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How To Achieve A Seamless Transition From Conventional Radio Technology To Ex-Safe 5g POC Communication?



i.safe MOBILE



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How To Achieve A Seamless Transition From Conventional Radio Technology To Ex-Safe 5g Poc Communication?

i.safe MOBILE sets new standards with its new 5G radio IS440.1

In recent years, there has been an increasing shift from conventional radio technology to digital PMR technology, particularly in the industrial sector. This is where private 5G mobile networks come into play, meeting growing connectivity needs with higher coverage, bandwidth and security. Reliable communication is essential for team coordination on large company sites - in hazardous and non-hazardous areas. As not all parts of the company are usually converted to digital formats immediately, a cross-technology solution for group communication is required.

i.safe MOBILE responds to the demands of industrial users. The new development from i.safe MOBILE closes this gap: The 5G radio provides secure and interference-free PoC communication via public or private 4G/5G networks on site or Wi-Fi® as a backup connectivity. The ATEX/IECEX certified 5G radio IS440.1 for Ex-zone 1/21 enables seamless group communication via a PoC bridge server with existing devices like two-way radios (TETRA, DMR and analogue PMR). The new 5G radio supports 3GPP Release 15 and has a very reliable chipset on board. The device features a user-oriented look and feel, a replaceable battery (with 2400 or 4800 mAh), large keys for PTT, SOS, talk group selection, dual SIM (with automatic network switching), a powerful front speaker (>105 dB) for noisy environments, a unique 8-pin ISM interface for connecting headphones and heavy duty headsets (HDHS) and a functional fixing clip.

The 5G radio is mostly used in the campus network, but an alternative SIM card for the public network can of course also be inserted to have a fallback option in an emergency, another fallback option is of course the connection via Wi-Fi. In terms of connectivity, it is equipped with Wi-Fi 6, NFC (for access control,

data transfer between two devices, reading NFC tags) and Bluetooth® 5.2. In addition to all major public 4G/5G frequency bands, the IS440.1 also supports the CBRS spectrum and B68 for public safety applications.

The user can download selected apps compatible with the device directly from the pre-installed i.safe MOBILE App World and update them regularly. The App World contains product-related, pretested push-to-talk and MDM solutions. With the corresponding app from App World, the IS440.1 is more than just a radio. The IS440.1 enables advanced functions such as:

- Push-to-Talk: instant communication at the touch of a button
- Full-duplex communication: Seamless two-way calls
- Video streaming: visual information exchange in real time
- Protection of lone workers: Increased safety for isolated workers

Robin Hartmann, Manager Operative Business Development of i.safe MOBILE comments: "With the development of our 5G radio, we are responding to many of our customers' requests for a bridge technology between existing communication devices such as two-way radios and modern 5G devices on the road to digital transformation. This gives customers the opportunity to gradually digitalize their communications."

Further information and a dealer directory can be found at www.isafe-mobile.com





Cutting-Edge Engineering On Show At Southern Manufacturing & Electronics 2025

Advanced technology from across the mechanical engineering and electrical/electronic spectrum awaits visitors to the next Southern Manufacturing & Electronics trade fair, which will take place from 4th to 6th February 2025 at the Farnborough International Exhibition & Conference Centre (www.southern-manufacturing-electronics.com).

The new owner of the exposition, Easyfairs, an exhibitions specialist that runs more than 100 events across Europe, says that a particularly high level of interest in the run-up to the show from companies not just in Britain and Ireland but also from overseas indicates that 2025 will be a sell-out, with more than 500 stands expected to be booked for the first time.

The event, which was launched in 1997 as a small, regional gathering of engineering firms in the south of England, has grown to become the largest and most comprehensive annual industrial exhibition in the UK and a major global showcase for engineering and manufacturing technology. Testament to its effectiveness as a business forum is the very high rate of return bookings. A large percentage of participants are regular returnees and many have been with the show since it started.

It is important enough to attract big-name manufacturers, but is also accessible to SMEs, as the exhibition operates a policy of open access that discourages larger firms from dominating the space to the detriment of smaller vendors. The amalgamation of diverse sectors and vendors under one roof makes it an ideal platform for undertaking multifaceted research and sourcing requirements.

It will be the place to see all the latest in equipment, components and consumables for mechanical, electrical and electronics manufacturing, as well as a host of ancillary products and services such as labelling, storage and handling, freight forwarding and training. It is a key occasion for anyone involved in design, production, procurement or management who is keen to keep up to date with new developments in machine tools, tooling, workholding and other accessories, box build, PCB manufacture, automation and robotics, test, inspection, measurement, additive manufacturing, production planning, engineering and business software, and much more.

Over the three days, visitors will be able to take advantage of an exten-

sive programme of free technical seminars covering a wide range of topics to give visitors valuable learning opportunities, with a particular focus on the technical, managerial and environmental issues facing manufacturers today.

Southern Manufacturing & Electronics 2025 co-locates with AutoAero, a specialist thread that runs through the main programme concentrating on matters important to automotive and aerospace engineering. Both sectors directly contribute billions of pounds to the UK's GDP, while supporting numerous industries and businesses in the supply chains and providing much needed employment for highly skilled people.

There is free car parking at the Farnborough site, which is well served by road and public transport links. A regular, complimentary bus service runs between the two local railway stations and the showground. Admission to the exhibition is also free. People that sign up now are guaranteed to receive an advance copy of the printed preview guide. Register today at:

<https://register.visitcloud.com/survey/00mf6xsmh61zw?action-code=1034>



Representatives from Syngenta, SSE and Axiom recognised in EEMUA Awards 2024

EEMUA is pleased to announce that the winner of its Early Years Industry Award 2024 is Joseph Flynn, an electrical, control and instrumentation (EC&I) technician at Syngenta. The award recognises the efforts of new starters within the engineering field in EEMUA member companies, demonstrating their communication skills, engineering application and leadership in their specialism.

The EEMUA Awards Committee were impressed with Joseph's entry where he demonstrated great achievement and innovation making good use of relevant guidance and available materials to propose and implement a company project that assists with preparing and training early entry engineers for working in potentially explosive atmospheres. The result is a thoroughly practical contribution to better in-house training.

On receiving the award, Joseph said: "Understanding and utilising the skill-sets of employees inside our organisations allows for better collaboration, innovation, and teamwork to drive us closer to our goals. I'm very pleased with the outcome of this project and look forward to the following stages of its development and integration within the company."

In recognition of the high quality of entries to the Early Years Industry Award, 'runners-up' prizes are presented to Kirsty Pratt, Graduate Wells Engineer at Harbour Energy and Taliya Mammadhasanzada, Process Engineer at BP. Also shortlisted for the award were Amanda Dixon, Developing Engineer at Sellafield Ltd and Promise Ahante, Associate Product Engineering Manager at BP.

EEMUA is also pleased to announce that the recipient of this year's Stuart Turner Award is Katherine Asvegren, Senior Pressure Systems Engineer at SSE Thermal, and that Adam Potter, Managing Director of Axiom, receives the EEMUA Associate Contributor of the Year Award.

The Stuart Turner Award honours the memory of Stuart Turner, an enthusiastic advocate for all things EEMUA, by recognising an employee of a member organisation who has made a significant contribution to the work of EEMUA. Katherine impressed the Awards Committee with her continued involvement across a range of EEMUA activities and significant contributions over many years. This has included active involvement within committees, chairing the Piping Systems and Pressure Vessels Committee for the last three years, being actively involved in several working groups, speaking at EEMUA events, and representing EEMUA as a speaker at events, and her work for the EEMUA Mechanical Integrity Practitioner Certificate (MIPC) course both as an assessor and content developer.

The Associate Contributor of the Year Award mirrors the Stuart Turner Award by celebrating EEMUA Associate employees who give their expertise to play a part in the Association's work. Since Axiom became an Associate in 2017, Adam has been committed in his support of EEMUA events and contributing to EEMUA activities, most recently as a member of the working group authoring new guidance (future release) on metallic storage tanks.

The achievements of all the nominees and winners were celebrated at the EEMUA Annual Dinner held in Chester on 20 November.



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Hart Doors - Another Anniversary Beckons

“The spirit of innovation” “World class projects”

2

025 will see the 78th anniversary of Hart Door Systems, the celebrated industrial door manufacturer of high speed industrial doors, commercial doors, security shutters and much more writes Chris Dobson.

Established in Newcastle upon Tyne by

Norman Hart and now continued by his son Douglas and now grandson Nicholas “a great deal has been achieved,” says Douglas Hart.

Reflecting on his father’s work where the focus was on shopfitting, Douglas says the emphasis had to be on quality and innovation otherwise success would not have been possible.

“By chance a few years ago I saw an original Hart shop fit in Cork with a gleaming brass credit to Norman Hart Newcastle,” says Douglas. “Maybe there for 40 or 50 years, that showed the quality achieved in those days.”

Respected for their quality and abilities to create first-class space, be it

for retail and more general commercial space, shopfitters had the skills to transform space by developing an environment that added value and created attractive space, vital for retail success.

With this background engrained Douglas Hart took over the management of the business in 1971 following the illness of his father. “It was a time of repair, new build and growth and as far as Hart Industrial Doors was concerned this had to be a time of opportunity.”

The first interview I had with Douglas Hart was on site at Redburn Road, Westerhope, Newcastle upon Tyne. It was in one of several portacabins which overlooked an industrial building. Today and on the same site, there is a fine Grade A office building which adjoins an impressive production facility – a remarkable transformation.

In those early days the focus was on a move into the industrial doors market. “The skills for making shutters for the retail sector were broadly what we needed to manufacture industrial doors so why not move into this burgeoning post War sector?” he thought.

Hart Industrial Doors was the title of this business which was heading

in a new direction. "I sensed change was taking place. In our own factory I observed the daily, hour by hour, use of the very doors I made and true they were secure, kept the cold North East air out when shut but most of the time the doors remained open," said Mr Hart.

"If the doors are left open what happened to the expensively heated air, it simply escaped. The solution was therefore in the speed of the opening and closing cycle. For speed we had to move away from steel and aluminum to a lighter fabric which would roll up at speed so reducing the opening closing cycle dramatically." Enter Speedor.

"Little did I know at the time that this innovative brand would become a global brand used by manufacturers, airports and many other sectors to save on energy, improve the shop-floor environment and reduce noise, odours and so on.

