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ON THE COVER



At SmartStock, we're passionate about providing our customers with innovative solutions to better manage inventory, reduce cost, free up capital and improve productivity. From vending and mobile warehousing to stores management, SmartStock has a solution that can be tailored to suit your needs, no matter how big or small your business. Backed by one of Australia's leading industrial and safety suppliers Blackwoods, SmartStock has a wealth of experience supporting many industries right across Australia, including: major mining, resource, infrastructure and construction projects as well as government, aviation and small- to medium-sized manufacturing businesses. It's this experience that has allowed us to provide good service to our customers for over 135 years.

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MACHINE SAFETY — THE LOGICAL CHOICE

*Brian Taylor and Tim Roback, Rockwell Automation**



Understanding the complete spectrum of safety logic systems can help ensure you choose the right system for your application.

When designing safety into your machinery, you need to ensure compliance with today's more stringent standards, but you also must factor in how safety will interplay with productivity to keep downtime to a minimum. You also likely need to consider how flexible and scalable your safety system will be to keep up with your operations as they expand or evolve.

Keeping up with standards

The implementation of ISO 13849 and IEC 62061, and the withdrawal of EN 954-1 in 2011, ushered in a new era of safety standards. EN 954-1 specified safety-function characteristics and performance categories, but it didn't require risk to be measured using quantitative calculation. Today's more rigorous standards require you to assess and document the reliability of a safety system by adding quantitative calculations to your design. This includes proving component reliability (mean time to dangerous failure) and common-cause failure fractions (design, wiring and assembly issues that could cause system failure).

As a result, these new standards allow for a more methodical risk-assessment process. When combined with the latest programmable safety technologies, machinery can achieve more predictable performance, greater reliability and better return on investment (ROI). This is all helping manufacturers improve the bottom line without losing sight of safety.

Your challenge is to select the best, most cost-effective safety system that ensures compliance while also maintaining optimal production capability and flexibility.

Out with the old

Compare a legacy safety system to the more advanced safety systems brought to the market today — the differences are night and day.

Legacy safety systems consist of standard programmable logic controllers (PLC), with each input, logic and output safety device hardwired. The significant amount of wiring involved in these systems makes installation more complex, resulting in longer start-up times and more difficult system upgrades. Additionally, legacy systems lack diagnostics. As a result, troubleshooting takes more time during downtime events because technicians need to manually locate the problem, identify the root cause and then fix the issue. Meanwhile, production remains at a standstill while this takes place.

The contemporary electronic safety systems that are replacing these dated systems deliver a streamlined architecture, meaning that safety applications can be programmed using the same software as your control and motion systems. Such integrated safety systems can help to optimise safety, enhance productivity and reduce costs in multiple ways:

- **Simplified wiring:** I/O devices can be directly wired to the safety I/O modules, which communicate to programmable safety systems via a single network cable, to reduce your wiring costs and improve installation times.
- **Improved productivity:** Flexible programming allows engineers to create maintenance modes of operation, such as safe speed or partial shutdown, to minimise machinery downtime.
- **More advanced diagnostics:** Detailed information can easily be made available to operators and maintenance technicians so they can immediately identify the location and root cause of a safety event.
- **Greater flexibility:** Uptime-enhancing strategies, such as zone control — in which an area that is being serviced either stops or comes to a safe speed while unaffected production areas continue to operate as normal — are easier to both implement and expand.

Pros and cons of safety logic systems

Safety logic systems are scaled from simple single-input relays to more comprehensive integrated safety systems. Choosing the right system can be difficult, as there are a number of considerations that you need to factor in:

- Category or Performance Level (PL) requirements
- Functional requirements
- Control requirements
- System size and footprint
- System complexity and logic requirements
- Process complexity
- Zoning requirements
- Safety monitoring, diagnostics and information
- Documentation, validation and reporting
- Cost

The following overview of safety logic systems is intended to help to provide guidance for the decision-making process.

Safety relays

Safety relays are ideal for minimal zone control with local hardwired I/O. They use

simple safety logic, with little to no motion control capabilities. A range of safety relay options is available, from basic single-function and single-input relays to more advanced configurable safety relays, for a range of safety functions.

Pros: Cost-effective solutions for your simplest safety functions. **Cons:** Less flexible, less cost-effective and more physically burdensome for larger systems with several zones and safety inputs.

Safety relays are available in three basic types: single- and dual-input standalone relays; modular safety relay systems; and configurable safety relays.

Single-input relays are designed for relatively small safety applications and simple machines needing single zone control. These devices are limited to providing local diagnostics using LED indicators. Nowadays, gateway devices are also available to transfer diagnostic information to higher level devices and HMIs.

Dual-input relays combine the functionality of two safety relays into one device. They are best suited for small standalone machines. Any logic used with these relays is usually configured by switches on the relay and is very limited to simple Boolean or time-based functions. Dual-channel relays also generally only provide LED-based local diagnostics.

Sample applications for single- and dual-input relays would be package wrapping, form filling, cutting and slicing.

Modular safety relay systems are expandable single-relay systems that can provide safety control for larger, more complex manufacturing equipment. They allow you to combine multiple input and output modules per base unit to support multiple safety devices, including mats, light curtains and switches, and to enable zone control. Modular safety relay systems will usually have some type of backplane or bus and a master module to aggregate or control the information between individual relays, and they also offer diagnostic and communication functionality, and can provide error statuses to an HMI on a fieldbus network.

Sample applications for modular safety relays would include package palletising and carton filling.

Configurable safety relays are more flexible and easy to use, and are suitable for applications that require multiple safety circuits and control of several zones. These relays allow engineers to create, control and monitor the safety system in the same software environment as the standard controller, which reduces your programming time and can help increase productivity. They also offer more advanced connectivity than other relays, with embed-



ded communication capabilities that enable users to easily perform partial or conditioned shutdowns. Significantly, more information is available to the user, including I/O values, logic status and diagnostics. Diagnostic data can be communicated to controllers or graphic terminals, and local diagnostics are often available using LEDs or simple displays

Sample applications for configurable safety relays would also include package palletising and carton filling.

Programmable safety controllers

A general-purpose programmable safety controller can provide more advanced safety functionality for safety applications that require some complex logic, where a safety relay won't quite meet your needs. This could include systems that require multiple safety zones (three or more), distributed safety I/O or interlocking with other safety controllers.

It also can be a better fit for systems where a safety PLC would be excessive. This could include instances where a safety network is all that is needed, or when simple and uncomplicated software is desired.

Pros: Cost-effective 'middle' solution for safety applications that land between a safety relay and an integrated safety system; ideal when there is an existing, standard machine controller and you want to add safety. **Cons:** Lack of advanced HMI diagnostics is cumbersome for large systems.

Sample applications for programmable safety controllers include loading/unloading bays and sealing and converting machines.

Integrated safety systems

Integrated safety systems are the best solutions for safety applications that require advanced logic. They are ideal when a large physical space needs to be safeguarded or when you need a modular and scalable system. These controllers are designed for systems that have more than three zones of control, multiple axes of motion control and high I/O counts, including up to 250 dual-channel inputs and 100 outputs.

An integrated safety system uses dual processors to run all of your standard control functions and your safety control functions simultaneously, from a single safety PLC platform. Safety memory should be able to be locked and protected so it can't be modified, while all standard functions (motion, drive, sequential and process) work as they would on a regular controller. Standard logic and external devices can read safety memory


within an integrated safety system, allowing you to display safety status on HMIs, displays or marquees. Multiple safety PLCs in an integrated safety system can share safety data for zone-to-zone interlocking, and a single safety PLC can use remote distributed safety I/O between different cells or areas. **Pros:** Best suited for large, complex and integrated systems; incorporates safety and standard control and I/O into one controller, providing more advanced and flexible safety functionality and greater connectivity; also offers the most advanced HMI diagnostics. **Cons:** Most expensive option, but this increased cost is often offset by reduced wiring efforts/costs and reduced panel space, as well as improved diagnostics, flexibility and productivity.

Sample applications for integrated systems include integrated packaging and bottling lines, flexible automotive assembly lines, metal forming and coating lines, printing presses.

The integrated future

The full range of safety logic systems will continue to provide effective and affordable safety functionality for the foreseeable future, but manufacturers and industrial operators are moving towards an integrated safety approach because of the overall machinery performance benefits that it can provide compared to more conventional architectures.

Integrated safety systems can do more than optimise safety in your plant. They can also help improve machinery uptime and serve as productivity enhancers. Integrated safety technologies can help reduce the amount of time it takes to design, program and start up a system. They can simplify your wiring demands and network integration, and they can better accommodate future safety changes compared to hardwired systems.

According to a recent Aberdeen report, best-in-class manufacturers are 48% more likely than their competitors to integrate their safety systems with their plant-floor automation systems. With the help of these investments, best-in-class manufacturers (the top 20%) achieved a 90% overall equipment effectiveness (OEE) rate, a 0.2% repeat accident rate and a 2% unscheduled asset downtime rate. On the other hand, laggard performers (the bottom 30%) achieved a 76% OEE rate, a 10% repeat accident rate and a 14% unscheduled asset downtime rate. 

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Failed Study*

The VeriPRO® system failed to make the benchmark values in a third-party study.*



Uncertain

Variability/uncertainty factors are not indicated in test results.

*See the recent study in which VeriPRO® and 3M™ E-A-Rfit™ Dual-Ear technology were evaluated: Trompette, N., & Kusy, A., (2013). "Suitability of Commercially Available Systems for Individual Fit Testing of Hearing Protectors." InterNoise, Innsbruck, Austria.



Even Faster



Tests 7 frequencies in less than 5 seconds. Both ears at the same time.

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Results rely on objective measurements.

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Existing hearing loss does not affect results. Tests both earmuffs and earplugs.

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To request a free product demonstration or for more information, visit

www.3m.com/au/EARfitDualEarValidation



Hearing protector fit test system

3M Hearing Protection Solutions has added the E-A-Rfit Dual-Ear Validation System to help combat noise-induced hearing loss (NIHL), which routinely shows high numbers of recordable illness cases in private industry manufacturing.

The product measures the effectiveness of earplugs and earmuffs from inside the employee's ear, providing accurate, quantitative results for both ears simultaneously. The system tests both ears for all seven standard frequencies in seconds, generating a Personal Attenuation Rating (PAR) to customise hearing protector selection and identify employees at risk for noise-induced hearing loss.

The fit-testing system measures sound pressure levels objectively and once the measurement is complete, the software displays the PAR along with a pass/fail indicator based on the worker's noise exposure level. The product comes with a speaker, software, stand, dual-element microphones, cables and a trial quantity of probed test plugs.

3M Personal Safety

www.3M.com/au/PPESafety



Electronic logbooks

Emerson Process Management's Logbooks — an electronic database of operator log entries suitable for plant operators — can now be embedded in the DeltaV distributed control system interface.

They are designed to improve task management and enable more effective shift handovers with real-time visibility to active entries. Users can access the logbook system directly from their DeltaV workstations to view shift-based dashboards that highlight relevant log entries for the operations team.

Task management with the product helps operators respond more quickly to high-priority tasks. With event monitoring, logbook entries are automatically created from DeltaV events. These entries can then trigger additional tasks in the system or flag issues to raise attention. The shift dashboard displays task status and existing flags to ensure necessary work is not missed.

Operators can identify their priority tasks with a customised dashboard for each user. Relevant log entries and assigned tasks are displayed and responsibilities are clearly defined, allowing for more streamlined communication between operators and managers in order to more effectively plan and prioritise work.

Emerson Process Management

www.emersonprocess.com.au

Anti-perspirant gloves

ATG has released AD-APT (All Day Anti-Perspirant Technology) anti-perspirant technology embedded into a glove. The Maxiflex Ad-apt glove is claimed to have shown to reduce sweat by 31% compared to standard gloves and will be available initially in the MaxiFlex Ultimate (Code: 34-874) glove.

The glove will remain the same in every way, except for the new built-in technology, a subtle fragrance (reinforcing the hygiene aspect) and a new code (42-874). The only other noticeable difference will be that the hands should stay drier for longer, and this could increase the life of the glove and provide better comfort levels for the wearer.

Magnified many times, the microcapsule used to transport the AD-APT technology looks like a golf ball with every dimple on the ball being a heat-sensitive membrane. As the hand warms up, these membranes within the dimples are triggered allowing active cooling agents (essential oils) used within the technology to be released on the hands. The active ingredients within the technology are designed to dissolve in the sweat or moisture on the hand surface. The dissolved substance forms a gel, which creates a small temporary 'plug' near the top of the sweat gland, reducing the amount of sweat secreted to the skin surface of the hand.

While the AD-APT technology is designed to cool the hand and reduce sweating, the company says it does not impact on the natural ability of the body to control its temperature, ie, thermoregulation.

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IS IT SAFE TO WORK ALONE?

Joanne Flitcroft*

Whether your workers work at your site, within your factory or are out on the road, the obligations to ensure their health, safety and welfare are always present. With lone workers, however, the way in which you fulfil those obligations and the controls and monitoring that is available to you change significantly.



**Joanne Flitcroft is a partner at Sparke Helmore Lawyers. She guides and assists clients in a number of industries to manage safety compliance and respond to incidents, investigations, coronial inquests and prosecutions.*

The obligation to ensure against risk is a high one, as simply exposing the worker to risk can be enough to have breached the legislation. So how then do you protect a worker whose role requires them to work remotely or alone?

There are many examples of remote workers, such as a remote welfare or healthcare worker, drivers, farmers, researchers or drillers. In the course of their work, each worker performs any number of varied activities; therefore, providing protection for a worker whose role requires them to work remotely or alone can be difficult.

It is important to consider the type of activities the worker is going to be expected to undertake, such as:

- Will they be entering a person's house and exposed to the risk of violence?
- Will they be working in harsh environmental conditions with limited phone coverage, or hot or cold weather?
- Will they be operating large and powerful equipment in remote areas away from medical care?
- Will they be required to drive long distances?

A comprehensive risk assessment should be conducted regarding the activities the worker will do and the risks that arise within those activities. Controls should then be identified and implemented.

