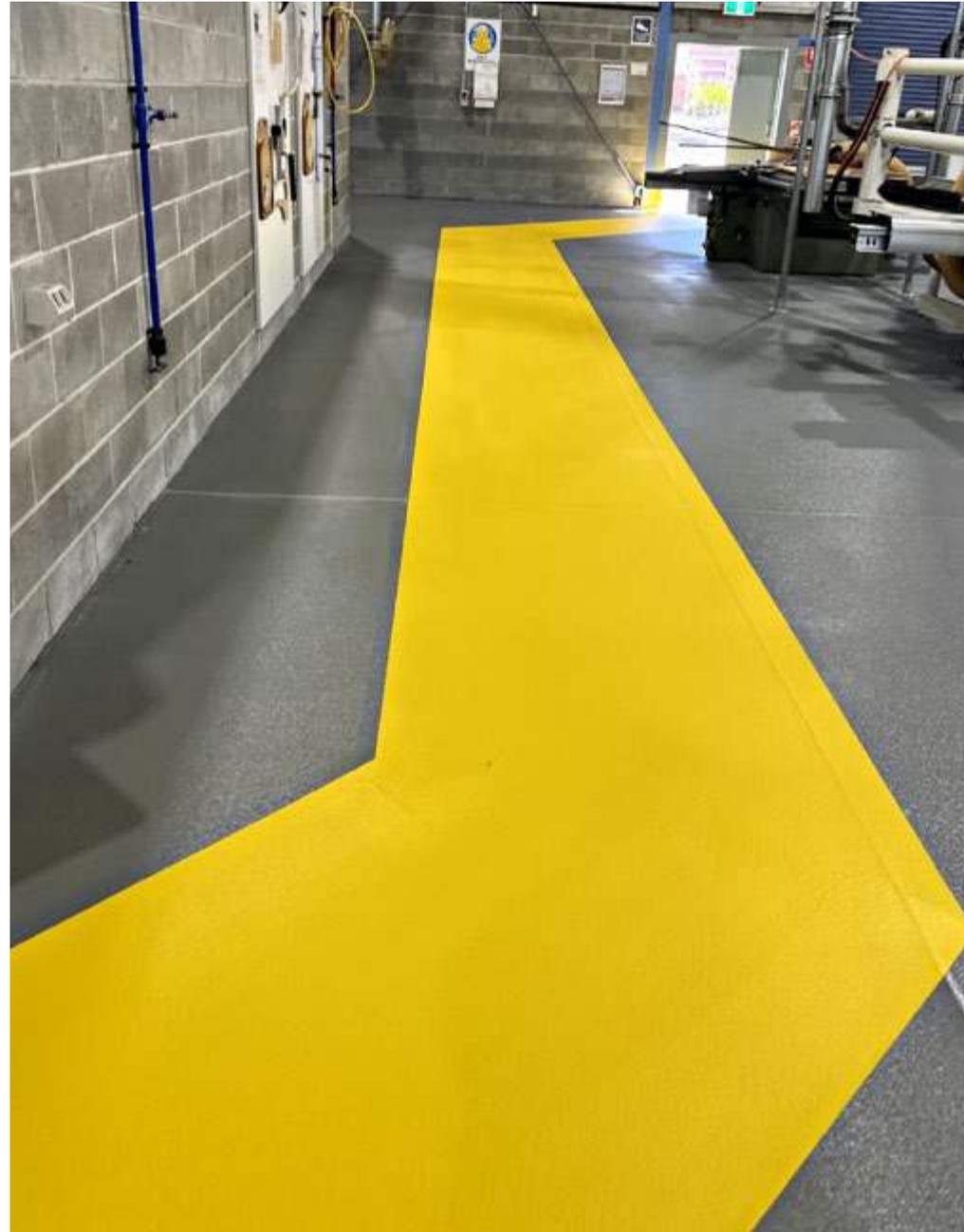
Flooring Solutions In Mining

As they are typically in remote exposed areas that are prone to heat, cold and dust, mining and industrial flooring can often face extreme challenges.

Roxset SE Flooring solutions for industrial and mining applications can withstand a broad range of impact abrasive conditions whether in heavy vehicle workshops, mess halls, kitchens and amenities. Recently, global mining giant Rio Tinto turned to Roxset to provide a long-term fail-safe solution for its vehicle maintenance area.

The Roxset SE heavy-duty epoxy mortar system was installed at 6mm, with minimum downtime and provides a shrink free, highly chemical resistant coating which has excellent thermal and impact resistance.

To find out more, visit <https://roxset.com.au/> or call 1800 769 738.



Health & Safety Flooring

Multi purpose Flooring applications for the Mining Industry

Mining & industrial facilities can often face extreme challenges as they are typically in remote exposed areas that are prone to heat, cold, dust as well as constant wear and tear with large teams running 24/7 operations while living on-site.

Roxset offer a unique range of flooring solutions specifically designed for hard wearing industrial usage.

Our flooring applications can stand a broad range of impact and abrasive conditions, have a high chemical resistance, are non-slip, durable and long lasting.

Durable, Hard Wearing & Impact Resistant



The Roxset Difference

- Ability to service remote areas
- Fast Installation 24/7
- 30rs Experienced Crew
- Tested Certified Product
- 15+ yr warranty



roxset.com.au

1800 769 738

Key Areas:

- Vehicle Workshops
- Canteen Areas
- Kitchens / Wet Mess
- Amenities & Wash Bays
- Change / Locker Rooms
- Corridors & Walkways

Roxset
HEALTH & SAFETY FLOORING

SAFEGUARDING THE WORKPLACE



Pro3 Safety Director and co-designer Simon Noack.

Reducing dropped object risks, injuries and deaths has been Pro3 Safety's focus for nearly 15 years. Over that time, Dropped Object Prevention Systems (DROPS) have become more of a priority for businesses. Dropped object prevention is an essential part of good plant design, and now with Pro3 Safety's clips, it can be easily retrofitted in older plants as part of their ongoing safety improvements or maintenance program.

Pro3 Safety has provided their system to BHP, Newcrest Mining, Newmont Mining, Rio Tinto, Fortescue Metals Group, South32 and many other mines and processing plants. They have also worked with airports, power plants and other industries to improve workers' safety.

The Pro3 Safety's Dropped Object Prevention System not only saves lives, but it can also prevent damage to vital and expensive equipment or disruptions to production schedules. Once installed it will continue to provide protection, in most cases, for the life of the plant. Their system has proven to be an invaluable investment and an absolute must when designing new plants and for older facilities trying to increase safety standards around DROPS.

Pro3 has developed RetroGUARD, RetroTREAD and RetroSTEP.

These products can be retrofitted to existing stairs, platforms and handrails and are available in hot-dipped galvanised, stainless and golden yellow. They suit a wide variety of handrail dimensions, shapes and configurations.

Pro3 Safety director Simon Noack says the company is Australian-owned and the products are designed and manufactured locally with Australian steel.

"We are committed to supporting other Australian companies and jobs," he said.

"Our products are designed and tested for tough Australian conditions and have stood the test of time,

"We have guarding, which has been protecting sites and workers for nearly 15 years in the harshest parts of our country like outback South Australia."

Pro3 safety director Andrew Crothers says his team can easily customise the products to clients' needs.

"We have a bracket system that simply

clips onto existing handrails, filling a gap in workplace safety identified previously on sites where Simon and I worked," he said.

"Our integrated products are fast to produce, easy to install and require no drafting, surface preparation or hot works."

