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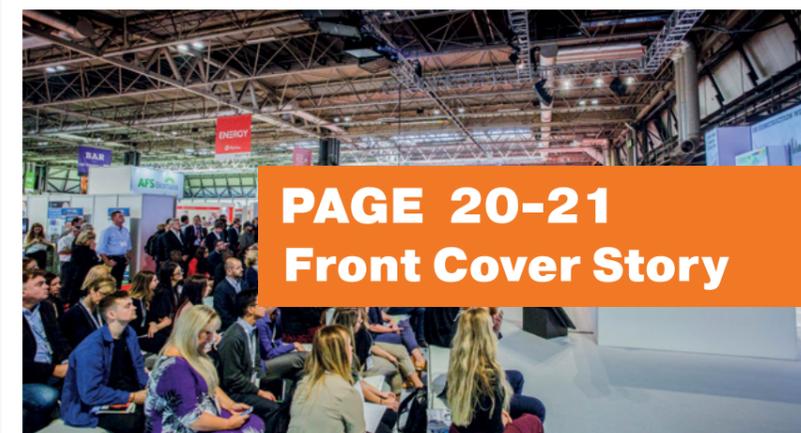
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# TfL must tackle bus driver exhaustion demands Unite following shock report

Unite, the UK and Ireland's largest union, is urging Transport for London (TfL) to take definitive action to tackle fatigue among London bus drivers.



Unite's demand follows the publication today (28 August) of new research by Loughborough University. The report found that 21 per cent of bus drivers had to 'fight sleepiness' at least two or three times a week. Thirty six per cent had a 'close call' due to fatigue in the last 12 months, 17 per cent had actually fallen asleep at least once while driving and five per cent had been involved in at least one accident in the last year due to fatigue.

Unite believes that a combination of workers undertaking excessive hours due to inadequate levels of pay, a lack of recovery time between poorly scheduled shifts and overly long shifts without sufficient rest breaks are all major factors in causing fatigue.

Despite the report's shocking findings Unite believes that TfL's response to the report of requiring bus operators who are awarded new contracts after the summer of 2020 to demonstrate a robust system to reduce the risk of fatigue, needs beefing up.

## In order for any fatigue report system to be credible it must ensure bus operators:

- Introduce civilised rosters
- Provide decent driver facilities
- Replace the militaristic, disciplinarian culture in the garages with a more open and cooperative one.

TfL's commitment to provide £500,000 of funding for bus operators to put forward new ways to tackle fatigue, is welcome but this must include proper engagement with the drivers themselves, through Unite.

Under current UK bus driving rules, provided the bus route is less than 50km, workers can drive a bus for a total of 10 hours a day with an unbroken five and half hour stretch behind the wheel, before getting a 30 minute break. While workers are normally legally entitled to 10 hours rest between shifts (which does not include travelling to and

from work) this can be reduced to just 8 and half hours three times a week. Bus drivers must have at least one day a week off each fortnight.

The publication of the Loughborough Report is a direct result of lobbying from Unite, which represents the vast majority of London bus drivers.

In response to the Loughborough Report and as a result of the excessive hours being worked by bus drivers, Unite will stage a demonstration tomorrow (Thursday 29 August).

**WHEN: Thursday 29 August at 10:30**

**WHERE: City Hall, London SE1 2AA**

Unite regional officer John Murphy said: "While Unite recognises that the Mayor has done the right thing by commissioning this research, and we believe that TfL has taken the right turning, the journey of travel currently appears to be too slow.

"TfL must take decisive action and force bus operators to stop flogging their workers to the point of exhaustion.

"The safety of the general public and workers is being placed at risk because of fatigue being suffered by London bus drivers.

"Unless TfL's proposals for a fatigue reporting system are given real teeth it will make little difference.

"The low pay culture is a fundamental source of fatigue. No one wants to work long hours but drivers are forced to do so to make ends meet.

"To tackle low pay across the board TfL needs to be establishing London wide pay rates for all drivers.

"Fatigue is not going to be tackled unless the standard five and half hour shifts without a break are ended and shift patterns allow drivers adequate time to recover.

"The establishment of a fatigue reporting system must include all key players including unions, in order for it to be credible and beneficial to drivers.

# Webtec Announces STAUFF Australia as a New Authorised Service Centre

To strengthen its' technical service to customers in the Australasian region, Webtec has appointed fluid power specialist STAUFF Australia as a Webtec Authorised Service centre.

The agreement is part of Webtec's global strategy to offer the same high level of service and support to customers through specially selected partners who have the same business and technical values in areas where there is no Webtec owned facility.

The Service centre will be based at STAUFF's New South Wales facility and will be kitted with the same testing equipment, both hardware and software, and an identical data acquisition system as used by Webtec. A full training programme has been implemented by Steve Thorpe, Webtec's International Sales Manager to ensure that STAUFF's team are fully experienced and

qualified. Software updates will be carried out via the cloud system which will ensure that this new Service Centre will mirror Webtec's own testing centres.

Steve Thorpe, commenting on the agreement said, "this is an exciting opportunity for both companies. We have worked together for over 30 years and this formal agreement appointing STAUFF as our authorised service centre takes our relationship to the next level and our customers will benefit from the high level of service that will be available locally".



Branno Tesanovic, General Manager Business Development at STAUFF Corporation Pty added, "we are very excited about our Webtec Service Centre investment and look forward to taking our customer service capabilities to the next level".

Further information on STAUFF Australia can be found at [www.stauff.com.au](http://www.stauff.com.au).

# ABB control system cuts costs and boosts production for cable maker

British Cables Company (BCC) in Manchester, UK, replaced the control system on two insulated cable-making lines re-sulting in a 29 percent increase in the number of reels produced during an eight-hour shift.

The new system controls the wire tension and maintains the correct drawing diameter as the wire is pulled through an extruder, while running at an increased speed of 1,800 metres a minute.

The company was unable to source spare parts for the original control system. This resulted in frequent breakdowns costing over £60,000 per annum in lost production. Restarting the system added a further £38,000 per annum in engineering costs.

The original control system was slow to respond, setting up the machine to produce a new colour of cable often resulted in several false starts, resulting in wire snapping and up to 10,000 metres of scrapped cable.

The new ABB Compact HMI SCADA system, supplied, installed and commissioned by ABB's Engineering Centre in Coal-ville, UK, controls two ABB AC500 programmable logic controllers (PLCs) on each line. The PLCs are linked by ProfiNET to five ABB variable speed drives (VSDs), rated between 4 kW and 60 kW, each of which control the speed of ABB AC motors. In addition, a smaller ABB VSD is used to control the positioning of the water trough that cools the extruded wire. Upgrading the motors and drives has reduced energy costs by £16,000 a year across the two lines.

The control system now triggers cable colour changes on the fly by reducing the machine speed to 200 metres a minute during the changeover. This has resulted in an 80 percent reduction in



Above: An ABB control system is increasing productivity, lowering waste and reducing energy costs for British Cables Company

waste. Additionally, safety of the production line is improved as guards are electrically controlled and rotating equipment is electrically interlocked. This prevents the safety guards from being opened while the line is running.

For more information visit: <https://new.abb.com/>

## Denso Steelcoat™ Again Chosen for Potash Warehouse

As part of ongoing work to replace roof trusses in a Potash Storage Shed, A-V Dawson, the Middlesbrough based freight-logistics provider has again used Winn & Coales (Denso) Ltd's Steecoat 100 System™ to protect the roof trusses from the aggressive materials being stored in the shed.

Historical experience has proven that by applying Denso Hitack Primer™, Denso Hi-Tack Tape™ with an outerwrap of Denso self-adhesive PVC Tape™ to the roof trusses prior to installation, greatly enhances the life expectancy of the roof in the aggressive dusty atmosphere.