It is important that considerations regarding adequate welfare facilities and health considerations are addressed. Particularly given the increase in psychological and stress-related injuries that are occurring and the research conducted into the mental health effects of long-distance or remote work environments. Regulators will be looking to see that all these issues are addressed.

Consider what technology is available to assist. Not just in terms of assisting the person in regards to the risk or performance of their task, but to assist the business in managing and monitoring. For example:

- Is there a tracking or duress system available?
- Is it as simple as using GPS phone tracking?
- Do they need to call in at set times or is it about informing them of the risks and providing an action response plan to specific triggers?

Solutions that best suit will depend on the nature, severity and likelihood of the risk.

Providing adequate supervision in the context of this working environment is difficult, as these types of workers generally work alone or in very small groups. It is therefore difficult to monitor compliance with the systems or the adequacy of the controls.

The nature or location of the work may make engineering controls to remove the risk difficult to implement. Administrative controls are lower on the hierarchy of control, and they require strong monitoring and enforcement to be effective in managing the risk. They need to be supported by strong training and a culture of proactive risk identification, where working safely is how you do business.

The culture of the workplace is important for long-distance and remote-style workers, as they need to engage with the systems, take them on and make them part of the way in which they approach their work. They also need to take a proactive approach to identifying risks and changes to their environment as well as ways that they can control or manage those changes.



Key ways to improve supervision of workers of this kind could be through the use of technology, such as phones and video calls. Similarly, supervision can be evidenced through the review of paperwork that is submitted. It is important that documents relevant to risk identification, such as on-the-job or pre-task assessments, are properly completed and reflect changes to the environment. This is important not only in focusing the mind on risk, but in maintaining the workplace's safety culture.


If poor quality or partially completed assessments are accepted, and these are key to safety systems, it reflects a poor commitment to safety. To make it clear that working safely is important, supervisors need to maintain high standards, be engaged and ask questions about safety assessments, and demonstrate knowledge about, and raise awareness of, procedures and processes. When they are meeting or engaging with lone workers, safety, welfare and health should be discussed with them and they should be encouraged to raise any issues or concerns. It is also a good idea to encourage workers to demonstrate that they know how to identify risks and how they controlled situations where risks have arisen.

Support processes, such as indicator monitoring, can be used to observe the effectiveness of the controls in place and the supervision being provided. These could be in the form of equipment purchased, site inspections completed, training provided, monitoring of improvement in training, proactive identification of hazards, use of employee assistance programs or engagement with welfare programs, analysis of incidents of particular types, completion of inspections, provision of facilities, attendance at meetings or phone/video conferences, vehicle maintenance, response to communications and safety observations, and perception surveys.

It's important to have a variety of indicators to understand what has occurred and the performance of existing systems to

help directors and senior executives to meet their due diligence obligations. It will not be possible to show that resources are allocated appropriately if the risks associated with lone or remote workers are not known, if analysis of data indicates that the risks are not properly addressed or if there is a culture of non-compliance.

If an incident occurs, the regulator will examine system documentation, maintenance records (where appropriate), safety observations, safety committee records, safe work procedures, and training content and attendance records. It may be that workers and senior leaders will be required to attend interviews or respond to questions regarding their own actions, knowledge of the safety management systems and processes, and the work being undertaken. The information collected during the investigation by the regulator then forms the brief of evidence, which is used in the prosecution proceedings and, if necessary, coronial proceedings. This documentation and information will form part of the evidence relied upon by the Prosecutor or by Counsel assisting the coroner and will be considered by the Court to determine conviction, penalties or, in the case of coronial proceedings, recommendations.

Aside from the potential financial penalties that can be imposed as a result of a conviction, businesses also face impacts to their productivity and reputation, and more hidden costs associated with having key workers focused on litigation rather than your business. The proceedings themselves can take anywhere between two to four years or more, depending on the nature of the proceedings and whether an inquest needs to be held. 

Sparke Helmore Lawyers
www.sparke.com.au



Industrial camera

The OB-300Np Star is a consolidation of several models of the Brickcom Industrial Bullet Camera Series designed to cover all requirements for industrial and commercial surveillance or for upgrade camera installations.

The industrial camera features Brickcom's WDR (wide dynamic range) technology and a 3 MP Sony Exmor CMOS sensor for low lux situations. Additional features include: IR (infrared) illumination up to 25 m, high-quality video output (2048 x 1536 at 30 fps resolution), IP67 outdoor design, POE and 12 V power supply, and Rapid Auto Focus.

Ethernet Australia

www.ethernetaustralia.com.au



Hygienic operator devices

Schmersal's N-Series IP69K range of signalling devices has been designed and tested specifically for hygiene-sensitive environments. The range consists of command and signalling devices including emergency stop mushroom buttons, push-buttons, illuminated push-buttons and pilot lights, selector switches and main switches.

Constructed using the 'hygienic design' principle, there are no corners or edges, which prevents contamination and allows the device to be cleaned and maintained easily.

The series is UV and ozone resistant, and is also resistant to cleaning agents typically used in the food processing industry. Special seals prevent the penetration of product residue in the gaps between the fixed and moving parts, effectively preventing the formation of bacteria that are hard to reach for cleaning.

Blue sealing bellows have also been added to the push-button range for detection by optical sensors. Since the colour blue is not a natural food colour, it is the most effective colour to contrast against food products when detecting foreign objects.

Control Logic Pty Ltd

www.control-logic.com.au

High force safety air guns

The Guardair high force blowguns are powerful safety air guns designed for heavy-duty industrial and construction cleaning applications.

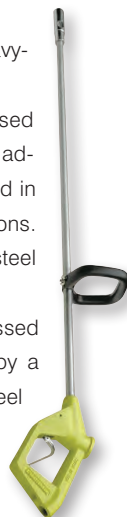
The Force 5 series includes lightweight air guns that deliver maximum compressed air and feature a dead-man trigger with a pistol-grip style aluminium handle and adjustable auxiliary handle. All models are available from 15 to 182 cm in length and in heavy-duty aluminium or steel extensions with Venturi and Quiet Force nozzle options.

The Inforcer series safety air guns have a thermally insulated, inline style steel handle with the option of a steel chisel point nozzle for extra strength.

By comparison, the HydroForce series power wash guns combine compressed air and water to generate cleaning power. The lightweight series is operated by a single trigger and also features an ergonomic aluminium handle and stainless steel extension with an aluminium safety tip nozzle. The device can operate on hot or cold water, which can be turned off with a water shutoff valve.

Knight Pneumatics Pty Ltd

www.knightpneumatics.com.au



Wi-Fi access point for data safety

Emerson Process Management has introduced the Smart Wireless Gateway 1552WU, a Wi-Fi access point that connects WirelessHART sensors to the control network.

The product can simplify the installation with wireless technology enabling users to apply pervasive sensing strategies to improve plant performance and reliability. It can assist in obtaining data from hard-to-access locations enabling process manufacturers to better address concerns such as corrosion, energy consumption, health and safety, and the environment.

Jointly developed with Cisco's IoT Systems, the product is a fully featured mesh access point that simplifies Wi-Fi and WirelessHART installations and reduces deployment time. Users no longer have to run fibre-optic cables for Ethernet communication to every WirelessHART Gateway as the product connects to neighbouring access points allowing complete wireless coverage, with only local power wired to the 1552WU.

By integrating Emerson's WirelessHART Gateway with Cisco's outdoor, hazardous-location-qualified access points, the product provides users with the efficiency, scalability and security of a single wireless network solution that can be utilised for multiple-use cases, including plant control, worker mobility and safety.

Emerson Process Management

www.emersonprocess.com.au



Safety clothing

Australian Pump Industries has launched a range of high-vis Pro Operator safety clothing designed to prevent injuries during high-pressure water jetting.

The Electric Orange protective clothing range offers protection up to 500 bar (7300 psi). Its outer fabric is dirt resistant, waterproof and meets EN 20471:2013 Class 3 standards. Internally, the clothing includes a strong and resilient fabric layer made from Dyneema.

The clothing is also designed to be comfortable and light. It comes with a 'cool vest' option to keep operators cool in high ambient temperatures. The range includes jackets, trousers and overalls for use during flat surface cleaning.

Australian Pump Industries Pty Ltd
www.aussiepumps.com.au

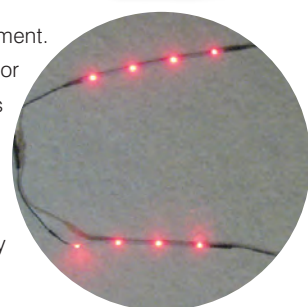
Intrinsically safe LED strap

Roobuck has announced it has received an IECEx intrinsically safe certificate for its LED Strap. The product is certified in IECEx as 'Ex ia' for both Group I and Group IIB, making it suitable for applications in petrochemical environments and underground coal mines.

Consisting of a battery box and a LED strip, the Roobuck Intrinsically Safe (I.S.) LED Strap can be used to increase the visibility of a person, piece of equipment or place in a dark environment. It is typically used on high-vis workwear, as high-vis products can only reflect incoming light. Therefore, if the LED Strap is attached to the high-vis workwear, it will actively generate a signal even in a completely dark environment.

Available in models RLS-ABR-Ex for red LEDs and RLS-ABY-Ex for yellow LEDs, the device is powered by two AA alkaline batteries contained in a waterproof battery box. There are three operating modes, including stable-on, slow-flashing and fast-flashing mode. With an operating duration of 40 h and an IP65 ingress protection rating, the product is suitable for applications in LED high-visibility workwear, equipment protection and site warning.

Roobuck Pty Ltd
www.roobuck.com.au



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Noise dosimeter

The Casella dBadge 2 is a next-generation noise dosimeter that enables employee noise exposure monitoring and reporting in real time. The lightweight device is designed to be worn unobtrusively while protecting workers from a range of industries that are at risk of occupational noise-induced hearing loss.

The product works alongside the Airwave app, which runs (at launch) on Android smartphones and other devices. This enables real-time data collection and reporting with the ability to share information instantly by email, as well as photos of the task being carried out and additional notes. The app enables the user to control the noise dosimeter including the commencement and pausing of noise monitoring. It also delivers alerts in the event of overexposure to noise to allow an intervention and provides a summary of key information on not only noise level, but also performance.

The device works within a 25 m range of its linked smart device, allowing measurement with minimal disruption to employees. It also has a built-in motion sensor, which registers the amount of time that it has been worn in order to validate the measurement data.

Thermo Fisher Scientific
www.thermofisher.com.au



Personal fall limiters

The Honeywell range of Miller TurboLite Personal Fall Limiters (PFLs) eliminates the need for different fall protection equipment when fall clearance changes. It can also be used in horizontal and foot-level applications where an overhead anchorage point is unavailable.

Cleverly engineered to feature different terminations, the lightweight and easy-to-use solution improves safety when working at heights as workers don't have to change equipment to maintain a safe fall distance. Weighing less than 1.5 kg and certified to support a user up to 140 kg, the PFL has 1.8 m of working capacity in a self-retracting lifeline, which attaches directly to the harness back D-ring.

The line is made from a high-strength, impact-resistant nylon housing and engineered HiTech Polyester/Vectran webbing for good abrasion resistance and durability. The webbing payout extends and retracts without interruption, decreasing the risk of workers' lifelines being tangled.

Each PFL also features a built-in swivel, allowing the units to rotate in multiple directions, which prevents the webbing from twisting and binding inside the unit.

Suitable for use in construction, utilities and warehousing, the range includes varying terminating ends for added flexibility, conforms to Standard EN360 and is accepted under clause 1.6 of AS/NZS 1891.3.

Honeywell Safety Products Australia Pty Ltd
www.honeywellsafety.com



LED headlight

The Pelican ProGear 2780 LED Headlight is equipped with an LED that shines light in varying intensities from 53 lm in low mode, to 203 lm in medium mode, to 430 lm in high mode.

The product also offers a safety flashing mode, as well as a downcast mode that makes it optimal for close-quarter applications such as reading, engine compartments and illuminating pathways. The main LED and downcast mode can also be used simultaneously for expanded visibility.

The headlight is constructed of water/weather-resistant polymer, includes three interchangeable face plates (black, white and photoluminescent) and pivots 70° to direct light where needed.

The product weighs only 0.25 kg with four AA batteries (included) and comes with a cloth strap and a full-time battery level indicator.

Pelican Products Pty Ltd
www.pelicanaustralia.com



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Car technology that sees around corners

In the UK, Ford is introducing new camera technology that can see around corners, even when drivers cannot, to help avert accidents.

The Front Split View Camera displays a 180° view from the front of the car, using a video camera in the grille. At a blind junction or exiting a driveway, the camera enables drivers to easily spot approaching vehicles, pedestrians or cyclists.

"It's not just blind junctions that can be stressful, sometimes an overhanging tree or bushes can be the problem," said Ronny Hause, Driver Assistance Electronic Systems, Ford of Europe.

"Simply driving off driveways can be a challenge. Much like a rear-view camera, the Front Split View Camera is one of those technologies that people will soon find indispensable."

The first-in-segment technology is activated at the push of a button. A 1-megapixel camera in the front grille enables drivers to see a real-time 180° view — both left and right — on the vehicle's 8" colour touchscreen.



Drivers can track road users that approach on either side and pass in front of the vehicle. The camera, just 33 mm wide, is also kept clear by a retractable jet-washer that operates automatically

when the windscreen wipers are activated. According to Ford, data recorded by the European Road Safety Observatory SafetyNet project indicated that about 19% of drivers involved in accidents at junctions experienced obstructions to view.

"From sunrise to sunset we tested the Front Split View Camera on all kinds of roads, congested urban streets and areas with a lot of cyclists and pedestrians,"

Hause said. "Tackling tunnels, narrow alleys and garages in all light conditions also meant we could ensure the technology worked well even when sunlight was shining directly into the camera."

The new technology will initially be available on Ford models such as the Galaxy and S-MAX.

www.ford.co.uk

NEW PRODUCTS

Topped parts pouches

Ergodyne's topped parts pouches 5528 (canvas) and 5538 (tarpaulin) feature a hands-free, self-closing Trap Door top that prevents items inside from dropping from heights, even when the pouch is tipped over.