The company is committed to continually improving safety in the workplace and setting new standards in dropped object prevention solutions and systems.

RetroGUARD

RetroGUARD safety panel system can be retrofitted to existing handrails and maintains the existing handrail integrity.

It adapts to all types of platforms, stairs and walkways and can be quickly and easily removed and replaced to provide vital access to areas for maintenance works.

RetroGUARD is engineered to prevent injury from dropped objects and falls from personnel leaning through, standing, or stepping onto handrails.

It maintains three points of contact during access and egress and is fitted entirely

from inside the safety barriers of the platform or stairs.

The flexible design of RetroGUARD gives complete coverage, even for internal and external corners.

RetroSTEP

RetroSTEP barricades areas above and below stairs. The mesh covers the opening between existing steps.

Fast, affordable and easy to install, no hot works are required during installation and no interruption to production schedules.

When combined with RetroGUARD and RetroTREAD, it reduces dropped object risks from open stairs and walkways.

RetroTREAD

RetroTREAD allows for the fast and safe installation of safety flooring, with a clamp designed to clip to existing grid mesh floor,

Slip-resistant floor sheets are quickly secured to the RetroTREAD clip, barricading areas above and below each platform level, preventing the risk of injury from falling objects. **AMR**

Pro3 Safety
Filling the gaps in Safety

Dropped Object Prevention System



RetroGUARD™



RetroSTEP™



RetroTREAD™

Proudly
Australian
owned and
operated

Pro3 Safety's certified system can be retro-fitted to your existing handrails, stairs and platforms, providing a permanent life saving solution and the best protection for your employees against the risk of injuries and falls.

Cost effectively improve the safety in your workplace and become a DROPS free site.

Developed, designed and manufactured in Australia for Australian conditions.

Call for a quote today

Andrew 0400 446 167

Simon 0421 635 518

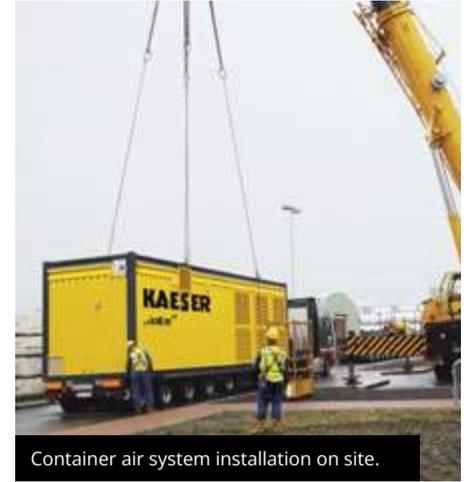
pro3safety.com.au

COMPRESSED AIR DELIVERED ON SITE



Container compressor solutions at KAESER's factory before dispatch.

Container air system in use at processing plant.



Container air system installation on site.

KAESER Compressors engineers bespoke air compressor packages to meet the demanding requirements of the mining sector. KAESER's custom-engineered solutions are tailored to suit customer needs as well as regulatory requirements.

Comprehensive Analysis for Optimal Solutions

One of the critical steps in determining the best fit for any project is conducting an Air Demand Analysis (ADA). This process involves using a portable interface that clamps into the existing system. A trained KAESER sales engineer can then measure and analyse a business's compressed air needs with minimal time and disruption. This non-intrusive method ensures that operations continue smoothly while accurate data is gathered.

Addressing Inefficiencies

With the information from the ADA, KAESER Compressors can recommend system solutions designed for maximum efficiency. Sometimes, the solution might be as straightforward as identifying and fixing leaks or ensuring the current

compressed air piping is correctly dimensioned. Leaks in a compressed air system are significant sources of inefficiency and can lead to substantial energy costs if not addressed.

Tailor-Made Systems for Complex Needs

For more complex requirements, the solution may involve commissioning an entirely new plant. KAESER engineers utilise a simulation program to create custom systems that meet the specific needs of the customer. This process can include designing aspects such as storage, piping, and air treatment.

These tailor-made systems are engineered to operate in temperature ranges up to +45°C, with additional specifications available for areas exceeding these temperatures. Options for air treatment, filtration, and other needs are also customisable, ensuring that every aspect of the system contributes to overall efficiency and reliability.

Versatile and Modular Solutions

KAESER's compressor packages can be

built into containers or skids, which require minimal site preparation and can be easily combined or relocated as necessary. This modularity provides a clean, secure, and weatherproof operating space, improving reliability and reducing downtime. The setup is user-friendly; simply connect the electrical, compressed air, and wastewater lines, and the air station is ready to operate.

Advanced Control and Integration

A standout feature of KAESER's offerings is the SIGMA AIR MANAGER 4.0 master controller. This advanced system allows compressed air systems to be perfectly matched to the exact requirements of the operation. Moreover, it can integrate seamlessly with systems from other manufacturers, offering flexibility and ensuring optimal performance across diverse setups.

End-to-End Customer Support

KAESER's Sales Engineers provide comprehensive support throughout the entire process. From the initial inquiry and design phase to order placement, factory approval, packaging, loading,

transportation, and on-site start-up, customers are guided every step of the way. This end-to-end service ensures that every aspect of the project is managed professionally, leading to successful implementation and operation.

Visit Kaeser at QME

For more information on custom-engineered solutions, see the KAESER team at the Queensland Mining & Engineering Exhibition (QME) on stand OP218. Visitors can explore the various solutions and discuss their specific needs with the experts. Alternatively, more details are available at www.au.kaeser.com/solutions.

By providing a detailed and tailored approach to compressed air systems, KAESER Compressors Australia ensures that mining operations can achieve maximum efficiency, reliability, and cost-effectiveness. Whether through simple optimizations or complex, custom-engineered systems, KAESER's solutions are designed to meet the rigorous demands of the mining industry. **AMR**



Problem? We've got a solution.

KAESER
COMPRESSORS®



au.kaeser.com

KAESER engineers bespoke air compressor packages to meet the demanding requirements of the mining sector. Our solutions are tailored to suit customer needs as well as regulatory requirements.

Complete compressor packages can be specified with options for control, air treatment and filtration, plus options for ambient temperatures over +45°C. Configuration can also include container and skid packages.

We guide customers every step of the way from inquiry, design, order, factory approval, packaging, loading and transportation to unloading and initial on-site start-up.

Visit us at QME stand OP218 and let us assist you with your compressed air needs.

TSSF's

TAILINGS STORAGE FACILITIES

FAIL

Are you waiting and reacting? Or predicting and preventing?

Validated by **academic research partners, industry experts and pilot projects with Tier 1 miners**, the Overwatch end-end solution is a **world-first** in subsurface monitoring.

The cost of reacting to Tailings Storage Facility (TSF) failure can be disastrous. Prediction and early detection of potential failure is now possible through detailed and in-situ, subsurface monitoring.

Overwatch, by Hermes and Soteria, has been tailor-made to meet the industry's dire need of a true in-situ proactive monitoring system to detect subsurface leakage and warn of potential catastrophe, preventing crippling and expensive halts to operations and revenue. Measuring 9+ indicators of TSF health, Overwatch proactively monitors the subsurface to inform decision making and prevent significant environmental damage, while supporting compliance to GISTM requirements.