A-V Dawson Ltd, founded on Teeside, Middlesbrough in 1938, is a freight-logistics provider operating a diverse range of haulage, warehousing and railhead facilities.

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## AirBench MD Simon Cook welcomes Ryan Yates to the team.

AirBench Ltd is pleased to announce that Ryan Yates has joined the team as Business Development Manager. Ryan brings a wealth of experience from previous roles in the extraction industry and specialises in technical solutions to oil mist issues.

Ryan will be working with the existing AirBench team to develop our distributor network across the UK and EU; support UK sales across our product range; and increase awareness of our successful range of coolant mist filters.



Ryan can be contacted on ryates@airbench.com; for more information on any of our products contact sales@airbench.com.

## Seven Storms solution

Working for a major online retailer, Hart Door Systems has installed seven of its successful Speedor Storm doors at a high-volume distribution facility.

All Speedor Storms, five of which measure 5m x 5m and two 3m x 3m, were installed to the despatch building on busy door openings. The Speedor Storms allow quick and easy access to the openings where sectional overhead doors were being left open enabling heat loss and an unpleasant working environment.



Hart provided expert design advice, specification and installation. A Hart spokesman says: "Speedor Storm is being increasingly used in high traffic situations where exceptional wind resistance is required. The energy-saving potential of this door is also particularly high.

"We find the Storm is used predominately as an external rolling door with a unique guide system offering wind resistance up to class 5 as defined by DIN EN 12424, on larger openings up to 8m x 8m.

"Capable of withstanding winds up to 90 mph when closed, the Storm is a robust and reliable system."

Tel: 0191 214 0404 www.hartdoors.com

## Introducing the Particle Pal Pro – the latest innovation in digital imaging particle counting

Oil is the lifeblood of any engine, lubrication or hydraulic system. Organisations worldwide depend on oils as a lubricant and moving force. Gauging an oil's lifespan and overall health on-site has, until now, proven difficult, especially for viscous gearbox oils.

In fact, 80% of hydraulic and gearbox failures can be attributed to oil contamination. Replacing oil too early, or failing to notice the need for change, can have various drastic consequences.

Introducing Filtertechnik's Particle Pal Pro: a portable oil life and contamination monitor. The Pro is fitted with a Tan Delta oil life sensor and software that has profiled the remaining life of over 500 different oils. Such used oil is given an estimated percentage of remaining useful life.

The Particle Pal Pro also utilises a revolutionary digital imaging, particle counting technique that gives unprecedented insight into the type and quantity of contamination. This breakthrough technology provides root-cause shape recognition to the

particulate in live systems or bottle samples of any oil.

Particles are counted and categorised into fatigue, sliding or cutting wear. Air bubbles and water droplets are calculated and then eliminated from the counts, making this suitable for live testing or permanent installation on systems where air is present, e.g. large gearboxes.

High-resolution images are created for further analysis and reporting, such as the one taken from the device (see below). Images show particulate from 2 microns and above. The algorithms on the device measure the size and shape of the particles.

An internal water sensor also identifies the % saturation or humidity of any oil or diesel fuel. Water is

the second most harmful contaminant after solid particulate, meaning that understanding whether water content is getting too high is equally paramount.



The Particle Pal Pro is able to handle light oils and diesel through to heavy gear oils up to 2,400cst. A special internal stepper motor pump with controlled flow rate can run for 6-8 hours on a single charge.

All results are logged internally and can be exported as a PDF or spreadsheet for reporting purposes.

For more information on the Particle Pal Pro, please call us on:  
0115 9003 600  
or email – sales@filtertechnik.co.uk.

# Unlock the benefits of Industry 4.0

Even the smallest companies can unlock the benefits of Industry 4.0 to achieve a truly proactive maintenance programme, says Oliver Pogmore, of plant reliability specialists AVT Reliability®

Companies of all sizes share the common challenge of maximising productivity whilst driving down operational costs to maintain a strong bottom line.

The effective maintenance of assets is crucial to meeting this challenge and it's fair to say that the companies which are negotiating these demands most successfully are those which have recognised the crucial role digital technology can play.

Advanced cloud-based technology, Machine Sentry® by AVT Reliability®, employs high-speed wireless connections to provide continuous real-time monitoring, collating diverse data on one platform, which is securely accessible from any location.

A sensor attached to a piece of rotating equipment, connected to the software via a handheld Android

phone or tablet, provides continuous monitoring across three axes. Replacing a traditional wired accelerometer with wireless technology means data can be safely collected from up to 50m away, even from large, moving or hard-to-access assets.

Machine Sentry® enables continuous insight into the condition of assets. The innovative Automated Diagnostic Assistant (ADATM) solution can predict stage 2, 3 and 4 bearing failure and detect a wide range of other common fault conditions, ranging from easily remedied misalignment to complex issues such as soft foot.

Decision-making is therefore better informed, maintenance can become preventive rather than reactive, and assets can be maintained to ensure optimum productivity.



Cloud technology removes the need to invest in expensive hardware and no highly skilled experts are needed to operate it. Power consumption is low and storage capacity high. It is also scalable to any industrial setting. This affordability and flexibility makes it a viable option for any company, regardless of size.

Data collection will always form a central pillar of any CBM programme. But the enhanced insight and analysis offered by digital solutions is making this technology a significant driver in the move towards truly proactive, operator-driven maintenance.

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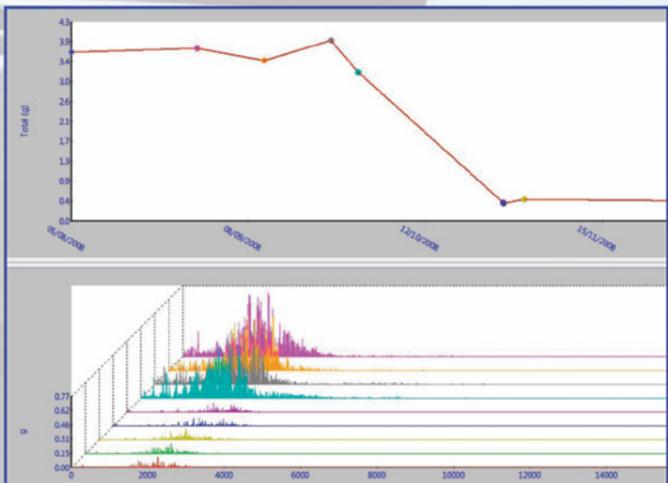
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## Condition Monitoring Beats Planned Maintenance

Companies have never been more aware of the large costs and inconveniences created by downtime and urgent repair when equipment fails unexpectedly.



However in an effort to prevent this, many are still exclusively reliant on routine maintenance, which is not only a fixed recurring cost in itself, but often results in work and replacement of components whether needed or not! The other major disadvantage of routine maintenance is getting the service interval right. Too often, and it becomes expensive and possibly invites faults through 'over inspection', but not often enough increases the likelihood of unexpected breakdowns!

Alternatively, in the same way that some modern cars now have intelligent, variable service intervals, those responsible for manufacturing plant and building equipment can utilise condition based maintenance (CBM) strategies. By regularly monitoring the condition, or degree of wear in a machine, a far smarter strategy can be applied to maintenance and service. For example, instead of routinely removing a machine and dismantling it to replace bearings, the work can instead be performed only as required and when indicated by increases in the machine's vibration levels. It is certain that once a bearing's vibration 'signature' starts to increase due to noise it will only increase further – and often at an exponential rate.

Bearings never become less worn! Consequently, CBM can provide an early warning of unexpected and catastrophic mechanical failures, which are always a risk of routine maintenance schemes.

In addition to the above, by monitoring and therefore maximising machine efficiency, energy usage can be optimised. Vibration, regardless of the cause or source will increase the load on a motor or pump. For example, monitoring a machine's condition over time can reveal that its vibration has increased. With the right equipment to detect it, an increase in low frequency vibration at two times the run speed would suggest a misalignment. Addressing the problem can achieve a significant reduction in overall low frequency vibration and in turn a significant decrease in power usage and resulting increase in efficiency.