Suitable for storing small parts, hardware and tools, the self-closing Trap Door allows easy access to parts without worrying about opening and closing the pouch. Accidental tipping and spilling of small parts are traditionally prevented by zipped, buckled or string-pulled closures. The added requirement to remember to close the bag after every use leaves room for error and lost work time. The 5528 and 5538 can reduce this risk and provide a safe, efficient alternative.

The pouches also feature two exterior nickel-plated D-rings and two tool loops to assist with tool tethering, keeping in mind tool safety at heights. The nickel-plated storm drains and durable construction, with an option of canvas or waterproof tarpaulin, make the product suitable for use in tough environments.

Pryme Australia Pty Ltd
www.pryme.net.au



Explosion-proof tablet

The Getac T800-Ex rugged tablet is an explosion-proof tablet that can be used during pipeline inspections and maintenance operations for the petrochemical, pharmaceutical, and oil and gas industries. The device is ATEX Zone 2 and 22 explosion-proof certified, as well as water- and dustproof.

The tablet is equipped with the Intel Quad-core Bay Trail M N3530 2.16 GHz processor and an 8.1" 1280 X 800 HD screen. The I/O ports and internet connections are wireless, while the built-in 802.11ac and Bluetooth 4.0 network cards are equipped with 3D antenna technology that strengthens signal reception. Its slim design and weight of less than 1 kg also makes it easy to carry.

The device supports 4G LTE and offers optional 1D/2D barcode readers, as well as the SnapBack backup battery module which can extend total battery hour life to 16 h. Users can choose Microsoft Windows 7 or 8 as the main operating system.

Synnex Australia Pty Ltd
www.synnex.com.au

Supply chain management system

The StorageQ supply chain management system has been developed using the latest technologies to be easy to use and to be enabling for supply chain staff by providing accurate, easily accessible stock information; reducing admin tasks by removing redundant paper flows and data entry; providing detailed reporting and real-time dashboards; and easily integrating with warehouse equipment and other IT systems.

By reducing admin and empowering decision-makers with key information there can be a significant return on investment, as well as cost savings to be generated through implementing StorageQ. Being available both in the cloud and on-premise provides flexibility and applicability in all supply chains as many businesses would rather leave the handling of IT infrastructure to someone else so they can focus on what they do best.

The Inventory On Demand (IOD) module gives the ability to control inventory at its source. IOD allows for forecasting on a per product basis as to what the volumes will be for a given time frame and where those volumes are located. Orders can then be expedited to meet demand and allocated to a location to be shipped directly from the supplier or manufacturer.

StorageQ is developed, supported and owned by the Australian-based OnQ Software that also provides expert technical support.

OnQ Software Pty Ltd
www.onqsoft.com.au

Industrial vacuum cleaner

The Exair 205 L Heavy Duty HEPA Vac is a powerful, industrial vacuum cleaner that is engineered to filter contaminants to HEPA requirements in dusty environments requiring frequent cleaning. Designed to move more material with reduced wear, the unit is quiet at 82 dBA (half the noise of electric vacs). An economical, easily maintained pre-filter stops larger particles, while the HEPA filter handles the smaller matter. All filters are tested for minimum 99.97% filtration at the 0.3 micron level to meet HEPA standards in strict accordance to IEST-RP-CC-007. The vacuum system comes complete with the Heavy Duty Dry Vac, lever-lock drum lid, shut-off valve, pre-filter, HEPA filter, 3 m static-resistant hose, hose hanger, ½ NPT quick-connect coupling, 6 m compressed air hose, pressure gauge, heavy-duty aluminium tools, tool holder and drum dolly. Suitable for a variety of environments, the unit is OSHA and CE compliant.

Compressed Air Australia Pty Ltd
www.caasafety.com.au



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MANUAL HANDLING — WHAT TO LOOK FOR NOW?

Jeremy Trotman, Senior Hygienist, JTA Health, Safety + Noise

In 2014 Safe Work Australia published some good news statistics: 2011–12 — serious workers compensation claims with “muscular stress while lifting, carrying, or putting down objects” listed as the mechanism of injury were down on the previous year by 21%. Even better, this was no statistical aberration; it reflected a general downward trend since 2000–01.

In addition, the number of back-related serious claims has fallen by 21% between 2000–01 and 2010–11, and the proportion of back-related claims of all serious claims has fallen from 27% in 2000–01 to 23% in 2010–11. If these were economic statistics, politicians would be crowing over “a beautiful set of numbers”; however, OHS people should be more cautious, because the statistics still tell us that manual handling-related injury is a (and arguably “the”) major occupational cause of body stress-type claims and the back is still the most frequent injury site.

What these statistics may be telling us is that the measures that we have been pursuing — measures that have been around since the early 1980s, the legislative levers, barrage of codes, information/fact sheets, professional prescriptions and resultant actions taken by employers and workers — are preventing lifting, carrying-type injury.

The picture does not look as rosy for the other two mechanisms of injury under body stressing with: “muscular stress while handling objects other than lifting, carrying or putting down” showing a slight decrease over 2011–12 but a 3% rise over the preceding

years since 2000; and “muscular stress with no objects being handled” having a 5% rise over the same period.

At 25 claims, these two mechanisms of injury account for over half of the total number of claims in the body stressing category.

So perhaps we need to focus more on casting the hazard identification net, risk assessment and control beyond the lifting and carrying tasks to those where we do not seem to be getting the same positive results.

Based on the claim numbers, it would seem that jobs involving pushing, pulling and other actions need our attention now just as much as lifting and carrying. This might require a slight change in focus for hazard identification and risk assessment action, including training.

For the most part, control strategies should remain essentially the same. Driven by the regulations, the control hierarchy will still apply and it is hoped that its increased acceptance in the workplace, allied with the ever-expanding range of higher order engineering devices designed to reduce manual handling risk, shall lead to a parallel reduction in injuries.



© iStockphoto.com/andrey pavlov



BASED ON THE CLAIM NUMBERS, IT WOULD SEEM THAT JOBS INVOLVING PUSHING, PULLING AND OTHER ACTIONS NEED OUR ATTENTION NOW JUST AS MUCH AS LIFTING AND CARRYING.

In Australia, we read about the need for increased productivity due to our high relative labour costs. The factors that contribute to manual handling risk are almost certainly aligned with lower than optimum productivity. This provides an opportunity to achieve gains in safety and productivity through implementing manual handling controls.


Manual handling controls are not always highly technical or costly, but access to specific expertise can be necessary to get people to accept or understand the potential productivity gains that can be realised in their workplace.

Practical, industry-based research and/or experience can support an effective case for investment in controls, as a recent example shows:

Getting equipment to a roof where a crane lift is impracticable can be a difficult task involving both manual handling and work at heights. On a domestic construction job where this was the case, the builders were considering methods to haul up equipment to the roof using ropes and ladders and were overheard by a roofing plumber carrying out some roofing works in the vicinity. Without

going into the specifics here, the plumber, who had a great deal of experience in work on roofs, gave them a few brief instructions on how the job could be done safely, quickly and at a reasonable cost by a qualified, experienced person (himself). This included the installation of approved anchor points, harnesses and use of approved rope access equipment to haul up the materials without excessive force. The builder was happy that the plumber's approach represented a good investment rather than risk his own guys. The decision was to some extent based on cost; however, the availability of the control and the confidence in the person offering the solution as someone with industry-specific experience was critical to convincing the builder that the investment would pay off for him, in his workplace.

If we are to continue to make gains in this area, OHS practitioners need as much of this type of practical research on manual handling controls as they can get to enable people to make informed decisions on manual handling control measures.

Safe Work Australia's predecessor, the National Occupational health and Safety Commission, set up a program they called SHARE to share OHS solutions through a central repository. SHARE involved the recording and publication of OHS control measures harvested from all industry sectors. Provided by industry people, for industry people, these controls had automatic credibility with their target market. Perhaps it has been gone long enough now to come back into fashion. 

JTA Health, Safety & Noise Specialists
www.jtahealthsafetynoise.com.au

Docking station

The DSX Docking Station from Industrial Scientific is a gas detector maintenance and recordkeeping solution designed to ensure that instruments are properly used and maintained. It is suitable for supporting the needs of both small and large organisations.

The docking station provides three operating modes: standalone, cloud-connected (DSXi) and local server (DSX-L). The standalone requires no network configuration or support. It provides easy bump testing and calibration of instruments, automated recordkeeping, instrument wake-up and instrument battery charging. With the use of a DSXi activation key, it becomes a cloud-connected and automated instrument maintenance station. All upgrades are easily performed in the field.

The DSXi is a cloud-connected record storage, fleet management, and automated maintenance and notification station. It provides users with the ability to manage gas detectors, access exposure and maintenance reports, see the status of each calibration gas cylinder across the facility, and schedule equipment updates from anywhere on any web-enabled PC or mobile device. It also provides an optional automatic calibration gas replenishment program, eliminating the need to keep up with gas cylinder status. In local server mode, there is an option to automatically store data from all docking stations behind the local firewall, addressing network and data storage restrictions and preferences.

Industrial Scientific Corporation
www.indsci.com



Safety harness

Capital Safety has launched the DBI-SALA Delta Comfort Harness range to its portfolio of fall protection equipment.

The range includes two models: Riggers and Cross-Over. The Riggers model is suitable for use in rigging, confined space, ladder access and general height safety, while the Cross-Over model is suitable for use in roof construction, maintenance and ladder access work.

The harnesses feature shoulder, back and leg padding for increased comfort, while the light-weight aluminium hardware also provides reduced weight and enhanced user comfort.

The harness range is available in various sizes to accommodate a variety of users.

DBI-SALA's i-Safe intelligent safety system using RFID technology is built into each harness in the range to track inspections, control inventory and manage information.

The range also complies with the AS/NZS 1891.1 standard.

Capital Safety Group (Australia)
www.capitalsafety.com

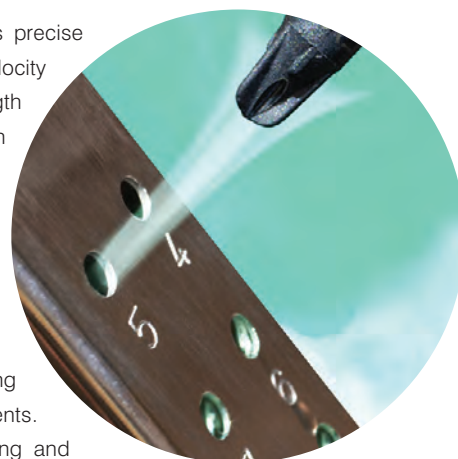


Air nozzle

Exair's PEEK Pico Super Air Nozzle delivers precise blowoffs with an efficient, high-volume, high-velocity airflow. The nozzle measures 16 mm in length with a diameter of 5 mm, permitting installation in tight spaces. Its thermoplastic construction provides self-lubricating qualities with a low coefficient of friction to produce non-marring protection for sensitive materials. PEEK thermoplastic has good chemical resistance and can withstand many harsh environments found in chemical, plating, etching and metal cleaning processes and thrives in seawater environments. The air nozzle is suitable for blowoff, cooling and drying applications located in general industrial or corrosive environments.

The Model 1109-PEEK Pico Super Air Nozzle provides a narrowly focused air pattern. High amplification of airflow and a strong blowing force of 142 g are achieved with minimal air consumption of 4.9 SCFM @ 80 psig. The nozzles have a high temperature limitation of 160°C. Safe operation is assured since the airflow of the nozzle cannot be blocked, which meets the OSHA standard for dead-end pressure 29 CFR 1910.242(b). Sound level is low at 68 dBA and it meets OSHA noise requirement 29 CFR 1910.95(a), as well as being CE compliant.

Compressed Air Australia Pty Ltd
www.caasafety.com.au





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Mobile surveillance cameras for first responders

Mobile camera technology and remote monitoring systems are experiencing a rise in interest and usage by first responders for surveillance and public safety.

The City of London Police has recently commenced a trial of body worn vest (BWV) technology provided by Xtralis to combat the limitations of traditional surveillance technology, such as static CCTV.

Traditional static CCTV can be limited in providing first responders with real-time information when reacting to suspicious activity or intercepting crime in progress. Systems like these provide after-the-fact evidence — recorded pictures delivered by video cameras on streets — which is later analysed for evidence or explaining crimes and other incidents. Police have also traditionally relied on radios to verbally relay situational intelligence.

BWV by comparison provides live transmissions of video and audio from police vehicles and officer-worn vests which can be viewed from central command so that tactical decisions can be made more quickly and efficiently when responding to threats. The BWV CCTV solution being trialled by the City of London Police



incorporated Xtralis HeiTel mobile recording and transmission technology, which allows the user to transmit video in real time to command and control centres for emergency response. The solution included features such as live streaming via 3G/4G, GPS tracking and software for monitoring multiple vests at the same time. The

recording unit on the body vest is designed to be separate from the camera, so if the camera is pulled off the vest for any reason the recording remains safe on the vest, thus protecting what could be valuable evidence.

"Technology can be the officer's best friend," said Adrian Leppard, Commissioner of the City of London Police.

"The general public, and the police officers they serve, benefit when there are many eyes on a potential situation or actual

crime. Xtralis live monitoring solutions can, in a remote location, help to assist officers at an incident scene and provide appropriate assistance as needed."

The Dubai Police and Spanish National Police have also adopted the Xtralis live streaming video technology.

Xtralis Pty Ltd
www.xtralis.com

NEW PRODUCTS



Anti-slip stair nosing

The Amco U-Tred anti-slip stair nosing product can be quickly installed onto open grid-type steps used in the mining, construction and agricultural industries.

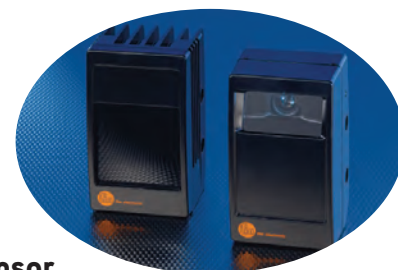
Suitable for use on standard grid mesh stairs, walkways and access points, the device is made from galvanised steel for durability and powder coated in safety yellow.