"This spirit of innovation is embedded into our continually evolving product range of Speedor high-speed doors, fire shutters to Loss Prevention Council Standards, security rated shutters and specialist doors such as ATEX (explosive atmospheres) compliant doors and shutters.

"Today all our products are manufactured to international standards such as the ISO9001:2015 Quality Assurance scheme and LPS 1056 and LPS 1271, Loss Prevention Council Standards for Fire Doors tested to UK

and US standards.

"We offer consultancy, design, manufacture, shipping, installation, maintenance, servicing and training from a single source. This simplifies project management, helps to save on resources and reduce any administrative burden.

"Returning to Speedor, the strengths of the important brand are its speed and efficiency, energy saving, safety and security, low maintenance, durability and reliability, hygiene and cleanliness, reduced environmental impact and Compliance.

"It's important to remember that Speedor is not just a door, it's a strategic asset that enhances operational excellence, safety and sustainability in many varied circumstances across the globe during the crucial challenge of climate change. Speedors significantly contribute to a reduction in carbon, an ever more important issue."

As Hart Door Systems marches on, it's the blend of professionalism, reliability, customer-centricity, innovation, and global awareness that is the bedrock of its continuing success.

As Mr Hart says: "It's our brand that portrays an experienced authority in its field. We can provide illustrations and proof of reliable products and services in a way that instils confidence in our customers. After all we are a market leader delivering outstanding industrial doors and shutters in many varieties. Using world-class technology we are driven by innovation and advanced solutions which have enabled us to expand globally."

www.hartdoors.com



Doug Hart, Chairman - Hart Doors Ltd

Hoist & Winch Is Pillar Of Support In Overhead Crane Project

The design and installation by Hoist & Winch Ltd of replacement end carriages for two overhead cranes reached its conclusion recently with the end user expressing complete satisfaction in the outcome. Previously, the 2-ton swl (safe working load) manual overhead cranes were suffering from potentially dangerous crabbing problems due to the original

design of the end carriages. Hoist & Winch thus had a responsibility to work expediently and professionally, with the aim of bringing this concerning issue to a safe resolution.

Alongside the supply, installation, hire and load testing of hoist units/cranes for all types of industries, Hoist & Winch also offers lifting equipment refurbishment and rectification services. With each project of this type presenting its own set of challenges, the company comes to the fore in tackling work that competitors often prefer to avoid.

For this project, the relatively high-temperature working conditions and access requirements were a factor due to the basement location of the manual cranes in a large, ageing building in central London. The cranes work over two large gas-fired piston engines that provide heat to neighbouring buildings.

The core objective was to design and install replacement end carriages for the cranes that in the first instance would eliminate the potentially

dangerous crabbing issues. Due to this problem, the cranes had not performed correctly since initial installation.

Crabbing occurred because the original end carriage wheelbase was insufficient for the crane span, exacerbated by insufficient tread depth on the crane wheels. During long travel motion, the end carriage wheels would try and ride up (crab) on to the crane rails, a situation that can potentially lead to crane derailment.

With a solution required urgently, Hoist & Winch performed a detailed site dimensional survey to gather important design information and check the alignment of the existing crane rails. The company then set about designing replacement end carriages with a longer wheelbase and new crane wheels featuring deeper tread. Side-acting crane rail guide rollers at each extent of the end carriages were a further important part of the new design.

Working closely with the customer's on-site scaffold team, Hoist & Winch carried out a comprehensive installation survey. For the rectification work, the scaffolders agreed to build a temporary tube and board scaffold below each crane, providing both general access and jacking positions to raise and lower the cranes when replacing the end carriages.

Hoist & Winch submitted a Risk Assessment Method Statement (RAMS) for approval by the customer. The RAMS detailed the installation procedure, the required equipment, and the hazards and risks associated

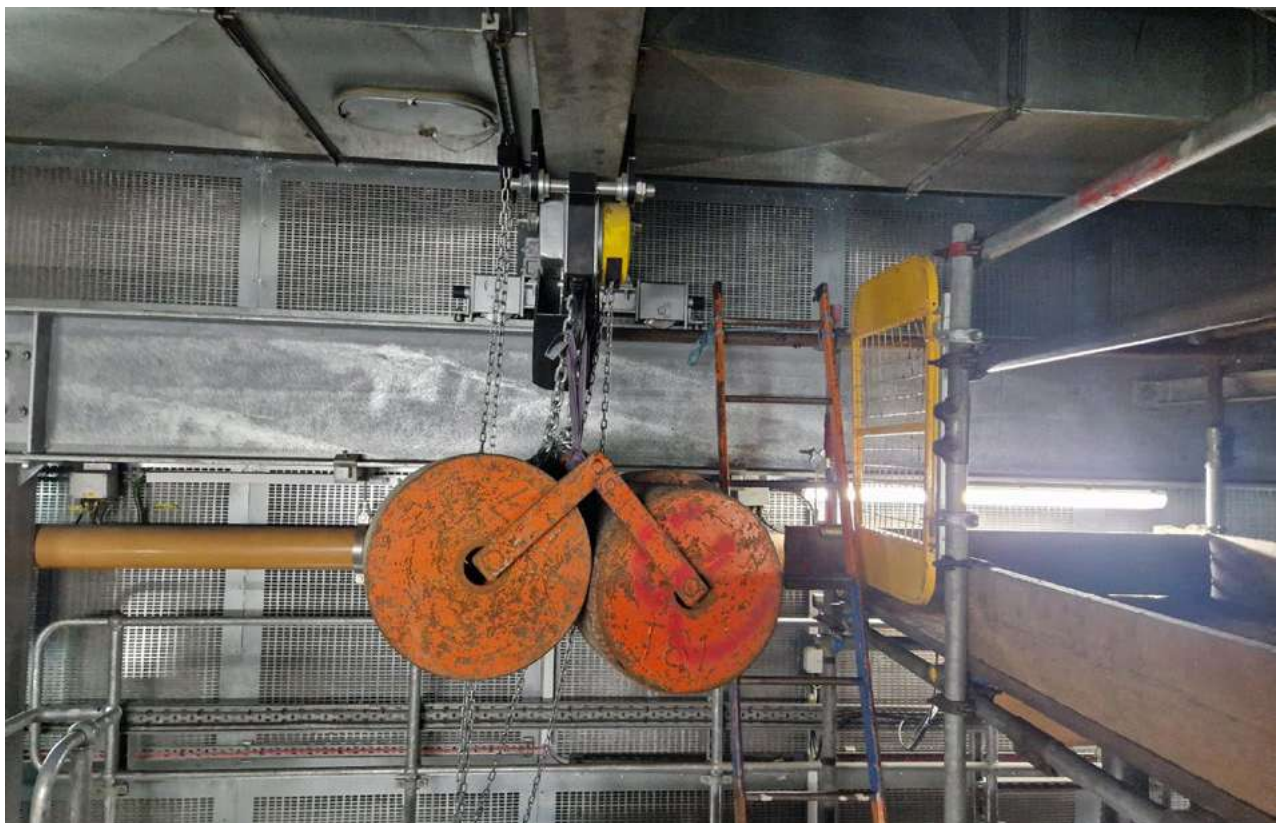
with the various tasks and how appropriate actions would mitigate accordingly.

Following a five-week period to manufacture the replacement end carriages, installation took place over four days for both cranes. The work included dynamic load and 125% proof load testing with a certified roller test load for each crane. A series of lifting beams helped to move the test load into the basement area via the use of temporary manual hoist units.

Hoist & Winch issued a Thorough Examination report in accordance with LOLER (Lifting Operations and Lifting Equipment) regulations.

"The new replacement end carriages served to eliminate the crabbing issues exhibited by the original crane design," confirms Hoist & Winch Director Andy Allen. "Our customer was very satisfied as they could carry out essential maintenance work on the gas-fired piston engines that was previously delayed. The successful conclusion of this task is yet another example of how Hoist & Winch works with its customers in a professional way to overcome challenging issues and bring genuine added-value to lifting projects."

Visit www.hoistandwinch.co.uk



Earth's Warmest Year Sends A Vital Message Says HART

Recent research from Copernicus said 2024 was on track to be the warmest year since data was first analysed in 1940 writes Chris Dobson.

Indeed 2024 was on track to be the first year with increases above 1.5 degrees C. This increase is at odds with the target set at the Glasgow Conference of the Parties (COP) in 2021 which concluded "a future with only 1.5 degrees of warming is possible". Well the 1.5 C ceiling has just been broken.

On a winter's day it is hard to think in terms of 'warmth' but just think of the recent severe flash flooding in some areas of Europe and Polar sea ice reached its lowest monthly extent "continuing a series of large negative anomalies observed throughout 2023 and 2024" all contributing to Climate Change.

Walking passed a major supermarket the blast of escaping warm air prompted me to call Doug Hart, chairman, Hart Industrial Doors and ask him about the ever open door in industry and escaping heat.

"If it's a heavy manual door or some sort of system that's easier to leave open, then given the size of industrial doors the escape of expensively heated air will be huge. It's a question of who notices this. If no one does, no one in the building be it a warehouse or a production facility, then the merry-go-round of the ever open door will continue."

Which leads to Mr Hart's Speedor, the high speed automatic door which is now in daily action world-wide. "It was blatantly obvious to me that a frequently used manual roller-shutter industrial door is easier to leave open than to open/close every time access is needed.

"It was also obvious that the gaping hole of the open door is costly in terms energy which inevitably leads to a Climate Change contribution however small," says Mr Hart.

"We use world-class technology in the manufacturing of our doors and as a result. Our Speedor range and its many variants are in use on every Continent backed up fire and security shutters which like Speedor are in daily use in sectors such as energy, high security, logistics, leisure, manufacturing and transport.

"With over 75 years as the UK's leading door manufacturers, our industrial doors are used across many sectors, including manufacturing,

energy, export, leisure, utilities and infrastructure.

"Whether you are looking for doors for high-traffic areas, energy-saving doors, or roller doors for clean rooms or warehouse/loading bays, during the manufacturing of our doors we design and custom-make them for durability and reliability, vermin and dust control, heat-sensitive production processes, safety and security.

"Speedor is not just a high-speed door in external use but also within a building essential to maintain the required working environment."