Clearly then, condition based maintenance can save money by allowing maintenance to be performed when it is actually required, thus avoiding the greatest cost of all – unexpected emergency repairs, as well as by reducing energy consumption. So why isn't everyone using CBM? In the U.S.A. use of CBM has been in place much longer, and is far more mature than in Europe. Until recently there has been a perception that CBM is expensive and complex, possibly with some justification. But not anymore and its adoption is rapidly becoming widespread. As European manufacturing plants and facility managers increasingly benefit from CBM it is imperative that their CBM equipment is straightforward to use and provides clear, colour coded alarms that any operator can act upon with confidence. Thankfully these devices are now widely available.



Typical examples include the Test Products International (TPI) range of low cost, high performance, easy to use vibration analysis tools for maintenance engineers. From the simple 'one-button-to-press' TPI 9070 vibration analyser to 'top-of-the-range' units for condition based and predictive maintenance, machine balancing and alignment, TPI's products are all incredibly easy to use. The TPI 9080 (also available with ATEX certification) is the latest in a line of easy to use high specification maintenance products offering high level functionality and capability at extremely low cost. The TPI 9080 is capable of storing equipment routes (as simple lists) that can be followed by even the lowest skilled operative to collect and store vibration readings for transfer to the included VibTrend PC trending software. This allows faults such as out of balance, misalignment, looseness and worn bearings to be identified well ahead of the point at which they start to become a problem.

For more information visit:  
[www.tpieurope.com](http://www.tpieurope.com)

# Schaeffler condition monitoring solution helps prevent unplanned downtime of water treatment pumping stations

A drinking water treatment company in Asia is preventing unplanned downtime of critical equipment across its pumping stations following the successful installation of a condition monitoring solution from Schaeffler.

The customer operates a drinking water treatment facility where each day, 200 million litres of water can be treated, filtered, chlorinated and – after a recent site expansion – ozonised and biologically activated. As the operator is responsible for ensuring a reliable supply of high quality drinking water for the region, protecting the relevant facilities against failure is a key priority.

### Challenge for Schaeffler

The customer was looking for an intelligent condition monitoring (CM) system to reliably prevent failures in its pumping stations. After expanding its facilities by installing the latest technologies and processes for water treatment, the company wanted to implement a high performance, fully integrated CM system solution.

### Schaeffler Solution

The Schaeffler solution comprises a custom designed CM system based on SmartCheck sensors. In total, 84 SmartChecks are fully integrated into the customer's infrastructure via a PLC (programmable logic controller), which monitor the critical items of equipment across 15

pumping stations. Equipment monitored includes bearings on pumps and motors, as well as pump vanes/impellers. The SmartChecks monitor vibration, temperature and speed, as well as shaft alignment and balancing.

The data can be viewed individually at each pumping station or centrally in the control room. The system also allows the implementation of automated routines such as the triggering of alarms and the emergency shut-off of equipment.

### Customer Benefits

With the help of the CM system that is fully integrated via the PLC, the customer can almost completely prevent unplanned system downtime, ensuring that high quality drinking water can be supplied to the region at all times. In addition, damage to equipment can result in high costs amounting to several thousand euros. This risk has also been practically eliminated.

The customer-specific implemented CM solution provides very detailed information about vibration, temperature and other parameters for each item of equipment, which can be visualised in a complete,

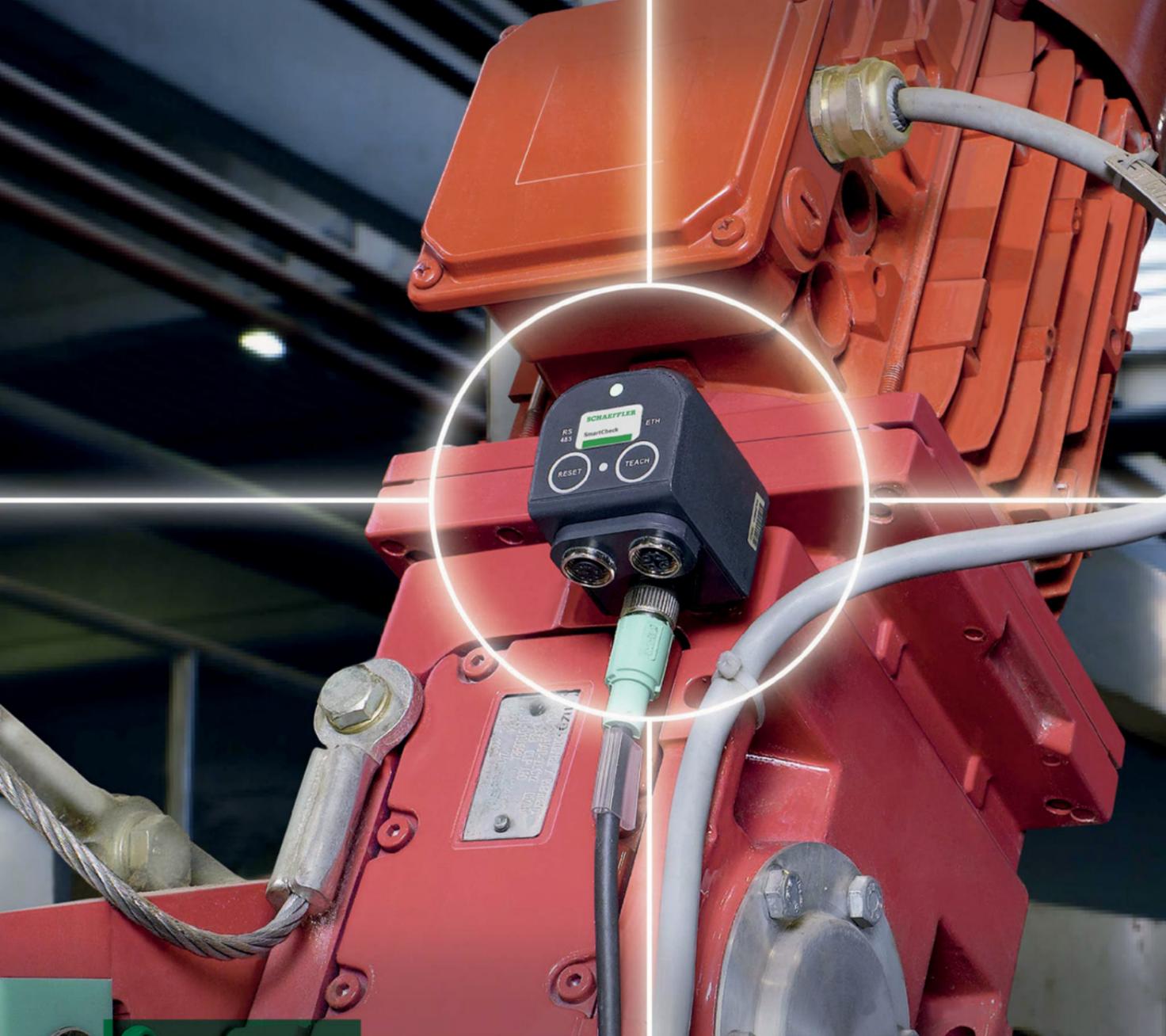


easy-to-understand way in the customer's system. The high level of detail provides the perfect basis for ensuring operational reliability and predictive maintenance. This means the user does not require special knowledge of vibration diagnosis on-site.

### What's special?

The combination of high precision condition monitoring and simple handling totally convinced the customer in practice, who is now planning to implement similar solutions in other applications at various locations.