Online Platform

The online platform can be accessed from anywhere with an internet connection. Working with the site's requests, the platform is configured for role-based data access, with customisable notifications and automated actions where required. This level of data visualisation and action orchestration facilitates proactive monitoring to identify probable areas of weakness leading to failure which in turn will result in **REDUCED OPERATIONAL RISKS**. It also has the power to ingest existing monitoring solutions, integrate with existing client workflows and automate bespoke reports to **STREAMLINE AND ENSURE ADHERENCE TO GLOBAL INDUSTRY COMPLIANCE STANDARDS**.

GISTM COMPLIANCE

I. AFFECTED COMMUNITIES

Overwatch allows you to demonstrate your commitment to minimising harm.



VI. PUBLIC DISCLOSURE & ACCESS TO INFORMATION

Overwatch's reporting features provide varying degrees of data visibility.



II. INTEGRATED KNOWLEDGE BASE

Overwatch is a product of interdisciplinary collaboration between industry leaders, to enable informed decision making.



GISTM

V. EMERGENCY RESPONSE & LONG TERM RECOVERY

Overwatch's configured automated alerts support rapid emergency response, when you need it.



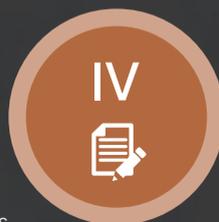
III. DESIGN, CONSTRUCTION, OPERATION & MONITORING

Overwatch provides availability to an unprecedented level of subsurface detail, supporting monitoring requirements to manage and minimise risk.



IV. MANAGEMENT & GOVERNANCE

Overwatch's incorruptible data supports director & executive liability as well as EOR's with making informed decisions.



Source: <https://globaltailingsreview.org/global-industry-standard/>

Introducing OVERWATCH

Subsurface Probes

Ruggedised subsurface probes and intentionally selected sensors measuring positive and negative pore pressure (suction), seismic activity, pH, electrical conductivity (salinity), temperature, volumetric water content and more, are installed within the subsurface at key areas:

- 1) Internal of the TSF (engulfment of the probe in tailings while being deposited)
- 2) Within the TSF wall construction
- 3) Downstream of the TSF wall at environmentally significant areas.

Real Time Data

Data readings are transmitted to the cloud via an independent, reliable, scalable, and secure surface network which ensures data confidentiality, integrity, and availability. This enable an **UNPRECEDENTED DEPTH OF SUBSURFACE DATA VISIBILITY, IN REAL-TIME.**



pH Levels



Seismic Activity



Pore Pressure



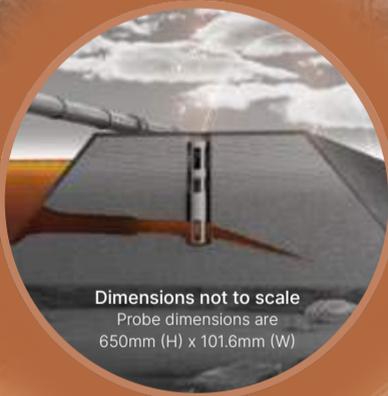
Salinity



Temperature



Moisture



Dimensions not to scale
Probe dimensions are
650mm (H) x 101.6mm (W)

! CRITICAL
Suction, pore pressure & moisture thresholds breached



Interested in learning more about Overwatch?

✉ enquiries@hermesandsoteria.com for a product demonstration

🌐 hermesandsoteria.com to probe a little deeper!

ELECTRICAL TESTING EQUIPMENT CALIBRATION SERVICES

Multimeter usage is vital amongst laboratory and field professionals, with results used to make key decisions on valuable mining equipment.

What are multimeters used for? What do they measure?

Multimeters are used to measure two or more electrical values, typically voltage (volts), currents (amps) and resistance (ohms).

The calibration of electrical instruments such as multimeters are important in order to mitigate the risk of equipment damage.

HK Calibration Technologies Pty Ltd (HKCT) offers electrical calibration services at minimum cost – a small price to pay for the maintenance of expensive equipment.

Its laboratories are equipped with state-of-the-art precision electrical measuring instrumentation with highly competent technicians performing the calibration of electrical instruments.

Strict adherence to certification credentials ensures all multimeter calibrations are performed to various Australian standards including:

- AS 1024-1971: Direct recording electrical measuring instruments and their accessories
- AS 1042-1973: Direct – acting indicating electrical measuring instruments and their accessories
- AS 1284.1-2004: Electricity metering - general purpose induction watt-hour meters
- AS 1284.11-1995: Electricity metering - single-phase multifunction watt-hour meters
- AS/NZS 1284.13:2002: Electricity metering - in-service compliance testing

A wide range of other electrical equipment is also serviced and calibrated – all within good turnaround time (same day or next day service).

Calibration services include but are not limited to ammeters; decade boxes; energy meters; LCR meters; power meters; process instrumentation; scope meters;

volt meters; current transducers; digital storage instruments; graphical chart recorded; multi-meters oscilloscopes (multi channel); power analysers; process meters; signal generators; and watt meters.

Electricals include appliance testers; earth resistance testers; insulation testers; portable appliance testers; current transducers; hi-pot testers; mega ohm meters; power meters; and voltage transducers.

Electrical instruments include amp meter; cable tester; calibrator; clamp meter; current supply; earth tester; flash point tester; frequency generator; kW meter; phase rotation meter; megger; RCD tester; resistance box; testing and tagging unit; and safety kits.

All challenges related to measurement, calibration and validation requirements are welcomed at any of the convenient

locations in Sydney, Brisbane, Melbourne, Perth, Adelaide or Hobart.

HK Calibration Technologies offers a four-hour response for enquiries during trading hours (Monday-Friday 8am-4pm) and all calibrated items come with a 30-day warranty for the calibration status.

The company also offers a one-stop shop for purchasing electrical test and measuring instruments, all complete with current calibration certificates traceable to Australian National Standards.

Make sure that the tools of your trade are working as they should – get your multimeter calibrated at a minimum cost through HK Calibration Technologies Pty Ltd (HKCT).

See the advertisement below for contact details. **AMR**

The calibration of electrical instruments is important, such as in multimeter usage.

LEADING EXPERTS IN CALIBRATION

Our specialised expertise is based around the provision of calibration services of test & measurement instrumentation from corporate companies to a one-man electrician.



A range of experts for all calibration tasks

• Telecommunication Engineers • Mechanical Engineers • Instrument Engineers & Technicians • Metrologist: Professional test and measurement experts/ scientists. • HV Specialists • QA Specialists

Our broad calibration scope can meet calibration requirements for:

• Mining • Avionics/Aviation • Petro-chemical • Telecommunications • Electronic & Electrical • Pressure & Flow Measurement • Weighing & Force Measurement • Temperature • Fibre Optics • Power Meters • Data Loggers

SYDNEY / MELBOURNE / PERTH / BRISBANE / ADELAIDE / HOBART / GLADSTONE / MACKAY

t: 1300 309 881 e: Info@hkcalibrations.com.au www.hkcalibrations.com.au

NK CALIBRATION
TECHNOLOGIES PTY LTD

Safety MITS

Innovating Safety for Industry Advancement

NATIONAL

Safety MITS specialises in innovative products designed to improve safety, reduce fatigue and injury whilst also increasing productivity in industries such as Mining, Materials Handling, Heavy Equipment maintenance and Rail amongst others. From Blox Safety Supports, Zero G tool handling systems, dozer safety rails and other bespoke products Safety MITS has solutions that can provide major benefits in many workplaces.



Recycled plastic safety support blocks replaces timber dunnage.