Bravo Speedor.

www.hartdoors.com



Enerpac Pump-Powered Locking System Boosts Roof Tile Production

An Enerpac pump-powered door handling system is helping boosting production at the CSR Monier Roof Tile Plant, Darra, Brisbane. The system ensures all doors on the curing chambers are handled in a quick and efficient manner, ensuring production rates are maintained with no stoppages.

Roof tiles are manufactured in batches and then cured in a heated chamber. Declining factory productivity prompted CSR Monier to ask manufacturing and process improvement services company, Heltec Pty Ltd of Queensland, to review concrete roof tiles production from the factory's 20 curing chambers.

Following an analysis of the roof tile production process, Heltec refurbished the concrete curing chambers to improve insulation, hence providing a higher humidity and ensuring consistent temperature across the chamber. All chambers must be completely sealed and airtight, to ensure that the exothermic reaction produced by the fresh concrete tiles can be taken advantage of.

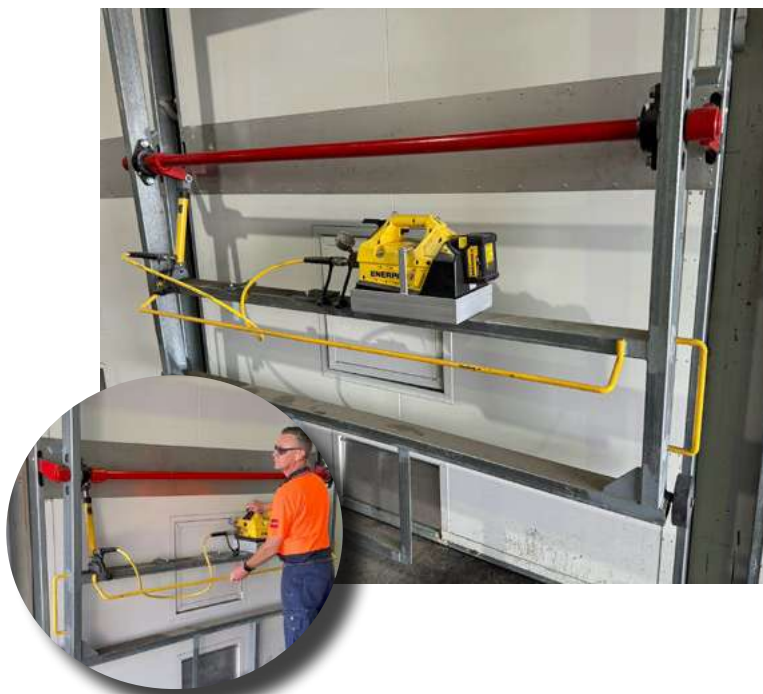
Options for automated doors that could provide an airtight room on such an old structure were limited. A custom door was designed; however the site needed a way to handle them in a prompt manner to accommodate the fast-paced manufacturing environment. Heltec developed a frame-mounted, custom push bar locking system powered by an Enerpac XC2 pump and RC59 cylinder. Once the large steel door of the heat chamber is in the closed position, the frame is moved into place. The operator then turns on XC2 pump which in turn activates the Enerpac RC59 cylinder, pushing the bar to lock the chamber door. Once locked, the frame mounted, push bar locking system is released. Mounted on rail above the chamber doors, it can easily travel between the factory's 20 chambers.

In addition to its labour-saving benefits, the Enerpac pump-powered locking system also ensures a reduced manual handling risk to the operator. Heltec advised that they favoured the Enerpac XC2 over other brands due to its reliability and quality along with the technical support that Enerpac provided, which made designing the system easier.

Initial results from using the refurbished chambers have a 50% reduction in the variation of resultant tile strength across the room, enabling greater daily production volume. Coupled with this was a 47% reduction in the variation across the chamber for residual moisture in the tiles prior to packaging, meaning storage times in the yard for the final stages of the tile curing process can be reduced and the product dispatched to customers quicker.

"The Enerpac XC2 pump and RC59 cylinder has played an important role ensuring that all chamber doors are not only handled in an efficient manner, but also in a safer way," said Peter Stephens of Heltec Pty Ltd.

For more information on the Enerpac XC2 pump and Enerpac's range of battery-powered, portable pumps, visit www.enerpac.com.



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Cleaning and Lubrication: Proper cleaning and lubrication are essential for the smooth functioning of your safety equipment. We will thoroughly clean all parts, removing dirt, debris, and other contaminants that could compromise performance.

Maintenance and inspection: Failsafe maintenance and inspection are crucial to guarantee safe and reliable operation. Our experts will calibrate your safety product according to industry standards, making necessary adjustments to maintain availability in times of need. This step is vital for equipment used in remote site locations with variable environmental temperatures.

Component Replacement: Over time, certain safety product components may wear out or become obsolete. As part of our maintenance program, we will identify any worn-out parts and promptly replace them with high-quality, manufacturer-approved replacements.

Documentation and Reporting: Our maintenance program includes

comprehensive documentation and reporting. We will keep detailed records of all inspections, repairs, and replacements performed on your safety product.

By enrolling in our 5-Point Maintenance Program, you can enjoy the following benefits:

Enhanced safety: Regular maintenance ensures that your safety product is functioning optimally, reducing the risk of accidents and injuries.

Improved equipment lifespan: Proper care and maintenance extend the life of your safety equipment, saving you money on premature replacements.

Compliance assurance: Our program helps you stay in compliance with safety regulations and standards, giving you peace of mind during inspections.

Minimised downtime: Proactive maintenance reduces the likelihood of unexpected breakdowns, keeping your operations running smoothly.

Expert support: Our trained technicians possess the expertise to identify and address any issues, providing reliable and efficient service.

Invest in the longevity and reliability of your on-site safety product with our 5-Point Maintenance Program. Contact us today to learn more and schedule your maintenance sessions. Your workforce's safety is our top priority at Aqua!



Reer's New Atex-Certified Versions Of Mosaic Safety Controllers



Reer Safety's ATEX (Ex) certified Safety Light Curtains are now complemented by a new range of ATEX-certified versions of their Mosaic Safety controllers.

These new Mosaic RV controllers expand Reer's solutions for industrial environments with potentially explosive atmospheres. The versatility of the Mosaic RV range makes it suitable for a wide range of industrial applications:

- Chemical and Petrochemical Plants: Providing safe control in environments with explosive gases or vapours.
- Industrial Automation: Ideal for regulated sectors such as pharmaceuticals and food, where safety and productivity must go hand in hand.
- Maritime and Offshore Applications: Designed to withstand harsh marine environments.

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The Mosaic RV range integrates seamlessly with the main and expansion modules of the broader Mosaic series, offering unparalleled flexibility.

- MIS RV: Advanced master unit for comprehensive safety control, compatible with a wide range of expansions.
- MIS COM RV: The most advanced master unit, featuring dual RJ45 interfaces for Field-bus connections and remote management, ideal for complex and highly integrated systems.
- MI8O4 RV: Expansion module with digital inputs and outputs.
- MA4 V: Expansion modules for analogue inputs.

- MBC V: Field-Bus interface modules for diagnostics and data transmission.



The modules are the latest addition to Reer's MOSAIC Safety Controller range which features 3 master units and the ability to connect up to 14 expansion modules. Its modularity provides flexibility and allows its adaptation to diverse applications of all sizes, from small machinery to complex production lines.

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Ensure Your Hazardous Area Cable Gland Installation Is Fully Safe And Compliant

The latest version of EN60079-14 published this year could not make it any clearer on the use of the Omni® Accessory to ensure your hazardous area cable gland installation is fully safe and compliant to the latest standards.

EN60079-14 8.3.2 states that "Cables shall be supported and routed straight from the cable entry device to avoid lateral

tension that could compromise the seal around the cable" and that "if additional clamping is required to prevent pulling and twisting of the cable transmitting the forces to the conductor terminations inside the enclosure/connector, a clamp shall be provided, as close as practicable to the gland along the cable. Note 1: Cable clamps within 10 times the diameter of the cable or 300mm whichever is the shorter length of the cable entry device are commonly used and might be required by other codes, for example IEC 61892."

In short, cables should be clamped, as close to the rear seal of the gland as practical, to help prevent cable movement which in turn can loosen conductors and cause water and dust ingress.

But it is not just here where the use of the Omni® Accessory is recommended. This requirement to ensure cables are correctly supported when exiting cable glands is further demonstrated in almost all Hazardous Area gland manufacturers certificates and instructions for safe use. The majority of compression, displacement or diaphragm type Ex glands, when used with unarmoured or braided cables, require that the cables are clamped to prevent pulling or twisting in order to maintain IP (ingress protection against water and solids) as well as the electrical continuity of the braid/shield.

Almost every hazardous area cable gland, irrespective of manufacturer,

with an "X" at the end of their ATEX/IECEx certificate number, requires that the cable, when used in a fixed installation with unarmoured or braided cable is clamped to prevent pulling or twisting. Most of the leading glands in the market today have a similar requirement, yet the majority of installations bypass this requirement completely.

This is not a "nice to have" rather a legal requirement to ensure the gland is installed in line with the certification – without this, your installation is non-compliant.

The Omni® Accessory from Blayds is the all-in-one solution that ensures your cable installation is correctly routed straight from the gland whilst also ensuring that the cable is clamped to prevent twisting and pulling. It also includes an integrated IP seal, earthing, and also provides a handy location for cable/circuit marker. Available in Brass or Nickel Plated Brass with/without integrated IP washer and in sizes M20 through to M40, the Omni® Accessory is a simple and cost effective way to ensure your cable gland installations are compliant with the latest standards. By installing the Omni® Accessory, you are helping to reduce the strain on the cable gland seal, improving its lifespan, its IP performance and its hazardous area protection.

Visit the Blayds website today at www.blayds.com or email enquiries@blayds.com to request your free of charge Omni® Accessory sample pack.