The device is equipped with a double-action, anti-slip surface to provide a good

grip and step definition. While some other solutions can clog quickly with mud and other debris, the U-Tred anti-slip cleats are designed to allow mud to fall away, to ensure that the stairs remain slip-resistant and defined.

With an easy-fix design, the device simply clips onto standard 100 mm grid mesh using non-return locking lugs, requiring no nuts, bolts fasteners or tools. Worn stairways can be upgraded in seconds without the need for any extensive hot works, specialised tools or extra help. The device simply locks into place with a rubber mallet and does not require extra fastening.

Amco
www.amco.net.au



3D sensor

The ifm efector O3M151 is a 3D sensor for mobile machines which gives a three-dimensional detection of the machine environment and automated evaluation of scenes and objects.

The product offers automatic object recognition, making it possible to record more than 1000 distance values synchronously and to reliably detect and follow up to 20 objects. This safety function can be used as a collision warning, with a range of up to 35 m.

The unit features image resolution of 64 x 16 pixels, as well as a PMD 3D ToF (time of flight) camera for the output of 3D image data. Even interference caused by changing environmental conditions such as sunlight, rain or materials with different reflective characteristics does not influence the repeatability of the measured data.

The product has high vibration and shock resistance, and protection ratings of IP67 and IP69K.

ifm efector pty ltd
www.ifmefector.com



Safety light curtain

The deTec2 Core safety light curtain from Sick has been added to the deTec range. A type 2 device with PL c or SIL1, the deTec2 Core accommodates the changes to product standard IEC 61496-1 and provides safety for the machine and operator.

With a rugged, external design, the 4-pin connection technology enables rapid cabling or connection to bus systems, such as Flexi Loop from Sick. With IP65 and IP67 enclosure ratings and an operating temperature range of -30 to +55°C, the safety light curtain is also suitable for use in challenging environments.

The safety light curtains can be quickly and easily mounted and are supplied with a QuickFix bracket, which allows users to quickly and securely mount the light curtain on the machine frame. If users need to align the deTec2 Core, the optional FlexFix alignment brackets are available. LED indicators aid alignment. The intelligently designed cable outlet, which makes the usual male connector at the end of the profile housing redundant, provides a blind-zone free protective field for any resolution.

Depending on the requirements, both the deTec2 Core and the miniTwin2 safety light curtains are suitable for machines that pose a low risk of injury or are accessed infrequently by the user (typically PL c/SIL1 applications), such as those found in assembly workstations, loading devices with rotating tables or movable panels, test devices, riveting and glueing machines. Harsher conditions, which need a more rugged solution, paired with greater scanning ranges and protective field dimensions between 300 and 2100 mm, require deTec2.

SICK Pty Ltd
www.sick.com.au

Overhead crane

The Konecranes Smarton overhead crane includes high-tech features that are designed to improve its safety and efficiency capabilities. Designed for heavy-duty applications, processes, assembly and maintenance, the crane includes a control system and software architecture that is designed to improve not only the flexibility of the design, testing and manufacturing, but also start-up and maintenance activities.

An improved user interface includes a tablet connected wirelessly to the crane control system. The tablet makes crane operation easier and more productive as the operator receives crane- and process-related information directly to the tablet and is able to make adjustments to the crane. It can also provide condition data in real time for the maintenance personnel. Optional camera views for safer and more effective load handling are also available.

Konecranes Australia
www.konecranes.com.au



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Tel 08 9361 4200
Fax 08 9361 4300

web www.protag.com.au

EMONA



Thermal imaging firefighting cameras

FLIR Systems has added the FLIR K2 and FLIR K65 to its K-Series range of thermal imaging cameras. These cameras provide firefighters with the ability to see through smoke, locate and rescue victims, identify hot spots, as well as navigate safely and stay better oriented during response missions.

The FLIR K65 camera has been fully certified to the National Fire Protection Association's NFPA 1801-2013 standard for usability, image quality and durability for firefighting thermal imagers. It has an intuitive user interface and can be controlled by three large buttons on top of the unit, suitable for a gloved hand.

The device produces crisp images at 320 x 240 pixels and features FLIR's Flexible Scene Enhancement (FSX) technology which enhances thermal images through real-time onboard digital processing inside the camera. The resulting images show detailed structural, edge and other instantly-recognisable objects.

The FLIR K2 is powered by the Lepton camera core delivering detailed thermal images at 160 x 120 resolution. It is also equipped with FLIR's Multi-Spectral Dynamic Imaging (MSX) technology that significantly enhances image quality, allowing firefighters to see key structural details in a variety of environments.

Warranty on selected models when registered within 60 days of purchase is also available, which covers the full camera for five years, the detector for ten years and batteries for two years.

FLIR Systems Australia Pty Ltd
www.flir.com.au

Certificate in WHS

A Certificate IV in Work Health and Safety with HBA Learning Centres will arm students with the skills and knowledge required to develop a safety culture in any organisation. Students are taught the skills to research, analyse and evaluate information from a variety of sources to reduce workplace risks and apply resolutions.

The course offers flexibility for students through three delivery methods: Self-Paced (completed independently at home); Intensive Delivery (five-day face-to-face workshop); and Monthly Sessions (one day a month over 4-5 months).

Delivering nationally recognised courses countrywide, HBA provides effective, efficient and industry-aligned training to both individuals and organisations including government departments, mining, distribution, manufacturing and construction companies.

HBA also offers Recognition of Prior Learning (RPL) to students, which can be applied to a unit of competency, reducing the learning required to achieve a qualification.

HBA Learning Centres
www.hbalearningcentres.com.au



Single-use hand protection for high-risk tasks

The Ansell Microflex 93-856 high-visibility, single-use gloves are suitable for workers in high-risk, heavy-duty environments where there is a danger of contamination from hazardous substances, pathogens and other harmful materials.

With a second-skin feel and good tactile sensitivity, the hand gloves have been developed for people who may come in contact with chemicals or corrosive materials. The company claims the product resists a variety of industrial chemicals for longer periods than other nitrile disposable gloves.

An extended cuff offers an increased level of protection, in an exam-grade glove, for the highly sensitive wrist and forearm areas. The textured fingers enable the wearer to maintain a strong grip, while the bright orange colour allows hands to be visible in low-light situations and at greater distances. This results in increased safety for users.

The gloves are powder-free and made without natural rubber latex, which helps protect against type I skin allergies, skin irritation and dryness caused by latex.

Ansell Healthcare
www.ansell.com.au



HOW TO SHIFT FROM REACTIVE TO PROACTIVE OHS

International safety expert Erik Hollnagel explains why OHS leaders should make safety productive, not protective.

A common shortcoming with many existing OHS methods is that they are driven by events that stand out from the normal — which usually means that something has gone wrong.

International safety expert Professor Erik Hollnagel says these kinds of methodologies often lead to a reactive approach, where the main purpose is to find problems and then fix them.

“In the search for clear and understandable causes, each issue is typically addressed on its own, which means that opportunities for synergies may be lost,” said Hollnagel, who is a Professor at the University of Southern Denmark. He is also a Visiting Professorial Fellow at the Faculty of Medicine and Health Sciences at Macquarie University.

“The efforts to prevent future accidents actually serve a dual purpose — to be safe and to feel safe. But sometimes the latter stands in the way of the former.”

Speaking ahead of a series of Safety Institute of Australia (SIA) workshops and seminars, which were held across Melbourne, Brisbane and Sydney in July, Professor Hollnagel said that most analysis methods currently used are of the type ‘model-cum-method’.

“This means that the methods are based on a particular understanding either of how the world works or of how the world is organised or structured,” he said.

An example of the first is linear causality, as in root cause analysis or the Ishikawa diagrams, which OHS leaders may recognise; while an example of the second is the five-level safety culture model or the abstraction hierarchy. In these cases, Hollnagel says the method provides a way to map an event or situation onto the underlying model, for example, the result of the analysis is expressed in the terminology of the corresponding model.

The FRAM (Functional Resonance Analysis Method) — which was the focus of the SIA workshops and seminars — does the

opposite, as it is a method to build a model or a representation that describes how a given activity takes place.

Since the purpose of the FRAM is to produce a representation of how work is actually done, it is not limited to a specific type of analysis, such as accident investigations, nor to a specific domain. OHS leaders can take a number of steps in working with business leaders to practically realise this process.

Safety in 3 steps


The first step would be to make safety productive rather than protective.

“Safety is more than the absence of accidents, and cannot be achieved only by eliminating hazards and by preventing things from going wrong,” said Hollnagel.

“Safety management must also learn how things go right and find ways to make sure that it happens.”

A second step would be to realise that it is more important to learn from what happens all the time, even though the consequences may seem small, than to learn from what happens rarely, even though the consequences may be large.

“It is also a lot easier, since there is an abundance of data that is readily available,” Hollnagel added.

A third step would be to understand the importance of variability (approximate adjustments) for everyday performance. Hollnagel said variability is generally useful and should be controlled rather than eliminated. 



Professor Hollnagel, author of more than 500 academic works, presented a practical introduction to the FRAM in two-day workshops in Melbourne, Brisbane and Sydney throughout July 2015 for SIA.



SAFETY IN ACTION

MELBOURNE

What: Safety in Action Melbourne

Where: Melbourne Exhibition and Convention Centre,
1 Convention Centre Place, South Wharf, Victoria

When: Tuesday 15 September 10 am – 4 pm

Wednesday 16 September 10 am – 4 pm

Thursday 17 September 10 am – 4 pm

Web: www.safetyinaction.net.au/melbourne

Join thousands of safety professionals at the Safety in Action industry event to be held in Melbourne from 15–17 September and look at ways to drive change and make Australian workplaces safer.

Complacency is one of the most common issues in workplace safety and the penalty can be fatal. Hundreds of Australian workers are killed each year on the job and thousands more are injured. The Safety in Action conference and exhibition for 2015, to be held at the Melbourne Exhibition and Convention Centre, is one of the key national industry events for safety professionals, presenting a comprehensive seminar program providing new directions to safety challenges.

“Workplace health and safety is an issue of critical importance for all Australian workers,” said John Wilson, exhibition director from Informa, the event organiser.

“Each year, hundreds of Australians die as a result of work-related injuries and thousands are seriously injured.

“The event aims to break new ground on health and safety, and provide valuable information and support.”

The theme for 2015 is ‘Putting safety systems to action to drive change’ and attending industry leaders will share the latest research, discuss regulatory compliance issues and showcase technological innovations for the industry.

The seminar series will also include ‘Innovation Hour’, a newly launched segment for 2015 showcasing the latest in safety products. Two recent inventions to be featured include Ferno’s HighStep Lift — a ladder-free method to access buildings and other tall structures safely — and ASPAC’s Athena range of bi-levelling scissor lifts, which enable workers to traverse heights and tackle rough terrain with greater safety and ease.


Speakers at the three-day conference and exhibition will include Ennio Bianchi from the National Safety Council of Australia, Nick Arvanitis from beyondblue and Dr Paula Mitchell from Fatigue Management International.

More than 200 exhibitors, including BOC, SAI Global, Myosh, ASPAC, Crane Systems Australia, Grifco, Hammertech Technologies, Inbody Australia, IOAC Optical, IXOM and Corporate Chair Systems, will also take part. “We are expecting over 4000 people to attend the exhibition and a high number of those to participate in the free

seminar sessions over the course of the three days. These will feature a range of topics, including how to combat mental health in the workplace, managing fatigue and improving safety systems,” said Josko Kazija, event director from Informa.

Attendance is free and open to any business and professional with an interest in safety. The event will also be co-located with the Safety Institute of Australia’s National Safety Conference.

Free seminars within the Safety in Action exhibition

- **Safety and leadership** — Don’t become complacent – Ennio Bianchi, National Safety Council of Australia
- **The heads up initiative** — Creating more mentally healthy workplaces – Nick Arvanitis, beyondblue
- **Complexities of fatigue risk management** – Dr Paula Mitchell, Fatigue Management International
- **Workplace wellness** — It’s good for business – Sally Kirkright, AccessEAP
- **Using software and mobile apps for workplace safety management** – Adrian Manassis, MyOSH
- **Using technology in a crisis** — Collaboration, coordination, communication – Grant Chisnall, Dynamiq
- **On bended knee: reducing workplace knee injuries in ship building** – John Whale, BAE Systems
- **Hazardous chemicals storage and handling** – Jeremy Trotman, JTA Health, Safety, Noise
- **Occupational disease** — Have we lost our focus on the ‘H’ in OHS? – Kristy Thornton, Thiess
- **Targeting driver behaviour to reduce work-related accidents** – Stewart O’Brien, Mix Telematics
- **Creating good work through effective design** – Leone Leyshon, Safe Work Australia
- **Mindful safety leadership** — The use of a successful diagnostic tool – Marc McLaren, Generative HSE
- **Regulation and culture change** – John Fell, Advanced Safety Systems Australia (ASSA). 

Fleet driver safety programs

Stand F32

Fleet owners are under mounting pressure to identify risky driver behaviour and take corrective action to improve safety levels. At MiX Telematics, the training and consultancy services offered follow a Driver Safety Management Cycle, which integrates individual solutions that work together to instil a commitment to safety, improve and promote positive driver behaviour and strengthen safety corporate cultures.

MiX Telematics' driver safety solutions help organisations to identify and assess safety risks and educate employees on those risks.

MiX Telematics

www.mixtelematics.com.au



Portable berms for spills

Stand D36



Enware's Stinger range of portable berms offers spill containment solutions for fuels, chemicals and hazardous liquids in construction, mining, petrochemical, energy, transport and general industrial applications. The range includes the Stinger Snap Up Berm, Stinger Yellow Jacket and the Stinger Snap Foam Berm with its drive in, drive out capability.

Designed to minimise the risk of slip and fall accidents for workers, the berms feature rip, tear and puncture resistance for demanding applications or terrain, as well as the added protection of Ground Pad and TracMat for situations where additional protection is required. The range also comes with fuel-/chemical-resistant capabilities. The snap-up design ensures the product can be easily assembled, while the lap joint welds for maximum performance.

