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ABCC TAKES ACTION AGAINST CFMMEU AFTER ALLEGED AGGRESSION

The Australian Building and Construction Commission (ABCC) has taken action against the CFMMEU and three officials after they allegedly directed workers to stop work, prevented concrete pours, abused health and safety officers and struck a health and safety manager at the Mordialloc Freeway project site in 2020. The \$523 million project involved construction of a nine-kilometre stretch of the freeway between the Dingley Bypass and the Mornington Peninsula Freeway in Melbourne's south-east.

In its statement of claim, the ABCC alleges that the officials, Paul Tzimas, Gerald McCrudden and James Harris, misused their entry rights between November and December 2020. On 18 November, Tzimas and McCrudden directed 15 workers to not return to work and behaved in an aggressive and intimidating manner towards health and safety officers by standing close to the officers and yelling profanities. On 19 November, McCrudden entered an exclusion zone without authorisation. Despite requests to leave the area, he remained there for around 2.5 hours, preventing a concrete pour; his presence resulted in the concrete pour being cancelled and the concrete being wasted.

On 2 December, Tzimas and Harris attended the site. Harris stood near the edge of an excavation site; despite repeated requests to move away from the edge, Harris responded by allegedly stating, "Nah, piss off I will do what I want." On the same morning, Tzimas allegedly struck a health and safety manager in the chest with his fist, causing the manager to lose balance. Victoria Police were called to attend the site. McCrudden and Harris returned on the same day, ahead of a further scheduled concrete pour, and stood in an exclusion zone, preventing two concrete trucks from entering the site. The pair stood in front of the third concrete truck as it was entering the exclusion zone and prevented the truckload of concrete from being poured. The concrete in each of the three trucks had to be disposed of. The ABCC further alleges that the CFMMEU is liable for the conduct of its officials.

The ABCC is seeking personal payment orders against both union officials. Such an order would require Court imposed penalties to be paid personally by the officers and not paid or reimbursed directly or indirectly by the CFMMEU or through crowd funding. The maximum penalty for each contravention of the *Fair Work Act 2009* is \$66,000 for a body corporate and \$13,320 for an individual.

WA RELEASES DRAFT WORK HEALTH AND SAFETY REGULATIONS

Western Australia has released exposure drafts of regulations for the *Work Health and Safety Act 2020*, ahead of the commencement of major work health and safety (WHS) reforms in March 2022. The Act brings together work health and safety for general industry, mines and petroleum operations, all under a single WHS Act. Releasing the exposure drafts of the supporting regulations will provide an opportunity for all participants in Western Australian workplaces to prepare themselves to meet the requirements of the new Act and to improve safety in their workplaces.

The regulations will come into effect in March 2022; Industrial Relations Minister Stephen Dawson has encouraged the community to begin familiarising themselves with the regulatory requirements of the Work Health and Safety regime that will come into force in 2022. Drafting the WHS regulations for all three sectors, which are needed to allow the WHS Act to be proclaimed, was a complex process. In recognition of the importance of this legislation, the state government has allocated significant resources to the drafting process and partnered with peak employee and employer bodies to ensure a wide distribution of information about the WHS laws. This approach will complement promotional activities being undertaken by the Department of Mines, Industry Regulation and Safety to other important stakeholders, as well as a government-funded education and awareness campaign.

"Every Western Australian has the right to expect a safe workplace where at the end of their day's work they can return home to their loved ones uninjured and healthy. I encourage everyone to take the opportunity to access the exposure draft regulations and to take the time that is available to prepare themselves," Dawson said.

The exposure drafts of WHS regulations are listed below:

- Work Health and Safety (General) Regulations 2022 (exposure draft)
 - Work Health and Safety (Mines) Regulations 2022 (exposure draft)
 - Work Health and Safety (Petroleum and Geothermal Energy Operations) Regulations 2022 (exposure draft)
- Other applicable legislation:
- Petroleum (Submerged Lands) (Pipelines) Regulations 2022 (exposure draft)

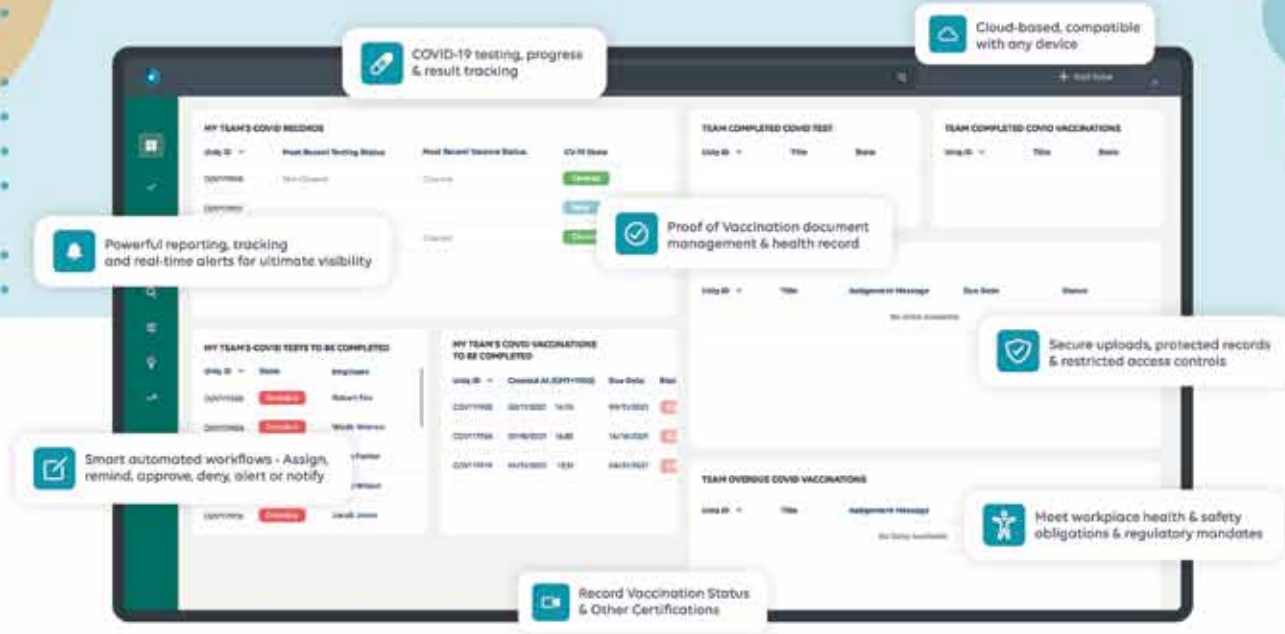
The Department of Mines, Industry Regulation and Safety will be running WHS update sessions during January and February. The sessions will be held in Perth metro and regional areas, with live streaming where possible. Webinar recordings and videos on WHS implementation are also available.



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YOUNG JOB SEEKERS TO RECEIVE FAST-TRACKED MENTAL HEALTH SUPPORT

Employment services provider Asuria has partnered with mental health and wellbeing experts Back2Work, to help job seekers aged 15–24 who are eligible for the Department of Education, Skills and Employment's 'Transition to Work' scheme, access much-needed mental health support services through the placement of dedicated psychologists at Asuria's job-seeking centres nationwide. This will help Transition to Work job seekers bypass the current three-month wait times for appointments with psychologists. The partnership between Asuria and Back2Work will also address the urgent need for streamlined access to mental health professionals, while supporting the drive to fill thousands of job vacancies in Australia.

Under the scheme due to launch later this year, Back2Work's Allied Health Professionals, including psychologists, occupational therapists, physiotherapists, exercise physiologists and dietitians, will be made available at every Asuria employment centre. There, they will provide expert counselling on everything from drug and alcohol dependency to depression, anxiety and more. Asuria's Job Coaches will also refer Transition to Work job seekers for immediate access to mental health professionals, with clinical appointments subject to significantly shorter wait times. Appointments will be available onsite at Asuria's locations, online, and over the phone.

As part of the partnership, working with Wellbeing Code, Asuria and Back2Work will also run regular employer and job seeker boot camps, where elite athletes will help to destigmatise mental health and provide positive effects on personal wellbeing. Con Kittos, Chairman and CEO of Asuria, said this partnership will help the company address the impact that COVID-19 has had on people's mental health, thereby helping people to rediscover the mental strength and self-belief fundamental to their ability to find and stay in work.

Doctor Kylie Henderson, Founder and Managing Director at Back2Work, added that the company's combined skillsets will offer a participant-centred approach to job seeking, helping people to transition psychologically to independence. "Our guiding principles and service vision will be to provide the best intensive, holistic-person support that inspires people to better themselves for work or education," Dr Henderson said.

ENGINEERING COMPANY FINED \$300K AFTER FATAL CRUSH INCIDENT

Engineering company Andrew Buchanan Engineering Ltd has been fined \$300,000, following an incident in which a worker was fatally crushed at a Leitchville factory in Victoria in 2017. The company was sentenced without conviction after pleading guilty to two charges of failing to ensure, so far as was reasonably practicable, that the workplace under its management and control was safe and without risks to health.

The company was engaged to oversee the dismantling and packing of equipment at a decommissioned cheese factory, for relocation to New Zealand, when the incident occurred. However, there was no representative from Andrew Buchanan Engineering on site when a condenser weighing 770 kg was moved into a closed-top shipping container with a crane in December 2017.

Two workers were inside the container, preparing to remove skates from underneath the condenser, when it fell off a jack and crushed them. A 59-year-old man died at the scene, while another man was seriously injured. An investigation by WorkSafe Victoria revealed that there were reasonably practicable measures available that could have reduced or eliminated the risks associated with the task, including using an open-top or flat rack shipping container. The company also failed to ensure that the workers packing the equipment were appropriately supervised.

WorkSafe Victoria Executive Director of Health and Safety Dr Narelle Beer said it is crucial for duty holders to ensure proper plans are in place before high-risk work commences. "Workers must be provided with clear instructions on how to perform tasks safely, especially when working with heavy machinery. WorkSafe will not hesitate to prosecute duty holders who fail to do all that is reasonably practicable to protect health and safety in workplaces under their management or control," said Dr Beer.

A-1 Engineering Pty Ltd has also been charged and will appear in the Bendigo County Court for an application on 2 February 2022.

To manage risks, WorkSafe Victoria urges duty holders to ensure that work involving lifting or suspending loads is thoroughly planned, to identify designated lifting areas, landing areas and load travel corridors. Duty holders should also ensure that the appropriate shipping container configuration is chosen for the specific piece of equipment being loaded or unloaded, and that an appropriate mechanical aid is selected to lift or move heavy machinery in a controlled manner. Workers must also receive the necessary instruction, training and supervision to enable them to perform high-risk tasks safely.