Blox Safety Supports are a range of load rated cribbing and jacking blocks designed to replace timber where it is used to support heavy equipment that has been lifted for service, access or repair. Timber blocks can contain unseen cracks, knots and other damage making it impossible to be certain of their load carrying capacity. Add to this the world's loss of old growth forests means that hardwood timber is becoming a vanishing commodity. By contrast Blox Safety Supports are manufactured from recycled materials using a controlled, repeatable formula with rigorous production and quality processes. This

ensures consistent performance under load bearing conditions. The cup and cone profiles provide positive interlocking when stacked reducing the risk of load slippage.

Constructed from recycled materials, Blox Safety Supports are environmentally friendly, durable and have an extended performance life. They resist fuels, oils and most common industrial chemicals, are non-conductive and will not splinter, crack or rot.

Ergonomic Zero G Arm system reduces worker fatigue and increases productivity.

The Zero G Tool balancing systems

operate without the need for electricity or compressed air, enabling workers to comfortably use heavy tools like impact drills, chipping hammers, and grinders for extended periods. The zero-gravity arms support the weight of the equipment, reducing strain and fatigue from repetitive tasks such as drilling, tiling, chipping, and grinding.

Capable of holding tool payloads of up to 19kg, the Zero G arms fully balance the weight, allowing users to manoeuvre the heavy tool freely, safely, and accurately reducing the risk of injury and fatigue. This system also minimizes the risk of dropping heavy tools from heights and significantly

reduces the likelihood of injuries from heavy tool use in awkward body positions.

Users report benefits including ease of use, comfortable operation and increased productivity. The Zero G ergonomic tool arm offers various mounting options to suit different applications, such as portable gantries, trolleys, jib arms, and linear rails. Additionally, the system requires minimal maintenance and has been successfully utilized in a range of industries, from aerospace and defence to automotive manufacturing and heavy industry.

Contact Safety MITS to see how our products can benefit your workplace. **AMR**

SAFETY MITS

committed to innovation for industry

Built upon a foundation of risk mitigation and safety enhancement, our company specialises in delivering secure technologies tailored for diverse maintenance tasks across industries, ensuring a safer work environment.

Zero G: Elevating human mobility, strength, and endurance through cutting-edge technology.

Blox: Load-rated safety supports designed for cribbing and jacking, offering durability without the risk of splintering associated with timber.

02 9838 8887

info@safetymits.com

safetymits.com

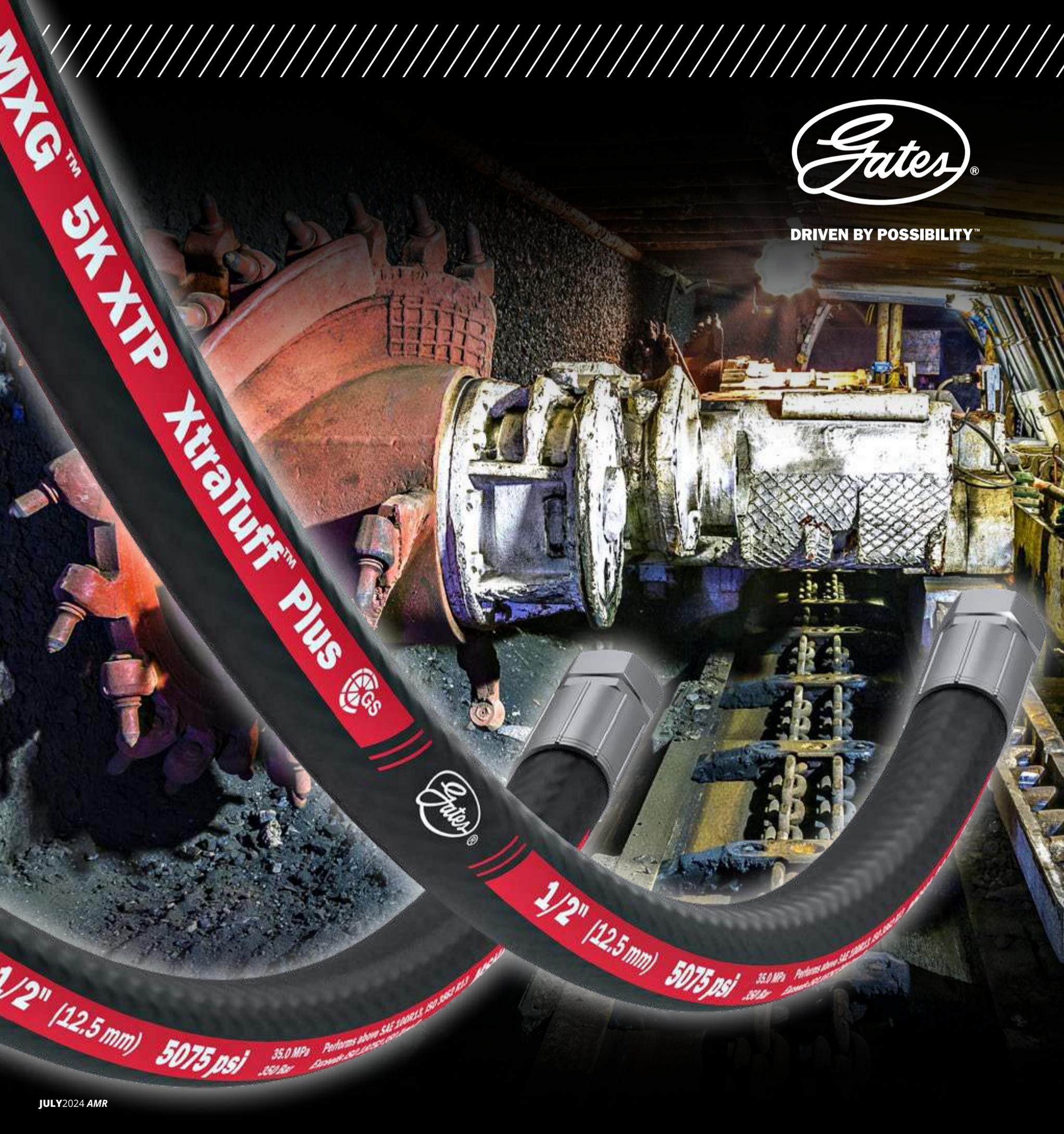
youtube.com/user/safetymits



THE NEXT GENERATION OF PREMIUM HYDRAULICS



DRIVEN BY POSSIBILITY™



When you're operating heavy machinery in the toughest mining environments on earth, failure of critical components like hydraulics, hoses, couplings or power transmission equipment can be catastrophic.

Replacement parts for OEM assemblies can take an average of 2.5 days to arrive by airfreight, while operators face significant downtime per incident. Then, each piece of failed equipment can cost between \$500,000 and \$600,000 in downtime for maintenance and repair annually.

Simply, wasted seconds mean wasted money. That's why you need to power your mining operations with equipment you can count on.

Whether it's trucks, hydraulic shovels, dozers, scrapers, drill rigs, rockbreakers, hydrostatic drives, or offroad vehicles, Gates Australia offer a complete line of quality components that not only keep mines productive and improve equipment uptime, but help reduce inventory expenses and get replacement parts faster.

For over a century, Gates has been a trusted source for fluid power and power transmission solutions, leveling up their engineered product solutions to meet the harsh demands of the industrial and mining industries.

Gates' hydraulic systems transmit power to all types of machines. However, it's the company's new class of high-pressure hydraulic hoses that are redefining performance for industrial and mobile equipment requirements.