Enware Australia Pty Ltd

www.enware.com.au

Non-metallic protective footwear

Stand D10

Oliver Footwear has added a non-metallic range of safety footwear to its AT45 series. The non-metallic feature will prevent activating metal detectors, generating sparks and rust.

The footwear is made from a hard-wearing, dual-density PU/TPU sole with a composite safety toecap to protect the foot against injury. The toecap is 45% lighter than traditional steel toecaps but still exceeds industry safety standards.

The series also incorporates the Oliver SOFTstride comfort system with underfoot cushioning that works to soften and absorb impacts on the foot. This feature is achieved by a layer of open-cell, low-density urethane foam that is built into the insole and contours to the individual foot shape.

The footwear also protects the heel and ball of the foot with the Odorban Control Technology providing the antimicrobial treatment to the boot lining and footbed to protect against odour, staining and deterioration. The series uses water-resistant leathers, has a 130°C heat-resistant outsole and includes EH (Electrical Hazard) protection. It is available in a range of styles including a 150 mm zip-sided boot with a TECtuff toe bumper that protects against scuffing.

Oliver Footwear

www.oliver.com.au



Diploma of WHS

Stand A07

The BSB51312 Diploma of Work Health and Safety (WHS) through HBA Learning Centres is suitable for people who coordinate and maintain the WHS program in an organisation. It reflects the role of practitioners who need to apply substantial knowledge and well-developed skills in a wide variety of WHS contexts.

The course offers flexibility for students through three delivery methods: Self-Paced (completed independently at home); Intensive Delivery (five-day face-to-face workshop); and Monthly Sessions (one day a month over 4-5 months). Delivering nationally recognised courses countrywide, HBA provides effective, efficient and industry-aligned training to both individuals and organisations including government departments, mining, distribution, manufacturing and construction companies. HBA also offers Recognition of Prior Learning (RPL) to students, which can be applied to a unit of competency, reducing the learning required to achieve a qualification.

HBA Learning Centres

www.hbalearningcentres.com.au





Fleet management system

SmarTrack is designed to provide control over operating equipment by providing intelligent insights that allow monitoring, control and continual improvement of productivity and safety of fleet in the work environment.

The solution is underpinned by comprehensive training and direct phone support.

Key features include: access control, pre-start checklist, data live on web, email alerts, email reports (daily, weekly, monthly), machine parameters updated remotely, excess idle monitoring and impact monitoring.

Remote Control Technologies

www.rct.net.au

In-house, pre-employment screening tool

Ready Screen is an in-house, pre-employment screening tool that uses technology to provide businesses with a screening program. It uses data and customised benchmarks specific to each business's industry to screen candidates, to ensure they are fit and capable for the role at hand.

The tool is functionally based and used to assess a person's strength, flexibility, manual handling technique and core stability. The assessments are conducted through a secure online portal, which enables the business to schedule the assessments at times that suit them. The Bodycare team can train a number of employees to deliver the assessments; each employee receives comprehensive, industry-specific training, showing them exactly what to look for when assessing a person's physical condition.

Using the Ready Screen software, candidates can complete an online questionnaire that includes sections on their medical, injury and work history.

Each assessment is reviewed by a Bodycare occupational physiotherapist who calibrates the results and compares the candidate to the outlined industry standards and benchmarks. Once assessed by the physiotherapist, the business is provided with a report outlining the recommendations.

The screening tool can be used as an alternative to a full pre-employment assessment or used in conjunction with a medical assessment.

Bodycare Workplace Solutions

www.bodycare.com.au



Magnetic tray organiser

Ergodyne Magnetic Tray Organisers 5920 (Rectangle) and 5925 (Round) are corrosion-resistant stainless steel trays that provide a durable and convenient solution to store and organise small metallic parts. The bases of both trays are magnetic and can be attached to any metallic structure close to the worker at any angle or height.

Small parts can be difficult to organise and access at heights and when dropped can often be the cause of equipment damage and lost productivity. Laying out the parts as required for a job in the magnetic trays close to hand can prevent drops, make them visible and easy to identify, and can increase overall job efficiency.

The device is suitable for attachment to towers, automobiles, tool boxes, metallic roofing or any ferromagnetic structure at all angles — even vertical or inverted.

Pryme Australia Pty Ltd

www.pryme.net.au



Personal safety harness

Capital Safety has launched a PRO-TECTA Rebel Personal Self Retracting Lifeline (SRL) range, an update of its Rebel Compact range that minimises fall clearance requirements when working at height.

The models within the range are available from 1.8 to 6 m and include a 4.5 m 'Hot Work' model. The harness automatically locks at the onset of a fall to arrest the fall, but pays out and retracts lifeline during normal movement by the attached user.

The range is also ergonomically designed for ease of use and is suitable for direct connection to most harnesses. Their compact and lightweight design also feels comfortable against the user's back and does not get in the way while working.

The harness range features a 140 kg user capacity.

Capital Safety Group (Australia)

www.capitalsafety.com



Auto-darkening welding helmet

The Speedglas auto-darkening welding helmet series 9100XXi from 3M is designed for professional welders who require comfort, protection and performance. Featuring the largest Speedglas welding lens and peripheral Speedglas SideWindows, the helmet provides welders with a large viewing area.

The True-View lens delivers a good degree of definition and natural colour. Shades of blue and red as well as contours and edges are more visible due to improved welding lens optics. The Grab-and-Go motion detector senses movement and instantly activates the welding lens to the welding setting that was last used.

A One-Touch external button activates grind mode. Another quick push reactivates the auto-darkening welding settings. Just like the programmed preset stations on a radio, the Set-and-Forget feature allows welders to preset their most frequently used welding helmet settings. By holding down the external button, welders can seamlessly switch between different welding applications without having to reset the welding helmet. Each memory mode has an individual setting for dark shade, switching sensitivity and dark-to-light delay. For example, by holding down the external button, the welder can switch between low-amp TIG and high-amp MIG welding in a matter of seconds.

The 3M Speedglas Welding Helmet Series 9100XXi is available with flip-up functionality, head protection, hearing protection and with powered or supplied air respiratory protection.

AWS Pty Ltd

www.awsupplies.com.au

Online WHS and injury management system

The Smart OHS system is an online work health safety management system. Members of the system receive regular email reminders with instructions they can use to log in to their resources area within the system, fill in the appropriate form and keep their WHS compliance up to date quickly and easily.

The system has been built to make work health safety compliance quick and easy for small- to medium-sized businesses across 23 industry types.

The system via its regular email reminders can inform small businesses what to do and which document to fill in. It is designed to help take the time, cost and confusion out of keeping health and safety compliance up to date.

Smart OHS

www.smartohs.com.au

Detecting gas leaks with camera



Inspectahire provides equipment rental, contracting and project engineering services for both onshore and offshore applications, and in all environments - including harsh and hazardous. When the company is tasked with the detection of fugitive hydrocarbon emissions, FLIR's GF320 Optical Gas Imaging (OGI) camera is its preferred technology to use.

Having worked for three decades in the oil and gas industry, both in the North Sea and worldwide, Inspectahire has built up a strong expertise in this sector. Safety and cost are two of the biggest concerns in the offshore oil and gas industry today.

"The offshore oil and gas industry are proactive in their search for the best technologies for detecting emissions that may affect the safety, profitability and environmental impact of their assets," comments Cailean Forrester, managing director of Inspectahire. "At Inspectahire we strive to identify and offer the best available technological solutions for all remote inspection scenarios."

Dangerous gas leaks are a concern to every oil and gas production plant. Not only do some of the gases harm the environment, but the leaks also cost companies substantial amounts of money. "The company has been using thermal imaging cameras for a very long time to detect dangerous gas leaks," comments Cailean Forrester. "Thanks to thermal imaging cameras, we can easily detect gases in difficult-to-reach or hazardous locations. And we can help companies prevent costly downtime of their production plant."

"We have been using certain contact measurement tools like laser detectors or leaks sniffers," says Cailean Forrester. "But the problem is that you have to go right up to the object, which is not always safe or even possible. In other words, this approach is limited and not very precise. With a thermal imaging camera like the GF320, however, you can keep a safe distance and still detect gas leaks with great precision."

The Inspectahire team is using the GF320 optical gas imaging camera for maintenance inspections and for all its hydrocarbon detection jobs, in hydrocarbon production plants or for the inspection of any material that uses hydrocarbon as a fuel. The GF320 camera has a range of benefits compared to traditional hydrocarbon leak sniffers, because it can scan a broader area much more rapidly and monitor areas that are difficult to reach with contact measurement tools. The portable camera also improves operator safety by detecting emission at safe distance.

"The camera is very ergonomic and very sensitive," comments Cailean Forrester. "If a hydrocarbon leak is there, you will certainly see it with the GF320 camera, even if it is a small one. Small leaks can become big ones, which is why it is important to be able to detect them in an early stage. With the GF320, we are sure of an accurate and reliable detection."

FLIR Systems Australia Pty Ltd
www.flir.com.au

NEW PRODUCTS

Women's safety boots

she wear has added she achieves to its range of safety boots for women. Designed to fit women's feet for working in a range of demanding industries, the lightweight ankle safety work boots feature a sole-mate inner sole with gel technology for added comfort and foot support. They also have poron gel pad mid-sole inserts placed under the ball of the foot and heel for additional comfort. The zipped lace-up boots are metal-free and come with a composite toe-cap. They are made with a full-grain leather water-resistant upper and have an oil-, fuel- and acid-resistant sole which is also heat resistant to 300°C.

The range will be available in five footwear styles and seven bright colours. The footwear is also compliant to AS/NZ 2210:3.2009 requirements.

she wear

www.shewear.com.au





Handheld raman spectrometer

The TactiClD-GP from B&W Tek is a field-ready handheld instrument designed for non-contact forensic analysis by safety personnel, such as police and first responders, hazmat technicians, bomb squads, law enforcement, border and customs patrol and military personnel.

Weighing less than 1 kg, the device is a raman spectrometer that allows users to get real-time actionable identification of unknown chemicals, explosives, narcotics and other substances. It reduces operational uncertainty and response time without compromising the integrity of the sample or the chain of evidence.

The analyser comes standard with a comprehensive library of over 5000 hazardous chemicals, explosives, narcotics, prescription drugs, precursors and cutting agents, and also provides users with the capability to develop their own custom libraries to continuously maintain up-to-date identification capabilities. It also comes with software for use on PCs for data and report management.

SciTech Pty Ltd

www.scitech.com.au

Indoor air quality monitor

The TSI Q-TRAK 7565 IAQ (indoor air quality) Monitor is designed to help maintain a safe and healthy indoor environment by monitoring air quality. Good air quality can ensure maintained focus and improved productivity, while poor air quality can lead to fatigue, headaches, irritability and loss of concentration. It is available to rent from TechRentals. The monitor will calculate dewpoint, wet bulb and the percentage of outside air.

This unit also has external thermocouple measurements and is capable of monitoring: CO₂ 0 to 5000 ppm $\pm 3\%$; a temperature range 0-60°C $\pm 0.6^\circ\text{C}$; humidity 0-95% $\pm 3\%$; CO 0-500 ppm $\pm 3\%$; and barometric pressure 517.15 to 930.87 mmHg $\pm 2\%$.

Other features include a display of up to five measurements simultaneously, the ability to select logging intervals and start/stop times, as well as more than 38 days of data collected at one-minute log intervals, and TRAKPRO software for logging, analysis and documentation.

TechRentals

www.techrentals.com.au



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www.mixtelematics.com.au



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REMOTE CONTROL SAFETY SOLUTION

FOR CONSTRUCTION APPLICATIONS

The Priority Sewerage Program (PSP) Alliance has won the 2015 National AWA Water Industry Safety Excellence Award for a remote-controlled excavator solution that was engineered to provide a safer work environment. The ultimate aim for the innovation was to eliminate risks arising from manual handling and it could have wider applications in the construction industry.

As one of Sydney Water's longest-running alliances, the Priority Sewerage Program (PSP) Alliance consists of Sydney Water, MWH, John Holland Group, UGL and RPS Manidis Roberts. It was formed back in 2002 to provide improved sewerage services in some of New South Wales's most pristine and environmentally sensitive towns, most recently Cowan, West Hoxton, Wilton, Douglas Park, Bargo and Buxton. The success of this alliance has been exceptional, achieving between 89-93% community satisfaction, industry-leading KPI outcomes for non-cost objectives and increasing cost-efficiency through the life of the program.

During the 12-year program, the team maintained a culture of collaboration and formed a Safety Focus Group to ensure a consistent program-wide approach to all WHS matters. Manual handling-related injuries were identified as the highest injury risk factor by the group and it set out to challenge some of the construction work methods used to ensure its safety vision was maintained.

Methodologies previously employed may not necessarily comply with current workplace health and safety (WHS) and/or duty of care expectations.

One such task identified by the group was the use of excavator equipment on some of the residential properties that were part of the sewerage program works. A safety risk occurred on sites with low clearance and limited access to the rear of the property which prevented the use of standard excavation equipment, without the removal and reinstallation of the roll-over protection system (ROPS).

Past projects have managed this issue by strictly controlling the removal and refitting of ROPS by workforce trained by the equipment manufacturer. There are costs associated with the required training and time off-site by the workforce while ROPS equipment is removed and refitted. However, this approach now contravenes legislation so this work practice is no longer permitted.

Current legislation and regulations state: "The person with management or control of earthmoving machinery at a workplace must ensure that the machinery is not used unless it is securely fitted with a protective structure." This requirement excludes temporary removal of the ROPS and the request for exemption from the regulator was declined.

It was identified that manually excavating the sites presented a manual handling risk to the workforce as many of the areas were sandstone, which required extensive use of pneumatic equipment. Excavation by hand also exposed the workers to unacceptable risks of body stressing injury, so a new method for enabling excavation in these limited-access sites was required.

The team engineered a solution to eliminate the risk by modifying a 1.5-tonne tracked excavator to include remote control tracking with a folding ROPS. The solution resulted in eliminating the requirement for workers to unnecessarily manually handle spoil or hand-dig trenches by allowing them to safely access the rear yards of properties with the excavator that was designed for the task.