For more information visit:  
[www.schaeffler.com](http://www.schaeffler.com)



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- Measuring techniques: VIB ISO 10816 + Spectrum

- Leonova Diamond handheld instrument
- Charger
- Communication cable
- Shock pulse and tacho/temperature probe
- Vibration transducer
- Magnet foot
- Measuring cable
- Quick connector, DuoTech
- Carrying case, hard
- Analysis and diagnostic software Condmaster Ruby 2018
- Measuring techniques: VIB ISO 10816 + Spectrum, Vibration Expert

- Leonova Diamond handheld instrument
- Balancing equipment
- Charger
- Communication cable
- Shock pulse and tacho/temperature probe
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- Three magnet feet
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- **ICML:** Currently, the organization provides certifications for three types of professionals: Machine Lubricant Analysts, Machine Lubricant Technicians and Laboratory Lubricant Analysts. All certifications are pioneered to several ISO standards.

**The CBM CONNECT TRAINING CONFERENCE United Kingdom** is the area's largest conference for condition monitoring professionals. You will have access to:

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- This is a focused event on each of the condition monitoring technologies
- Expand your network with other industry professionals that have been through similar experiences
- Get hands-on training using test rigs, analyzers, and more in a variety of topics
- Access downloadable versions of the conference presentations before, during and after the event

**Who should attend the CBM CONNECT TRAINING CONFERENCE United Kingdom?**

We invite vibration analysts and condition monitoring professionals from all over the world to attend our new annual conference in the United Kingdom. Any professional or manager within the industry will find value throughout the conference, whether it is new technology, new ideas or a new approach. This event is entirely focused on the maintenance, reliability and the condition monitoring industries. Attend the CBM CONNECT TRAINING CONFERENCE United Kingdom, and you will have the opportunity to experience the keynote presentation by Jason Tranter, CEO and Founder, Mobius Institute and over 15 educational presentations from industry experts in the United Kingdom and around the world.

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# Northern Manufacturing & Electronics 2019

Northern Manufacturing & Electronics 2019 returns to Manchester's EventCity, from October 2nd to October 3rd. With safeguarding competitiveness and agility more important than ever before in these uncertain times for manufacturing, the exhibition offers a great opportunity to become properly acquainted with the hottest industrial technologies, techniques, components and business practices.

Process industries are a tremendously important aspect of the North's sizeable manufacturing activities. The pharmabio enterprise in the North West on its own is responsible for near to 19% of the region's annual manufacturing output. Maintenance is quite clearly a major aspect of these operations, and not surprisingly these industries support a well-established eco-system of specialist distributors of both components and engineering services. Positioned right in the centre of this most successful of the UK's manufacturing regions, Northern Manufacturing & Electronics provides a exceptional marketplace for engineers, industrial management and procurement professionals to ply their trade.

Close to 250 firms are expected to participate in the 2019 exhibition, among them an outstanding assortment of leading UK suppliers of both hardware and services. Regular exhibitor igus UK returns for 2019, showcasing its popular energy chain, bearings, linear guides, flexible cables, stock bar and stock plate materials. Igus' maintenance-and lubrication-free products are designed to cut costs and increase the service life of modern machinery by offering enhanced corrosion, wear, environmental and debris resistance over traditional materials.

Among the outstanding first-time exhibitors at Northern Manufacturing 2019 is industrial power

transmission specialists Ringspann UK - part of the global Ringspann GmbH group. Ringspann provides a wide variety of power transmission components, along with related equipment such as brakes, overload clutches and condition monitoring. Other notable exhibitors include Micronel UK, with its range of high performance radial blowers, axial dc fans and flat ultra slim fans, and metalworking fluids specialist Oemeta UK.

Alongside the hardware on show is an extensive variety of engineering support services. UNIS Group specialises in renovating and refurbishing industrial electronics and motors. Malfunctioning or worn-out industrial components are cleaned, serviced and tested in accordance with modern quality standards, allowing customers to extend the working lifetime of their current inventory. Exhibiting for the first time in 2019, Eurotherm - part of Schneider Electric - is a major world-wide supplier of temperature and process control, measurement and data recording systems, designed to add value to industrial processes, improving quality, limiting waste and ensuring data is kept secure. Business improvement is also the goal of exhibitors Manufacturing Excellence, a consultancy assisting clients boost output and profits through integrated training, consultancy and implementation support in Lean and Agile thinking for businesses at all stages of their continuous improvement journey.

The show is also a fantastic opportunity to up-skill, thanks to its exceptional free technical seminar programme that runs over both days of the show. Expert presenters this year include award winning author, creator of the Lean Iceberg Model and partner at S.A. Partners, Gary Griffiths, will share how 'Excellent' organisations have delivered results for their business by embedding and sustaining Lean & Continuous Improvement. Andy Brunskill, Author of TPM: A Foundation of Operational Excellence will discuss an 11 step model which can be used to deploy an effective, systematic TPM programme. The model incorporates the lean thinking tools and systems, such as OEE and RCA, and will also look at the leadership and engagement systems that will support sustainable change. Popular presenter Tim Scurlock takes a detailed look at how Porsche improved performance by the use of Lean techniques to reduced cost and lead times. Made Smarter and the Manufacturing Growth Fund will present an overview of how companies across the region have grown their businesses, including practical tips on how to access the advice, funding and support that is available across the North West. Other sessions look at topics such as CE marking, mergers and acquisition strategies, and a look at the R&D incentives available from the taxman. A full list of sessions is available at [www.industrynorth.co.uk](http://www.industrynorth.co.uk)

Entry to Northern Manufacturing & Electronics 2019 and on-site parking is free of charge with easy access by road. EventCity is also very accessible by public transport from central Manchester. To register online for complimentary tickets simply visit [www.industrynorth.co.uk](http://www.industrynorth.co.uk)

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Over 300+ national and international suppliers will gather in Manchester this October for Northern Manufacturing & Electronics 2019 together with the RoadRailAir event. The exhibition will feature live demonstrations and new product launches of machine tools & tooling, electronics, factory & process automation, packaging & handling, labelling & marking, 3D printing, test & measurement, materials & adhesives, rapid prototyping, ICT, drives & controls and laboratory equipment.

Free industry seminar programme online @ [www.industrynorth.co.uk](http://www.industrynorth.co.uk)

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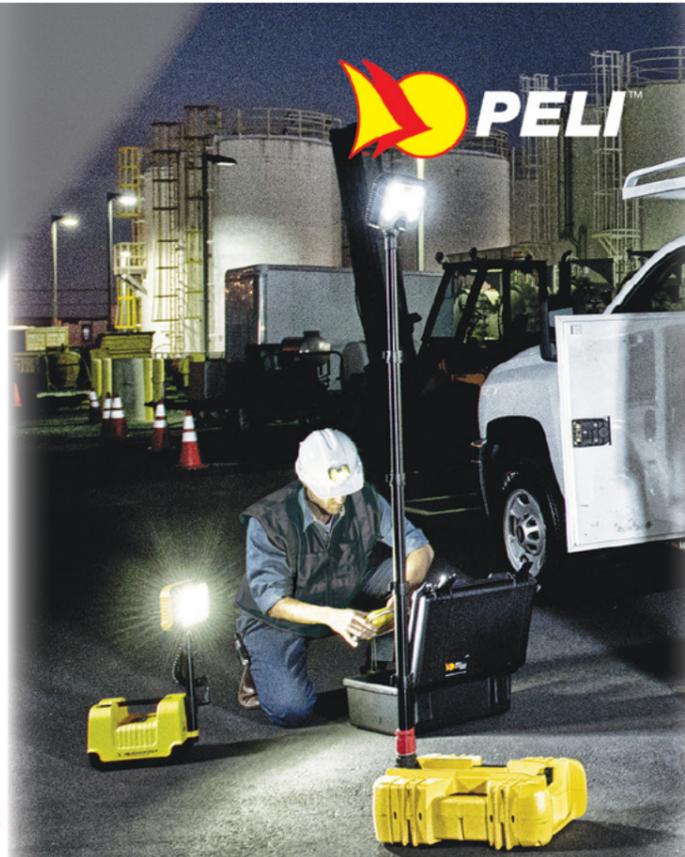
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## The Peli UK Group will display cases and protective packaging solutions at Northern Manufacturing 2019.