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LADDER SAFETY SYSTEMS vs LADDER CAGES THE NEW SHIFT

Scott Barber, Chief Executive Officer, Working at Height Association*



Regular access to elevated points on buildings or structures to perform routine maintenance or other tasks is not uncommon. In these situations, a fixed ladder integrated into or onto a structure is often used and it's not unusual for a cage to be installed around the ladder in the mistaken thinking this will mitigate the risk of injury should a worker fall while climbing. But a fixed ladder with a cage is not a fall arrest system. In fact, as of 19 November 2018, the United States' Occupational Safety and Health Administration (OSHA) has taken the formal stance that cages are not considered compliant fall protection on newly installed ladders.

Research into the effectiveness of fixed ladder cages has shown that they do not provide sufficient protection from falls. This research prompted OSHA to provide new parameters that are intended to improve protection from falls at height, provide greater flexibility and ease of use for workers, and make decisions around compliance and suitable solutions easier to navigate. These OSHA General Industry regulations were updated to reflect the changing understanding of and attitude towards the safety of fixed ladder cages and ladder climbing in general. What this change effectively means is any fixed ladders that need to be installed, repaired or replaced must be done so in accordance with the new Standard. Installing a certified ladder safety system that includes vertical lifelines or overhead self-retracting lifelines (SRLs) are both options that provide safe and effective means of access, and are easy to install as part of a new build or as a retrofit to existing ladders.

In 1996, OSHA 1910.21 defined a cage as "an enclosure that is fastened to the side rails of the fixed ladder or to the structure to encircle the climbing space of the ladder for the safety of the person who must climb the ladder". On the other hand, it defined a ladder safety device as a device "designed to eliminate or reduce the pos-

sibility of accidental falls". The difference in these definitions shows the way both safety devices were viewed at the time those regulations were implemented. Ladder safety devices were specifically intended to prevent or arrest falls, whereas cages were intended to improve safety without any specific explanation as to how they would do so.

These changes to the OSHA regulations have not necessarily been immediately reflected in other international standards and codes, but this change does represent a broader shift in how we look at the associated risks of ladder climbing. There is an existing assumption around safety at heights that if a caged ladder 'complies' with the relevant building codes, and if an employee were to then slip and fall from the 'compliant' ladder, the employer or building owner would be safe from any litigation. But this is not the case. It is the responsibility of the building designer, owner and employer to provide a safe work environment. This means ensuring that whatever means of access, the most suitable safety solution is applied. Should an incident occur, investigators and the court system will refer to best practice protocols to assess whether the system met the needs as determined by risk assessment.



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Fall arrest solutions

For a person climbing a ladder, there are two systems that will genuinely provide fall protection:

1. A self-retracting lifeline (SRL) that is fixed to a suitable anchorage point at the top of the structure and connected to the operator's harness.

OR

2. A guided fall arrest system (vertical lifeline) that is permanently fixed to the ladder.

Installing an SRL to the top of a ladder typically provides an easy solution, but it is not always practical considering the constant exposure to the elements and need for a rated anchor point. Hence the design of a good fall arrest system must take into account some basics of modern fall protection thinking:

- The system must be easy to use. If it is not, the level of compliance may be lower than expected.
- The system must limit the forces that will be applied to the person in the event of a fall to less than 6 kN — the less force the better.
- The system must not drag on the person as they climb, otherwise it makes climbing all the more difficult, increasing the risk of fatigue.
- A fall arrest system must be a system of components that enable the line of the system to follow the building or structure that it is connected to.
- A good system will provide 'continuous connection' from the moment the person leaves the ground. This will enable the person to climb to wherever the job is, carry out the task and return, without disconnecting from the system.

There is still an argument for maintaining ladders in combination with an



THERE IS AN EXISTING ASSUMPTION AROUND SAFETY AT HEIGHTS THAT IF A CAGED LADDER 'COMPLIES' WITH THE RELEVANT BUILDING CODES, AND IF AN EMPLOYEE WERE TO THEN SLIP AND FALL FROM THE 'COMPLIANT' LADDER, THE EMPLOYER OR BUILDING OWNER WOULD BE SAFE FROM ANY LITIGATION. BUT THIS IS NOT THE CASE.

approved fall arrest system, particularly in circumstances where climbing may occur in a highly exposed environment where a cage may provide a level of physical and psychological comfort which can be very important to the climber. However, a cage around a ladder is not going to prevent an unconscious person from falling, whereas a fall arrest system will capture the user within a short distance. A caged ladder must not be mistaken for a ladder with an integral fall arrest system. Only a ladder (caged or otherwise) fitted with a fall arrest system will provide long-term safe access for workers in a way that will minimise the risks involved in climbing.

However, there are some obvious risks in the use of ladder cages as a primary safety method; for example, the potential for head-strike during a fall, loss of consciousness and creation of an extremely difficult rescue scenario for first responders. There are also cases of gruesome entanglements where falling workers tear off body parts during a rapid, uncontrolled descent. These kinds of risks are addressed when vertical lifelines are installed as safety systems. When applying the Fall Protection Hierarchy of Controls, it clearly identifies that a fixed ladder is not the ideal means of access if the work area requires frequent attention. In such circumstances, engineering out the risk by removing the need to access the area by moving essential plant and machinery to

a more accessible position or the use of passive or collective systems (eg, stairs and walkways) are more appropriate, if possible.

Ultimately, as workplaces have changed, the understanding of hazards has also increased and subsequently the development of solutions and technology to manage those risks has evolved. Adopting best practice is always the most effective means of maintaining the health and safety of a workforce, and the use of cages does not reflect best practice. OSHA's shift represents a positive step in reinforcing higher standards of safety and helps identify existing gaps in our current methodologies. Best practice includes the use of methods and techniques that best display thorough and effective safety management protocols, and looking at systems design, user profile, frequency of use and testing and certification as indicators of suitability.

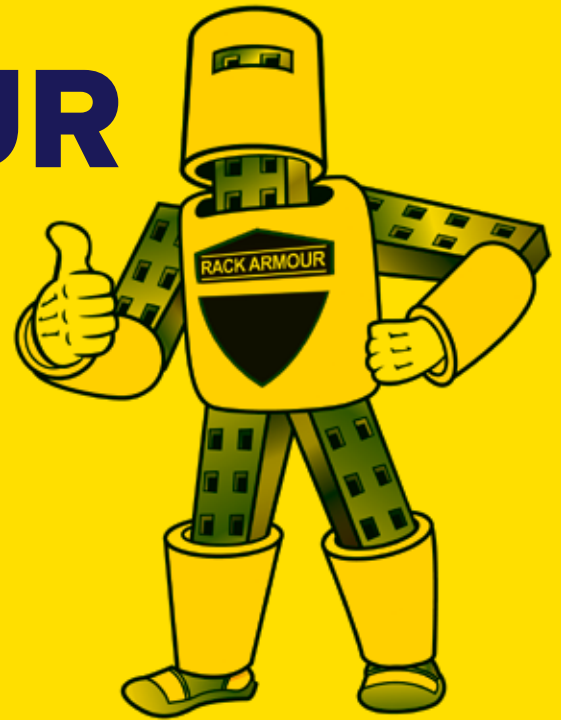
**Scott Barber is a professional marketer, copywriter and safety specialist with over 20 years' experience designing, driving and facilitating communication and education as a fundamental engagement tool. Specialising in safety and rescue, both operationally and as a consultant, he uses his experience across multiple industries to deliver solutions targeting specific stakeholders using communication as the critical driver for change.*

Working at Height Association
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Torch extraction unit

The VacuFil series of extraction units for torch extraction combine easy handling with needs-based extraction capacity. The VacuFil 125i, 150i and 250i digital unit variants automatically and continuously adjust the required air volume flows according to the individual torch characteristics. W3 approval also certifies that the digital VacuFil versions embody the highest level of protective welding equipment.

To ensure that the protective gas layer is not destroyed, the correct extraction capacity is important for torch extraction. Extraction torches require an individual volume flow for this. The new EN ISO 21094 DIN standard defines how this is to be determined. The VacuFil high-vacuum units feature automatic speed control, which means welders do not have to determine the extraction capacity manually. They act in accordance with the standards at all times and the protective gas layer is maintained.

VacuFil can be combined with any conventional welding torch. When welders couple their torch technology with the digital extraction units of the series, they select the torch of their choice on a touch display. The units then automatically adjust their output to the torch parameters stored in the unit's software. The integrated extraction volume control enables the extraction systems to continuously adjust their performance during the welding process. This means that the highest possible airflow is used for extraction.

Depending on the danger intensity of the welding process used, the VacuFil 125i, 150i and 250i versions are available with different maximum extraction capacities. The W3 certification from the Institute for Occupational Safety and Health certifies that the systems meet the best possible protective welding equipment standards. VacuFil is suitable for detecting high levels of smoke and dust during industrial welding. The automatic filter cleaning system enables uninterrupted continuous operation.

All units are also available as analog VacuFil 125, 150 and 250 versions. Here, welders set the required extraction capacity manually. All new VacuFil variants are suitable as mobile extraction units for use at changing workplaces or when working with large work pieces. Welders automatically carry the torch-integrated extraction unit with them while they are welding.

Kemper GmbH
www.kemper.eu



Drench shower

The Drench shower features a pull rod-activated shower and push handle eye/face wash for immediate drenching of personnel that have been exposed to hazardous chemicals. The shower provides a continuous stream of non-injurious water for 15 min or longer, after activation.

The combination shower and eye/face wash delivers 30 GPM of flowing pressure from the shower head and 8.0 GPM of flowing pressure from the eye/face wash. The Drench shower is ready for installation to water supply and waste systems, and is compliant with ANSI and OSHA requirements.

HEMCO Corporation
www.hemcocorp.com

Zip-sided safety boot range

Australian safety boot provider Oliver Footwear has introduced a range of safety boots suitable for those working in agriculture, building and construction. The Hiker Boot range prioritises safety and comfort; an extension of the AT 45 and AT 55 boot series, the new range features a low ankle design. The Hiker Boot is designed for agriculture, building and construction workers who require the support and safety of a traditional work boot with elevated comfort. The low ankle design provides adequate support to those with active lifestyles, along with the ability to move around with ease.