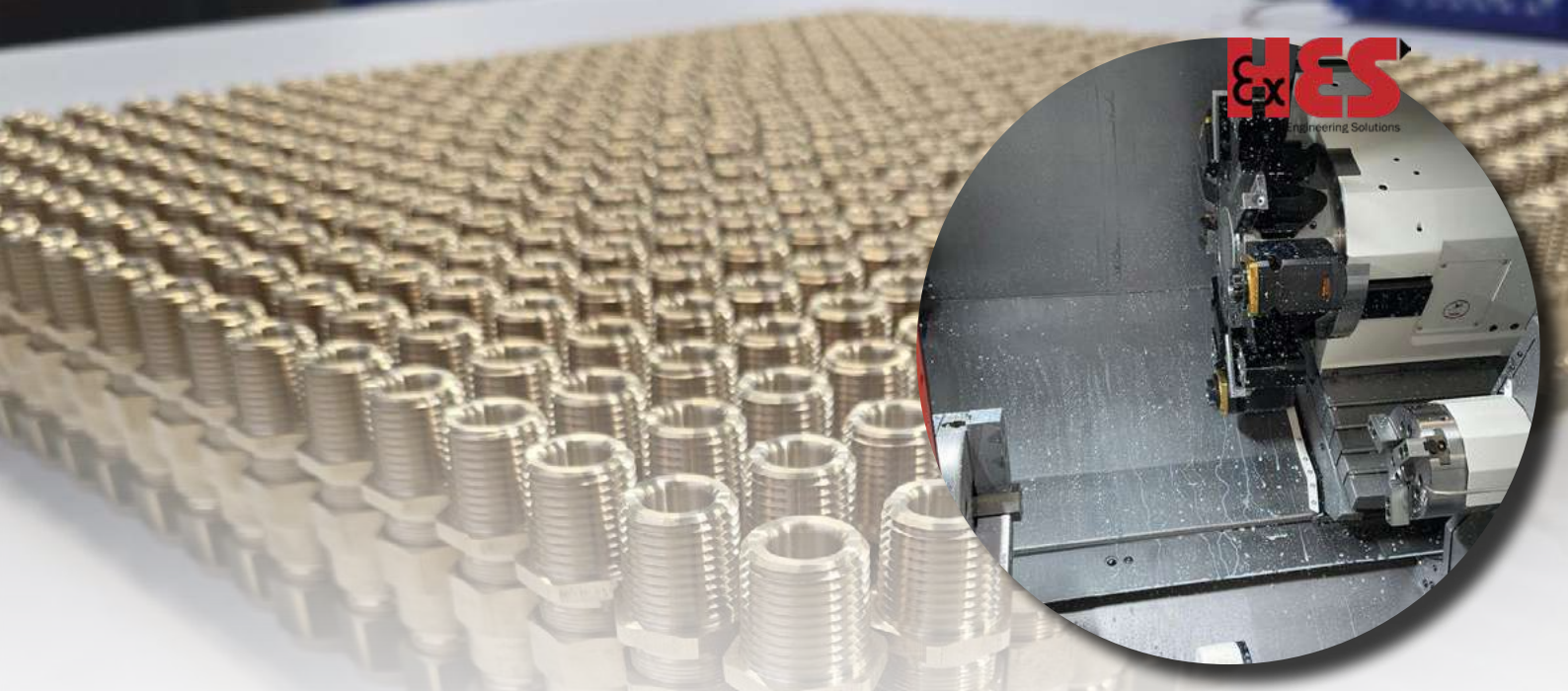
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END-TO-END PERFORMANCE



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Investing In Innovation: Peppers Cable Glands Enhances Customer Support With Quick Response Cell And Their New Milling Machine

At Peppers Cable Glands, they believe that success is intrinsically tied to the success of their customers. By continually improving their processes, technology, and customer support capabilities, they aim to ensure that their customers receive the highest quality products and services. Recent investments not only enhance their production capabilities but also improve how they serve their customers: the introduction of a new milling machine and the Quick Response Cell (QRC).

The Quick Response Cell (QRC) is designed to provide rapid, tailored solutions for customers who need high-priority or custom cable glands. By setting up a dedicated team with streamlined operations, Peppers can quickly pivot to meet urgent demands, minimising lead times while maintaining industry-leading quality standards. Whether it's delivering on custom specifications, unexpected large orders, or meeting time-sensitive project requirements, the QRC has become a valuable resource for clients who cannot afford delays.

With the QRC in place, they've helped numerous customers avoid costly project overruns and minimise downtime, enhancing their overall project efficiency. The QRC embodies Peppers' commitment to offering fast, flexible, and responsive service, especially in today's fast-moving industries.

In addition to the QRC, they've also invested in cutting-edge manufacturing technology by bringing a new milling machine into their production line. This advanced piece of equipment increases manufacturing precision and efficiency, allowing them to meet growing customer demand with even greater accuracy and reduced turnaround times. The new milling machine ensures that their cable glands meet the tightest tolerances, providing enhanced reliability in the most demanding environments.

"The Quick Response Cell and new Milling Machine allows us to respond more agilely to fluctuating customer needs and market con-

ditions. By leveraging automation, we can quickly adapt to changing demand, ensuring we are always ready and able to meet our customers' requirements". Grayham Churchouse, Sales Manager.

For their customers, these investments translate to greater confidence and peace of mind, knowing that Peppers is constantly enhancing its capacity to meet their needs. By upgrading their manufacturing capabilities and reinforcing the QRC, they can ensure that their customers' businesses are never held back by delays or product shortages.

At Peppers Cable Glands, the priority remains supporting their customer's businesses. These investments and initiatives are just part of an ongoing commitment to delivering the best products and service, so customers can continue to focus on driving their business forward.





PRODUCT CERTIFICATION

ExVeritas offer highly accredited and internationally accepted product certification including UKCA Ex, ATEX, IECEx and North American Listing with award winning 'customer service' levels. Our unique 'CMS' system gives customer 24/7/365 access to their quotes, certification project status, and issued certificates. Whilst we specialise in explosion safety, we also have in house EMC and Electrical Safety testing to offer turnkey global approvals.



TRAINING AND COMPEX CERTIFICATION

ExVeritas are the leading CompEx provider with international practical training centres around the world. We have more experienced lecturers and more benefits than any other Ex training provider, including free software tools and pre-and post e-learning. Our unique speciality courses include 'advance' level Ex Inspector and 'Advanced Intrinsic Safety Circuit Design'. Only a company with ExVeritas depth of experience can deliver courses at this level.



The Explosive Atmosphere Safety Specialist

The ExVeritas Group provides Product Certification, Management System Certification, CompEx Certification and Site Safety Services. We are a UK Government Appointed Body for UKCA 'Ex', an ATEX Notified Body and an IECEx Certification Body and Test Laboratory

Our Product and System Certification is internationally recognised for global markets, and we can parallel issue UKCA, ATEX, IECEx and UKAS ISO9001 Certifications to save our clients time and money. For sites we offer safety consultancy on explosion safety including equipment risk assessments and Ex inspection. We also qualify people with CompEx certification as well as specialist and bespoke training.

ExVeritas is a multi-award-winning company including the 'Queen's Award', the highest honour that can be bestowed on a UK company. We have a proven track record of delivering world class certification, consultancy and training.

With Certification Bodies in the UK, Mainland Europe and North America and training facilities in the UK, Malta, Italy, Denmark and Ireland, we can offer a global service and a cost effective and efficient service.

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MANAGEMENT SYSTEMS CERTIFICATION

ExVeritas are one of only a handful of companies in the world that can offer a time and cost saving combined audit. We can certify UKAS (ILAC) ISO9001 and other QMS systems, UKCA QAN, ATEX QAN and IECEx QAR audit in one visit. In addition, we can combine other audits such as INMETRO, FUS (for North America) and even IECEx Service Facility Certification for further cost savings. We have redefined the 'one stop shop' for QMS Certification with the customer in mind.



SITE SAFETY

ExVeritas conduct electrical and non-electrical 'Ex' Inspections. We also offer explosion risk assessments, fitness for purpose assessments and even 'on site' UKCA, Notified Body or IECEx Certification. All of this makes us uniquely positioned to deliver full compliant explosion safety solutions, including our unique online and tablet based 'iEx Inspection & Management' solution.



www.exveritas.com
info@exveritas.com

Strategic Acquisition Of Exveritas

NMi Group ("NMI"), internationally recognised for mission-critical Testing, Inspection, Certification, and Calibration (TICC) services for product market acceptance, announced the strategic acquisition of ExVeritas. This move substantially strengthens NMI's Market Access capabilities, particularly in the specialised field of product safety certification for hazardous environments. This mandatory certification needs to be obtained for products used in areas where gas, vapor or dust explosions can occur and applicable in various end markets where many of NMI's clients operate, such as Energy & Utilities, Food & Agri and Industrial & Manufacturing. The acquisition aligns with NMI's commitment to enhancing safety worldwide.

<https://www.exveritas.com/>

Founded in 2005, ExVeritas plays an essential role in the certification landscape with subsidiaries in the United Kingdom, Denmark, and the United States. ExVeritas is a designated UKCA Approved Body (2585) and European Notified Body (2804), holding accreditations for UKCA (Ex) and ATEX in Europe. It is also recognised under the global IECEx scheme, and its US operations are accredited as an Associated Test Lab and accepted as an Independent Laboratory by the United States Coast Guard (USCG). These comprehensive certifications enable ExVeritas to facilitate global market access. Led by founders Sean Clarke and Stephen D'Henin, along with regional co-founders Luke Ricks in the US and Peter Lauritzen in Denmark—who will continue guiding ExVeritas post-acquisition—the company provides specialised services, including ATEX/IECEx type approval, management audits, training, and inspection.

This acquisition marks a significant advancement in NMI's strategy to enhance service offerings and expand its geographical footprint. Importantly, it simplifies the certification process for our shared client base. By uniting NMI and ExVeritas, we can offer clients a streamlined approach to securing essential product safety certifications, accredited

and certified to UKCA, DANAK, ATEX, IECEx, and USCG standards, making market access more efficient and straightforward.

Yvo Jansen, CEO of NMI, stated, "Partnering with ExVeritas and their solid global expertise is a landmark development in our efforts to enlarge our reach and capabilities in our market access services. The expertise of ExVeritas directly enhances our portfolio, addressing a specific market need for rigorous safety certifications required by OEMs, Installers, and End-Users to access the global market and drive product safety. Following our earlier expansion into Cybersecurity with the acquisition of TrustCB, this new collaboration further broadens NMI's service offerings, now covering Metrology, Cybersecurity, and Product Safety."

<https://nmi.nl/nmi-group-expands-reach-into-cybersecurity-landscape-with-trustcb-acquisition/>

Sean Clarke, co-founder of ExVeritas, commented, "Joining NMI Group opens significant avenues for ExVeritas to scale our operations more effectively. Powered by NMI means joining a team with a proven strategic vision and ambition, leveraging their international reputation and technical expertise, thereby allowing us to focus on ExVeritas' continued growth. This collaboration will enhance our ability to deliver expanded services and meet the complex safety standards our clients require in hazardous environments."