The Peli™ Protector case range is the market leader in rugged protection for all types of equipment.

More than 30 years of product development has ensured the Peli™ range is the "go to" choice for protecting instrumentation, components and fragile items. Offering watertight, dustproof and crushproof security, Peli cases are ideal for the transportation of specialised industrial equipment and they are covered by the legendary "You break it, we replace it" lifetime guarantee.

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are designed in house and specifically tailored to fit the equipment. Precision engineered foam ensures each item is securely packed and offers full protection from drops, knocks and vibration. These bespoke foam inserts optimise the space and provide maximum product protection, ideal for sensitive, fragile equipment such as electronics and tool control.

Designing foam inserts that are cut to size for individual tool kits has been part of the business for over 20 years. The inserts organise tools efficiently and using coloured foam, ensure missing items are easily identified, eliminating the risk of Foreign Object Damage (F.O.D.). Durable

custom foam ensures tools are secured in position and fully protected in transit.



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# Short of time for learning and networking? Here's seven ways to sway busy engineering professionals

We all know we need to get out more. How else will we meet new people, learn new things, find new ideas and discover new products? Yet the pressure on our time is unrelenting. It can be difficult to justify time out of the office with all those deadlines looming and emails piling up.



The internet provides part of the answer, of course. But the smartest solution for busy engineering professionals is also about choosing days out that can be crammed with as much value as possible. By taking advantage of UK Construction Week (UKCW) you can tick off all the above at one event.

If you're not yet registered to attend the UK's largest construction event, here are seven things that ought to convince you to pop over to the NEC on 8-10 October.

## 1. Products, products everywhere

New products are always being developed to meet different and emerging needs. Staying up to date with all the latest technology is essential to find the right product for the job. So, if you need to source

a new heat pump, find a new sustainable material, discover new roofing products or even new BIM software, then look no further than UKCW. With over 10,000 products being showcased at the event, it makes it the ideal marketplace to source your new product. With eight different sections ranging from build to timber and from surfaces to civils everything you need is right there under one roof.

## 2. That lucky encounter

Year after year, visitors at UK Construction Week say they won new work as a result of a planned meeting or a chance encounter at the show. People do business with people – and with 35,000 visitors set to attend UKCW, that is a lot of potential leads. Meeting face to face is the most

engaging way to do business and UKCW can facilitate that. If you have spotted a business that you want to connect with contact them through the exhibitors' portal and arrange the meeting in advance. 4,000 business meetings were booked by UKCW visitors prior to the show last year, and exhibitors reported that they had generated 70,000 new business leads at the event. To help with meetings, there's a new business and networking lounge with free WIFI.

## 3. Genuine innovation, not another widget

You could leave the future of the industry as a surprise. But where's the business sense in that? Disruptors are now present in many different markets, so this year UKCW is shining a spotlight on the serious change-makers in construction. To aid the search, a new Innovation Zone has been established in partnership with the Construction Innovation Hub (the Hub).

Another new addition for this year is the Innovation Station in partnership with On the Tools. This is a demonstration area specifically for power tools, with all the latest biscuit jointers and heavy-duty bench grinders from top trade brands in action. Visitors can pick up tips from the experts on how to get the most from their range, try out the latest products, and cut a deal with the manufacturers as show discounts will apply.

## 4. Your own personal industry MBA

Condense your strategic business learning into one, two or three days of insights. UKCW brings together more than 300 expert speakers including Mark Farmer who is spearheading policy initiatives on MMC, Professor Birgitte Andersen of the Big Innovation Centre, Chandru Dissanayeke, director of building safety reforms at MHCLG, Keith Waller, programme director at the Construction Innovation Hub, Sarah Beale, chief executive of CITB and Sonia Zahiroddiny, BIM Strategy

Manager for HS2. The UKCW main stage is the place to head to. It offers a programme of keynote talks and panel discussions on many of the big issues of the day around Government policy, digital innovation, MMC, sustainability, diversity, housebuilding, productivity and skills.

And if that's all a bit too high level, get stuck into the details at a wide range of workshops. This year there will be more than 150 hours of CPD content available. The programme will take on a different theme for each day of the show, tackling fire safety, health and wellbeing and sustainability. There are mini-theatres covering regeneration, MMC, digital construction, energy and HVAC, surfaces and materials, timber and the workplace. There's a new Careers Centre offering workshops on career progression, apprenticeships, staff retention, diversity, career change and new talent.

## 5. A bit of myth busting on MMC

Everyone knows that Modern Methods of Construction (MMC) are back in vogue, but what is the reality this time? MMC is a strong theme at this year's UKCW. Full-scale builds will be erected onsite with live demos of MMC technology in action. Head to the MMC Hub for other digital demos and simulations too. Examples of the pre-manufactured structures at the show range from a modular care annex for the healthcare sector and a SIPS panel residential building, to a factory-finished modular bathroom pod for the high end hotel sector, and offsite solutions for the education sector.

## 6. An experience not easily forgotten

To really understand another person, as the saying goes, you need to walk a mile in their shoes. So, when did you last get to run a building site? Make a beeline for the Coventry University stand and its site simulator. It's hailed as one of the most powerful experiences of any construction show. If you're feeling brave you can step into the site hut, take on the role of the site manager and get first-hand experience of what it's like to work on a busy project. Not for the faint hearted!

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## 7. Celebrations and a beer festival

Everyone enjoys a good awards night and UKCW is no exception. The show hosts the UKCW Role Model of the year, the new Building Trades Awards with Fix Radio and the new UKCW Construction Awards. Plus, to encourage young people into construction the iBuiltThis competition is back and the winners will be announced at UKCW.

And if you're not involved in the celebrations, just unwind each day with a beer, some street food and a spot of music. The Fischer bar is in Hall 11 and the Rawlplug bar is in Hall 12. Don't forget the

Beer Festival, sponsored by NBS and of course the 'Rockaoke' on Wednesday night.

UKCW is one event with many sections, including Build, sponsored by Easy-Trim, Building Tech, Civils, Energy and HVAC, Surface and Materials, and Timber. It also features Concrete Expo (8-9 October only) and Grand Designs Live (9-10 October only).

Single registration gives access to all areas of the show. For further information visit:  
[www.ukconstructionweek.com](http://www.ukconstructionweek.com)

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## Five ways to manage uncertainty in UK industry What companies are doing to drive positive change

The current economic climate in the UK has created some uncertainty. Despite this, UK businesses have been resilient and many are leading innovation in the engineering sector.

Here, Jeremy Whittingham, Head of Marketing at Advanced Engineering, the UK's leading industrial trade show, explores ways businesses are managing uncertainty.

### 1. Speed up innovation

The speed at which businesses innovate can take a hit during uncertain times. Capital investment is likely to fall, elongating project and product lifecycles. However, the need to invest in research and development (R&D) becomes even more crucial during tough times. For Xi Engineering, a digital twinning expert, this is exactly the case.

"We work with businesses to solve engineering problems in sectors such as high-end audio, automotive, renewable energy and transport" explains Mark-Paul Buckingham, Managing Director of Xi Engineering.

"We offer services like simulation and accurate modelling to help our customers trial innovations that would take longer if done manually. This helps our clients launch products more quickly without the roadblock typically associated with engineering product development."

### 2. Diversify your offering

To keep pace with competition, many businesses can become highly specialised. During times of uncertainty, it can be wise to consider sectors where your products and specialisms could offer transferrable benefits.

This strategy has helped global engineering company, Renishaw, double its employee numbers to 5000 people in just eight years.