Gates Industrial Fluid Power Product Manager, Arshad Ashroff, said that their MegaSys™ MXG™ 4K and 5K hydraulic hoses are engineered with productivity, equipment uptime, and durability in mind. "Integrating proprietary application of materials science and processing technology, we've been able to design next-level performance hoses that are lighter, smaller OD, tougher and more agile."

High-Pressure Performance Redefined

Where others see a hose, Gates see a solution. The MXG™ 4K (4,000 psi max pressure) and MXG™ 5K (5,000 psi max pressure) hydraulic hoses exceed the pressure and performance of wire spiral constructions, but with the lower weight and flexibility driven by Gates' patented Xpiral™ technology.

"This woven spiral technology is lightweight, highly flexible, and qualified to one million impulse cycles with Gates' GS couplings, which is a drop-in replacement for conventional spiral hoses," said Ashroff.

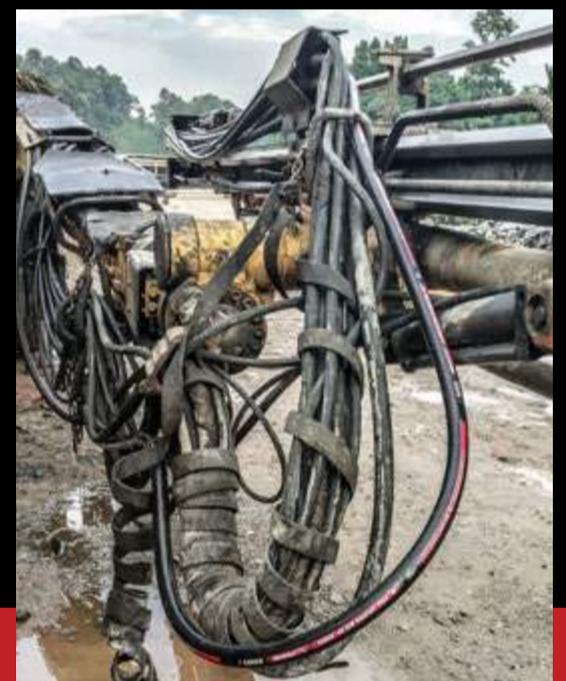
"They also feature our XtraTuff™ Plus abrasion resistant cover, which offers improved ozone resistance, withstands operating temperatures up to 121°C, and delivers exceptional durability to power the most demanding fluid power applications. The XtraTuff™ cover provides 25 times the abrasion resistance of standard covers." *AMR*

CONTACT GATES AUSTRALIA

T: +61 3 9797 9688

E: salesAUS@gates.com

W: <https://visit.gates.com/MXG-MINING>



EXPERIENCE UNPARALLELED PERFORMANCE

Gates MXG™ 4K and MXG™ 5K hydraulic hoses are engineered for long-lasting performance in rugged environments. They are lighter and more flexible, making them easy to transport and install, which reduces costs. Their compact design also means they take up less space where limited storage is available (force-to-bend is 25% better and OD is 5% smaller).

- Tested to 1,000,000 impulse cycles (3 x industry standard)
- Up to 30% lighter than traditional spiral-wire hose
- Up to 40% more flexible than traditional spiral-wire hose
- 5% more compact than traditional spiral-wire hose
- Temperature range: -40°C to +121°C (-40°F to +250°F)
- Certified MSHA Flame Resistant
- Exceed SAE 100R19 for inventory consolidation
- Exceed performance criteria of ISO 18752 350DC, SAE 100R13, EN856 R13, and ISO 3862 R13; sizes -10, -12 and -16 also rated for EN856 4SP
- All MXG™ hoses utilise Gates' innovative Xpiral™ technology, which features 4 layers of high-tensile steel wire reinforcement
- All MXG™ hoses come with Gates' XtraTuff™ Plus cover that provides 25x more abrasion resistance and 800+ hours of ozone resistance compared to standard hose covers

DELONIX' MULTIDISCIPLINARY EPCM APPROACH: A PROVEN PATHWAY TO SUCCESS



Typical engineering design model including all detail aspects for all discipline, structural, mechanical electrical and piping engineering.



Works involved the supply, fabrication and installation of the 15 Thickeners – 6 x CCD thickeners, 4 x Precipitation thickeners, 5 x PAL, SAP and LIM deep cone thickeners and associated tanks totalling approx. 5,000 tonnes of steelwork.



Works involved the design, fabrication, installation and surface treatment of the project tankage for the magnetite iron ore concentrator.

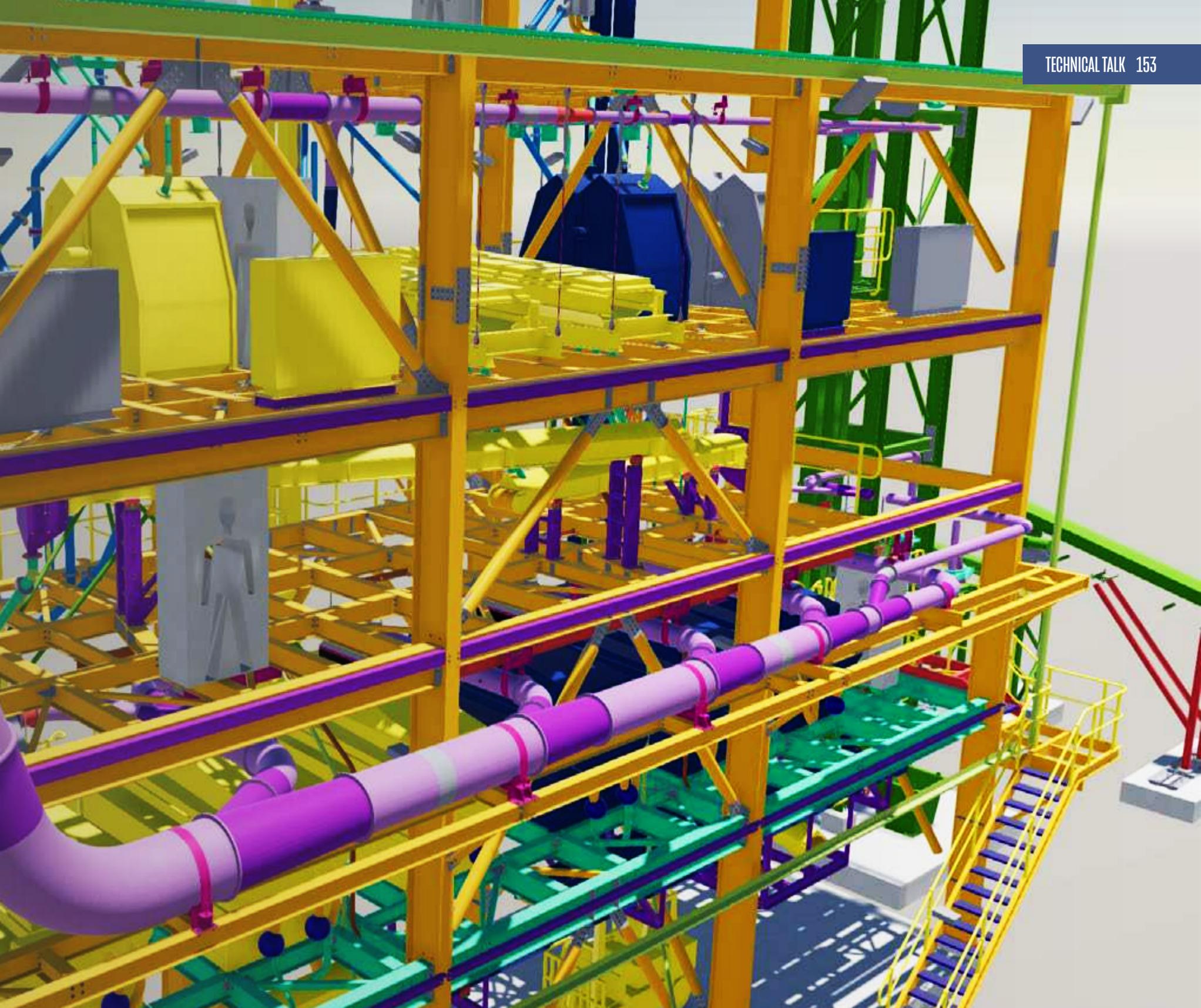


Mine IoT, electrification, automation, real-time data analytics, artificial intelligence and machine learning, are rapidly transforming the way asset owners address their operational challenges at scale. Embracing technologies like these are helping drive more informed decisions to improve mineral extraction, ore grades and output, while enhancing machine performance and safety, and reducing total cost of ownership.