The acquisition is a key component of NMI's buy-and-build strategy and aligns seamlessly with our mission in 'Measuring Tomorrow.' This approach emphasises forward-thinking solutions to global market challenges, focusing on sectors that demand robust safety certifications. ExVeritas's strong market presence and its reputation as a trusted certification body are crucial for advancing NMI's objectives in both new and existing markets, enabling us to further expand our valued and flexible service offerings to meet our clients' evolving needs.

<https://nmi.nl/llcp-backed-nmi-certin-looks-at-acquisitions-mandates-cfi-cfo/>





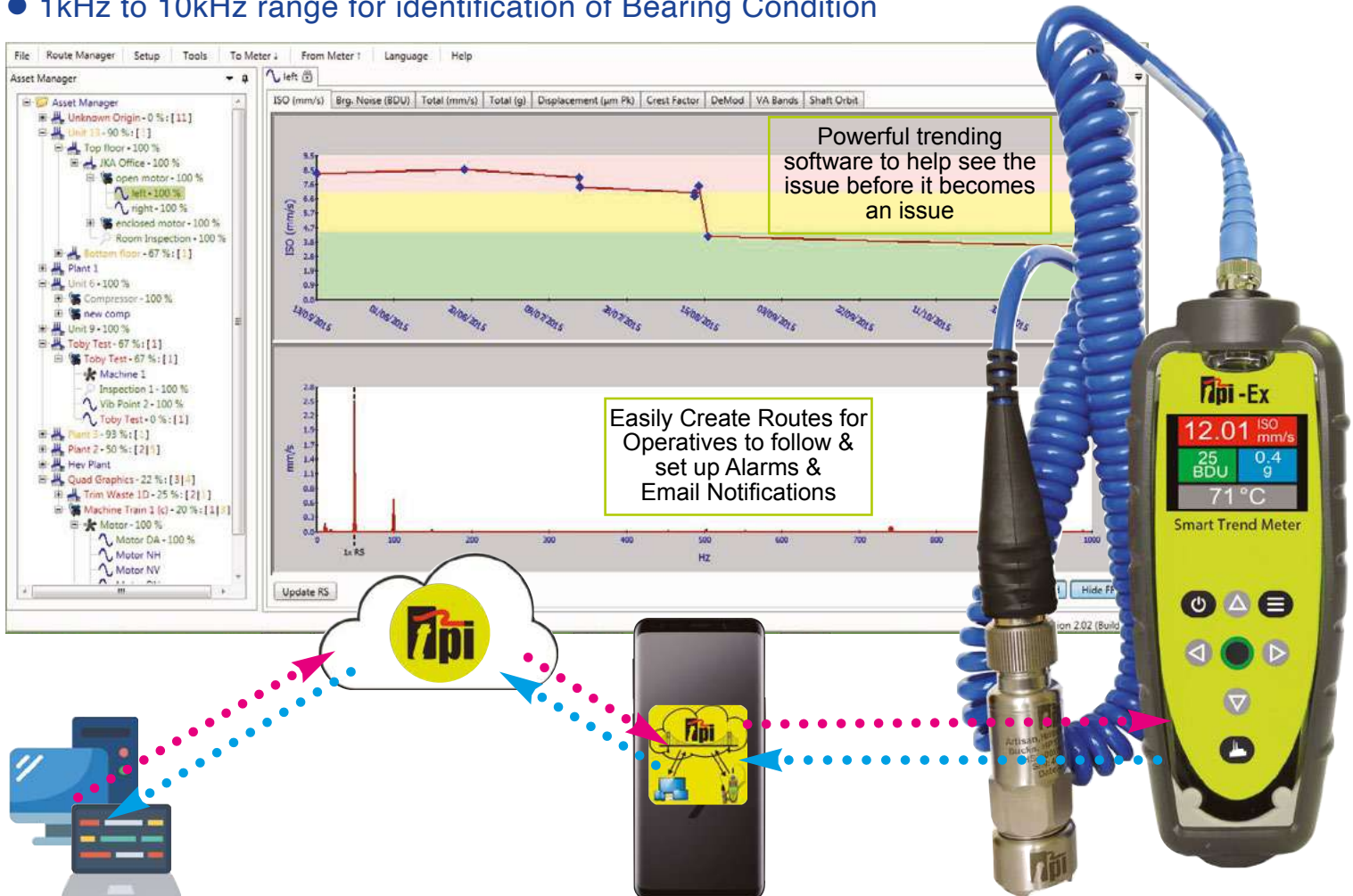
Test Products International Inc.

Do you need to monitor the condition of your machinery in Hazardous environments, including ZONE 0?



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Do You Know Your Ex “Zones” From Your “Classes” And “Divisions”?

Worldwide, Dangerous Substances and Explosive Atmospheres Regulations require employers to control the risks to safety from fire and explosions. This entails compliance with international standards, which in turn requires that any electrical equipment used in a hazardous area must be certified intrinsically safe. The likely existence of an explosive atmosphere is dealt with in the various standards by the definition of “Zones”. Importantly, it is the responsibility of the plant operator to decide which parts of their plant are in which Zones.

For the IECEx (Worldwide) & ATEX (European) standards the following Zones are defined:

Zone 0 - an area in which an explosive atmosphere is present constantly or for long periods or frequently.

Zone 1 - an area in which an explosive atmosphere is likely to occur in normal operation occasionally.

Zone 2 - an area in which an explosive atmosphere is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

However, in North America, a system of “Classes” and “Divisions” is used:

Class 1: Relates to gases and vapours.

Division 1: The hazard can exist under normal conditions, or could be caused by maintenance work, leakage, or breakdown.

Division 2: Gases or vapours are confined and only escape due to accidental rupture or breakdown.

This can lead to confusion when an instrument is likely to be used in different world regions. The simplest solution is to go for a Zone 0/Class 1, Div 1 dual certified instrument, which then covers all eventualities worldwide.

Typically, Zone 0 intrinsically safe instruments are expensive. However, Test Products International (TPI) believes it has achieved a significant cost breakthrough with its very affordable TPI 9085Ex vibration analyser.

Combining on-meter diagnostics with the all-important ability to TREND readings over time to simplify condition-based maintenance (CBM), the “go anywhere” TPI 9085Ex is certified for IECEx/ATEX Zone 0 with North American Class 1, Div 1 approval. This means the 9085Ex is certified intrinsically safe for ANY atmosphere WORLDWIDE.

The 9085Ex detects unbalance, misalignment and looseness. It also measures “bearing noise” and displays it in bearing damage units (BDU), which is roughly equivalent to “percentage bearing wear”. In addition, the 9085Ex uniquely incorporates a directly contacting temperature sensor within its vibration probe. This gives a highly accurate, virtually instantaneous, surface temperature reading for the bearing, simultane-

ously as the vibration reading is taken. With a high BDU reading and high temperature, you know that what you are seeing really is a worn bearing and not some other source of vibration such as pump cavitation.

The compact handheld TPI 9085Ex is extremely affordable and simple to use. It can, and indeed should, be included in every maintenance tool kit. Using the FREE TPI Bridge App, “routes” and readings can be transferred to and from the 9085Ex anywhere in the world using mobile devices (e.g. smart phone or tablet PC) and then via Bluetooth to and from the 9085Ex.

“Routes” are simply lists of machines showing exactly what readings need to be taken and where to take them. The readings are then automatically time and date stamped by the 9085Ex and saved in the route for automatic transfer to computer-based trending software.

“Trending” is the mainstay of condition-based maintenance. By looking at the trend of bearing noise and temperature readings, you can determine well in advance when a bearing will likely need replacing. The TPI 9085Ex comes with powerful, yet simple to use, subscription free trending software, which includes automatic email notification of alarms and report generation, giving you everything you need for a full CBM strategy.

For more information please contact TPI Europe's head office on +44 1293 530196 or take a look on the website at www.tpieurope.com or email sales@tpieurope.com





Reducing & Controlling Vibration Exposure In Ex Environments

There is no safe level of vibration exposure. Using powered hand tools over time will harm health and severely limit quality of life. Vibration exposure through the continual use of vibratory tools kills the nerve cells and blood vessels in fingers and hands, this irreversible damage results in consistent pain and prevents the sufferer from undertaking even the simplest of manual tasks.

Until now, those operatives working in potentially explosive atmospheres have been left without a suitable and sufficient solution to monitor and reduce Hand Arm Vibration risk.

Market leading HAV risk management specialists HAVi are the world's only provider of an integrated solution to managing HAV risk in potentially explosive atmospheres. The solution is certified to ATEX, UKEX and IECEx standards for hardware up to and including Zone 0.

Accurate and trusted explosion-proof vibration monitoring

HAVi's robust solution has been trusted to manage risk in the harshest of environments since 2008. With numerous successful implementations in Construction, Rail, Automotive, Facilities Management, Utilities and Oil & Gas infrastructure, you can be certain of a credible partner.

The core solution underwent rigorous design, testing and evaluation which resulted in the launch of a range of Trigger Timers and Wearables under the "HAVi ATEX" banner. The range utilises components and



innovations in the field of insight management and analytics, help you make better decisions, faster to lower risk.

Added to that, experiential E-learning and in person courses designed to train and inform the operators about HAV risk and help ensure that they fully engage with their risk and take actions to help reduce personal exposure.

Our experienced team can provide full turn-key or modular solutions ranging from Site Audits, the creation and evaluation of Risk Assessments, tool Vibration Magnitude measurements and working with you we can implement bespoke culture change projects to reinforce your key safety messages.

Continuous Improvement

The combination of HAVi's intrinsically safe EX certified hardware and peerless HAV management solutions equip businesses operating in hazardous and explosive conditions with the safest and most accurate data and the actionable insights that protect the hand health of the tool operators by effectively managing and reducing vibration exposure.

HAVi's Kate Louise Cole said: "For too long, those operating in Ex environments have been excluded from accurate assessments of Vibration Exposure. It is our privilege to be able to address this with our world first solution. Coupled with this, our decades of experience will help you remain compliant and most importantly protect your people, wherever they work"

casings specifically selected to meet the requirements of the Intrinsically Safe protection concept.

The new range integrates seamlessly into the HAVi ecosystem meaning you can minimise your investment and only specify Ex rated equipment for areas that require it.