"Our success lies in the fact that we have diversified in so many sectors," explains Jonathan

Archer, General Manager for UK sales at Renishaw. "For example, in the medical sector, we've used our additive manufacturing expertise to produce ground-breaking implants that would otherwise be impossible to make."

### 3. Inspire loyalty

Relationships can also take a negative hit during times of uncertainty. That's why businesses should build closer ties with their customers and supply chains.

When Kawasaki Robotics UK's customers were uncertain about investing in automation technologies, the company, which forms the UK division of Kawasaki Heavy Industries Japan, turned to education to strengthen its relationships.

"Market uncertainty has led to caution about investing in new digital technologies," explains Ian Hensman, Sales Manager for Kawasaki Robotics UK. "This stems from a wider uncertainty about the benefits of automation technology and how they'll work alongside the human workforce."

"We're helping our customers overcome this issue by educating them on how to integrate digital technologies in a variety of applications such as welding, material handling, painting and small parts assembly."

### 4. Join forces

The saying "if you can't beat them join them" can prove to be a powerful move to overcome uncertainty, and is how Atlas Copco's Motor Vehicle Industry business division met the rising demand in the electric car sector.

"Atlas Copco's Industrial Technique division has combined its Tools and Industrial Assembly Solutions business areas, to create an innovative

joining partner for manufacturers," explains Clive Sharp, Business Line Manager for Atlas Copco's Motor Vehicle Industry business division. "With products and expertise for all assembly applications, including adhesive dispensing, flow drill fastening, sealing and quality inspection, we can meet future market demand, particularly within electric vehicle assembly."

### 5. Explore new markets

Where some may see uncertainty, others see opportunity. Export markets can inject a fresh lease of life to your existing offering, with demand from new customers and new industry sectors.

At a time when many businesses were considering leaving the UK, Swedish automation specialist Novotek entered the market. Acquiring Glasgow-based Kerrco Automation Ltd, it created Novotek UK and Ireland, and became the sole distributor of GE Digital products in the region.

"In the UK, Novotek saw the potential to develop this market from an automation perspective," explains George Walker, Managing Director of Novotek UK & Ireland. "Our goal is to modernise British manufacturing, using edge-computing hardware to help manufacturers gain better insights and ultimately become more profitable."

To read the full interviews with the companies we've mentioned above, download Advanced Engineering's Voice of Industry report. To find out what's being demonstrated at this year's Advanced Engineering exhibition, which takes place at the National Exhibition Centre in Birmingham between 30-31 October, 2019, visit the website here: [www.advancedengineeringuk.com](http://www.advancedengineeringuk.com)

# Babcock Wanson Launches Energy Efficient Optimo 2 Burners With Exceptionally Low Emissions

Following a substantial research project with the aim of reducing exhaust gas emissions and improving the energy efficiency of burners, Babcock Wanson is pleased to announce the first of its new burners borne of this project: Optimo 2.

Optimo 2 is designed as a fully configurable stand alone burner for medium size firetube Steam Boilers ranging from 2 to 4t/h output. Optimo 2 burners are available from 1500 to 3500kW output for new Steam Boilers and also as a retrofit solution to upgrade existing boilers to meet enhanced emission requirements.

Designed with a high-performance combustion head, Optimo 2 emission rates are less than 100mg/Nm3 NOx throughout the firing range when burning natural gas. Optimo 2 not only meets the requirements of the Medium Plant Combustion (MCP) Directive it can be configured to provide even lower emissions where regulations demand making it one of the best performing burners on the market.

In addition to the exceptional environmental performance, Optimo 2 boasts outstanding energy efficiency. This is achieved through very accurate control of low excess air levels throughout the turndown range resulting in an excellent combustion efficiency no matter what the process load. In addition, Optimo 2 has been designed with a very high turndown ratio, enabling the burner to adjust its output to meet the needs of the process. This avoids the costly energy losses incurred by continual stop/start cycles, making Optimo 2 highly cost-effective and further adding to its overall operational efficiency.

Further cost savings are made through the use of integrated digital controls including the variable speed driver for the combustion air fan for simple installation and maintenance. This also reduces

boiler downtime, an important consideration for many industrial processes.

Optimo 2 comes with an interchangeable combustion air fan for up to five different duties enabling it to perfectly match the process at hand. This allows greater burner turndown as well as reduced electric consumption when operating at lower power levels. The wider fan range available with the Optimo 2 has a further benefit in that noise emission levels are reduced when using lower fan powers. With a new burner casing design, Babcock Wanson is also able to offer sound insulation where required.

The redesign of the casing has also taken into account daily operation and maintenance requirements. Now, customers can quickly check the quality of combustion by visual inspection due to the large flame viewing port on the front of the burner.

The Optimo 2 is the first model of the new Optimo burner range that will gradually replace Babcock Wanson's LNTA range. The Optimo 2 replaces all models from the LNTA 100 to 200. Optimo 1, 3 and 4 are in the final stages of development and are due to be launched shortly.

Chris Horsley, Managing Director, Babcock Wanson UK, comments on the company's work in this field: "Optimo is the culmination of an exhaustive research & development project. Babcock Wanson already has some of the best burners on the market, but the aim of this project was to further improve their energy and

environmental performance. At the same time, this allowed us to undertake a complete overhaul of our burner manufacturing process, to enable us to bring to market burners with the latest technologies at the best possible price.

"At Babcock Wanson, we see the MCP Directive as a good opportunity to drive improvements in all areas of burner design and not purely from an environmental perspective. As we manufacture all our burners in-house and have substantial R&D facilities, we have an advantage over many of our competitors as we have the resources and skills to undertake this research project.

The resulting products are truly impressive. The Optimo burners already exceed the requirements of the MCP Directive and, with future regulations likely to further limit emission levels as a means of improving air quality, Babcock Wanson can offer customers a future proof solution now."

Babcock Wanson offers a complete range of products and services for boiler houses and other process heating needs, from firetube steam boilers, thermal fluid heaters, rapid steam generators, water treatment equipment and services, process air heating solutions and hot water boilers to VOC and odour treatment by Thermal Oxidation. The company aims to help optimise customer's energy production with high quality products and efficient service.

For more information, please contact Babcock Wanson on 020 8953 7111 or info@babcock-wanson.co.uk or go to www.babcock-wanson.co.uk

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# Vaillant Provides Energy Savings For Bolton Community Centre

Vaillant has supplied materials for a brand new heating system for The Platt Hill Community Centre, as part of a collaboration with Clarion Housing Group and their partnering contractor, ENGIE.

The Bolton-based project was designed to improve the energy efficiency of the community centre, with the intention of lowering running costs for the users of the building space. Ultimately, the end goal was to allow the local community to effectively allocate its limited funds towards facilities, services and training, rather than unnecessary energy costs.

The original heating system was installed when the building was first constructed over fifty years ago in 1964, so it was crucial to renew the system in its entirety. Vaillant's ecoTEC plus 48kW boiler was selected for the job due to its many energy saving features. Built with a high efficiency, stainless steel heat exchanger, the ecoTEC offers an impressive 94 per cent efficiency rating, translating to lower running costs for the end user. Furthermore, the addition of advanced modulation during periods of low heat demand ensures that the system only consumes low levels of energy, with maximised efficiency.

As well as designing and commissioning the new system at no additional cost, Vaillant also supplied a number of accessories free of charge. This included a VRC 700 System control pack, which not only offers ultimate ease of use for the end user, but includes weather compensating technology to effortlessly ensure the appliance works at optimum efficiency.

Julie King, senior project manager at Clarion Housing Group comments: "The community centre is a vital resource for those in the Platt Hill area, and the group which leases the building, Enable u2 Do It, has to carefully manage funds in order to support the many groups which use the space. By improving the energy efficiency of the building and the heating system, more money can go into the valuable initiatives which the facility is home to.

