



THE MURRAY MONITOR



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PRIEST

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MURRAY SUPPORTS ADVANCED JUMBOGUARD TECHNOLOGY



Murray Engineering has become a certified distributor of the award-winning JumboGuard drill-boom isolation system, a product that combines laser scanning technology and a unique software algorithm to keep people safe while working around underground face drills, rock and cable bolters, and other machines.

New Australian technology firm YUMARR Automation won a CSIRO Endeavour Award as an Outstanding Start-up, and then a 2017 PACE Award for Safety System Innovation for JumboGuard, which has been described as a breakthrough safety system for underground mines.

George Priest, Murray Engineering's automation and control manager, said the automated boom isolation system combined rotating laser scanners for optimal situational mapping in underground work areas, and clever custom software developed specifically to track and classify objects – principally people – within detection zones.

The use of advanced algorithms and filtering actually allows the system to recognise and discount "non-positive disturbances" while maintaining personnel detection capability. This rapid detection of "relevant" objects, humans, determined by analysis of size, age, movement, and speed, leads to automatic disablement of boom hydraulics which can only be reset in the cabin once the person or persons have returned past the front jacks of the drill into a safe zone.

JumboGuard has proven effective at mines in Western Australia, South Australia, New South Wales and the Northern Territory.



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"The risk of inadvertent contact with moving booms and entanglement in rotating drill steels continues to be an industry-wide problem for people working underground with drill rigs," Priest said.

"Safety procedures have been implemented to manage this hazard, but due to human factors, incidents still occur.

"The developers of JumboGuard not only had to design a system that was able to see and interpret complex interactions between people, machines and the environment, but also operate reliably in that harsh work environment.

"The performance of the product to date marks it as a genuine advance for the industry and we are proud to be a distributor."



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MURRAY COMPLETES ACQUISITION OF SRO

Murray Engineering has taken another step on the path to becoming one of Australia's major diversified engineering services groups with completion of the acquisition of Newcastle-based SRO Group.

Established in 2005, SRO grew to become a leading provider of electrical and mechanical services to the mining, power generation, energy and utilities, oil and gas, and transport sectors, with operations in several major mining centres and manufacturing capabilities in China.

Murray bought into SRO in 2015 and now owns 100% of the business. Coincident with the move to outright ownership, Neil Stewardson has been made general manager at SRO. He was previously SRO's operations manager and has more than 20 years of experience in project and operations management roles, mainly in the New South Wales mining industry. Richard Ross, now electrical and engineering manager at SRO, previously had senior management roles at NHP Electrical and Heinemann Electric in Victoria.

Murray Engineering managing director Craig Lindsay-Rae said completion of the SRO union was a significant milestone for the group. "This acquisition enables us to pursue growth on the eastern seaboard through the introduction of our full suite of products and services," he said.

"The advantages in designing, manufacturing, installing and maintaining projects in-house are being actively pursued by our client base and include the design of electrical switch rooms and pump stations on the east coast that can be



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built and maintained across Murray Engineering facilities Australia wide.”

Merging of the two leading engineering businesses has produced a range of benefits for clients. For example, a common specification for motorised pumps produced in Western Australia for delivery in the eastern states has improved cost effective assembly at locations around the country.

“It was always our vision to be able to execute our mechanical, electrical, automation, fabrication and pumping solutions countrywide, and this is now a reality,” Lindsay-Rae said.

Murray Engineering has state-of-the-art workshop complexes at Pinjarra in WA (55,000 square metres) and Newcastle in NSW, and service centres at Kalgoorlie, Mount Isa and Roxby Downs. The company has been one of the standout performers in the Byrnegut Group, an internationally recognised mining services group, in the past five years. “The combined capability and scale of Murray-SRO means they are positioned to provide first-tier client companies with a range of advanced electrical and mechanical engineering services and skills,” said Byrnegut Group executive chairman, Steve Coughlan.

“I see tremendous long-term growth prospects for that multi-faceted engineering business, which is already developing across a lot of fronts.”





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GOOD-AS-NEW R2900 SETS THE STANDARD

Murray Engineering continues to set the standard in mine machine rebuilds, as evidenced by this R2900 loader restored for a major mining customer and ready for a new phase of life.

The group's comprehensive mechanical rebuild capabilities are giving more customers the option to significantly extend the life of equipment without buying new fleet, with up to 7,000 parts now replaced as new, remanufactured or reconditioned in a standard Murray rebuild.

All the work can be done without the machine leaving a Murray facility, right down to the painting and dynamometer testing. A full range of components are kept in stock to speed up overhauls.