Compliance assured

The HAVi solution is designed to meet HSE and BS EN / ISO requirements in full. In another market first, HAVi will also document this compliance following implementation.

Collecting data does not equal compliance. Powered by ActivIQ, HAVi's

For more information on HAVI visit thehavi.com or to speak to the team call 0115 932 7002



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The Importance Of Intrinsic Safety In Instrumentation For The Mining Industry

Intrinsic safety (IS) is a critical design and operational principle in instrumentation used within the mining industry. Mines are often classified as hazardous areas due to the presence of flammable gases, combustible dust, or reactive substances. Intrinsically safe instrumentation is engineered to operate with energy levels below those capable of igniting such volatile environments, ensuring that safety and operational efficiency are not compromised.

One primary advantage of intrinsic safety is the reduction of explosion risks. In mining, where methane and coal dust explosions are a constant threat, IS-certified devices prevent sparks or overheating that could trigger catastrophic events. This protection extends to maintenance and diagnostics, allowing equipment to be safely inspected and serviced without de-energising systems or disrupting operations.

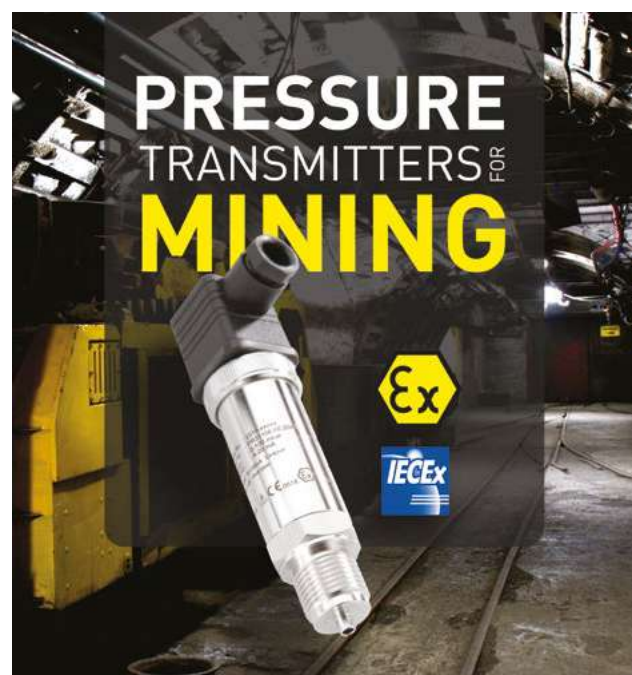
Another key benefit is compliance with international safety standards, such as IECEx and ATEX, which mandate IS compliance for hazardous locations. By employing IS-certified instrumentation, mining operators demonstrate adherence to these standards, minimising legal liabilities and enhancing worker safety.

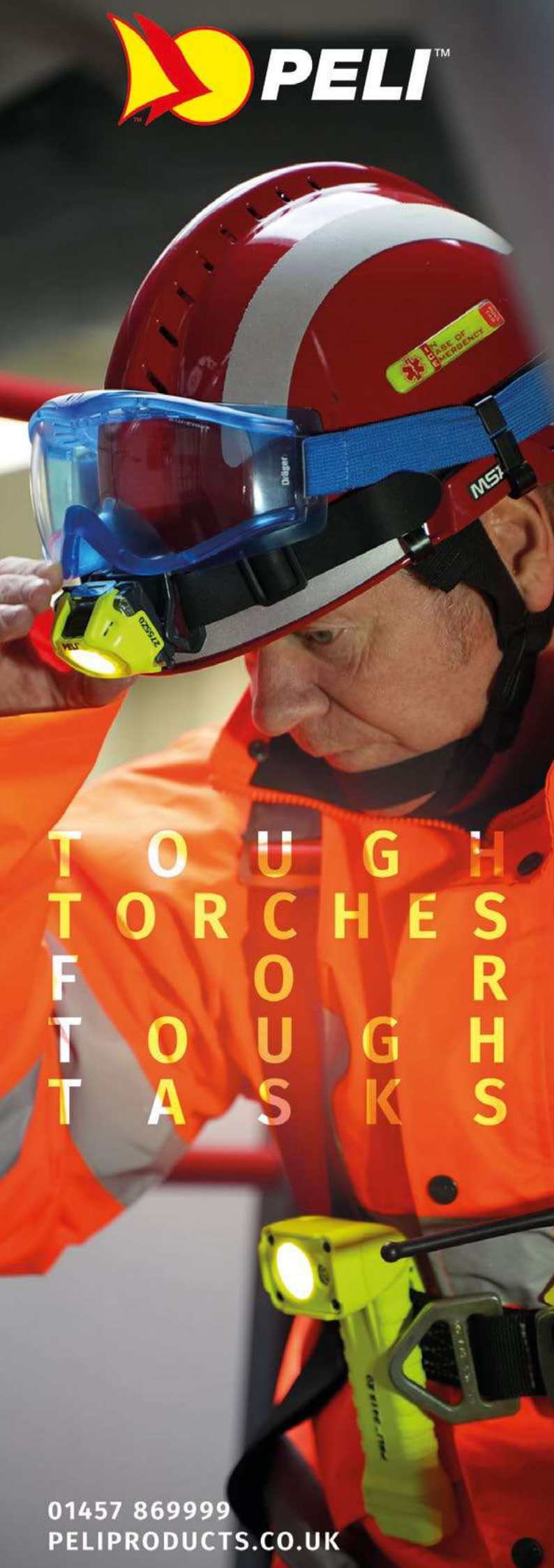
The reliability of intrinsically safe instruments is also crucial. Pressure transmitters, for example, are pivotal for monitoring equipment performance and environmental conditions in mining. Malfunctioning devices could lead to system failures or unsafe conditions. IS technology ensures these instruments maintain accuracy and reliability, even under extreme conditions, without posing ignition risks.

Moreover, the use of IS instrumentation fosters cost savings over time. By eliminating the need for heavy explosion-proof enclosures or purging systems, IS solutions streamline equipment design and installation, reducing both capital and operational expenses.

For a comprehensive range of intrinsically safe, hazardous area pressure transmitters suitable for mining applications, visit ESI Technology Ltd. Their products are designed to deliver precision and safety in even the most challenging environments.

esi-tec.com





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Peli Safety Torches Light A Sustainable Path

The Peli range of tough safety torches features several rechargeable models, providing eco-friendly lighting solutions.

The Peli 3335R Zone 0 hand torch is built tough to perform in the harshest environments, with an IP67 waterproof body, this torch is a testament to reliability and safety. Providing an impressive 246-lumen output and an extraordinary 58 hours of run time, prolonged usage is ensured without compromising performance. The ATEX Zone 0 certification allows it to be used in potentially explosive atmospheres, making it an indispensable tool for industries with stringent safety standards.

There are 3 light modes: High, Low and flashing, a built-in battery level indicator and a right-angle adaptor is available as an accessory to allow the user to attach it to a jacket for hands-free use. This adaptor also allows the head to articulate, directing the light exactly where required.

The lithium-ion rechargeable battery offers a life expectancy of over 2000 cycles, 4 times more than the usual amount and the long battery life further contributes to resource conservation, promoting a more sustainable approach to lighting solutions.

The 9415 Zone 0 is a tough, rechargeable safety light, ideal for industrial and offshore use. This rugged LED hand lamp will run for more than a full shift, up to 11 hours, from a single charge. ATEX certified for use in Zone 0 hazardous areas, the 9415 LED has 3 light modes: High, Low & Flashing and a battery charge level indicator (Green, Amber, Red).

Designed to stand on end, the 9415 Zone 0 features a 120° pivoting head to angle the beam exactly where required. A sure grip handle provides a comfortable and non-slip grip with an extra-large space to accommodate gloved hands.

Choosing a rechargeable Peli light eliminates the need for disposable batteries, minimizing waste and environmental impact. Sales Director David Smith commented "These models are very impressive; high-quality rechargeable products that combine a compact design with a rugged yet lightweight body offering resilience, efficiency, and a commitment to environmental responsibility."

The Peli Products range of tough safety torches is certified to ATEX Zone 0 and Zone 1 and includes head torches, right angled models hands-free and compact versions. They are all designed for use in hazardous areas, Peli torches carry the legendary "You break it, we replace it" lifetime guarantee.

For more details go to www.peliproducts.co.uk or ring the Peli Products (UK) team: 01457 869999.

01457 869999
PELIPRODUCTS.CO.UK

Explosion-Proof Mill Motor Configured From Stock

Menzel Elektromotoren has built a dust-explosion-protected motor in ignition protection type Ex tc (protection by housing) and provided it with the ATEX label II 3D Ex tc IIIB T125 °C Dc for use in zone 22 hazardous areas.

The German motor manufacturer application-tailored the 1120-kW squirrel cage motor for a leading Italian operator's flour mill. Menzel used a machine from its extensive stock, upgraded it for converter operation, adapted the dimensions to the existing motor to enable a smooth replacement, and manufactured an oversized terminal box according to customer specifications.

The mill motor with a nominal voltage of 690 V provides a nominal torque of 11575 Nm. It is suitable for operation in both directions of rotation and features protection class IP55 with IC 611 cooling (CACA air-to-air heat exchanger).

Through its Italian subsidiary, Menzel has been the mill operator's

trusted motor supplier for many years. Thanks to its large motor warehouse, application-specific configurations and ATEX certification capability, Menzel can meet virtually any demand from a single source.

More about low, medium and high-voltage motors in ignition protection types Ex ec and Ex tc for zone 2 and zone 22 hazardous areas with a risk of gas or dust explosions:

<https://www.menzel-motors.com/ex-na/>



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Cleaning Up In ATEX Zones

In Great Britain, the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) require employers to eliminate or control the risks from explosive atmospheres in the workplace. This includes adhering to two European Directives including Directive 2014/34/EU, also known as the ATEX Equipment Directive, which concerns equipment and protective systems intended for use in potentially explosive atmospheres.

Production facilities that use combustible powders as part of their production process, or those which create a very fine waste which is classed as combustible dust, should all use ATEX rated equipment.

Kerstar's UK manufactured ATEX certified industrial vacuum cleaners are suitable for use in Gas Zones 1 & 2 and Dust Zones 21 & 22 – as specified on the rating plate on every unit. All of Kerstar's compressed air (KAV range) and electric (KEVA range) ATEX vacuums provide three-stage filtration which includes a specially designed microfibre bag with a cap which, when closed, cannot be re-opened, and a HEPA H14 filter – offering 99.995% efficiency for dusts and powders as fine as 0.3 micron.