This is achieved by employing a COMFORTcushion Impact Absorption System with PORON, which protects the heel and balls of the foot. The Oliver SOFTstride open cell low density urethane foam built into the insole provides contour support, while the NATUREform toe cap with a wide profile lends greater comfort. Both Hiker Boot styles feature water and high heat resistant technology; AT's All Terrain dual density sole with lightweight shock absorbing durability makes both styles resistant to minerals, organic oils and acids. The AT 55 style is resistant to 300°C surface contact, while the 45 style is resistant to 130°C, making them suitable for all seasons.

Each style complies with Australian and New Zealand safety standards and comes with a six-month manufacturer's warranty.

Oliver Footwear
www.oliver.com.au



TAKING ACTION FOR MENTAL HEALTH

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Here are some hard facts:

- Black Dog Institute's current research shows 80% of Australian respondents are experiencing increased signs of mental distress as a result of COVID-19
- Every year 1 in 5 Australians experiences a mental illness
- Mental illness affects 50% of all Australians over the course of their life
- 60% of Australians do not seek treatment
- 75% of mental health issues develop before the age of 25
- Suicide is the leading cause of death for 15-44 year olds
- On average over 1,200 Australians attempt to take their lives every week and 58 Australians die by suicide every week

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SafetyMate

CMMS SOFTWARE CENTRALISING COMPLIANCE IN INDUSTRIAL TRANSPORT

Bryan Christiansen, Founder & Chief Executive Officer, Limble CMMS

Given the size and weight of the machinery and equipment involved in industrial transport, work health and safety (WHS) risks and hazards are inevitable. Computerised maintenance management systems (CMMS) software, which allows companies to oversee all the equipment in the company and store important safety information in a centralised digital hub, can help.

According to Safe Work Australia, 194 workers were fatally injured at work in 2020 — 25% of these fatalities were in the transport, postal and warehousing industry. If we look at the 5-year period from 2016–2020, the average fatality rate in the road transport industry was 12.4 fatalities per 100,000. 76% of the fatalities in the road transport industry over the five years to 2020 were due to vehicle collisions. Trucks, vans and lifting equipment are an integral part of industrial transport but pose serious health hazards to employees and third parties.

Safety maintenance is the effective and systematic management of risks with the aim of eliminating danger and related hazards to improve WHS. Companies operating in this industry have the mandate to implement safety maintenance programs and practices that keep the work environment and equipment safe and reliable. The versatility of powered industrial lifting trucks, for example, allows them to work in tough and extreme environments. However, to improve their availability and reliability, safety maintenance is paramount.

A 'preventive maintenance' policy, designed by senior management in collaboration with departmental heads, improves safety within an organisation by setting objective and quantifiable safety maintenance expectations. The plan should address the obligations of each party towards safety maintenance, regulations, risk management and quality assurance. When properly drafted and communicated, the safety maintenance plan goes beyond creating

a safe workplace — to minimising production losses and optimising the maintenance of equipment and personnel.

CMMS solutions, which store vital safety maintenance information in a centralised digital hub, have many advantages when it comes to staying compliant.

Benefits of adopting CMMS software solutions

Fewer cases of occupational injuries and claims

Work-related injuries impose high costs on companies in terms of workers compensation to injured employees, families and society. According to the Australian Institute of Health and Welfare, \$1.8 billion was spent for work-related injuries and diseases through workers compensation agencies in 2017–18. Occupational claim costs accrue to the individual employees, their families, the businesses and society at large due to hidden costs associated with healthcare treatment.

Businesses incur additional insurance costs, as well as the cost of hiring temporary employees to cover gaps left by injured employees. With a well-implemented CMMS program, your business can have a strong case in proving that it is effectively controlling risks within the premises.

Lower risks of equipment breakdown

CMMS software increases the reliability of industrial transport trucks by reducing the risks of breakdowns and potential accidents.



It is estimated that only 10% of industrial equipment wears out from proper use, meaning that 90% of mechanical breakdowns are preventable with a proper safety maintenance plan.

Mean time between failures, a major KPI in maintenance, allows fleet managers to make informed maintenance decisions by identifying the areas most likely to increase WHS risks and equipment breakdowns. In the long term, this will decrease the amount of money spent on purchasing and shipping parts on a rush basis due to unexpected breakdowns and emergency maintenance requests.

Increased business efficiency and productivity

Ensuring the reliability of industrial transport equipment translates to increased productivity and business efficiency. CMMS software integrates quality improvements into the system by ensuring employees are trained to perform tasks quickly and effectively. A skillset aligned towards a proper handling of the equipment and loads enables employees to take ownership and pride in their tasks, again translating to increased productivity.

With modern safety maintenance solutions allowing operational managers to digitise essential equipment details, review asset history and assign recurring work orders, organisations are able to deliver quality services to their customers in a timely manner. By eliminating unplanned downtime, there is improved business productivity, which boosts the company's corporate image among its customers, investors and bankers.

Compliance with health and safety standards

The model WHS Act requires that all Australian businesses immediately notify their regulator of a notifiable incident, including injuries, accidents and deaths occurring in the workplace. Without documented safety maintenance practices, it is likely that the business will accrue hefty fines from the regulator in the event of incidents occurring from human error and negligence.

Furthermore, all powered industrial trucks in Australia must also comply with the OSHA Powered Industrial Trucks standard of 2016. The standard provides recommendations for the type of safety maintenance practices that should be followed for each class of equipment. CMMS software can assist in complying with health and safety standards and adopting compliance certifications including AS/NZS 4801 and/or OHSAS 18001, which also improve business confidence.

Digital track of performed maintenance works

Previously performed maintenance works provide insight into the nature of the equipment. CMMS allow companies to oversee all the equipment in the company and store important safety information in a centralised digital hub.

CMMS software makes it easy to perform safety audits, as all the completed maintenance histories and safety protocols are available with a single click. Furthermore, the histories are automatically updated each time maintenance tasks and work orders related to a particular piece of equipment are performed.

Potential hazards addressed at sites

The dynamics of industrial business and work activities include the introduction of new equipment, long hours spent operating the equipment, and psychological and physical demands that increase occupational risks and hazards.

Conducting a risk assessment through safety audits, incident reporting, workplace inspections and collection of feedback from employees, allows you to identify the impact of the hazards on the people exposed. Having marking systems that show potential danger zones — such as no-smoking and welding signs, as well as marking hazardous chemicals — will promote occupational health and safety.

Conclusion

The industrial transport industry in Australia is complex. Therefore, a strong commitment and shared approach to meeting the industry's compliance is a high priority to keep workplaces safe. Within its areas of operation in supply chains, each party has a responsibility to implement positive actions to prevent safety breaches and injury in a bid to promote the health and wellbeing of employees and third parties. A computerised safety maintenance program focusing on creating a safe workplace, and supported by global standards, is a solid step towards improving business efficiency while keeping workers safe.

Limble CMMS
<https://limblecmms.com/>

Rostering system optimises shift work for trucking, construction workers



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According to Safe Work Australia, shift work and irregular or long working hours can adversely affect the health, safety and wellbeing of workers. Strategies for alertness management are becoming increasingly important, and everyone in the workplace has a responsibility to ensure impaired alertness — or fatigue — does not create a work health and safety risk. Optimisation technology company Opturion and researchers from Monash University have developed a cloud-based rostering system to improve alertness, productivity and safety among shift workers. Funded by the Alertness, Safety and Productivity Cooperative Research Centre, the AlertSafe rostering system has been trialled in hospitals across Victoria, including Austin Health and Monash Health, with hospital studies reporting a 15% reduction in medical incidents as a result of staff fatigue. The AlertSafe system is capable of alertness analysis, roster design, roster building and management, leading to better outcomes for staff and management.

The platform, which was commercialised by Opturion, has been used in various construction projects, engineering applications and medical transport. Ambulance Victoria and the Victorian Level Crossing Removal Program have also implemented AlertSafe within their rostering schedules. Doctor Alan Dormer, Managing Director of Opturion, said the system has applications across a number of sectors and noted that the AlertSafe system makes irregular working hours and shift work safer and more productive by reducing incidents and improving service outcomes. “This means the platform can be applied across a variety of industries including health care, the police force, emergency services, airlines, trucking, construction and mining,” Dr Dormer said.

The platform was developed in a collaboration with the Faculty of Information Technology (IT) and the Turner Institute for Brain and Mental Health at Monash University, the Institute for Breathing and Sleep at Austin University and the University of Sydney. The algorithms developed for the platform use a sophisticated mathematical model based on the underlying biology of sleep to estimate the impact of work schedules on alertness levels. Professor Mark Wallace from the Faculty of IT said AlertSafe tracks

the impact of shift work on each individual staff member during the rostering process and considers new alertness management guidelines. “AlertSafe generates rosters using artificial intelligence-based optimisation, which infers the consequences of each assignment of a shift to a person who can and cannot be assigned to other shifts. The platform then determines smarter ways to improve a roster time until it meets the preference needs of the roster and the people working within it,” Professor Wallace said.

Professor Shantha Rajaratnam, Director of Engagement and Translation at the Turner Institute for Brain and Mental Health and the Chair of the Sleep Health Foundation, added that sleep is integral to optimal health, productivity and safety in the workplace. “Interventions, like the AlertSafe, that improve sleep, can significantly reduce accidents and improve the health and wellbeing of shift workers,” Professor Rajaratnam said. The AlertSafe system was developed alongside a personalised sleep schedule app, called Zest, which optimises individual sleep to improve mental health outcomes. The app, which is currently in the testing phase, has already shown improvements amongst shift workers who have reported improved sleep and overall mental wellbeing.

Associate Professor Mark Howard, a sleep and respiratory physician from Austin Health, said the recent COVID-19 pandemic has highlighted the stress faced by healthcare workers, who he posits are the biggest shift-working population in the country. Associate Professor Howard said there has been a lack of a systematic approach when it comes to effectively rostering shift workers so that they can perform their roles safely and effectively. “The trialling of AlertSafe allowed Austin Health to implement rostering changes for our medical staff who are working in an extremely high-pressure environment. The rostering changes have allowed us to carry out shorter rotations, which minimised staff burnout and stress, as well as lowering the adverse medical implications for patients,” Associate Professor Howard said.

Opturion Pty Ltd
www.opturion.com

WORKHORSE WORKWEAR STANDS FOR YOU



**The worker, the business owner, the safety officer.
We are fierce in our desire to protect workers and get them home safely.**

Workhorse Workwear designs and creates industrial strength garments, working with our customers to deliver quality solutions that are functional, durable, appealing, and fit for business.

Workhorse takes pride in being your smart choice in workwear.