From an engineering, procurement and construction management (EPCM), perspective, the design and execution of a complex mining project, requires a collaborative partnership from the initial stages to achieve desirable outcomes for asset owners over the mine's lifetime. Add to the mix multiple stakeholders and sites at play, and this only highlights the importance of engaging the right contractor, one with the expertise to help future-proof the asset over the long-term.

Delonix Solutions is one company that's embarked on a mission to transform how mining companies approach their structural, mechanical and civil engineering project requirements. And it's doing it differently by adopting a holistic and collaborative mindset.

Building upon its growth strategy and specialised engineering, 3D scanning, surveying, reality capture technology, and



artificial intelligence capabilities, Delonix' continued growth have facilitated its seamless transition into a multidisciplinary EPCM specialist.

A structural engineer by trade, Delonix Solutions' director Philippe Vatin, has a deep understanding of the technical challenges and pain points operators face in the mining, oil and gas, petrochemical, power generation, manufacturing and infrastructure space.

Mr Vatin explained that their team is highly committed to the design and integration of all engineering aspects for EPCM contracts, from the feasibility study stage to construction completion, no matter the scope of works or commodities involved.

"We're one of few companies capable of servicing fully resourced enterprises under EPCM contracts. As an agile, flexible and cohesive project team with unique engineering expertise, we can navigate projects with the most intricate complexities."

Mr Vatin added that this is supported by a suite of innovative software tools, which minimise delays and variation claims, while ensuring deliverables are met within tight timeframes.

"We use best-in-class software tools such as finite element analysis (FEA) with Ansys Mechanical, discrete element modelling (DEM) with Ansys Rocky, and computational

fluid dynamics (CFD) with Ansys Fluent. We've also applied other models from the automotive and aerospace industries, to current engineering problems we face in different projects."

By adopting these types of digital tools, Delonix Solutions is able to address the most complex engineering problems and project deliverables from the bottom up, all part of the company's methodical approach as an experienced EPCM contractor.

Unlocking efficiency in the EPCM Journey

From project management, cost estimation and scheduling, to procurement, supply chain and construction management, Delonix realises the real value that comes with collaborating with the right construction partners.

In June 2024, Delonix Solutions announced a new partnership with Pacific Industrial Company (PIC), a leading steel fabrication, construction and modularisation business that services the commercial, infrastructure and resources across Australia.

Mr Vatin highlighted that the partnership marks a significant step forward in its EPCM evolution, one that opens the door to new project opportunities.

"Our partnership with PIC is a comple-

mentary one, which seamlessly blends our design engineering solutions with their strong construction capabilities. Together, we will be able to handle more complex EPC packages that cover full-scale engineering, design, and fabrication for the largest greenfield and brownfield mining projects."

PIC has solid experience when it comes to fabrication of large assets. The company is renowned for their steelwork, platework and piping in large-scale mining projects, which includes the construction of new tanks, or repair of existing tanks, that store fuel, slurries, chemicals, and other processed materials.

The partnership not only combines design and construction capabilities, but leveraging the high-profile reputation in their respective fields, Delonix Solutions and PIC will be able to deliver joint tender submissions that are competitive, cost-effective, and carry less risk.

"In collaboration with PIC, our holistic service offering will be attractive for not only the larger EPC contracts, but the small-to-medium mining engineering projects that are typically more capital sensitive, and don't have time to explore an endless number of options for each stage of their projects," said Mr Vatin.

"We're focused on providing clients with more options from a design and build

perspective, which is exactly what our partnership with PIC aims to achieve."

Delonix Solutions recently hosted their first Leadership for Excellence conference at the iconic Optus Stadium. It explored the company's transition from success to excellence, and its journey in fostering a positive work environment and building high-performing teams. This is testament to its commitment to continuous improvement and setting new standards of excellence, all of which will only strengthen the company's EPCM capabilities in the future. **AMR**



Delonix Solutions, based in Perth, has about 70 staff members across a variety of disciplines including innovative computer-aided design engineering, surveying and mapping applications, mine surveys, road and rail construction, industrial plants and more.

For more information, visit www.delonixsolutions.com or call +61 8 6383 7891 Info@delonixsolutions.com

Aussie's TST safety clothing represents good value for money and should be regarded as essential of high pressure cleaning applications.

AUSSIE SAFE CLEANING

STAY SAFE... NOT SORRY

This story is contributed by Australian Pump Industries (Aussie Pumps). Their focus is on designing and building high pressure cleaners in both hot and cold water configurations. The family owned company has a philosophy of working with the mining industry towards providing high pressure cleaning equipment machines that are easy to service, highly effective but more importantly safe to use.

"Cleaning mining equipment is a dirty job", said Aussie Pumps Chief Engineer, John Hales. "Mining plant service and maintenance depends on the cleanliness of the equipment, whether it's surface or underground gear. At Aussie Pumps we focus on designing machines that are mine proof but have a capability that's second to none with a focus on safety and all it's dimensions", he said.

Australia's mining industry recognises that using high pressure cleaning equipment is essential for maintenance. It's also well known that this equipment, built around high pressure positive displacement triplex style pressure pumps, can be dangerous if operators are not suitably trained and machines not regularly serviced and maintained. Minimising breakdowns by preventative maintenance is recognised as an essential part of the industry.

"High pressure cleaning of equipment can

reveal service issues that otherwise would not be obvious. Here, we work through the current situation in terms of regulations, safety standards and safety training program produced by Australian Pump. It's already available on a free of charge basis to operators, not just in Australia, but right through the South Pacific", said Hales.

AUSSIE'S SAFE OPERATOR PROGRAM

The Safe Operator Program is a recognition by Australian Pump that in spite of building safety factors into the equipment, accidents can and will still happen. Operators should be properly trained and equipment must be kept in good condition..

The company's 'Mine Boss' pressure cleaner range extends all the way from 200 bar pressure rating all the way to 500 bar (7,300 psi). They believe that training for operators should extend right through that range, not just in the higher pressure rated equipment.

"Our Safe Operator" training program is designed to keep operators, and by standers safe from injury. It explains firstly how the equipment works, then moves on onto the essentials of machine safe operation", said Hales.

SAFETY STANDARDS... A OR B?

Australian Pump recommend mines operating high pressure equipment should

familiarise themselves with Australian Standards AS/NZS:4233.01. The Standards classify machines into Class A and Class B.

High pressure water blasters are classified based on their pressure and flow combined. The Standards Association set a breakpoint between A and B at 5,600 bar/litres.