All KAV and KEVA models offer stainless steel canisters mounted on a stainless steel caddy fitted with conductive braked castors and wheels - this ensures each vacuum is antistatic and conductive from top to bottom. Every machine is supplied with a fully conductive hose and accessory kit, and a full earth path continuity certificate.

Kerstar Business Development Manager, Brian Folland, comments, "It's really important that employers ensure they are providing equipment which is fit for purpose – particularly in potentially explosive atmospheres. This is just as important for cleaning equipment as it is for production machinery. Everything used in an ATEX rated Zone must be certified to meet the ATEX Directives."

Find out more about Kerstar's ATEX certified and Type H (suitable for use with hazardous dusts) vacuum cleaners by visiting www.kerstar.com.



KERSTAR

Part of Absolent
Air Care Group

ATEX & Type H certified Industrial Vacuum Cleaners



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- ★ For use in Gas Zones 1 & 2, and Dust Zones 21 & 22
- ★ Built to last



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Manufactured in the UK
by Filtermist Limited

Cordless Industrial Vacuum Cleaner For Hazardous Dusts

A clean work space is essential for health and safety, and the best tool for general cleaning up dust and loose product in the workplace is an Industrial Vacuum Cleaner. However, the vast majority of machines need to be plugged in to a power outlet, which necessitates appropriately positioned power outlets, and a trailing cable which itself presents a hazard.

Quirepace have introduced the cordless IV60 eGX into the range of BVC Industrial Vacuum Cleaners to eliminate this risk. This is a powerful battery powered unit which, as standard, is provided with a 3-stage filtration dry product tank consisting of a paper sack collection, micro-fibre main filter and 3rd stage HEPA filter. This configuration is suitable for most dry-product collection applications. The unit may be configured as both M-Class and H-Class rated units.

The unique Honda eGX electric engine is designed to replace petrol engines in the 2.5hp class and combined with the well-proven BVC YP3 turbine delivers powerful suction suitable for the toughest industrial cleaning jobs.

With a run-time of 1/2hr to 2 hrs depending on power setting, the new BVC IV60 eGX in either M-Class or H-Class specification, is ideal for spillages of potentially hazardous products, and the absence of any requirement to plug-in means BVC IV60 is immediately ready for use anywhere in the building.

In addition to the standard dry-product tank, BVC IV60 eGX is also available with wet tank, longopac®, and drop-tank options. It is also ideal for high-reach cleaning using lightweight carbon fibre cleaning poles. Like all BVC Industrial Vacuum Cleaners, a wide range of different hoses,

tools and accessories are available from Quirepace's Fareham factory and warehouse.

Contact Quirepace today and ask for a demonstration.

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Early Detection Of Explosions And Fires

With the GSME and HOTSPOT detectors from REMBE, an artificial intelligence has been created that detects fire and explosion events at an early stage. The GSME detector is an artificial nose, "trained" for pyrolysis - popularly known as smoldering gases, while the HOTSPOT detector represents an artificial eye that already detects surface temperature changes of 1 °C.

REMBE's HOTSPOT X20 measures surface temperatures using an intelligent evaluation system, which divides the field of view into detection zones. A separate temperature threshold value can be set for each individual zone in order to tailor the detection to the process as far as possible. The HOTSPOT X20 can even identify small temperature increases (1 °C) and enables to warn the operator of a fire or glowing embers at extremely early stages. The HOTSPOT X20 can also be used in explosion atmosphere up to zone 20 and under high dust loads and monitors a temperature range in the standard version of 0-200 °C (higher temperatures possible, but typically not required).

Temperature monitoring can be particularly helpful when handling secondary fuels. Where gas measurement technology becomes very complex due to cross-sensitivities, temperature is a simple parameter for detecting process anomalies. Common mounting points are above or on conveyors so that the process flows can be monitored. If elevated temperatures are detected, the potential ignition source can be stopped before it reaches the next potentially explosive atmosphere. Mainly hydrocarbon compounds are released when many substances thermally decompose. If there is incomplete burning without a flame and a low oxygen supply, carbon monoxide is created as well. The

GSME X20 pyrolysis gas detector, for instance, has been designed for detecting these gases, even as they develop.

Alongside carbon monoxide and hydrocarbon compounds, nitrogen oxide and hydrogen compounds (CO, HC, H₂ and NO_x) are also monitored. With the aid of an intelligent evaluation algorithm, a process behaviour can be ideally mapped and normal off-gasing be adopted. If a concentration increases above the usual level, the GSME X20 immediately triggers an alarm. The detector, is also suitable for explosion atmospheres up to zone 20, monitors concentration ranges from 0-100ppm.

Gas measurement technology can also be used for traditional energy sources. However, this must be suitable for the harsh environments. Thanks to the multi-component measurement, the GSME detector can also be used in storage facilities.

When the location and mounting position are ideally designed in an explosion protection concept, HOTSPOT X20 and GSME X20 allow explosions and fires to be prevented through early detection.

www.rembe.de



Fig. 1: GSME und HOTSPOT detector

Explosion Proof Buzzer

The existing explosionproof signalling devices, such as illuminated pushbuttons, switches, pushbuttons, emergency stop buttons, potentiometers, have been supplemented by a buzzer.

The explosionproof buzzer combines a small design with low power consumption and a high volume (>90 dB(A)). A continuous tone or an optional rising and falling tone is used to draw attention to hazards and malfunctions in potentially explosive atmospheres. The acoustic signal cannot be overheard, even in noisy environments.

The buzzer made of stainless steel is encapsulated, the sound is generated piezoelectrically by an intrinsically safe circuit inside. The intrinsically safe circuit does not have to be considered during installation.

The signalling device has an EU-Type Examination Certificate and an IECEx Certificate of

Conformity as an Ex Equipment and can be used in Zones 0 and 21, as well as in zone 21 without any further housing. The cable tail must be connected in a junction box or in a switchgear combination in a standardised Type of Protection.

thuba AG

Hazardous areas in a wide range of process industries need reliable safety solutions when electrical equipment is in use. Nowadays the food, chemical, petrochemical, printing and power industries, manufacturers of aircraft and machinery, gas and oil producers, refrigeration engineers and other processoriented companies all rely on certified explosionproof equipment and components manufactured by thuba.

www.thuba.com



Denmark's Largest Refinery Drives Digitalization With The Smart-Ex® 03 From Pepperl+Fuchs

Kalundborg Refinery, Denmark's largest energy park, is located in the northwest of the Zealand peninsula. Every year, it processes around 5.5 million tons of crude oil, condensate, and raw materials. This industrial environment places special demands on the communication devices used. For communication, maintenance, and inspection in the field, the energy park staff relies on intrinsically safe mobile devices from Pepperl+Fuchs. The previous stock of Ex-Handy 10 and Smart-Ex® 02 will now be gradually replaced by the 5G-capable Smart-Ex® 03 smartphone to drive digitalization.

For years, Kalundborg Refinery in Denmark, part of the Klesch Group, has been relying on the expertise of Pepperl+Fuchs and its subsidiary brand ECOM Instruments. Pepperl+Fuchs supports Kalundborg's digitalization initiatives with special mobile devices certified for use in hazardous areas. The refinery's mobile workers currently use over 100 Ex-Handy 10 and Smart-Ex® 02 devices. The tasks include various inspection tasks, machine data collection, adherence to safety and compliance regulations as well as evaluation of plant integrity and service life. For a long time, the associated processes were paper-based and therefore prone to errors.

From paper-based to digital processes

To further digitalize the processes at Kalundborg, the hardware was to be brought up to the state of the art. Right from the start of the project, it was clear that the solution should depend on other internal company databases and ERP systems as little as possible. The goal was to keep the entry barrier low and the implementation period ambitiously short, while at the same time meeting the requirements for the next digitalization stage and the needs of mobile workers. Therefore, one of the most important criteria for new end devices was that they had future-proof technology such as 5G and a high-quality, high-performance camera. When the Kalundborg team evaluated the first demo devices of the Smart-Ex® 03, it quickly became clear that the new solution should be built around the 5G-capable Android smartphone with all its advantages, including usability.

In search of the right platform for their digitalization project, Kalundborg evaluated various software solutions. It turned out that some solutions would have required a lot of time to implement the digitalization project. The Kalundborg team opted for a solution from the Danish provider Azenzus. It is quick and easy to implement within a manageable project timeframe, easy to use, optimizes the existing data handling, and takes asset management to a new level. From planning to implementation

Originally, the project plan envisaged that all processes and data would also be available in paper form in case problems arose during the turnover. In February 2024, however, the team decided to take the plunge and go fully digital. Initially, 20 Smart-Ex® 03 smartphones were used to equip all involved personnel, including the external employees who were hired for the start-up phase. Later, 25 additional devices were added.

The devices were set up with the necessary software and access settings in advance. The onboarding of 17 inspectors took just five hours – a process that previously lasted around three to five days. With the Smart-Ex® 03, the employees finally had digital access to all the information they needed.

Pro: usability

A peculiarity at Kalundborg is that the future users were actively and deeply involved in the selection of the end devices and had a say in the process. If they had not been satisfied with the hardware or software, alternatives would have been sought. It was therefore important that the Smart-Ex® 03 met the requirements of the mobile workers to their full satisfaction. The camera's performance was the top priority

to properly fulfill all documentation and scanning tasks. The camera's macro function proved particularly impressive during the implementation phase.

The camera's suitability for everyday use in the harsh refinery environment was also important. The smartphone impressed the team with its robustness, withstanding drops and bumps without any problems. With its size of six inches, the Smart-Ex® 03 can also be easily stowed in work clothing pockets and does not restrict mobile workers. The glove mode, pen, and speech-to-text functionality make the smartphone easy to use even in harsh conditions, which was well received by Kalundborg's employees right from the start. Kalundborg's IT department also confirmed this impression, as the Android operating system and Android Enterprise Recommended certification made it very easy to set up and manage the devices via a device management system.

Into the digital future with the Smart-Ex® 03

The Smart-Ex® 03 is the breakthrough for digitalization projects at Kalundborg Refinery. Its size and usability remove entry barriers for end users.