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Partnership sees wearable AI tech used to boost worker safety

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With technology playing an increasingly critical role in most business operations, organisations are extending their search for technological solutions that offer their workers the best safety advantage. As a result, Life Ready Biosymm and Soter Analytics have entered a strategic partnership, combining Life Ready Biosymm's injury prevention and management services with Soter Analytics' next-gen artificial intelligence solutions. The Biosymm-Soter partnership combined personalised extensive risk-based injury prevention and management services with data-driven technology processes that provide actionable insight to successful injury prevention and increased productivity. Greg Borman, Executive Director Corporate Services for Biosymm, said the partnership with Soter Analytics provides Biosymm's clients with extensive use of wearable technology that delivers AI-driven training and algorithms that are recognised by users worldwide, giving the company a leading edge in injury prevention solutions.

The technology offers multi-pronged solutions that complement each other. The end-to-end ergonomic platform

includes the SoterCoach wearable sensors for detailed biofeedback and worker behavioural change, extensive data collection niching down metrics for actionable data-driven results, SoterTask sensor free vision processing technology that yields detailed risk assessments, and Job Dictionary, for collating all data and defining the workers' functional capacity. Life Ready Biosymm initiatives, combined with Soter's technology, provide individuals, teams and organisations across various injuries, leading multi-faceted risk reduction tools to successful injury prevention and

cost reduction. "The injury trend data collected within our processes, alongside Soter Analytics provides the vital objective information that helps predict workplace injuries. With this data, and advanced task analysis with extensive knowledge of the warehousing and logistics industry, we can provide valuable feedback and implementation recommendations to reduce risk and increase safety, productivity, and profitability in the workplace," Borman said.

Soter Analytics CEO & Founder Matthew Hart added that the company is delighted to work with Life Ready Biosymm. "[With] our collaborative belief in technology innovation, value add, and data-driven safety, coupled with their highly skilled team boasting extensive knowledge of risk-based solutions, we can reach a common goal in supporting businesses in decisions on where to focus time and funds to help prevent injuries and best manage workers," Hart said.

Soter Analytics
www.soteranalytics.com

Protective gloves

Cuts, punctures and lacerations can cause serious injuries for workers. HexArmor gloves with SuperFabric brand material can help provide resistance against harsh hazards. The material is a proprietary fabric created by a unique finishing process that configures tiny guard plates onto performance fabrics; these protective fabrics are engineered for optimum resistance to abrasion, cut, punctures and more, without sacrificing dexterity.

SuperFabric brand material simultaneously incorporates a variety of protective fabric functions. HexArmor personal protective equipment provides high-quality cut, puncture and needle resistance.

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ARE YOUR WORKERS AT RISK OF ACCIDENTS?



**SafeWork NSW Recorded
598 forklift incidents, 5 were fatalities**

When forklifts and people mix, bad things happen.

Regardless of how hard you try, it is impossible to separate people and equipment 100 percent of the time. Best practices point to barriers, separation, and plenty of space, but real-world conditions prevail. Workers stray, drivers are distracted, facilities are operating at full capacity with cramped conditions, and smoke, dust, and poor lighting diminish visibility. People are put in harm's way.

The BodyGuard Safety i-Tag System envelopes your workers in a new layer of Safety

The BodyGuard Systems provides a driver with an unmistakable human voice warning when workers are near a forklift. In an environment overflowing with bells, buzzers, and flashing lights, the human voice warning cuts through the maddening din of plant floor noise.

Simply stated, the driver is warned when they get too close to workers long before the worker is endangered.

The BodyGuard System is a Preventive Tool

Think about your teen's last "close call" with the family car. Now imagine you had near-instant information with a report on the time and pertinent circumstances. Each close call becomes a teaching situation. The BodyGuard system provides a report listing the forklift, its driver, and the pedestrian. Reviews of the report allow for additional training opportunities as well as any necessary disciplinary action.

The BodyGuard System is Easy

Installation is easy, requiring no changes to the forklift. There are just three easy to deploy components:

- A personal tag – small and easy to carry fob identifies employees.
- A sensor unit – attaches to the vehicle in minutes.
- A cab alert unit – speaks to the driver in a human voice.

Is it time for you to think about a BodyGuard?

Making the first move towards improving worker safety and enhanced productivity is as easy as a quick, no obligation phone call. Contact us Now.

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SAFETY WEARABLES; THE HIDDEN WEAK POINT

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Have you heard the story, The Emperor's New Clothes? No one believes, but everyone believes that everyone else believes. This is how things manifested for the team at Soter Analytics; a technology company that develops wearables and AI products for manual material handling safety in the workplace.

Without using real names, here is the story of how it happened...

Paul works at a large warehouse distribution centre in Australia. He is responsible for the safety of his team and implements ways to keep his workers engaged in their own well-being. Using wearable technology and data collection for their musculoskeletal safety has been part of his long-term strategy to track progress, find risk areas and enable individualized safety and autonomy for working injury-free.

The choice to use Soter wearables has been a great solution for Paul and his team. A powerful lens, magnifying risk areas and producing risk data of various elements for safety control.

The small sensors worn on the collar or on an armband on the upper arm, alert the worker when they perform a movement with incorrect posture. The technology is linked back to an app that collects movement data, provides tutorials and personalized improvement programs to assist workers to move better and updates management with data insights collected from the sensors.

The barrier to the effectiveness of wearables lies in the name

Over time, during the project, however, he came across one flaw that tended to result in increased effort on his part and decreased results. Not the desired outcome by any means.



We've all heard of the 'shiny object syndrome' where attention is focused on something new, but no sooner, gets set aside as novelty wanes. He found his workers were very involved and motivated during the initiation of each program but after a week or so, the engagement rate decreased as they increasingly forgot to put on their wearable before a shift.

A wearable is hardly effective if not worn!

The naked truth revealed

What surprised the team at Soter Analytics, despite their consumer-oriented strategies to keep their customers comfortable to provide honest, non-coercive feedback, they missed this one piece of very important information — **companies were struggling to keep their workers motivated to continue to remember to wear the product daily.**

"It felt like we'd finally been told we were actually not wearing clothes!" said Matthew Hart, Founder & CEO. "We pride ourselves

on user-centric design, and of course, love good feedback, but it's the juicy stuff that makes us grow as a company and achieve goals to help our customers achieve theirs. This gap in our feedback model initiated new channels to help keep track and not be ignorant to really important critique."

With the approach that product success works in symbiosis with how feedback is integrated into the design process, they began to log all customer conversations and implemented a "Customer is Instructor" mentality. Clients were given the attention like that of co-creators and treated as a part of the team, with all user stories reviewed and fed into a process alongside the product development planning.

How to keep workers wearing the 'wearable'?

Soter Analytics is one of the few large players in the ergonomic tech game for material handling. All highly advanced technology companies provide similar products that measure movement and give valuable insight to the wearer via feedback and through the collected data for the organization. One thing they all have in common however is that all the wearables need to be put on by each worker before a shift.

Once Soter Analytics began to realise the pain point their customers were having, which was decreasing the desired outcomes — they adapted their product to meet customer needs for best results.



'The **'Soter SmartFix'** adapter was developed.

An attachment that can be individually designed for each organization for any piece of existing personal equipment that workers use daily. The Soter SmartFix allows the Soter devices (with their 30-day battery life) to be connected to any equipment and not have to be removed until the desired length of the program is completed, thus removing the weak point!

Referring back to Paul's organization — the large distribution centre that was mentioned earlier — the piece of equipment the workers use every day is the headset. Now, Paul not only eradicated his problem of engagement, but his workers also

feel as though something is missing when they don't have their sensor advising if they are at risk of injury.

Furthermore, alongside the fastened wearable, Paul chose to enable the Soter **'gamification'** option of the solution adding fun exciting games linked to their signature SoterCoach app. Highly engaging game mechanics such as points, levels, rewards and stories to follow, with frequent incentives to compete or progress are just some of the features.

The games encourage, inspire, and motivate his workers to move correctly and safely.



The Soter short story

Over the last 4 years, Soter has been supplying multiple organizations globally, and thousands of workers with technology solutions for material handling safety.

Their technology has exponentially grown, analysing data over 50 times per second across several different data points that are transformed in real-time to useful information (events and stats on angles). They track all significant back and shoulder movements collecting thousands of hazardous events as well as safe events each day.

Matthew Hart, Founder & CEO and his team are well known for their user-centric and adaptable design features, meticulous customer care, regarding their consumers as part of the team building long-term improvement and innovation for both parties.

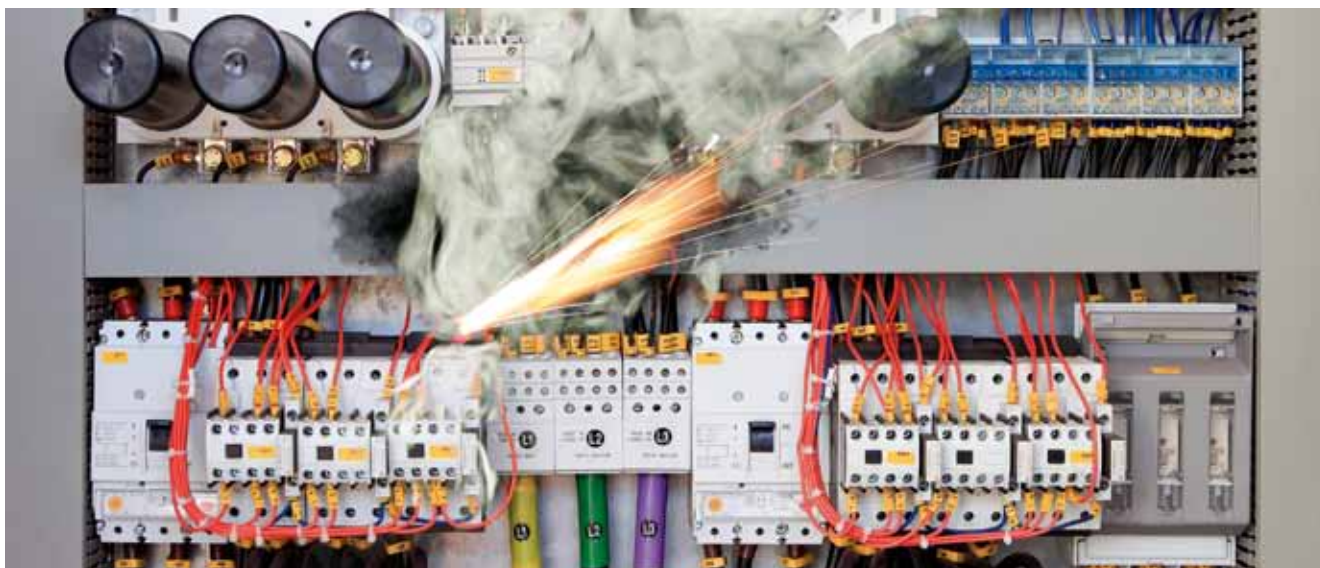
Have you tried Soter at your organization? You won't be sorry; it's a rewarding experience to work alongside the amazing team at Soter!