That means the pressure of the machine in bar multiplied by the litres per minute flow. Thus, a 5,000 psi (350 bar) machine operating with a flow of 20 lpm is a 7,000 bar/litre machine. As such, it is classified as **Class B** with a different set of mandated requirements that mining companies should be made aware of.

Conversely, a 5,000 psi (350 bar) machine with 16 lpm flow is a **Class A** machine and therefore does not require the same level of certification.

Below we will explain the difference between A and B class, not just in pressure but also the requirements of the Standards designed to keep operators safe.

CLASS A OPERATORS

Based on the Standards, Class A operators must be trained and competent in identifying hazards, assessing and controlling the risks and using safe working procedures (see Aussie's free Safe Operator program.)

They must also be familiar with the operation of Class A machines and use suitable PPE. They must be trained to carry out daily checks on equipment to identify issues before they become dangerous, ie worn high pressure hoses, leaking couplings and worn nozzles.

Aussie Pumps Class A Operator Training Program is designed to maintain operator competency and safety awareness. It is recommended to undertake a refresher course every two years. The training course is now recommend by many TAFE's and other training bodies.

CLASS B OPERATORS

Class B machines, over 5,600 bar/litres, have a different set of rules as outlined below.

Operators must be RTO certified and accessed as competent in identifying hazards, assessing and controlling the risks and using safe working procedures.

They must carry verification of competency, and must maintain competency through refresher training course every two years.

They must be familiar with the operation of Class B machines and use suitable PPE. They must carry out daily inspections of the equipment to identify and rectify any potential issues before use.

OPERATORS WITHOUT CERTIFICATION

Work insurance may be invalid and injury compensation claims denied. Access may be denied to commercial or industrial worksites, specifically mine sites.

To summarise, you can see there is a major difference between Class A and B machines in terms of operator training and requirements. There are highly competent trainers, working under the banner of an RTO, who deliver Class B courses. They can be expensive but under the circumstances and depending on the size of the equipment, well worth the money.

HIGH PRESSURE PUMP SYSTEMS ... HOW THEY WORK

The heart of Aussie's Mine Boss pressure cleaner range is a 'Big Bertie' Bertolini pump. Australian Pump chose Bertolini over other brands because of the gearbox drive with a 2:1 reduction that allows the big pumps to achieve their performance running at only 1450 rpm. That slow speed substantially adds to the life of the pump, with a totally enclosed drive that is regarded as being significantly better than outdated belt and pulley systems.

The pumps also feature advanced designs that include an intelligent packing seal system, valve caps designed to eliminate the water pressure in the threads and a double cast crankcase with fins for operational cooling.

Choosing the right pump and maintaining it properly is a great way to ensure reliable operation and, ultimately, substantially lower operating costs.

AUSSIE SAFETY PROTECTION KIT

All of the machines produced by Australian Pump are fitted with ASP. The ASP kit consists of not only the standard pressure relief valve but also a safety valve that discharges to atmosphere if a pressure spike occurs. Those spikes are generated often by jammed unloaders, or machines with the pressure relief valve wound down to achieve higher pressures than the machine is designed to produce can never be used. Pressure spikes can be dangerous, the safety valve is regarded as an essential component.

The kit also includes a thermal dump valve that discharges if the temperature of water in the pump rises too high. That protects the seals and pistons in the pump. Rising temperature can occur if the machine is left on bypass running for an extended period. **Running the pump on extended bypass is not recommended.**

NOZZLE SELECTION

Nozzles need to be sized precisely to suit the combination of flow and pressure. Aussie's **Nozzle Selection Guide** shows how the operator can select the right sized orifice in the Aussie Laser Tip nozzle. **Correct nozzle size is essential for the machine to provide the best performance.**

Nozzles do wear! If the pressure reading on the pressure gauge shows a drop below the preset pressure, for example, 4,000 psi, dropping to 3,800 it could indicate a worn nozzle. The remedy would be to replace the nozzle, restoring the pump to it's proper performance level.

Continuing to operate with worn nozzles, is dangerous. An oversize nozzle could generate a spike if the unloader is not being suitably lubricated by bypass liquid. If all of the liquid produced by the

pump is going through the nozzle, there is no lubricating/cooling function taking place in the unloader valve. Operators should check the nozzle as part of their daily check of machine.

CHOOSE THE RIGHT GUN

The pistol grip on the gun itself must be compatible to the triplex pump on the machine. **Using faulty, worn or damaged guns is dangerous!**

Class A machines with faulty guns are just as dangerous as Class B machines with the same issue.

Using a handheld gun for high pressure water blasting is risky. **Gloves should be worn along with other PPE equipment as part of Aussie's TST range of safety clothing.**

HIGH PRESSURE HOSE, EXTREME CARE REQUIRED

"We've seen high pressure operators using hoses up to 500 bar where the outer covering is worn and the wire braid is severely damaged. Aussie Pumps 'Blue Pro' high pressure hose is suitable for both Class A and B machines within that category of 5,000 psi or less" said Hales.

For higher pressure ratings, for example, 500 bar Aussie supplies top quality European 500 bar hose as part of the 'Ultra' red hose line. These are colour coded red to differentiate from the standard Blue Pro product.

CARING FOR HOSE ASSEMBLIES

The most dangerous part of the machine can be the hose. Here is what to look out for;

- Hose assemblies unnecessarily subjected to frequent and long periods of high pressure.
- Exposure to higher temperatures that the hose is rated for, normally in excess of 150 degrees C.
- Longitudinal stress caused by repetitive and prolonged use of hose assemblies in a long line function applications or long vertical drops.
- Beware of unnecessary exposure to sharp, protruding and abrasive surfaces. Dragging hose assemblies across concrete or "sharps" must be avoided.
- **When hose assemblies are worn, replace them immediately.**

HOSE SHROUDS OR RESTRAINTS

Aussie's TST hose shrouds are placed on the hose at the connection to the gun. This provides effective protection for the operator as the shroud material, Dyneema, is claimed to be the world's strongest fibre. Correctly mounted on the gun, it provides effective protection for the operator and has been tested for up to 500 bar.

An option to the hose shroud is Aussie's range of hose restraints which they fit to all Class B machines. Hose ruptures account for 90% of operator injuries!

PPE ... STAY SAFE

To minimise risk to health and safety, personal protection equipment should be provided.

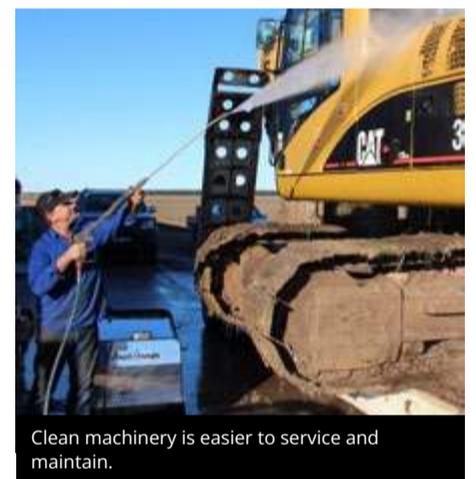
Aussie's TST safety clothing equipment provides the following;

- **Is suitable for having regard to the nature of the work and the hazards associated with the work.**
- **Is suitable for size and fit and**

Bertolini's 10,000 psi pump features forged 316 stainless steel head, a breakthrough in triplex pump design!



Aussie Pump's Safety Training program is a way of keeping high pressure water blaster operators injury free.