Through discussion at the Safety Focus Group meetings and meeting with others that have implemented similar solutions, the team identified that if the ROPS structure could be modified to allow it to be folded to reduce the headroom, then access to all properties would be possible. A team member further suggested that it may be possible to operate the excavator undercarriage via remote control capability. The operator could then walk alongside the excavator while it travelled beneath the structure, rather than being seated in a location that had the potential for the operator to come into contact with the low structure.

Although there are similar remote-control safety solutions available for forestry, mining and transport industries applications, this innovation was unique in that it included a combination folding ROP and remote control operation. This eliminated the need for an opera-



© iStockphoto.com/Bart Sadowski

tor to sit on and operate the machine without the appropriate safeguards and protection in place. The team said that the equipment modifications and/or the concept could also be adopted for other types of machinery.

Rob Salisbury, RPS Australia Asia Pacific Executive General Manager NSW/ Qld, commented:

From the perspective of an Alliance Leadership Team member, it was great to see the team work together to find an innovative solution to a problem that they were faced with. Especially a solution that resulted in reduced safety risks, savings in time and money and lower community impacts than the traditional approaches that could have been taken. I hope that this and other innovations developed by the PSP Alliance can be used elsewhere in the industry with similar results.

Ashley Jagoe, Manager Major Projects, Sydney Water, added:

A key project consideration was to minimise the impact on customers by getting in and out of their properties as quickly as possible while ensuring the complete safety of both the contractors and members of the public. The development of this simple yet highly effective innovation was testament to the alliance embracing these objectives.

Mal Shepherd, Industry General Manager – Water John Holland, said:

The alliance has demonstrated excellence in safety leadership, which has driven effective implementation of cultural change with the workforce in risk awareness and behaviour. This award recognises our outstanding capability and strength in delivering projects interfacing with operating networks through good planning to deal with project risks in the design, planning and execution phases.

Ian Butler, Alliance Delivery Manager, concluded:

It was pleasing for the alliance management team to see the project teams identify key safety issues with the works to be completed and then work collectively to combine previously held knowledge of available technologies to develop a solution that could be applied to provide a solution that eliminated those issues. [S]



MANUAL HANDLING



Collaborative robot



The FANUC CR-35iA collaborative robot uses iRVision, an integrated camera system, to automatically stop itself from functioning as soon as it touches a human working alongside it.

It eliminates the need for protective guards and safety fences used by other industrial robots and machinery with similar lifting capacities. It is claimed that this will improve production efficiencies and allow higher levels of automation.

The machine weighs 990 kg and can lift payloads of up to 35 kg. It is designed for duties such as transferring heavy work pieces or assembling parts. The robot has a reach of 1.8 m and can move at speeds of up to 250–750 mm/s if the area is monitored by a separate safety sensor. The servo-driven machine has a claimed repeatability of ± 0.08 mm.

Its green covering also acts as a safety feature, as its soft outer shell forms part of the buffer zone to protect human co-workers against injury risks in the event of a collision.

The machine is suitable for use in 'red work areas' and certified to safety standard ISO 10218-1, Category 3.

John Hart Pty Ltd

www.johnhart.com.au



Protective storage case

Pelican Products has introduced the Pelican 1670 Case that offers tough, watertight and versatile protection for sensitive gear when in demanding environments.

The case offers close to 0.07 m³ of usable storage space. It also has four stainless steel ball bearing, polyurethane wheels and an extension handle (with a release latch) for transport, as well as extra-wide side handles for a gloved grip.

To defend against cutting and theft, stainless steel padlock protectors are integrated, while a polycarbonate document holder offers easy identification and inventory.

The case has a polymer cell-core construction and also comes with additional standard features. These include: a lid equipped with a polymer O-ring for a dustproof and watertight seal, and an automatic pressure equalisation valve that stops moisture from entering the case, preventing vacuum lock (so the case can open easily at any altitude).

To ensure easy and immediate access, the case also features double-throw latches that have been tested to a failure threshold of nearly 181 kg, but open with a light pull.

Pelican Products Pty Ltd

www.pelicanaustralia.com




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NEW PRODUCTS



Welding helmets range

With its optical classification 1/1/1/1, the KEMPER autodark 760 model welding helmet is suitable for professional welders. In addition to the professional

model, the basic models autodark 560i/560x and the advanced models autodark 660i and 660x are also available.

The 760 model has good angle dependence in the field of vision. With a range of vision of 96 x 68.5 mm, it provides a good view area on the work piece. Additionally, it is supported with the good optical classification of filters. The helmet has achieved value 1 in terms of the optical quality, light diffusion, homogeneity of the field of vision and angle dependence.

Due to the optimised head support, autodark 760 provides good wearing comfort. It also features: IR/UV protection level 16; the sensitiveness and lightening delay can be set using a control placed on the outside of the helmet; and the helmet is equipped with a grinding mode. The protection helmet and the 660 model have been granted the DIN-plus certificate.

All helmets in the range use the traditional external protection plates in standard dimensions 90 x 110 mm and no other plates with unusual dimensions. The autodark series has a comfortable helmet cover made from polyamide and Zytel, which makes it flexible while at the same time mechanically stable and heat-resistant.

SMENCO Pty Ltd

www.smenco.com.au

OHS software subscription

The OSH At Work software from At Work Software is now available via a simple annual subscription. The software provides facilities to manage, analyse and report on: workplace audits and inspections; risks and hazards; chemicals; incidents and any corresponding workers compensation claims; corrective actions; rehabilitation; health and medical details; and training, certification and competency.

For organisations that require only a subset of these features, the following programs are also now available via subscription: Audits At Work, Chem At Work, Risk At Work and Training At Work.

At Work Software Pty Ltd

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Single-layer protective suit

The DuPont Tychem ThermoPro single-layer protective suit is designed for emergency responders and for at-risk personnel that deal with industrial chemical handling and remediation.

The suit provides triple hazard protection from liquid-chemical splash, flash fire and electric arc, combining the trusted chemical protection of Tychem and thermal/arc protection of Nomex into a single-layer garment. It provides at least 8 h breakthrough protection against 20 of the 21 standard ASTM F1001 chemicals and at least 30 min protection for more than 180 chemical challenges, including chemical warfare agents.

Taped seams offer strong chemical resistance against heavy liquid splashes, while a sewn seam is covered with a strip of compatible chemical-resistant material through heat sealing. The product also has an attached respirator-fit hood with a drawstring to pull tightly around a respirator and a longer zipper which extends to the chin for complete coverage of the neck area. It also has an elastic opening for a tighter fit around the wrists of the wearer.

The garment comes in either a bright orange colour for high visibility, or in grey, with or without attached sock boots.

The arc rating of Tychem ThermoPro fabric is 15 cal/cm² Ebt, exceeding the NFPA 70E Hazard Risk Category 2 requirement of 8 cal/cm².



DuPont (Aust) Limited

www.dupont.com.au

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ROOBUCK

Proving unit for shock and arc flashes

The Fluke PRV240 Proving Unit is designed to reduce the risk of shock and arc flash by providing a known voltage in a controlled, low-current state in accordance with safe work practices. The unit provides a safe method for Test Before Touch (TBT) verification of electrical test tools without placing the technician in potentially hazardous electrical environments, which would generally involve using known

live voltage sources. The pocket-sized device sources 240 V of both AC and DC steady-state voltage for testing of both high- and low-impedance multimeters, clamp meters and two-pole testers, eliminating both the need for multiple verification tools and the use of a known high-energy voltage source for test instrument verification.

To avoid accidental contact, the voltage is supplied through recessed contacts that are activated only when test probes are inserted into the module's insulated access points. A single LED indicates the sourcing of the voltage to verify the test tool, simplifying test tool verification without the need for personal protective equipment. The proving unit can perform up to 5000 tests per set of four AA batteries and comes with a TPAK magnetic hanging strap for easy accessibility.

Fluke Australia Pty Ltd

www.fluke.com.au



Dust sampling pumps

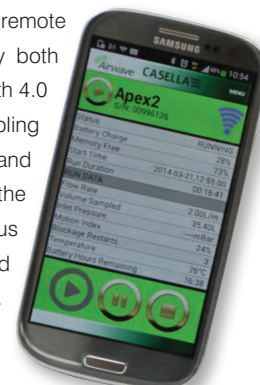
Casella has launched Apex2, a range of next-generation personal sampling pumps that provide accurate and reliable monitoring of exposure to dust in a variety of industrial workplaces. The pumps are ergonomically designed to ensure better wearer acceptance, while providing performance, functionality and connectivity, as well as simplicity of reporting.

The range includes three separate models: the Apex 2, Apex 2 Plus and Apex 2 Pro. All three models are designed to be unobtrusive to the wearer and the task that they are performing. If a worker removes the pump, this will be registered via a motion sensor that provides data to confirm if the pump has been worn and therefore confirm the validity of the sample.

The Apex 2 Plus and Apex 2 Pro models enable remote monitoring on smartphone and tablets as they both connect with the Casella Airwave app via Bluetooth 4.0 technology. This free app can assess the sampling run without disturbing the wearer of the pump and also enables them to control the pump from the smart device. The app provides near-real-time status updates and allows collected data to be emailed alongside photos and notes for reporting purposes.

Thermo Fisher Scientific

www.thermofisher.com.au





BEST PRACTICES FOR HEARING PROTECTION SELECTION

Theresa Y Schulz*, PhD

Despite the ongoing industry-wide attention and investment in hearing conservation programs and engineering solutions, extreme noise levels — and the potential for noise-induced hearing loss (NIHL) — are encountered by workers throughout industry.

In many environments, perhaps the simplest solution for the highest level of protection is a properly fitted foam earplug. These protectors — available in a wide variety of shapes and sizes and even stems — are often recommended where exposure to potentially damaging levels of noise may be encountered. Proper fit, however, is critical.

For use where noise is intermittent or where noise levels may require raised voices for clear communication, multiple-use earplugs can be quickly and easily removed or replaced as hazardous noise levels increase or subside. A variety of shapes and sizes are available to ensure the best fit by matching the variations in users' ear canals.

For use alone or with insertable earplugs, consider the use of earmuffs. Some rules of thumb include: the larger the earcup of the muff, the greater attenuation or noise protection; and when an earplug is used in combination with an earmuff, add 5 decibels to the provided attenuation.

In practical use, many workers need both hearing protection and clear communications. In these cases, technology offers selection alternatives to removing one's hearing protector (which is not recommended) in a noisy environment in order to communicate:

- Option 1 is a 'uniform attenuation' hearing protector, which has filters that reduce the overall amount of noise reaching the ear and still allows a segment of the high-frequency sounds that comprise speech.

- Option 2 is the use of an advanced communication system, which is recommended when clarity in communications is critical for preventing injury or death. Such systems combine hearing protection, active noise reduction and voice signal amplification.

Hearing protection access

As workers move around areas in or between worksites, the challenges of providing hearing protection increase — from noise levels, to the availability of protection equipment, to the policies and monitoring of protector use.

As with all personal protective equipment, hearing protectors should be readily available everywhere they are needed.

Regardless of worksite, workers need the training and education to know how, where and when to use their protectors.

Another rule of thumb: If you are at arms-length from someone and need to shout in order to have them hear you, then the noise level in the environment is such that you both need hearing protection.

The solution is to keep hearing protectors at hand. Store earplugs in pockets, and re-usable earplugs and folding earmuffs in their cases. Many earmuffs can be used with belt clips. Be sure to also use available engineering controls. This might be as easy as closing the door on a piece of heavy equipment.

HEARING PROTECTION



Hearing protection plus


Every worksite can present a stunning variety of hearing hazards as machinery, equipment and tools of all varieties assault the ears with all sorts of constant, intermittent and impact noise. In such environments, people and machines are often on the move and as such workers, for their own safety, must maintain situational awareness. In such cases, maximising hearing protection to the point of overprotection, that blocks out all noise including speech and warning sounds, could prove counterproductive or even dangerous.

Believe it or not, chemicals found on the worksite are another risk for hearing loss. Benzene, toluene and xylene are ototoxic (ear poisons) and damage hair cells in the ear much like the damage caused by harmful noise. The impact of both noise and chemicals



is even more damaging. To guard against the effects of ototoxins, workers should not only don appropriate protective clothing and respirators, but ensure that they are achieving the fit with their hearing protection. In fact, earplug fit-testing is perhaps the single most important key in helping workers select the correct hearing protection.

The bottom line

The bottom line for safety managers is to provide a safe work environment where workers can leave with the same level of health and wellness with which they arrived. Selecting the right hearing protector enables workers to achieve this success, as well as to function more safely, and productively, while on the job. 

**Theresa Y Schulz, PhD, Lt Col USAF (Retired) is the Hearing Conservation Manager for Honeywell Safety Products. Dr Schulz holds a PhD in hearing science from the Ohio State University.*

Honeywell Safety Products Australia Pty Ltd
www.honeywellsafety.com

NEW PRODUCTS



Hydraulic hose

The Kurt Hydraulics E-Z Bend Hose has half the bend radius of standard hose for easier routing and more space savings.

Providing flexibility and strength, the product is suitable for compact applications, such as construction equipment, agricultural machinery, machine tools, moulding presses and oil and gas industries that require hydraulic hose with tight bend radius

using minimal installation force.

The hose is also suitable for high-pressure hydraulic oil lines in mobile hydraulic applications, and features four spiral layers of high-tensile steel wire braid. The tube material is oil-resistant synthetic rubber and has a working temperature range of -40 to +100°C and meets flame-resistant MSHA designation.

Available in four sizes, including 5/8, 3/4, 1 and 1-1/4" inside diameter with corresponding 1.07, 1.27, 1.52 and 1.79" outside diameters, the working hose pressures range from 5000 to 6000 psi. Minimum burst pressures range from 20,000 to 24,000 psi.

Kurt Hydraulics

www.kurthydraulics.com



LED torch

Created with industrial safety professionals and first responders in mind, Pelican Products has available the compact and lightweight 3315 LED flashlight.

Requiring only 3 AA batteries (included), the runtime is 19 h with a light output of around 110 lm, a beam distance of 164 m and a peak beam intensity of 6698 cd. The shape of the light's body is engineered to fit in the natural grasp of gloved hands and the ridges along the handle allow for a strict non-slip grip. It also features a lockable battery compartment with a tethered door and a castle top so the user can see that the light is on if left standing upright.