Other applications that benefit from the smartphone's powerful hardware are also already being evaluated at Kalundborg. Thanks to 5G support, access to additional applications is possible in the field. The use of augmented reality applications and AI functions, for example for the automatic identification of tools or parts, is also currently being examined.

A major focus is on applications for change identification. These allow inspectors to scan locations or objects with the camera and automatically detect differences to a previous scan. This means that any damage or other deviations from the normal condition of a system or object can be identified immediately and repair measures initiated. The digitalization measures at the energy park were so successful that the solution will now serve as a prototype for further digitalization measures at other sites.

Strong partners for strong solutions

Pepperl+Fuchs offers its customers not just products, but a comprehensive package. Companies receive the hardware and matching accessories together with the desired pre-configuration. Continuous and close cooperation with partners ensures that the implementation runs smoothly. This not only saves customers time, but also nerves and, above all, costs.

Customers also benefit from the numerous certifications and local type approvals that Pepperl+Fuchs products offer. Especially in demanding environments such as a refinery, the devices used must be robust, resistant, and reliable. Pepperl+Fuchs, with many years of experience of its subsidiary ECOM Instruments in the field of explosion-protected devices, attaches particular importance to the development of products that meet these requirements. The Smart-Ex® 03, for example, is approved for use in Zones 1 and 2, as well as in mining. The use of the Smart-Ex® 03 at Kalundborg shows how smoothly digitalization can be implemented in the industry and at the same time offer tangible added value for employees.

"The switch to the Smart-Ex® 03 has opened up a whole new world for us," confirms Søren Gothil Hansen, Manager of Mechanical, Civil & Inspection (MCI) at Kalundborg Refinery. "The smartphone is so easy to use and manage that we decided very early on not only to use it as part of our solution, but to build the entire solution around it."

<https://www.pepperl-fuchs.com>

Versatile, High-Performance Gas Detection With Easy Deployment

There are many prerequisites when it comes to gas detection, not least maximum flexibility, increased performance and minimal installation costs. Add in modern expectations such as smart features and the ability to detect explosive, toxic or asphyxiant gases, and the list of potential solutions soon becomes short.

Prominent among the choices, however, is the proven and increasingly popular iTrans 2 fixed gas detector from Teledyne Gas & Flame Detection.

Offering smart sensor capabilities that support an intelligent electronics platform, the iTrans 2 provides one or two points of detection from a single head for maximum flexibility, with both readings shown

on the standard-issue, LED and display. Gas sensors are mountable directly to the transmitter, or remotely.

For the detection of explosive and toxic gas, or oxygen, the iTrans 2



accepts infrared, catalytic bead or electrochemical sensors. Specifically, in addition to the LEL (lower explosive limit) sensor range, the iTrans 2 is configurable with a 0-100% volume methane infrared sensor for bio-gas applications and CO₂ infrared sensors ranging from 0.5% to 100% volume. All are pre-calibrated using smart technology to enable automatic sensor recognition and data transfer. The device displays sensor life data automatically after each calibration.

Offering cable-saving and time-saving installation, the iTrans 2 is suitable for almost any application via common configurations that include 3-wire (4-20mA) and 4-wire (digital ModBus) models. Both allow for full utilisation of the gas detector's features and options, and use with all iTrans 2 sensors.

iTrans 2 offers analogue 4-20mA and digital RS-485 Modbus (9600 baud) outputs. The HART communication protocol is optional, enabling remote communication across the 4-20mA signal for diagnostics, commissioning and calibration. A simple magnetic wand further aids ease of use by allowing full transmitter configuration and calibration without opening the explosion-proof housing.

The housing comes as standard in epoxy-coated aluminium, with an optional 316 stainless steel version available for corrosive environments. Operating temperature is -40°C to +75°C. Although this robust specification is ideal for many heavy industry applications, the iTrans 2 is equally at home in smaller systems and boiler rooms, for example.

Indeed, this tried and tested gas detector is suitable for sectors that extend from oil and gas, offshore drilling, utilities and petrochemical, through to water and wastewater treatment, and food and beverage production. Certifications include CSA, ATEX, IECEx, INMETRO, CCC and China Ex.

Notably, the microprocessor-controlled transmitters are capable of plug and play, stand-alone operation or multi-point system configuration. The monitor's stand-alone operational ability arrives courtesy of optional on board relays that can activate alarms, horns or fans, and can also shut down a system without the need for return wiring to a central control panel.

With so much versatility and functionality, whatever the application or requirement, the iTrans 2 from Teledyne Gas & Flame Detection has already proven itself as the market's most comprehensive and competent tool for the job.

For more information, visit

**www.teledynegasandflamedetection.com or contact
gasandflamedetection@teledyne.com**



Future-Proofing Safety: How Fault Tree Analysis Is Revolutionising Risk

Dr. Leszek Kasprzak, Principal Risk & Safety Consultant, and Dr. Shirin Pegg, Technical Director at Bureau Veritas, discuss how Fault Tree Analysis is helping to re-evaluate risk, and what this means for the future of Dangerous Substances and Explosive Atmospheres (DSEAR) assessment.

The modern-day approach to risk assessment must keep pace with technological advancements and emerging hazards. Forward-thinking methodologies are redefining the boundaries of safety and reliability within evaluation of hazardous facilities.

One of the most recent and innovative developments in risk assessment practices is the comprehensive application of Fault Tree Analysis (FTA). Unlike more traditional assessment models, FTA offers a detailed, system-level approach to identifying potential failure paths and evaluating the risk of critical events. This method allows organisations to gain a deeper, data-driven understanding of complex risk factors. Such insights not only support compliance but actively enhance safety measures and operational efficiency.

FTA and its significance in the current landscape

The answer to this lies in the multi-layered nature of modern industrial processes, where a single fault can trigger cascading failures. FTA maps out intricate dependencies and quantifies the likelihood of such chain reactions, considering elements like human error, component failures, and environmental influences. For instance, when analysing the risk of hydrogen explosion at battery charging stations potentially leading to severe injuries, the assessment shows transparently the presence of potential ignition sources, process controls and ventilation system failure; and occupancy level within the impacted area. This level of transparency is crucial for mitigating risks comprehensively and proactively.

Modernising risk assessment reports is another essential aspect of evolving safety practices. Detailed visual representations and extensive data references, sourced from reputable industry statistics and authoritative agencies, enhance comprehension, translating complex assessments into actionable insights. When reports are designed with clarity and precision, they not only inform but foster trust through well-documented methodologies and findings.

A significant challenge faced by many

industries today is the risk posed by emerging technologies, particularly lithium-ion batteries. The multi-faceted hazards associated with these energy storage solutions are only beginning to be fully understood. Risk assessments need to extend beyond standard flammable risk considerations to include factors such as thermal runaway reactions, which can be influenced by environmental and operational variables. By examining oxidizers and reactive chemical interactions, risk evaluations can highlight potential failure scenarios that might otherwise be overlooked. Such forward-thinking analysis is essential for addressing next-generation industrial challenges.

The ability to anticipate and evaluate evolving risks - from hydrogen use in new energy systems to advanced battery technologies - positions risk assessment not just as a regulatory requirement but as a strategic pillar for safety innovation. Continuous refinement of methodologies ensures that organisations are not only compliant but prepared for the unexpected.

In an era where safety cannot be compromised, meticulous and forward-thinking risk assessments set a benchmark for resilience. Expertise and a commitment to proactive strategy are necessary to initiate a conversation that challenges the industry to think beyond immediate risks and toward future-proofed safety.

About Bureau Veritas

Bureau Veritas is a world leader in laboratory testing, inspection and certification services. Created in 1828, the Group has circa 84,000 employees located in nearly 1,600 offices and laboratories around the globe. Bureau Veritas helps its 400,000 clients improve their performance by offering services and innovative solutions in order to ensure that their assets, products, infrastructure and processes meet standards and regulations in terms of quality, health and safety, environmental protection and social responsibility.

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COVAL's MPXS Micro Vacuum Pump: Pilot-Controlled, Ultra-Compact, Ultra-High Performance With Communication Capability!

With the new MPXS series, COVAL offers one of the most compact intelligent vacuum pumps on the market, without compromising on the technologies that characterize the French brand. COVAL's aim is to provide manufacturers with an even more efficient tool for handling non-porous parts at high speeds on robots or automated systems.

The MPXS micro vacuum pump stays true to the design principles of COVAL's intelligent vacuum pumps, which are energy-efficient, high-performance and communications I/O. It adds ultra-compactness, and thus concentrates all the qualities of COVAL's intelligent vacuum pumps into a smaller physical space.

Ultra-compact and lightweight for maximum

efficiency

With a width reduced to just 12.5 mm and a weight of only 87 grams, the MPXS micro vacuum pump is the smallest vacuum pump ever designed by COVAL. This size means it can be installed as close as possible to the suction cups, inside restricted spaces, for reduced pick-up time with no loss of load, guaranteeing high speeds.

Suction power

Thanks to single-stage Venturi technology, MPXS series micro

vacuum pumps quickly reach a maximum vacuum of 85%, perfectly suited to dynamic applications requiring very short cycle times. The two power levels of 15 and 26 NI/min add to their versatility and enable them to adapt optimally to the needs of each application.

Simplified communication



The MPXS micro vacuum pump provides the user with useful information at every stage of operation. Its Human Machine Interface (HMI) makes it easy to read operating, diagnostic and maintenance information, and enables rapid parameter setting. Additionally, the integrated IO-Link communication interface supports fast, cost-effective installation, continuous diagnostics, centralized parameter setting and efficient communication with higher-level protocols (EtherNet/IP, PROFINET, EtherCAT...).

Substantial energy savings

MPXS micro vacuum pumps feature ASC (Air Saving Control) technology, which intelligently regulates vacuum generation, enabling energy savings of 90% on average by stopping air consumption once the desired vacuum level has been reached.

Versatility

The modularity of the MPXS series offers a wide choice of configurations, ensuring great flexibility of installation and use to suit the varied needs of industrial applications. It is available as stand-alone modules, or in islands of up to 8 modules, with standard or powerful adjustable blower options. The

MPXS series is precisely tailored to each application, for maximum efficiency.

A wide range of applications

The MPXS micro vacuum pump's small size, high performance and wide range of functions and configurations make it ideal for industrial applications requiring high speeds: High-speed pick-and-place, robot manipulators, automated production. Especially in use in the plastics, electronics and pharmaceutical industries.



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