Learn more and reach out to one of their friendly team members at www.soteranalytics.com.



Soter Analytics Pty Ltd
soteranalytics.com

Low smoke zero halogen cabling range enhances electrical and fire safety



An internationally proven range of low smoke, flame-retardant, zero halogen cabling systems is now available in Australia, in response to rising awareness of risks to life and property from toxic fumes. Specifiers are now aware that smoke and poisonous fumes can be a greater risk to lives and property than fire alone; with the increased demand for safety and risk management in public and private commercial infrastructure, specifiers and their contractors are now advised to install materials that provide the greatest assurance of safety and protection. This duty of care extends across a range of industry designers, specifiers and managers, including architects, engineers, construction, infrastructure and HVAC managers. It also applies to data and telecommunications specialists, and electronic and IT systems installers particularly, working on projects including transport facilities, major public and private buildings, materials handling, industrial automation and Industry 4.0 applications.

Global cable systems technology leader LAPP has moved to expand stocking of the low smoke halogen-free types of its top-selling OLFLEX, UNITRONIC and ETHERLINE ranges, in response to strong Australian demand. The company now stocks a wide

range of purpose-designed, low smoke halogen-free cables, with uses extending from building and construction to energy and resources. Simon Pullinger, General Manager of LAPP Australia, noted that the multi-tiered product ranges now stocked for rapid delivery — and backed by a free cut-to-length service tailored to individual projects — range from single-core and multi-core power and control, screened and unscreened data transmission and industrial and LAN Ethernet cables. All are tested to the highest global standards and used in more than 50 countries to deliver additional safety and protection for applications involving large numbers of people at risk of being asphyxiated and major concentrations of vital electronic and communications equipment that could be rendered useless by destructive acidic fumes.

LAPP Australia's locally stocked ranges — designed to be useful where fire hazard is a consideration and where high-value property is concentrated — include OLFLEX CLASSIC 130H, which is suitable for fixed and flexible installations, including airports, railway stations, transport facilities, air conditioning, industrial machinery and plant engineering. The range also includes OLFLEX CLASSIC 135GH, a halogen-free control cable, flexible and screened for various applications including those in public buildings and industrial plants; and OLFLEX CLASSIC 115CH, a halogen-free control cable that is oil-resistant, screened, very flexible and cold-resistant down to -30°C, and EN 45545-2 certified for railway/rolling stock application.

The OLFLEX CLASSIC 128 H BK 0.6-1kV, CLASSIC 128 CH BK 0.6-1kV, and OLFLEX CLASSIC 128 H BK SC types are also included in the range, and provide cost-effective halogen-free control cables with fire-resistant characteristics. These space-saving cables are suited to public buildings and industrial plants, and are weather-resistant according to ISO 4892-2. The new SC LSZH 110 range + SDI 110 +



The stark difference between smoke emission by LSZH cable, top, and ordinary cable, bottom. The main drivers for halogen-free products are fire safety (smoke toxicity and smoke propagation), fire damage to electronics by severe corrosive effects, and high-temperature applications of cabling. Image credit: LAPP Australia.

EARTH 110 features a low smoke gas density; both smoke inhalation and the amount of dark smoke in fire can prevent people from finding escape routes in a fire. LSZH cables are the recommended cables for Green Star-rated building projects due to the low toxicity and low smoke design. LSZH cables don't require PVC Best Practice certification as there are no PVC elements in the cable construction. The UNITRONIC ROBUST C and UNITRONIC ROBUST C (TP) systems enable halogen-free data transmission with a colour code according to DIN 47100 standards. This system is also resistant to a range of chemical media (TP signifies a twisted pair option).

UNITRONIC LiHCH TP has the same advantages of other LiHCH cables but with twisted pair arrangements to facilitate de-coupling of circuits, and a tinned copper wire braid to protect the cable against external electrical influences. ETHERLINE PN CAT.6A FRNC FLEX FC facilitates flexible use PROFINET applications with four pairs. This range can come with PVC or FRNC (flame retardant non-corrosive) outer sheath and has UL-approval. ETHERLINE ROBUST Cat.7 FLEX, which is designed for PROFINET applications, is halogen-free with a TPE sheath and features good chemical and weather resistance.

Pullinger said the biggest issue facing new users of LSZH cables is a full understanding of what is a true low smoke zero halogen cable. "This is a key consideration in risk management and safety, because to be assured you are selecting a quality cable that will offer security during fire, it must pass three tests contained in IEC and VDE standards, pertaining to halogen content, low smoke density and flame propagation. These tests are all encompassed in LAPP's range of low smoke halogen free products, which are stringently tested to ensure peace of mind when installing these cables where human life or valuable property are exposed to a high risk of fire hazards." He added that toxic smoke is of particular concern within enclosed spaces where means of escape are limited. Examples include mass transit vehicles and offshore oil and gas platforms and ships. "It is also becoming critical to use halogen-free products around areas where electronics are present, with examples of particular concern including data centres handling vital information, hugely expensive production facilities and telecommunications equipment upon which entire communities depend, particularly in emergencies," Pullinger said.

The low smoke halogen free products are new additions to LAPP Australia's stock of more than 4000 products locally, for short lead-time delivery coast-to-coast. These include cable and cabling systems focused on safety and sustainability, encompassing halogen-free products and conduit and cable systems integral to sustainability and reliability in areas such as solar, wind and broader green energy systems, and surveillance, security and safety systems. Pullinger added that the current availability of 20,000 products online locally, with engineering and technical support, gives customers greater access to advanced products and rapid lead times, for better planning of future-focused initiatives, including safety, sustainability and Industry 4.0 automation and digital integration.

LAPP Australia Pty Ltd
lappastralia.com.au



Safety boot

Blundstone has launched the #325, the latest style to join its Work & Safety range. This style joins the #984 with an on-trend stone colour at an affordable price point that is suitable for tradies. An investment in safety, comfort and durability, the #325 is designed for a range of industries like building, construction, landscaping and warehousing.

The #325 features a stone nubuck upper and a high-quality, antibacterial comfort lining. Its 135 mm height makes it suitable for those who prefer a lower cut, while its SPS Max – XRD Technology in the heel strike zone provides increased impact protection and comfort. The boot is electrical hazard resistant, with a TPU outsole resistant to 140°C. The outsole is also slip, oil, acid and organic fat resistant. The boot is resistant to electrical hazards, with a TPU toe guard on the upper for added durability.

The #325 is available in sizes 5–13 (half sizes 7.5–10.5). Blundstone boots are available online and in stores via select retailers throughout Australia, and are backed by a 30-day comfort and six-month manufacturing guarantee.

Blundstone Australia Pty Ltd
www.blundstone.com.au

Mixed service collar

The FyreCHOKE mixed service collar is designed to treat multiple sets of pair coil plus their cables, insulated pipes and drain lines, all through one penetration, thereby making HVAC&R penetrations fast, clean and easy. HVAC&R pipes require thermal insulation to maintain the thermal efficiencies required to run air-conditioning and refrigeration services. However, these thermal insulation materials can quickly burn away in the high temperatures of an AS1530.4 fire test, which makes passive fire penetrations of HVAC&R services more complicated when compared to bare metal pipe penetrations, for example.

FyreCHOKE mixed service fire collars are lined with an intumescent material that expands with the heat of a fire to close off the gaps around services inside a fire collar, filling up the spaces left by the burning/melted thermal lagging to tightly seal around the copper pipes. The intumescent material is strong enough to crush off pair coil insulation and form a tight seal around the cables, so all of these services can be bundled together to make passive fire protection of HVAC&R services fast and easy.

Trafalgar Group
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NEW DATES ANNOUNCED OCTOBER 18-20, 2022

MELBOURNE

Featured speakers:



Shane Fitzsimmons AFSM
Commissioner
Resilience NSW



Lynn McDonald
Azure Space Lead
for Australia



Mats Henrikson
Group Leader
CSIRO Data61



Ed Parkinson
CEO
FirstNet USA



Jackie Dujmovic
Founder and CEO
Hover UAV



Neal Richardson
Technical Director
NZ Police
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What's on:

- Industry-focused case studies and technical presentations
- Panel sessions on public safety, state of the industry and satellite evolution
- Extensive exhibition and networking opportunities
- ARCIA Industry Gala Dinner

Half-day workshops – 18 October

- Power supply options for communications systems, including solar and battery options
- Latest initiatives and innovations in critical LMR, critical broadband 4G/5G and control centres
- Private LTE/5G – the fundamentals of technology and system design
- ACCF Public safety communications 'town hall' meeting

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WORKHORSE WORKWEAR: THE SMART CHOICE

When it comes to safety workwear and safety clothing for the building and construction industry there are subtle differences that make one brand's range unique to the Australian market.

Workhorse Workwear provides quality safety workwear that is uniquely suited to Australian conditions.

Launched in 2014, Workhorse Workwear has become a staple workwear brand for Australian businesses looking to provide protective and affordable uniform solutions to their teams. Now in 2021, Workhorse has been focussed on bringing more customer-driven innovation to the market, resulting in improved comfort and safety across its extensive workwear range.

Innovation designed to support Australian conditions

Workhorse aims to deliver real value to businesses who need safety workwear to protect employees from Australia's harsh conditions while at the same time ensuring that the employees embrace the use of the workwear.

Part of this has been the development of a stretch element in the new range. By including more stretch fabric, the garments fit workers' bodies and allow more movement for people on-site doing active jobs. When you are working up to ten hours a day, a uniform that can fit and move with you can make all difference for comfort and efficiency.

Combatting heat and sun

The Australian environment presents a range of challenges for safety workwear including ensuring that workers are protected from the sun's UV rays while providing adequate ventilation to mitigate the effects of heat stress and heat stroke.

The Workhorse range has incorporated direct feedback from customers showing that Australian workers show a strong desire for cotton-based fabrics in safety workwear.

Australians love wearing 100 per cent cotton and the Australian high-visibility standard has now been modified to allow workwear ranges to use the natural cotton that Australians want.

There are also a range of other initiatives that combat the effects from the sun and heat including UV resistant fabrics,

collars that can be pulled up around the neck and vents to allow heat to escape from key locations within the clothing. These are all aimed at keeping workers protected from heat stress and exposure to the sun.