"When it came to choosing a heating solution, the proven delivery of lower energy consumption and with it, reduced energy costs, along with the ability to efficiently satisfy heating and hot water needs, was central to selecting ecoTEC and the accompanying accessories. Vaillant worked closely with us and the installing contractor at all stages with great professionalism and attention to detail to deliver what is a fantastic result for all concerned."

Mike Cubrilo, regional business manager at Vaillant adds: "With a whole host of built-in features, installation and servicing of ecoTEC could not be more straightforward. Lightweight for its class, compact design, and a comprehensive range of flues, fittings and accessories means that ecoTEC boilers can be sited almost anywhere – making it the perfect choice for this project. We are delighted to have played a role in rejuvenating this important hub for the Bolton community."

For more information, please visit:  
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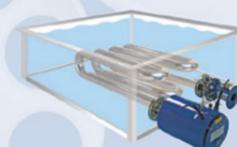
**FD-E** low cost high turndown oven/dryer air heating burners.



**FD-C (GA)** modulating gas + air process air heating burners.



**Midco HMA** high efficiency, high turndown, air replacement or "make-up" air heating burners.



**TX** high efficiency small diameter immersion tube tank heating systems.

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**Lanemark gas burner systems offer users reliable, high efficiency, process heating solutions.**

**FD Series Packaged Oven/Dryer Burners**

- Specifically designed for process air heating applications in convection ovens and dryers
- High turndown/short flame lengths providing accurate process temperature control
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- Heat Input Range: 9 kW – 880 kW

**TX/TRX Series Gas Fired Process Tank Heating Systems**

- High efficiency (80%+) heating of all types of spray and dip process tanks
- Compact high efficiency small diameter immersion tube heat exchangers occupying minimum tank space
- Accurate performance modelling using Lanemark TxCalc design software
- Heat Input Range: 15 kW (1½") – 730 kW (6")

**Midco DB Series Air Replacement or "Make-Up" Air Heating Burners**

- Direct fired, high efficiency burner systems, for high volume air heating applications such as paint spray booths, ovens and dryers.
- Supplied either as Midco burner heads for OEM system integration or as complete packaged systems including modulating gas valve trains and controls
- Wide range of firing rates to suit alternative temperature rise and air velocity system requirements
- DbCalc system design software



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# Fulton's VSRT helps to improve efficiency at Fillongley's spring water bottling plant

Fillongley Spring Water boasts one of the UK's most efficient bottling facilities and offers a high-speed and cost-effective way for bottled water cooler distributors to access the high-quality product demanded by their customers.



Instead of running two boilers for the washing line, a single VSRT boiler is now being used to achieve an increased target temperature of 60°C for the detergent. The combination of the new line and Fulton's energy-efficient VSRT also means the company has been able to increase the throughput of the line by 40% – from 1,200 bottles per hour to 2,000 – and Fillongley has reduced its gas consumption by about a third.

"A reduction in gas consumption wasn't something we set out to achieve, so this is a real bonus for the company and means the payback period for the bottling line is reduced," says Martin.

But with the demand for bottled cooler water increasing, Fillongley needed a new bottling line. However, with the two existing Fulton boilers not having the capacity to reach the target temperature for the new plant's washing line, Fillongley started looking at alternative steam raising solutions.

Commenting for Fillongley Spring Water, technical and quality manager Martin Whitehead says: "We looked at several alternatives – including vertical and horizontal firetube boilers – but, with advice from our main contractors and installer, a decision to specify one of Fulton's recently-launched VSRT-30 steam boilers was taken and, overall, the results have exceeded expectations!"



Fulton's new 'PURE Technology' approach, an initiative that's resulted in a world-first design that is durable, long-lasting and boasts the highest efficiencies and ultra-low NOx emissions as standard. This new approach aims to enhance heat transfer, provide class-leading efficiencies, improve steam quality and reduce NOx emissions.

Rather than further-improve products like its J Series to achieve these goals, PURE Technology – the culmination of Fulton's clean slate approach to design – challenges the industry status quo on conventional boiler design by engineering solutions that are fit-for-purpose and fully-optimised for all applications.

For more information please visit:  
[www.fulton.co.uk](http://www.fulton.co.uk)

# New Heights in Heat-Resistance: CLIBOS High Temperature Fan

In collaboration with supply partner Casals Ventilation, Axair has recently launched a new high temperature fan designed to handle the hottest air yet.

## Increasing Pressure with a Scroll

It may be the case that the installation in the oven or similar application needs a higher pressure than the medium pressure provided by the fan. In this situation, a higher air pressure can be achieved by adding the CLBC fan scroll (pictured) with its corresponding suction cone, the CLBI.

In addition to the CLBC scroll and CLBI cone, Axair provide a number of accessories for the CLIBOS-TR that allow it to be used in a wide range of high temperature applications. For example, ATEX switches, automatic bearing greasers, frequency speed controllers, rotation speed monitors and vibration monitoring systems.

Contact Axair's team to discuss your project or for more information about their high temperature fans.  
[www.axair-fans.co.uk](http://www.axair-fans.co.uk) | [sales@axair-fans.co.uk](mailto:sales@axair-fans.co.uk)  
01782 349 430



Listening to the requirements of customers in industries that have the challenge of extremely high temperature operations, a solution has been developed to move air and gases up to 350°C.

## Applications

The innovative use of high density rock wool insulation, heat-resistant paint coatings and carbon laminated steel means that the CLIBOS-TR series can withstand extreme conditions. Such environments include industrial ovens, furnaces, incinerators, boilers, paint booths and drying facilities for wood, ceramics, glass, barley and tobacco.

## Installation Example

One of the most typical high temperature applications for the CLIBOS-TR series are paint booths. This type of installation has an oven for drying the paint once it is applied to the product. With the CLIBOS-TR fan, thanks to the rock wool (available in thicknesses of 150 and 200mm) and the thermal grooves of the casing (pictured), a thermal bridge is created which allows the internal heat of the oven to be dissipated.

In this example of two CLIBOS-TR installed in a paint booth over, the difference in the internal and external temperature of the oven is illustrated in the thermal imaging.

## INDUSTRIAL PROCESS COOLING

Air movement solutions for cooling, drying and fume extraction, options include:

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- High pressure
- Stainless Steel
- ATEX variants

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# Don't let overheating disrupt you this summer.

Plan ahead with EcoCooling's direct fresh air and evaporative cooling technologies

Last year's unusually hot summer caused disruption for many factories and industrial facilities where heat-fatigued staff and customers resulted in drops in production and sales. While refrigeration systems are considered too expensive and uneconomical for large space cooling, evaporative cooling offers a cost effective and reliable alternative.

## The Solution

EcoCooling fresh air and adiabatic/evaporative cooling systems are installed in over 2000 facilities across the UK, providing fresh cool air to people and processes without the need for refrigeration. Clients have seen productivity in sites improve by up to 30% after the installation of EcoCooling equipment.

## It's Science not Magic

During colder weather the EcoCooling system works in ventilation mode, outside air is used to cool the building while hot air is extracted out. On hotter days, the natural process of evaporation is used in EcoCoolers to cool incoming air. By evaporating water into the air, temperatures are reduced without the need for mechanical

refrigeration, making evaporative cooling an economically viable and green option for large building and process cooling. Temperatures below 21°C guaranteed all year round, on the hottest days EcoCooling systems can often outperform their refrigeration based alternatives.

Energy Consumption: Running costs for a single unit ECP external EcoCooler Small based on an average airflow of 12,000 m<sup>3</sup>/hr are (see table 1).

Spot cooling: One ECP EcoCooler can provide cooling for 15m diameter circle of floor space, doors and windows being open will not affect performance.