Available in safety yellow or black, the torch is made of polymer material. A safety wrist lanyard is attached.

The product has an IPX4 water-resistance rating and is IECEx safety approved. It is also backed by Pelican's Legendary Lifetime Guarantee of Excellence.

Pelican Products Pty Ltd

www.pelicanaustralia.com



Machinery health analyser

The portable CSI 2140 Machinery Health Analyzer by Emerson Process Management, which diagnoses and corrects faults in rotating equipment, has been updated to include a wireless interface to laser shaft alignment fixtures. This addition reduces two burdens — equipment and time — for operators performing vibration analysis and corrective tasks in the field. The analyser already offers four-channel plus phase data collection to save time and effort for technicians, advanced vibration analysis that embeds expertise in the tool and multiplane balancing to correct imbalance in industrial fans. By adding a wireless link to laser fixtures, users can perform route-based vibration data collection, analyse the root cause and align the machine in one trip. At the same time, users can identify and solve machinery faults to prevent any unplanned downtime.

The device's shaft alignment option uses the familiar Emerson interface to guide technicians through a three-step process that quickly achieves precision alignment. The laser fixtures employ Sweep technology to measure misalignment, including in tight clearance applications. An advanced option monitors the corrective machine moves in vertical and horizontal directions simultaneously.

All data collected with the product can be uploaded wirelessly to a single database using the AMS Suite: Machinery Health Manager software. This enables the maintenance team to collect data, analyse problems and document results in parallel.

Emerson Process Management
www.emersonprocess.com.au

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Wearable sensors that can detect deadly gases and UV radiation

RMIT University researchers have created wearable sensor patches that detect harmful UV radiation and dangerous, toxic gases such as hydrogen and nitrogen dioxide.

These transparent, flexible electronics - which can be worn as skin patches or incorporated into clothing - are bringing science fiction gadgets closer to real life.

Dr Madhu Bhaskaran, project leader and co-leader of the RMIT Functional Materials and Microsystems Research Group, said the sensors can be placed on work and safety gear to detect dangerous gases.

"Hydrogen leaks can lead to explosions as happened with the Hindenburg disaster and nitrogen dioxide is a major contributor to smog," she said.

"The ability to monitor such gases in production facilities and coal-fired power stations gives vital early warning of explosions, while the ability to sense nitrogen dioxide allows for a constant monitoring of pollution levels in crowded cities."

The latest development follows RMIT's MicroNano Research Facility breakthrough in bendable electronics which has paved the way for flexible mobile phones.

Lead author, PhD researcher Philipp Gutruf, said the unbreakable, stretchy electronic sensors are also capable of

detecting harmful levels of UV radiation known to trigger melanoma. Much like a nicotine patch, they can be worn on the skin. In future, they will be able to link to electronic devices to continuously monitor UV levels and alert the user when radiation hits harmful levels. Gutruf said the research used zinc oxide - present in most

sunscreens as a fine powder mixed into a lotion - as the UV sensing material.

Zinc oxide was used in the form of very thin coatings over a hundred times thinner than a sheet of paper.

"This thin zinc oxide layer is engineered with a plate-like structure that we call micro-tectonics, these plates can slide across each other a bit like geological plates that form the earth's crust allowing for high

sensitivity and the ability to bend and flex the devices," he said. Dr Bhaskaran said the sensors are cheap and durable - attributes which will see flexible electronics and sensors become an integral part of everyday life. The research, which has just been published in micro/nano-science journal *Small*, was supported by the Australian Research Council.

RMIT
www.rmit.edu.au



NEW PRODUCTS



Rail runway analysis tool

The Konecranes RailQ runway analysis tool diagnoses the alignment and wear of overhead crane rails helping users to plan maintenance and repairs in warehouses, ports and manufacturing facilities.

Designed to provide accurate data from measuring straightness, elevation, rail-to-rail elevation and span of the rails, the product helps increase crane safety and performance since a rail that is out of alignment can cause significant undue wear and reduce its design life and efficiency.

The runway analysis tool, suitable for a variety of crane makes and models, uses a remotely operated robot to conduct surveys in less time than traditional rail surveys, thereby reducing downtime of machinery.

The product also consists of accurate laser measuring equipment and the company's own proprietary data analysis and reporting software (KC Trail). Once the survey is complete, images of the runway/rail system are available for users to examine with a 3D viewer.

Konecranes Australia
www.konecranes.com.au

Flexible safety barrier range

A-Safe has created a safety barrier range made from a robust and flexible polyolefin material called Memaplex. The material is a blend of eight materials and its molecular structure means that on impact it doesn't crumple or dent but instead flexes and then returns to its original shape. It also doesn't corrode or need repainting.

The Memaplex barrier is modular with no screws or bolts, so it can easily be put together and disassembled. The design team gave some of the products in the range moving parts, such as optional spinning collars, which help to deflect impacts. Base plates with countersunk fixings are also available, so a vehicle won't be damaged if it gets too close to the base of the barrier.

The range of pedestrian guardrails and vehicle check systems, including bollards and stack protection buffers, is all tested and certified to British Standards, as well as being independently verified by TÜV.

The barriers absorb and dissipate impacts from vehicles or hardware for the protection of structures, people and machinery.

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ABS 2008 'National Survey of Mental Health and Wellbeing' PwC 2014, 'A mentally healthy workplace: Return on Investment Analysis'

Heads ^{up}

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Signal tower lights

The Pfannenberg BR50 signal tower lights range has a flexible modular design with a sturdy housing for indoor and outdoor applications.

Up to five modules with six lens colours may be used on the signal tower with any combination of continuous LED, blinking LED and flashing xenon elements. A sounder module can be added for an audible alarm up to 85 dB and an ASi bus module is available for network integration.

A monitored light module in red and yellow is an option for safety-sensitive applications. They have two separate LED circuits integrated within the module so if one circuit were to fail, an alarm contact is activated warning the operator, while the second circuit would continue to operate.

A simple base mount on a flat surface with 100, 250 and 400 mm tube and stand mounting options are also available. The range has standard IP54 protection, while IP65 protection is optional.

Control Logic Pty Ltd

www.control-logic.com.au



Android smartphone for hazardous areas

German company Bartec has created a device that is claimed to bridge the gap between consumer and industrial mobile devices. The Impact X is an intrinsically safe smartphone with the same usability, performance and functionality as high-end consumer devices.

It is ready to use right out of the box, just like a regular smartphone.

In addition to being zone 1 and 2 ATEX and IECEx certified, the device is waterproof and rugged. It has a sunlight-readable display with a touch sensor designed for heavy rain and for operation with gloves. The device has three cameras, a fast processor and double the battery capacity of a typical consumer smartphone.

Users of the device have access to a range of apps and services, such as office mobility apps, inspection and maintenance apps, ERP solutions, safety systems and communication tools. BARTEC PIXAVI is also launching a range of video collaboration apps and device management software solutions. One application is called SIPIDO, which allows the user to conduct live videoconferencing sessions and stream video from the field. It is designed help users solve problems remotely, without having to send experts and technicians to the site.

BARTEC Australia Pty Ltd

www.bartec.de/au



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Fall protection for tools

The DBI-SALA range of Python Safety products has been developed to prevent dropped tools and equipment.

The Fall Protection for Tools range is designed to make work environments safer and more productive by reducing incidents resulting in personal injury, equipment damage and tool loss.

Suitable for use in applications that involve work being performed at height and anywhere dropped or lost objects are a concern, the tools are tethered to prevent them from being dropped.

The range is third-party tested and products include: attachment points, tool lanyards/tethers, tool holsters, tool belts, tool pouches, spill control buckets and wristbands. All products maintain or enhance the tools' functionality when used at height or near critical assemblies.

Also available from Capital Safety is a Dropped Objects Awareness Package, including information to help users deploy a drop prevention program suitable for their requirements.

Capital Safety Group (Australia)

www.capitalsafety.com



DIGITAL TOOLS FOR WORKERS COMPENSATION

Laura Valic



Workers compensation procedures can be a burden to both affected workers and businesses, but digital tools are emerging to help navigate through a complicated system.

The thought of workers compensation is enough to make anyone cringe; employers and employees alike. It was recently referred to by NSW Minister for Finance Dominic Perrottet as a 'journey' — and with good reason, since the process can be long and complicated from injury to return to work; if you return at all.

For workers there are injuries or illnesses to contend with — undoubtedly painful and frustrating, often resulting in ongoing disruption to their normal lifestyle. For employers, they must deal with costs from loss of productivity, any follow-up investigations and possible charges of negligence, ensuring legal compliance and supporting a worker through their recovery. And then there is the system to navigate. There are 11 major workers compensation systems in Australia; six Australian states and both territories have developed their own workers compensation laws and the Commonwealth has three schemes.^[1]

A simple internet search on the topic shows an abundance of information and resources available, but it can be a chore knowing what is current or applicable to you. However, the headache may just be lessening for those caught up in the rigmarole with the help of digital tools designed to simplify the process.

Going online

Of the digital tools to emerge in recent years, some have been geared towards the needs of claimants and others towards businesses. IT developer Glen McIvor noticed businesses were increasingly burdened by the administration of claims and many existing systems were suited to companies that self-insured, not those

under insurer schemes. He saw a gap in the market for managing workers compensation claims and created an online solution called injuryConnect.

McIvor said the system is designed to provide a solution for those that are not self-insured and operate in multiple states. "Our system has a lot of functionality not found in others, including automated alerts to improve compliance with WorkCover."

The workers comp process is notoriously known for its paper-work in managing injury information. injuryConnect is a centralised online system with options to email notes, access pre-populated forms and store claim information, giving businesses immediate access whether on- or off-site, as well as eliminating the need for paper-based files.

"Bunnings are a key client of injuryConnect and they found they saved over \$80,000 a year due to the move to injuryConnect just in the reduction in paper, scanning, filing and archiving of paper-based files related to workers compensation claims," McIvor said.

The NSW Government also recently announced an online tool for businesses developed by WorkCover NSW. Employer Assist is designed to give businesses information specific to their needs, without having to work through large volumes of information on the agency's website.

The tool has been optimised for mobile, tablet and desktop use and addresses most of the common questions businesses have asked when calling the WorkCover customer service centre.

Apps for injured workers

While there seems to be an app for just about everything, WorkCover


Queensland was the first in Australia to introduce a mobile app giving injured workers the ability to track the progress of their workers compensation claim. Worker Assist was released in August last year and allows users to view wages payments, directly message key stakeholders or receive notifications of new messages, track appointments or claim expenses by uploading photos of receipts. Within a few months, around 2500 injured workers had already downloaded the app.

WorkSafe Victoria was not far behind with its release of Vic-Claim in June this year. The free app includes features like GPS navigation to locate service providers close by, a list of the people involved in the claims process and how they can help, as well as details about treatments available to injured workers to assist in their recovery. Simon Bailey from WorkSafe's Insurance Business Unit said the new app not only improved access to claims information, but it also explained the workers comp system in Victoria.

NSW has yet to introduce its equivalent; however, a companion resource to the Employer Assist online tool is currently in development for injured workers. Early results from a recent survey of injured workers and their experiences with the NSW workers compensation system have shown that the majority of respondents feel there is a lack of case manager support and a need for



better access to information. NSW Minister for Finance Dominic Perrottet said he has asked WorkCover NSW to examine the results "closely and determine how best to put the customer at the centre of what they do".

With the trend towards digital, it is likely that tools and apps are increasingly going to be looked at as a way to improve and manage the workers compensation experience for both workers and businesses into the future. 

[1] Safeworkaustralia.gov.au, 30 September 2013, 'Key Workers' Compensation Information, Australia 2014', viewed on 4 August 2015, p.3, <<http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/901/key-workers-compensation-information-2014.pdf>>.

NEW PRODUCTS

Truck with safety features

Isuzu has released the N Series 'intelligent truck' designed with a suite of safety features and engineering technology for the light-duty truck market. The series includes onboard technology that gathers information from sensors to detect and help correct an unexpected loss of control. Data from the sensors is continually fed to an electronic hydraulic control unit (EHCU). This data informs automated engine torque and braking reactions to bring a hazardous driving scenario back under control.

The series also contains Isuzu Electronic Stability Control (IESC), an intuitive and pre-emptive safety measure which works by constantly monitoring speed, brake performance, steering angle, suspension geometry and rotation angle. As the vehicle speed increases, the amount of side slip at the front tyre increases and the turning radius

becomes larger. When EHCU detects side slip of the front tyres, it then applies the brakes on the outer wheels and inner drive wheel, while also instructing the engine to reduce torque.

The EHCU is described by the company as 'the brains' behind IESC and also works to control other preventive safety aids in the range. These safety features include anti-lock braking, electronic brake force distribution system, anti-slip regulator systems and boost assist when fitted and Hill Start Assist.

Isuzu Australia Limited

www.isuzu.com.au



Battery-electric reach forklift

Toyota Material Handling Australia (TMHA) has introduced the 8FBRE

Series of narrow aisle battery-electric reach forklift trucks that claim to provide safe, reliable and comfortable operation for a range of applications. The forklifts have a counterbalance battery-electric and internal combustion engine with lifting capacities from 1.2 to 1.6 t with a maximum lift height of 8.5 m.

The machines are ergonomically sound as the seat and steering console are fully adjustable. The height of the cab floor can also be adjusted to three different positions and operators can customise the settings for maximum speed and acceleration and automatic braking. The forklifts also have electronically controlled 180° or 360° steering for precision manoeuvrability.

The series includes safety features as standard, including PIN-code start-up, automatic parking brake, clear view mast and overhead guard, tilting forks (available as an option), emergency cut-off and electronic speed control. Another safety feature is the regenerative braking technology that transfers brake energy back into the battery to provide extended runtimes between charging.

Toyota Material Handling Australia Pty Ltd

www.toyotamaterialhandling.com.au



Aspirating smoke detector

The VESDA-E VEA from Xtralis is an aspirating smoke detector (ASD) that provides accurate information on the location of a potential fire source.