Mechanical manager Shane Dunn says machines are also now taken for comprehensive field testing for final operational checks to ensure they are ready for work when they arrive back at the customer site.

Along with a couple of other new finishing touches.

"Rear-wheel arches are painted using Hi-Build DTM for extra corrosion protection," Dunn says. "Our engines are also built up to the latest OEM serial number specifications for optimised performance."

Other than that, assembly is as per OEM manuals, including any new updates or service-bulletin directives to optimise performance and safety.



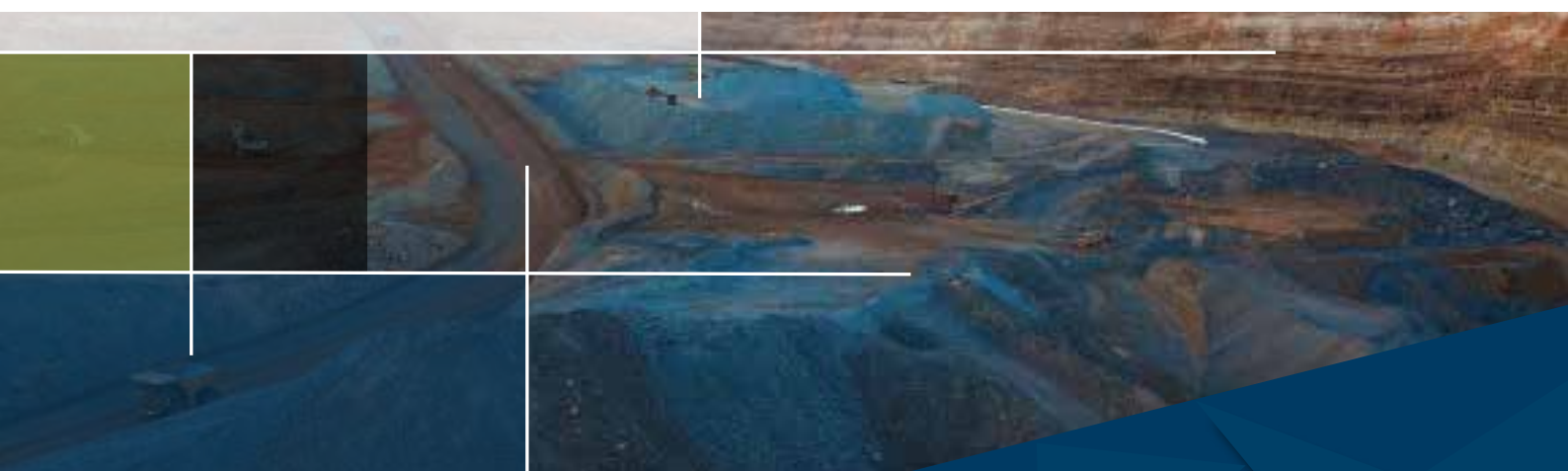
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“Equipment can be brought back to as-new condition through our component overhaul process, which includes the implementation of OEM upgrades and other specific customer options,” Dunn says. “This machine [the R2900] and others have been built to customers’ selected requirements.”

Based on appearances, it is not surprising customer site personnel think they are getting a brand new machine when the rebuilt units arrive back for work. But the original performance is usually improved, and the price tag substantially less than a new machine. Murray’s restorations include:

- Two-pack primer painting followed by a top coat to the OEM specification.
- Alternating current field management crack detection, if required.
- All hosing routed and clamped using genuine O-rings and hardware, and all harnesses are routed and secured, as per OEM spec.
- Engineering updates and improvements introduced after the original date of manufacture are incorporated.
- More than 200 OEM hoses are replaced and hydraulic systems are returned to their original levels of performance, reliability and cleanliness, meeting ISO 18/15.
- Reconditioning not typically included in an overhaul, including examination of frames that, if required, are straightened, welded and reinforced.

With new and brownfields operations driving increased demand for available equipment, Dunn says Murray will be rebuilding at least 20 machines this year.





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EMPLOYEE SPOTLIGHT

George Priest

Automation & Control
Systems Manager

Pinjarra WA



Question 1:

What responsibilities does your position entail?

Innovation management and design, people and project management, business development and strategic planning.

Question 2:

What are your areas of expertise?

Automation and control, auto electrical and mechanical.

Question 3: What part of your job do you enjoy the most?

Innovative and new technology, meeting new people and achieving a satisfactory result.

Question 4: Who is your hero?

My Dad.

Question 5: AFL, NRL or ARU?

AFL.

Question 6: Which team do you support?

Mighty Pies.



Note: Murray Engineering does not take any responsibility for outrage caused by the employee's selection of team.

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