Ethically sourced

Understanding supplier commitments and performance across multiple operation areas such as responsible business practices, quality and compliance and sustainability, means the Workhorse brand can better support customer expectations and coupled with in-house technical expertise and site visits, deliver on customer objectives.

As part of its quality assurance practices, surveillance audits of factories producing its Workhorse safety workwear are conducted.

Not all workwear is the same

Point of difference is key when selecting safety clothing and safety workwear. The revelation that all safety clothing and workwear isn't the same is often discovered when organisations are selecting clothing for workforces based solely on cost comparisons rather than the conditions faced by the workforce.

By selecting a brand like Workhorse, mining and resource companies have the assurance that the product is ethically sourced, meets some of the industries strictest quality standards and ultimately that the workwear will work effectively in mitigating the hazards that workers are exposed to.

It is an assurance that is backed by Blackwoods, Australia's oldest and largest provider of industrial and safety supplies. Workhorse Workwear is exclusive to Blackwoods. With over 2.5 million units sold, Workhorse is one of Australia's key workwear brands.

Blackwoods

Blackwoods
www.blackwoods.com.au



Signalling devices

E2S Warning Signals has released the AlertAlight and Sonora signalling devices, as an upgrade to its AlertAlarm. The alarm horn sounders, beacons and combined units are designed to provide effective alarm notifications in harsh environments. Updates have been introduced to the enclosures and electronics to create a universal solution for industrial, marine and ordinary location applications. The AlertAlarm and AlertAlight products now contain the standard E2S set of 64 international alarm tones and four remotely activated stages/channels. First- and second-stage tones can be set individually, enabling flexibility in tone choice. Voltage supply ranges have also been extended to assist with product selection while current in-rush has been minimised. Pluggable, duplicated terminals facilitate Class A wiring and reduce installation time.

The A100 sounders and the AL100 combined units now produce up to 110 dBA, while the industry standard A105N/AL105N now uses a new enclosure design with threaded cable entries to simplify installation. A112N/AL112N and A121/AL121 type products now contain the latest in Class D amplification and feature additional methods of stage control along with up to 124 dB(A) sound level output. A choice of two power modes is available during installation, enabling the optimum level of current consumption and sound output to be selected for the application.

The L101H includes an electronic subassembly using an array of 18 superbright Cree LEDs and offers a choice of steady move and seven flashing modes, including a temporal pattern. The L101H upgrade includes UL and ULC private mode fire approval and is available as a combination signal with any of the AlertAlarm or Sonora type alarm horn sounders. Globally approved to UL and EN standards for fire and general signalling, core products are also DNV approved and MED compliant to the latest directive for marine applications across all voltages. Third-party approvals are provided by default across the ranges, for compliance with the latest standards and directives wherever the application is located.

Mechtrix Pty Ltd

www.mechtrix.com.au

Access panel system

FyreSHIELD PLUS is an Australian made and owned access panel system that has been designed and tested to be built into plaster-board ceilings. Featuring improved fire and acoustic performance, the FyreSHIELD PLUS system provides an easy option for direct compliance.

FyreSHIELD is fully fire tested (-/120/120 FRLs, plus 60 min RISF), in accordance with AS1530.4:2014. Innovative and patented advancements have enabled the FyreSHIELD to achieve simple and compliant fire ratings for concealed-hinge fire-rated access panels. Manufactured in South Granville using high-quality Australian sourced materials, FyreSHIELD PLUS is designed to make fire-rated access simple and compliant.

A range of stock sizes and custom sizes is available, with a budget lock as standard. No additional fire stopping is required, just sealant for installation. The FyreSHIELD PLUS also features fully concealed hinges.

Trafalgar Group

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Chemical-resistant safety boot

The chemical-resistant Blundstone #982 safety boot is suitable for aluminium refineries or industries where there is potential for hazardous liquid chemical exposure. Utilising Keoprotec and XRD Technology has enabled the boots to incorporate all the features needed to provide long-wearing, durable and chemical-resistant boots. The boots come in a range of sizes, from five to 14, with half sizes available from size 7.5 to 10.5.

The safety boots feature a black chemical-resistant leather upper with TPU bump cap and TPU heel guard, with a heavy-duty YKK Vislon zip and self-clearing gusset behind the zip to prevent chemical penetration. Schoeller Keoprotec fabric and Kevlar stitching are used on the tongue, collar and ankle area, to provide chemical and abrasion resistance. A full bellows tongue is also attached externally to reduce splash access potential, while a PU midsole and rubber outsole provide a lighter-weight option designed to increase slip resistance in varied environments. Oil-, acid- and organic fat-resistant, the boot also features a low density impact-absorbing polyurethane midsole with anti-bacterial agent.

The boot's outsole is heat resistant to 300°C, while its removable comfort arch footbed with XRD Extreme Impact Protection forepart insert provides superior comfort. The boot's footbed is anti-bacterial, washable and breathable. SPS Max—XRD Technology in the heel strike zone provides increased underfoot impact protection and comfort. The chemical-resistant safety boot also provides electrical hazard resistance and features thermal regulating bamboo lining.

Blundstone Australia Pty Ltd

www.blundstone.com.au

CONTRACTORS LOCKOUT KIT

CLK-1



KIT INCLUDES:

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- 2 x UCL-1 Universal Lockout Devices for Miniature CB's
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- 1 x UFL-2 Universal Lockout Device for Fuse Holders
- 1 x MFL-2 Multi-Function Cable Lockout Device with 1m steel cable
- 1 x SLH-30 Stainless Steel Lockout Hasp
- 1 x SLP- 150-RED Red Safety Lockout Padlock
- 4 x SDT-1 Danger Tags
- 2 x SDT-2 Out of Service Tags
- Pen, Screwdriver and Cable-ties

Other great value Lockout Kits are also available – including custom made Lockout Kits. The CLK – kits are made in Australia by Cirlock, Australia's original lockout manufacturer. Items can also be purchased separately.



See our website for more information
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CRANE COMPLIANCE SAFER HANDLING THROUGH SURVEY, REVIEW AND TRAINING

Mark Beckwith, Australian Service Operations Manager, Konecranes and Demag

Crane compliance is a complex task. However, through independent, expert external survey, review and training, the process can be made simpler.

In crane compliance there are lots of individual checks, maintenance requirements and operational requirements to ensure a crane is adhering to all standards and relevant safety regulations. For an attentive safety manager, it can be a time-consuming process to manage each task individually, and there can be strong consequences if any aspect of compliance is overlooked.

Crane gap analysis survey

A crane gap analysis (CGA) survey — which applies to cranes of all makes and models — provides a top-down overview of a crane or fleet of cranes' compliance. It takes a holistic look at crane operations and can identify potential gaps in compliance or areas that can be streamlined to comply more efficiently and productively.



Operations managers and crane safety managers are all acutely aware of the need for compliance with regulations. Crane safety not only enhances performance and profitability, but most importantly, ensures the safety of staff and visitors.

However, there are a number of reasons why an independent, expert external check can be highly valuable to safety-conscious companies. Perhaps the manager just commenced a new role and wants a report of the current status of all cranes, or perhaps a sensible company leader has encouraged a second layer of checks, to reinforce their safety commitment to customers.

A CGA survey looks at information such as inspection records, maintenance manual availability and preventive maintenance (OEM) requirements. Such surveys study key processes that typically include inspection practices, pre-shift checklists, spare parts availability and corrective maintenance procedures.

Findings review

Once an expert technician has performed a CGA, the next step is a review of any safety incidents and training modules with the crane operators to get a complete view of the current situation. The findings are reviewed in person (or via a video meeting during COVID-19 restrictions) with plant management.

The report and recommendations are considered highly confidential and, except as required by law, are not otherwise stored, shared or distributed, so companies can have peace of mind that the findings are for their internal use, to further optimise safety practices.

Crane operator training

One of the simplest and most cost-effective ways to improve

safety and productivity, while reducing maintenance costs, is crane operator training (COT).

Crane accidents cause injuries to operators, workers on the job site and even people nearby. The majority of crane accidents are caused by human error, which may result in safety risks and uncontrollable downtime. Accidents can be minimised or prevented through proper training and crane usage.

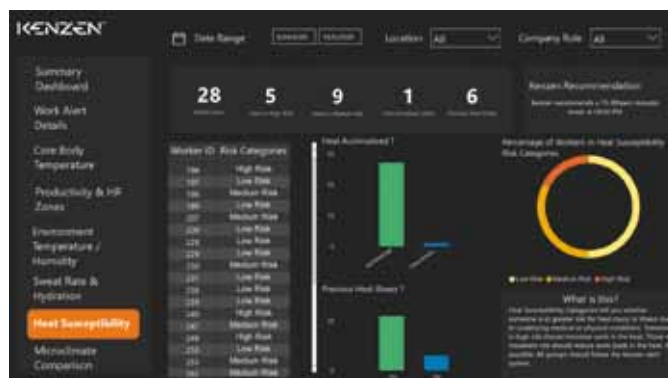
COT is designed for both the crane operators and the supervisory personnel responsible for the daily operation and safe performance of cranes. Such training gives participants the working knowledge to assist in reducing operator errors that may lead to unnecessary downtime. COT can provide additional knowledge to help avoid possible serious injury to personnel caused by improper crane operation and participants learn local requirements for crane operation.

Training topics can include:

- The function of all major crane components and assemblies
- Minimum qualifications and requirements for a crane operator
- Daily crane inspection procedure required by local governing bodies
- Four rules of safe and proficient crane operation
- Precise spotting of loads and making precision lifts
- Proper techniques to minimise load swing
- Recommended hand signals
- Basic rigging procedures to attach the load to the hook

COT is ideal for newly hired personnel, seasonal workers or for refresher training, and can often be completed onsite.

Konecranes Australia
www.konecranes.com.au



Heat-monitoring technology

Kenzen has added two features to its smart PPE system for monitoring workers' heat risk on the job; the technology can now track the heat susceptibility and sweat rate of individuals, which can help detect and prevent heat-related stress, injury and fatality risk of workers in hot environments. The system calculates the heat susceptibility of a worker and then classifies them into low, moderate or high heat-risk categories. Kenzen's algorithm determines the person's heat risk category by evaluating their medical or physical conditions, physical fitness, heat-acclimatisation status, history of heat injury and illness, medications, chronic illnesses and age. The classification does not reveal personal information or reasons why someone is in the particular heat risk category; it is only used to help supervisors monitor and manage people according to their individual heat susceptibility.