The product supports up to 120 individually addressable sampling points networked to a single central detector. By using a central smoke test function, the need to smoke test each individual sample point is eliminated and service time is reduced up to 90%. This is suited to applications where pre-approval or special access to restricted or secure areas is required, or where interruption-free operation is valued. The device also offers improvements over traditional spot or point smoke detectors for commercial areas such as office buildings, educational and healthcare facilities, and retail outlets.

It is claimed the product is the only addressable detector available that delivers "assured detection" through active sampling, which continuously draws air from the protected area to capture traces of smoke; proactive self-supervision; and an auto-cleaning function with integrated blowback to prevent contamination.

Other features include: absolute calibration, dual-stage filtration, internal optics protection and programmable alarm thresholds that ensure reliable early warning.

An iVESDA mobile app also allows for remote monitoring to ensure effective response locally and by fire brigades to minimise loss of property and business interruption.



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7 FIRE SAFETY TIPS FOR MANUFACTURING FACILITIES

The impact and cost of fire in a manufacturing facility should never be underestimated.

Significant injuries to workers, fatalities and costly damage to property all have the potential to spell the end of a business. Often, machines are custom built to produce specific products, and if damaged or destroyed in a fire, they may take months or even years to rebuild, resulting in significant downtime and lost revenue.

Australian fire protection company Wormald says the conversation around fire protection for the manufacturing sector is changing as more manufacturers undertake rationalisation programs and centralise procurement services.

"Manufacturers want to minimise inconsistencies across sites and capitalise on the economies of scale associated with using one national fire protection provider," said Bill Adamopoulos from fire protection specialist Wormald.

"Fire protection is a shared responsibility and it is vital that all those involved in fire safety at manufacturing plants understand and invest in adequate fire protection solutions."

He offers the following fire safety recommendations when looking at fire protection management:

1. Establish responsibility for fire safety: Generally, under Workplace Health and Safety (WHS) legislation, officers must ensure that the business meets its WHS obligations and can be held personally liable for failing to do so. It's important that clear systems are established, including exercising due diligence to ensure appropriate policies, procedures, safety practices and resources are in place. If responsibility is shared, the parameters for each manager should be clearly communicated and defined.

2. Understand legislative and regulatory requirements: Fire safety is heavily regulated and every manufacturer must comply with appropriate legislation. The national building code, Australian Standards, the principal set of WHS regulations in each state and territory, and legislation governing the maintenance of fire protection systems are central to fire safety.

Typically, these documents demand that the person in control of a workplace, business or undertaking is responsible for ensuring that fire and explosion risks are minimised, appropriate fire protection is available and regular maintenance is conducted.

3. Conduct a thorough risk assessment: A detailed understanding of fire risks and hazards can help to minimise fire and explosion risks and identify a suitable fire protection solution. The most common fire risks in manufacturing are machinery, stock or parts

stored on-site or in warehouses and the manufacturing process (eg, the use of heat or hazardous gases).


4. Install an adequate fire protection solution: A range of fire protection solutions is available for manufacturing sites, including basic fire extinguishers, water spray deluge systems, gas or foam systems. It's important to cater to the specific requirements of a site. When deciding on fire protection, some key considerations include the materials being used, size of the site, number of staff, as well as legislative, regulatory or insurance requirements that apply to the manufacturer's particular circumstances.

5. Regularly audit, inspect and maintain fire protection equipment: Reliability is vital when it comes to fire protection. Systems and equipment should always perform to the standard to which they were originally designed and installed. Regular testing can help to uncover any faults or issues that may cause malfunction. Australian Standard AS1851 - 'Maintenance of fire protection systems and equipment' recommends that fire protection systems be regularly tested, serviced and maintained.

6. Regularly revisit training and emergency response processes: A confident team that is able to respond well in the event of a fire is an invaluable investment and can substantially reduce the impact of a crisis. Emergency evacuation procedures should be regularly reviewed, and everyone working in a manufacturing facility should be trained on how to respond appropriately to a fire incident and use fire protection equipment correctly. This includes briefing new employees and regularly conducting refresher training for existing staff.

7. Choose a fire protection provider carefully: Time is the biggest challenge facing manufacturers when it comes to fire safety and, as a result, it can often be overlooked. Outsourcing fire protection to a reputable provider can help to ensure compliance requirements are met and changes in legislation are closely monitored.

The Fire Protection Association of Australia's Providers of Choice are reputable suppliers who are required to comply with strict codes of practice and insurance requirements. It's also important to ensure a provider can offer adequate and convenient support, both online and face to face, to reduce administrative frustrations and facilitate regular and thorough communication. Wormald Connect allows customers to access their inspection and reporting data 24/7 for instant and easy visibility.

For more information, visit www.wormald.com.au or call 133 166. 

Wormald (Tyco) Fire & Security)
www.wormald.com.au



Ultrasonic flaw detector

The EPOCH 650 Digital Ultrasonic Flaw Detector from Olympus is a portable handheld device for inspection environments including extreme outdoor and hazardous conditions. The device allows for non-destructive testing of manufactured materials.

The VGA transreflective display combined with a patented digital high dynamic range receiver provides a clear image on the screen in any lighting condition. The device meets the requirements of EN12668-1 and supports a range of standard and optional flaw detection features, such as encoded B-scan and optional corrosion thickness gauging. It also achieves an IP66 rating for the unit with knob and button controls or IP67 in the navigation pad configurations.

The product simplifies data collection and reporting and supports multiple methods of storing, archiving and reporting inspection and calibration data. Reports can be saved to a removable microSD memory card or exported. A second 2 GB microSD memory card is used for all onboard data storage and is securely mounted to the PC board inside the instrument. An in-built video recording feature can also capture up to eight minutes of the live A-scan inspection data at 60 fps.

The product is also compatible with the Olympus GageView Pro interface software.

Olympus Australia Pty Ltd
www.olympusaustralia.com.au

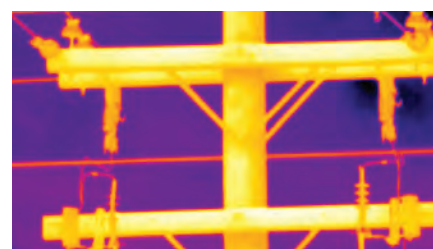
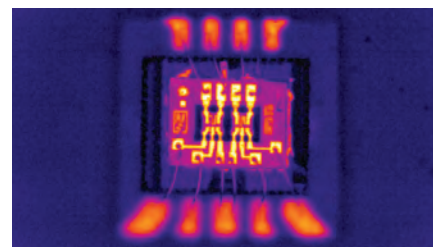


Infrared camera lenses

Fluke has added two lenses for select infrared cameras of 320 x 240 resolution and under to its portfolio of lenses, which bring the temperature variances of near-microscopic or far-distant objects into sharp focus.

The 25-micron macro lens, compatible with Fluke TiX560 and TiX520 infrared cameras, can identify defects that might otherwise be too small to see on targets like PCB boards. The product lets technicians distinguish thermal variations across distances smaller than a human hair, making it suitable for applications in electronics/PCB board R&D. The LaserSharp Auto Focus button is used to set the focus at the optimal distance for the lens, eliminating the need to move the focus wheel by tiny amounts to get accurate, in-focus images and speeding infrared measurements. The 4x telephoto lens offers users a four times magnified view of a target at a distance and is compatible with Fluke TiX560, TiX520, Ti400, Ti300 and Ti200 infrared cameras. The product helps identify problems in power utilities as small as a failed splice on a high electrical line while keeping technicians safely on the ground. In applications like petrochemical and metals refinement where explosive atmospheres, extreme heat or dangerous electrical levels make keeping a safe distance critical, the telephoto lens allows for distant details to be more easily viewed while keeping workers at a safer distance.

Fluke Australia Pty Ltd
www.fluke.com.au



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FAST FACTS



MENTAL HEALTH IS EVERYBODY'S BUSINESS

As you read this, around one in six Australian workers are experiencing mental illness. In some occupations, particularly those that involve mental stress or trauma, the rate is even higher.

Depression and anxiety are the leading cause of long-term sickness absence in the developed world and projected to be the biggest cause of long-term disability by 2030.

Mental illness doesn't discriminate, so a CEO is just as susceptible as an admin assistant, possibly even more so. From a business perspective, this means significant costs to productivity and operations. From a human angle, it means more and more qualified people are becoming marginalised from workforces where they could potentially make a worthwhile contribution.

As awareness of workplace mental health issues has increased, more and more businesses are looking for solutions. A simple online search for workplace mental health will pull up thousands of results recommending everything from motivational talks to meditation. So, which one is best?

A comprehensive global analysis by Black Dog Institute researchers has identified a number of evidence-based interventions that will improve mental health in your workplace.



What can YOU do to improve your mental health at work?

1. **Get active:** Research shows that physical activity not only improves your waistline, it improves your mood.
2. **Be mindful:** Simple meditation techniques such as mindfulness can calm the mind and reduce stress.
3. **Sleep well:** Poor sleep can tip someone from stressed to depressed. Schedule in some wind-down time before heading to bed.
4. **Avoid alcohol and stimulants:** Alcohol is a depressant and caffeine may induce anxiety. Minimising intake of both will help boost your mood.
5. **Remember your work/life balance:** Sometimes it's hard to remember there's life outside of work but time spent with family, hobbies and other passions can induce happiness and joy and is essential to a healthy, balanced life.

Seven steps to better workplace mental health

1. **Understand:** Every workplace is different so it is important to understand who your audience is and how the best outcome can be achieved.
2. **Involve:** Increase employee engagement in the aspects of work that impact their mental health. Examples could include flexible working conditions or variable performance management structures.
3. **Educate:** Implement workplace health promotion campaigns that encourage workers to become more aware of the signs and symptoms of poor mental health and where support can be obtained.
4. **Lead:** Provide leadership training at all levels to ensure managers are confident in recognising the signs of mental illness, facilitating support and accessing appropriate workplace adjustments.
5. **Target:** Acknowledge that some occupations have a higher risk and proactively encourage workers to improve their resilience through evidence-based early intervention programs like myCompass.org.au.
6. **Engage:** Develop and encourage multilevel peer support or mentoring schemes to develop a safe framework for staff to seek support.
7. **Plan:** Develop a dedicated and accessible return-to-work program to assist those who have had to take leave for mental health reasons.

Need more information about mental health in the workplace?

Managing mental health in the workplace can be a daunting task, but the good news is some great resources have now been made available. Black Dog Institute has developed a range of advisory and education programs using the evidence and best practice developed by its research team. These programs can be tailored to individual workforces and presented anywhere in Australia or New Zealand. Find out more at www.blackdoginstitute.org.au/public/education/workplace or contact the Head of Education Jon Tennant on j.tennant@blackdog.org.au.

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Heavy equipment stabilisation: the fall of timber

When it comes to the stabilisation of heavy equipment, the use of timber blocks presents a worrying series of inefficiencies and safety risks. Put simply: timber is unpredictable, unsafe and unnecessary. Yet remarkably, timber is still widely used as a propping product across the mining, agriculture, construction and engineering sectors. For various reasons, industry has so far failed to properly educate itself on this dangerous practice.

So what exactly are the downsides to timber as an industrial blocking and cribbing tool?

Firstly, timber is not a tool. While dunnage and blocks made of timber have traditionally been used for blocking and cribbing in industrial applications, these products are not engineered as fit-for-purpose tools for supporting machinery and equipment when carrying out assembly, repairs and maintenance tasks.

"The problem is that when people take random pieces of timber to use as support devices, they don't actually know anything about the species or state of the timber. It might be a piece of pine," said Tony Brooks from Cribbing & Matting Co. "Timber is not a tool. Only quality manufactured cribbing blocks and specially designed metal stands can be recognised as purpose-built tools for stabilising heavy equipment."

The hidden dangers of timber

The structural integrity of timber — or lack of it — often cannot be identified until it's too late. "A block may be perfect the day you buy it, but the danger comes as it ages and gets exposed to certain elements. Timber in moist conditions will absorb water and become structurally unsound, while timber exposed to excessive heat becomes brittle," said Brooks. "When wood creaks, for example, it is the sound of internal grain ruptures like splits and cracks rubbing together. At this stage the damage has already occurred, and the creaking sound is a warning."

When the load-bearing effectiveness is compromised, timber can catastrophically fail. "Timber in a working environment can be exposed to chemicals, solvents, fuels and other contaminants, so if you get a splinter it might be contaminated by a foreign body object, which has the potential to make any injury significantly worse," said Brooks.

A crate filled with risk

Brooks recently visited a machinery service provider, where he discovered a dirty stockpile area and a storage crate filled with different-sized timber blocks, covered in what appeared to be grease and oil. Scribbled on the crate was a label stating that the contents were "not free firewood".

External damage such as splits, localised compression dents and missing edges where sections had broken away characterised the overall poor condition of the timber.

With years of experience in cribbing and blocking, Brooks identified this scene as evidence of the lack of understanding that continues to plague the industry.

"Clearly the label on the crate was to warn would-be pilferers that this timber had a workshop purpose," said Brooks. "The best technology is grossly underutilised. Once people gain an appreciation for the flexible alternatives, I believe the take-up will undoubtedly rise."

The engineered alternative

What makes a plastic engineered cribbing block superior to timber? "It has a known working load limit, it has a specific chemical composition that is constantly repeated, it has a quality manufacturing process that ensures all products are the same — plus or minus 5% — and it possesses uniform load-bearing capacity across the entire block."



Tony Brooks is the Founder and Director of Cribbing and Matting Co, which specialises in providing industry with safe and sustainable products and solutions. With a background that spans three decades in industrial sales across mining, engineering, constructions and capital equipment industries in Australia, New Zealand and South East Asia, he has worked with leading internationally recognised tool brands that are designed to improve work practices and cultures. He is passionate about promoting safety and safety solutions throughout industry.



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March 2015 total CAB audited circulation (Aust +
New Zealand) **6501 readers** (89% personally requested)

Subscriptions:

For unregistered readers - price on application

ISSN 1447-8277
PP100007391

Printed and bound by Dynamite Printing
Ph: +61 3 8554 7400

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