Clean machinery is easier to service and maintain.

reasonably comfortable for the worker.

- **It should be maintained, repaired or replaced so it continues to minimise the risk.**
- **It should be cleaned, hygienic and in good working order.**

The range includes head protection, complying with AS/NZS 1801:1997, occupational protective helmets should be worn. Eye protection is also part of the kit with the visor in compliance with AS/NZS 1337:2010 and should be worn by operators where high pressure blasting is taking place. The worker should as a minimum wear safety glasses and a face shield in compliance with AS/NZS 1337.

LEG & BODY PROTECTION

Workers should wear waterproof protective clothing, complying with AS/NZS 3765.1-1990. That is clothing for protection against hazardous chemicals, protection against general or specific chemicals.

HAND PROTECTION

Complying with the recommendations of AS/NZS 2161.2:2005, occupational protective gloves in Dyneema will protect against mechanical risks and may also protect against cold where a risk assessment indicates that it is required.

FOOT AND LOWER LEG PROTECTION

Workers should wear protective footwear complying with AS/NZS 2210.3:2009. TST safety footwear provides boots, designed for comfort, performance and grip. They are completely vulcanised rubber boots fitted with steel toe caps and sole inserts. Black areas on uppers indicate areas that will withstand high pressure water jets up to 500 bar. See QR code.

They feature adjustable top strap, are waterproof, have a textile inner lining for comfort and are easy to pull on. Available in sizes from 36 to 48.

PERSONAL HEARING PROTECTION

Where noise can't be eliminated or minimised, practicable personal hearing protectors are available as well as instruction and training in their use. These can be used in combination with the TST helmet and visor for extra protection.

FREE SAFETY TRAINING COURSE

Aussie's Safe Operator free training program can be done online with hundreds of people having undertaken the course already. A parallel training course covering high pressure Jetting is also readily available from Australian Pump Industries.

See QR code below for the courses. Please note that the courses are absolutely free but may not be appropriate for Class B operators as Aussie is not RTO certified.

BE SAFE ... NOT SORRY

www.aussiepumps.com.au



SCAN HERE FOR MORE INFO ON AUSSIE'S SAFE OPERATOR TRAINING PROGRAM

THE NEW ERA OF PUMP WEAR TECHNOLOGY

The efficient operation of slurry pumps in the mining industry is critical, with pump wear technology playing a significant role in monitoring and maintaining pump performance. One innovative solution that is making waves in the industry is the KSB GIW® SLYsight technology. This advanced slurry pump wear monitoring technology is revolutionising the way pump wear is detected and managed, leading to improved pump performance and longer equipment lifespan.

Understanding Slurry Pump Challenges

The transportation of abrasive and corrosive mixtures in mining operations is the task of slurry pumps, but this duty inevitably results in considerable wear and tear on the equipment. These pumps face a rigorous demand that poses a significant challenge in maintaining optimal performance levels. Although traditional methods of monitoring and managing pump wear through manual inspections and scheduled maintenance are common, they come with limitations such as time and resource expenditure. Additionally, such approaches are reactive, meaning wear is often only identified after it has impacted pump efficiency, leading to higher maintenance costs and potential downtime. Therefore, there is a pressing need for a more advanced solution that

can offer precise and timely insights into the wear status of slurry pumps, enabling a more proactive approach to maintenance.

An Introduction to KSB GIW® SLYsight Technology

KSB GIW® SLYsight utilises custom sensors, in strategic locations, to measure the actual wear rate of a slurry pump's parts, including the internal clearance between the suction liner and the impeller, also known as the "nose gap." The data collected by the sensors as the pump runs, is shared through periodic reports.

This enhanced monitoring system delivers data during nose gap adjustments that not only contributes to the pump's maximum wear life but also enables operators to make an efficient and safe adjustment while the pump is operating.

The Benefits of Implementing SLYsight in Mining Applications

Integrating KSB GIW® SLYsight technology can prevent unforeseen shutdowns and streamline operations. By implementing this system, the maintenance of slurry pumps becomes simpler, eliminating any doubts.

The greatest advantage of SLYsight is its ability to supply maintenance teams with data that was once inaccessible, keeping

them ahead of the game. This innovative technology enhances the understanding and management of pumping equipment wear by providing visual data reports and monitoring capabilities.

Comparing SLYsight with Traditional Wear Monitoring Methods

By comparing KSB GIW® SLYsight technology to traditional wear monitoring practices, it becomes clear that the field of pump maintenance is shifting. The limitations of periodic inspections and human intervention, including subjective interpretation and variations in precision, are intrinsic to traditional methodologies. Although these approaches served their purpose in the past, they often lead to reactive maintenance strategies that only address wear once it has already impacted pump performance.

SLYsight, on the other hand, employs advanced sensors to monitor wear in real-time and introduces an objective lens that enhances accuracy and eliminates guesswork. This technology enables informed decision-making that can preemptively counter potential wear and tear issues before they escalate. By freeing up resources and allocating time and manpower more efficiently, SLYsight marks a clear advantage over traditional manual inspections.

As the industry pivots towards real-time data and predictive analysis, pump maintenance will be characterized by proactive and informed strategies.

Looking Ahead: The Future of Pump Wear Technology

The mining industry is entering a new era of efficiency and reliability with the evolution of pump wear technology. Innovations like KSB GIW® SLYsight are revolutionizing the industry by utilizing real-time data collection and predictive insights. This proactive approach to maintenance is a departure from the traditional reactive methods and ensures a longer lifespan and better performance for slurry pumps. It also reduces the risk of financial and operational setbacks caused by unplanned downtime and costly repairs. Integrating these advanced technologies into daily operations is becoming a key factor in achieving optimal efficiency and reliability. As more mining companies adopt these sophisticated monitoring systems, the industry is expected to redefine success and pave the way for the full potential of pump wear technology. **AMR**

SOURCE:
KSB Australia
P: 1300 073 887
E: enquiries@ksb.com.au
W: www.ksb.com.au

BUS4X4
GROUP | PEOPLEMOVER
SOLUTIONS
GLOBAL | KITSHOP | HIRE



AUSTRALIA'S **4X4 CONVERSION** SPECIALISTS

The Bus 4x4 Group of companies specialises in delivering innovative solutions to transport groups of people in off-road conditions comfortably, reliably and safely.

Australian-owned and globally-renowned, our people mover solutions lead the sector for 4WD conversions on Toyota HiAce and Coasters, delivering world class people mover solutions, products, and accessories.

MORE GO

BUS4X4.COM.AU
CONTACT US ON 1300 287 494

Keep your plant, pipe and valve infrastructure strong with **Field Machine Tools**

www.fmt.com.au

Established in 1995, Field Machine Tools has thrived as a privately owned Australian company **supplying portable maintenance machines and engineering solutions** to clients across Australasia.

The business aims to flatten production downtime by providing operators with the most complete scope of products and accessories for industries across Australia and beyond.



BB8100
Line Borer



LM6000
Milling Machine



CM6200
Circular Milling Machine

MELBOURNE

A Unit 1, 53-57 Rimfire Drive, Hallam VIC 3803
P (03) 9703 2250
F (03) 9703 2285
E sales@fmt.com.au

BRISBANE

A Unit 2, 5 Percy Drive, Brendale QLD 4500
P (07) 3889 7622
F (07) 3889 7621
E sales@fmt.com.au

PERTH

A Unit 3, 48 Hardey Road, Belmont WA 6104
P (08) 9470 6088
F (08) 9470 6388
E sales@fmt.com.au