The sweat rate monitoring feature uses a worker's information and physiological data to calculate and predict their sweat rate, in litres per hour. A manager can view an individual's sweat rate on the Kenzen analytics dashboard, which also indicates how much water that person needs to drink each hour to stay hydrated. This allows managers to bring enough water to worksites to hydrate their teams based on the individual and the predicted environmental conditions that day. The sweat rate feature gives a hydration plan that is accurate within one



quarter of a litre (one cup of water), so that every worker will know the specific amount of water they need to drink that day to stay safe.

Kenzen devices contain sensors that monitor, in real time, an individual's physiological responses. The worker is warned when their core temperature is too high and they are in danger of a heat-related injury or illness via a smartphone app and a device vibration. Managers have a corresponding app that alerts them when a worker needs an intervention to stop work, rest and hydrate, and a second alert for when it's safe to return to work. The analytics dashboard can be used to make individual, team or enterprise-wide decisions to reduce heat-related injury and illnesses, by looking at aggregated data across weeks to months. Only workers can view the details of their personal health information, while safety managers and other EHS leaders can only see what's necessary to keep the workers safe.

Kenzen's heat monitors have been used across a range of industries, including construction, mining, field services, manufacturing, renewable energy, utility oil and gas, agriculture and transportation. The company currently has a rental program for companies to quickly deploy the technology with packages of 10, 20 and 50 devices. The program includes the monitoring app for managers and can be rented for a two-month period online.

Kenzen
www.kenzen.com

Polarised safety glasses

The KULYA polarised safety glasses by PROSAFE, with Cat 3 polarised lenses, provide protection against sun glare and good UV protection. A stylish wraparound design and matte black frame allows the safety glasses to be used at home, at the worksite and anywhere in between.

The safety glasses feature a full wraparound frame design for durability with wide vision, and solid TPR rubber nose pads and arm grips for all-day comfort. The Cat 3 polarised lenses provide protection against sun glare and are coated to prevent fogging and protect against light surface abrasion.

The safety glasses are available in Smoke or Green tinted lens options, and come with a dual-purpose microfibre storage bag and a lens cleaner.

Blackwoods
www.blackwoods.com.au





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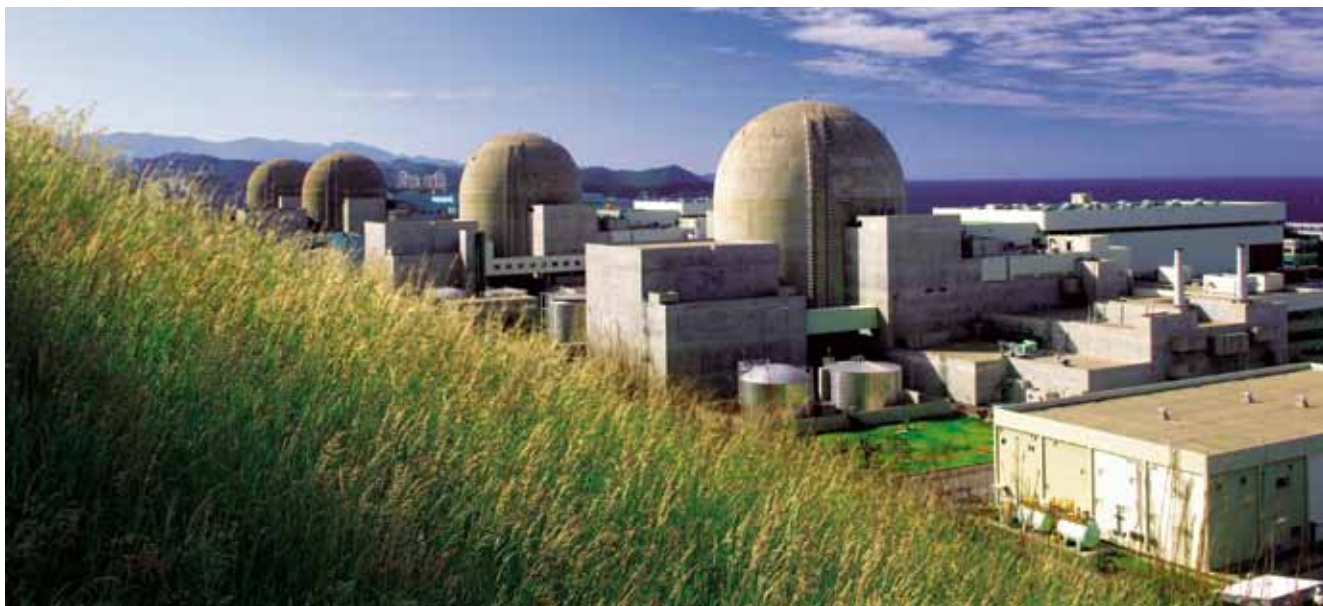
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Bolt tensioning device enhances power worker safety at electricity plants



Electricity generation uptime and safety gains at the Hanul nuclear plant in South Korea are receiving international recognition for the fast-actuation, quick-release CamNut system from Australian precision engineering company Technofast. The successful use of the system at the nuclear power plant in South Korea — with an installed 6157 MW capacity in two stages — has been complemented by their use at the country's Wolsong, Shin Wolsong and Hanbit nuclear plants and at major steam turbine plants as well. The ongoing work at the Korean fleet of nuclear power generation plants has won Technofast accreditation as a supplier to the country's nuclear industry, having attained certification to design and manufacture equipment for this sector.

John Bucknell, Technofast Founder and CEO, stated that the time savings and safety gains proven in these installations apply to all power generation applications, including nuclear, fossil, hydro and green generation. Bucknell added that they offer the same benefits

to all industrial applications where workers need to ensure equipment uptime while avoiding exposure to hazardous situations, including radiation, heat, fuel, pressure and the need to work in confined spaces where clumsier, time-consuming fastening tools are not recommended. "Attaining certification from a world leader in terms of nuclear electricity generation opens the door to global applications for the CamNut and complementary EziTite systems in nuclear and electricity plants of all types," Bucknell said.

The Technofast hydraulic CamNut system and complementary EziTite hydraulic bolts and specialist complementary products enable entire groups of fasteners to be torqued or released immediately or simultaneously, rather than being individually installed and released. CamNuts can also be used where thread length above the nut is insufficient to apply normal Bolt Tensioners, meaning users do not need to replace expensive studs to gain the benefits of hydraulic direct tensioning. The unique stepped base washer provides a firm reaction



A circular series of CamNuts offering simultaneous tensioning and release of electricity generation plant. Image credit: Technofast Industries

point for tensioning without altering spotface diameters on turbine casings. Also, bolts are not subject to thermally induced stresses from rapid and uneven heating, which is important to longevity, reliability and safety.

Equipment decommissioning, maintenance and installation for regular service operations are also reduced, carving days off the maintenance schedules of the Korean power station applications, according to Bucknell. "This means big gains for every hour sooner that equipment can be brought back online to produce generating revenue. Days can mean millions of dollars in generation industries — and the CamNut and EziTite systems offer better risk management, by getting people in and out of machinery quicker, which is a major plus in industries such as oil and gas, mining and energy, manufacturing and processing," Bucknell said.

The savings at the original Korean nuclear and fossil electricity applications have been proven over more than a decade, with multiple new applications following their success. The CamNut system and its complementary products are used in major areas of the Korean Nuclear generators, including the Combined Reheat Valve (CRV – CamNut – 1.75in), Main Stop Valve (MSV – CamNut 2.5in), Control Valve (CV – CamNut 3in), High-pressure control valve and stop valve (CamNut) and Venturi (EziTite Hydraulic Nut 3in). CamNuts are applied by being placed on bolt studs and then hydraulically actuated, stretching the bolt to the precise tension required and then locking it in place mechanically with a locking device. The reverse procedure enables rapid disassembly when it is eventually required for annual or ad hoc maintenance. The fast and secure hydraulic fastening system uses hydraulic force to draw and release the bolt, rather than each fastener being locked or loosened individually by operations staff using wrenches to torque the bolt by rotating it on the thread or using heat processes.

CamNuts' direct extension methods avoid thermal stress and heat deterioration of bolts. Applied onto existing fasteners, the CamNuts operate simultaneously to reduce downtime and extend the lifespan of metal no longer subjected to thermal stress caused by rapid uneven heating. Alongside reducing the safety hazards associated with more laborious maintenance methods, CamNut and EziTite fasteners optimise long-term safety by ensuring even tensioning across a range of bolts, where tensioning precision is vital to long-term performance. Accurate and even loads on the flange/joint enhance the ongoing reliability of the machinery in service.

The CamNuts are designed for extreme situations and adverse conditions, with modular construction to reduce overall tool weight. Using CamNuts with direct tension can improve safety, as they are fast to fit and remove. The CamNuts require little physical effort and are user friendly. The CamNuts minimise costs by reducing downtime, thereby optimising profitable uptime. They also provide the benefits of hydraulic tensioning without changing expensive bolts. The CamNuts increase bolt load accuracy, eliminate thread galling, and increase the life of the hardware, with no hardware modification necessary. The CamNuts also provide reliable and precise tensioning, and remove the risk of strike and pinch point injuries caused by other tightening methods.

Technofast Industries Pty Ltd
www.technofast.com



Gas monitor

The ULTIMA X5000 Gas Monitor facilitates gas detection for oxygen and toxic and combustible gases. MSA XCell gas sensors with TruCal technology offer calibration cycles of up to 24 months. The gas transmitter's advanced, multilingual OLED display is easy to read and the touch-screen interface makes it simple to navigate.

The Diffusion Supervision warns if the sensor inlet becomes blocked and unable to detect gas. It employs a proprietary acoustic mechanical design and algorithms to measure sound across the sensor's inlet. If the inlet is blocked with a material, like ice, the difference in the sound is detected and the unit is put at fault. When the obstruction is removed, Diffusion Supervision detects the clearance and returns to normal operation. H₂S and CO Sensors configured with Diffusion Supervision technology allow extended calibration cycles of 24 months, reducing maintenance costs and allowing resources to be utilised elsewhere.

The MSA XCell gas sensors technology monitors the sensor integrity and compensates for environmental factors that cause regular electrochemical sensors to drift, with automatic self-checks performed four times a day. This reduces downtime and comes with a three-year warranty on XCell sensors. This advanced gas detection comes with Bluetooth wireless technology that allows mobile devices to act as an HMI screen and controller. The X/S Connect App is designed with high-security standards and provides real-time information to mobile devices, such as receiving alerts up to 75 ft (23 m) away and reduced set-up time (designed to be 50% or more).

MSA Australia Pty Ltd
au.msasafety.com/

Fasteners secure safe comminution equipment setup



Technofast EziTite Hydraulic Nuts are used to secure vibrating mechanisms and drive motors to sieves, screens and comminution equipment so as to avoid downtime and maintenance. They are actuated simultaneously to give accurate, even and simultaneous torquing across sets of bolts used in crusher screen applications such as mineral processing, quarries, roadmix refining, food and beverage processing and sorting of industrial materials. Technofast EziTite Hydraulic Nuts are a faster and safer way to secure vibrating screen and crusher motor bolts and have been shown in service to save time previously taken for the installation and maintenance of the drives of this industrial comminution equipment.

Technofast Founder and CEO John Bucknell stated that one of the issues facing operators of this type of equipment is the propensity for bolts to loosen under the constant vibration and cyclic loading.

This issue is alleviated by incorporating a flexible poly washer to augment the performance of the EziTite fasteners in service. The special EziTite fasteners for vibrating and crusher applications incorporate a Poly Washer for extended service, eliminating problems such as hex nuts vibrating loose, lack of control of the bolt load, and physically demanding and hazardous use of flogging spanners.

EziTite Hydraulic Nuts can be used when accurate and reliable loading is required on bolting, or when vibrational or torsional stresses are a problem. The hydraulic nuts are also suitable where regular maintenance requires repeated adjustment or removal of nuts, or if there are confined or difficult nut locations. Such safety benefits are true of many applications; the EziTite hydraulic nuts are suitable for tensioning all of the studs on a flange, joint or cover simultaneously, loading 100% of the fasteners at once.



One of several EziTite fasteners that have enhanced safety and cut downtime in widespread applications. Image credit: Technofast Industries

"This gives an extremely accurate even load onto the flange/joint, enhancing ongoing safety and reliability of the machinery in service," Bucknell said.

A quarry and mining application in Western Australia reduced the installation time of the motor bolts from a six-hour operation needing two or three personnel, to a two-hour operation involving two people. Bucknell notes that the machine operator involved reported that using the poly washer as a shock-resistant component and tensioning them simultaneously with precise accuracy was a game changer.

"Not only did the application benefit from easy installation and safer handling, but also the simultaneous and precise tensioning of the EziTite nuts produced highly accurate bolt loadings without the 'cross talk' coming from individual torque tightening. This resulted in a safer, more secure and longer-lasting joint," Bucknell said.

Technofast has doubled the size of its Brisbane premises in recent years as a result of expanded global demand for its products, which are typically used where rapid, simplified, and safe maintenance is important and secure, long-lasting joints are integral to safety. Applications range from servicing nuclear reactors and conventional turbines, to partnerships with industry leaders such as Framatome and Siemens in areas such as mineral processing, motors, crushers, dragline drums, cranes, mantle nuts and gearbox couplers. EziTite Hydraulic Nuts and Bolts can be applied by being placed installed on bolt studs then hydraulically actuated, stretching the bolt to the precise tension required and then locking it in place mechanically with a locking device. Rapid disassembly can be carried out by reversing the procedure, when it is eventually required for maintenance.

Technofast Industries Pty Ltd

www.technofast.com

MELBOURNE TO HOST WORKPLACE HEALTH & SAFETY SHOW IN MAY

The Workplace Health & Safety Show 2022 presents an opportunity for industry leaders and pioneering innovators to share the latest news and research, technology and products shaking up the world of health and safety at work. The show will take place from Wednesday 25 to Thursday 26 May at the Melbourne Convention & Exhibition Centre, held in conjunction with the Australian Institute of Health and Safety's national Convention. It will provide a live, interactive two-way learning experience with a trade show featuring over 100 brands, talks and interactive forums.

Marie Kinsella, CEO of IEC Group Australia, said the upcoming show will be the first opportunity for companies to come face to face and share ideas, products and services with the wider safety community. "I am delighted to announce the Workplace Health & Safety Show will return to Melbourne this May. As well as some of the biggest brands in safety, our expertly curated program of live talks and interactive forums will provide the perfect environment for professionals to learn about new developments and strategies within the industry," Kinsella said.

The opportunity to hear from industry leaders in a more personalised and interac-

tive environment is key to the Workplace Health & Safety Show's success and the 2022 event will be no different. This year's comprehensive education presentations will address a range of topics such as health, wellbeing, innovation, technology advancements, new safety products, injury prevention and height safety. Attendees will have the opportunity to connect, collaborate and innovate with safety colleagues from all corners of the industry at the show this May. The free program of events and opportunities offers professionals the chance to meet new suppliers, update knowledge, join discussions and forge connections.

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Hydrostatic transmission system

The MF500 is a fully functional hydrostatic transmission system that is designed for hands-on training and teaching of hydrostatic transmission systems in vocational and technical training institutes. As the hydrostatic transmission training simulator is equipped with an electronically controlled, wheel-load system, students can operate the equipment in the laboratory and experience the conditions encountered in the real-time environment, such as uphill, downhill, challenging surfaces and more.

The hydrostatic transmission training simulator comes with pre-programmed activities which cover the faults published in a typical hydrostatic transmission manufacturer's troubleshooting flowchart. This allows students to learn troubleshooting skills in a machine that possesses many of the failures that a hydrostatic transmission system can experience.

Using the MF500 hydrostatic transmission training simulator reduces the hazards associated with the skid-steer loader, as it is designed primarily for education purposes. Students can drive it, load it and use the equipment safely, without having to worry about any operational hazards.

The simulator features advanced diagnostic capability for real-world troubleshooting in real time. All electric parts of the simulator are housed with industry-standard lockout/locking devices for safety while at rest and moving. It is equipped with four emergency stop buttons with easy access at every workstation; hydraulic motors (left and right), pump controls, steering and directional control. This enables trainers or operators to easily access any of the emergency stop buttons and prevent a safety hazard.

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AMW 2022 — WHERE TECHNOLOGY MEETS INNOVATION

Preparations are well underway for the inaugural Australian Manufacturing Week exhibition, taking place in Sydney in June 2022.

Owned and operated by AMTIL, AMW is Australia's premier manufacturing solutions event. Under the theme 'Where technology meets innovation', AMW 2022 will take place at the International Convention Centre Sydney (ICC Sydney) at Darling Harbour from 7-10 June 2022.

"We're getting very excited about the way the work on AMW has been going," said Kim Banks, Head of Events at AMTIL. "The response from industry has been incredibly positive, with the exhibition space already fully booked apart from a handful of stands. This is a really big, important new venture for AMTIL, so we're really thrilled with the enthusiasm for it that we've seen out there. I think everyone at AMTIL is very excited about delivering something really great for our industry."

AMW will occupy more than 9000 square metres of exhibition space at the ICC Sydney, with more than 140 organisations taking stands to showcase the latest manufacturing technologies, processes and support services. Six dedicated zones will cover a range of specialised aspects of the modern manufacturing landscape:

- Additive Manufacturing.

- Australian Manufacturers Pavilion.
- Machine Tools & Ancillary Equipment.
- Manufacturing Solutions.
- Robotics & Automation.
- Welding Solutions.

While AMW is a brand new event, AMTIL can bring plenty of experience in staging industry exhibitions to ensure the 2022 show will be a success. Since 2000, AMTIL has operated Austech, Australia's premier advanced manufacturing and machine tool exhibition. The last Austech exhibition — held in Melbourne in May 2019 — was attended by industry professionals from across Australia and around the world, with more than 170 organisations showcasing state-of-the-art manufacturing hardware, software and support services. Going forward, Austech has now been incorporated into AMW, an exhibition encompassing all aspects of the manufacturing industry in Australia.

AMTIL took the decision to launch AMW after Reed Exhibitions announced in mid-2020 that it was ceasing operation of its National Manufacturing Week (NMW) exhibition. NMW had been held annually since 1999, at venues alternating each year between Sydney and Melbourne. AMTIL had enjoyed a long partnership with Reed,

with all Austech exhibitions having been co-located with the NMW show since 2000.

The discontinuation of NMW was seen as an opportunity for AMTIL to develop a more extensive event that demonstrates the full breadth and diversity of the manufacturing industry in Australia today. With AMW, AMTIL is widening the scope of its exhibitions portfolio with a comprehensive showcase of the state of manufacturing in Australia today.

"Our ambition for AMW has always been to not just create a fantastic platform for the industry, but for it to become a real celebration of manufacturing in this country," said Shane Infanti, Chief Executive Officer of AMTIL. "It's been great to see so many companies coming on board by signing up to be part of our inaugural show in Sydney this June. I think it's going to be an unmissable event for anyone connected to Australian manufacturing."

Visitor registrations for AMW 2022 will open in late February. AMTIL will be making regular announcements between now and the start of the event about its plans for the show, so it's worth keeping an eye on the AMW website as well as its social media channels for the latest updates.

Hand protection technology enhances workplace safety



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A new hand protection technology uses graphene in its range of gloves to protect workers against cuts and abrasions. Graphene comprises a single layer (monolayer) of carbon atoms, packed together in a hexagonal honeycomb lattice. Graphene's extraordinary features were first characterised by two scientists at the University of Manchester in 2004. The scientists were awarded the Nobel Prize in Physics for their research into graphene. After years of research and development, there is now Kyorene, the brand name for a synthetic yarn that incorporates graphene oxide directly into the fibre.

When included in textiles and fabrics, Kyorene products can enhance protection in the workplace and provide new options for businesses and their workers. The PROSAFE Kyorene glove range provides end users with a lightweight and strong construction, designed for comfort while offering flexibility and dexterity. "The range also provides excellent UV protection, UPF 50+, against the harsh Australian sun," said Brendan Ryan, Blackwoods Technical Safety Specialist. "The science of graphene and innovative uses of Kyorene is characteristic of where safety is heading. It's driving the way forward in future product development, particularly as hand injuries are one of the leading problems faced by industry businesses today."

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Westwick-Farrow Media
A.B.N. 22 152 305 336
www.wfmedia.com.au

Head Office:
Unit 7, 6-8 Byfield Street,
(Locked Bag 2226)
North Ryde BC NSW 1670,
AUSTRALIA
Ph: +61 2 9168 2500

Guest Editor: Charles Pauka
ss@wfmedia.com.au

Assistant Editor: Ashna Mehta

Publishing Director: Geoff Hird

Art Director/Production Manager: Julie Wright

Art/Production: Colleen Sam, Krystyna Kappel

Circulation: Dianna Alberry
circulation@wfmedia.com.au

Copy Control: Mitchie Mullins
copy@wfmedia.com.au

National Group Sales Manager:
Nicola Fender-Fox
Ph: 0414 703 780
nfender-fox@wfmedia.com.au

Industrial Sales:
Vanessa Blanc
Ph: 0450 197 770
vblanc@wfmedia.com.au

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