Mobile coolers: Mobile coolers offer a flexible alternative to a fixed installation and can be used as trials. Contact us for more details. 01284 810586

## Where does the energy usage come from?

99% of the energy used in an evaporative cooling system is on the fans, which move air throughout the building. The energy usage of the system does not increase when the evaporative cooling is

## Case Study: LM Wind Power keep carbon neutral using EcoCooling

LM Wind Power are an international designer and manufacturer of wind turbine blades. At their Hampshire facility, manufacturing staff are protected against the chemicals involved in the manufacturing process, however there was a requirement to provide fresher air for the team working nearby in offices that were hot in summer and cold in winter.

Air conditioning units had proved expensive and inefficient, so the company turned to EcoCooling for the only solution that would ensure they remained completely carbon neutral. Approved installers, Vent-Tech, installed an evaporative cooling unit around the people working onsite with minimal disruption, at a fraction of the cost of a traditional AC system.

The EcoCooler unit was adjacently positioned and ducted into a heat recovery unit on the roof to keep the offices at a steady 21°C all year round while using very little energy/carbon.

turned on, so rising bills in summer should not be a worry.

## How do I get a free quote for supply and install?

EcoCooling has a UK wide network of installers and maintenance providers. Give us a call today to organise a free site visit and quote. : 01284 810586

Gain reliable and efficient cooling guided by an application engineer. Just call: 01284 810586 sales@ecocooling.co.uk www.ecocooling.co.uk

Below: Table 1 -performance of a single EcoCooling at 12,00m<sup>3</sup>/hr

Utility	Usage and Cost per Hour
Electrical Consumption	£0.120
Water Consumption (average)	£0.012
Total Cost per Hour	£0.132
Total cost per 168-hour continuous working week	£22.18

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- Runs at less than 10% energy consumption compared to air con
- Increase productivity, hygiene and condition compliance
- No harmful refrigerants - only 100% fresh air
- Avoids air recirculation - improves air quality/reduces smells
- Energy Efficient Natural Cooling - decreases carbon footprint
- New build and retrofit with solutions to fit a range of applications

## EcoCooling: the established leaders in evaporative cooling

UK-based with over 3500 installations worldwide; with clients including BT, Marks & Spencer, Herman Miller, Cummins Diesel, Premier Foods, Net-a-Porter and Cambridge University. Case studies online!

## Industrial Cooling:

Provides 35kW of cooling for only 1.5kW of electricity. 14,000m<sup>3</sup>/hr of cool air for less than 12p per hour. ROI in under 3 years.

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# Industry Urged To Incorporate Cooling Technology Into MVHR

As structures become better insulated, and the climate gets warmer, ventilation strategies should incorporate cooling technology (MVHCR) to combat overheating, according to an industry expert.



Paul Harrington, Head of Residential Sales at Elta Fans, comments: "Until recently, the use of Mechanical Ventilation with Heat Recovery (MVHR) has been the preferred method for maximising thermal comfort in an energy efficient way. Although it is effective when the outside air is cold, problems often occur when temperatures begin to rise.

"This is because an improvement in the insulation of our homes has meant heat is unable to escape, and is therefore retained within buildings

more than ever before. Combined with a warming climate, this often leads to instances of overheating, and a drastic reduction in thermal comfort.

"While MVHR is an effective way of managing air circulation during colder months, it is notable that its benefits are rarely discussed in summer. Even the summer bypass function, which prevents incoming air from being passed over the heat exchanger, does little to help when the outside temperatures are soaring. Clearly, the ability to cool incoming air is becoming an increasingly important element of ventilation."

Mechanical Ventilation with Heating and Coolth\* Recovery (MVHCR) units are capable of essentially acting in reverse, passing outgoing cooler air over the heat exchanger, which helps to ensure the incoming air remains ambient. Solutions such as Elta Fans' Vigo and PREMA ranges ensure that, regardless of the outside temperature, the desired indoor level can be maintained.



The ability to cool incoming air also has a knock-on, positive impact on the efficiency and effectiveness of air conditioning. MVHCR prevents the coldness within the air from escaping, working in tandem to reduce the stress placed on air conditioning units, and achieve the ideal internal temperature.

Paul concludes: "The importance of MVHCR can be outlined by comparing it to air conditioning in a car. If you open a window, the vehicle's climate control has to work harder in order to maintain the desired temperature. The same applies in buildings, and ventilation systems that allow warm air to enter are essentially working against air conditioning units.

"MVHCR is the year-round solution, able to heat and cool incoming air in an energy efficient way, to ensure optimum thermal comfort regardless of the outside temperature."

*\*coolth includes the transfer of hot and cold air*

For more information on Elta Fans' MVHCR offering, please visit: <https://www.eltafans.com/product-category/commercial-and-industrial/continuous-mechanical-ventilation-with-heat-and-coolth-recovery-commercial-and-industrial-fans/>

# Technology for fluctuating energy: Balancing supply and demand with DERMS

Balancing supply and demand — arguably the biggest challenge for the energy industry. What's more, rising reliance on renewable sources means that these imbalances are even more problematic.

As the industry moves away from aging central plants to decentralised energy resources, how could Distributed Energy Resource Management Systems (DERMS) be used? Here Alan Binning, Regional Sales Manager at COPA-DATA, examines a successful DERMS project.

As the name suggests, DERMS are used for managing the distributed energy generation and storage devices available to the grid. DERMS software platforms are designed to forecast, monitor, control and coordinate distributed energy resources (DERS) from an array of sources — this includes solar cells, wind farms and storage systems across the power grid.

DERMS allow the operator to know at a glance, where every asset is located on a distribution system. For complicated energy grids, these systems can also manage large numbers of distributed assets, including volatile renewable sites.

DERMS must incorporate various other systems to allow this level of management. This includes Distribution Management Systems (DMS), Outage Management Systems (OMS) and Supervisory Control and Data Acquisition (SCADA) systems. By combining these technologies under one umbrella, operators are provided with a complete insight of the power picture and the insight to make these kinds of decisions.

That said, achieving this complicated architecture is not always simple.

## Independent management

With various systems in place to account for a wide range of energy generators or storage devices, a common industry struggle is ensuring all systems can talk to each other. This is particularly difficult due to the huge range of protocols used for individual systems in the energy industry. For this communication to be possible, utility providers must choose an independent software system.

COPA-DATA's zenon software platform, has been used to connect via different protocols under the DERMS umbrella. This was demonstrated in a project on the Korean island of Jeju, where zenon was used to balance the power of a wind farm on the nation's smart grid-test bed.

Using DERMS, the Korea Midland Power Co. sourced a revolutionary Electrical Equipment Control and Monitoring System (ECMS) using zenon. This was based on the IEC 61850 protocol — an international standard defining communication for electronic devices at energy substations.

Managing data from seven wind turbines and a high-performance lithium-ion cell Battery Management System (BMS), the project needed a platform that could accurately monitor data from various sources. What's more, because the project was dealing with renewable energy, it needed to ensure the grid is not overloaded with power, even when supply fluctuates.

The Korea Midland Power Co. used zenon to display data from every distributed asset to its



operators. This allowed them to control on how much energy is stored in the batteries and how much is transferred directly to the grid. To take this a step further, the software also allowed operators to define rules about when energy should be stored in batteries. This incorporated data about energy value, allowing the company to manage energy in a timely and lucrative way.

For example, during the night when energy is cheaper because of lower demand, the system ensured energy is stored in batteries and is only sold back to the grid when it can achieve the best price. Not only does this demonstrate DERMS' ability to optimise energy efficiency, but also to optimise profits.

Balancing supply and demand is one of the energy industry's biggest challenges. Plus, the growing reliance on renewable sources only heightens this issue. Looking to the future, as renewable generation plants continue to gain momentum, DERMS will become essential in optimising the distributed generation and storage devices on the grid.

For more information on COPA-DATA and how zenon can be used for distributed energy management, please visit the COPA-DATA website at [www.copadata.com](http://www.copadata.com)

## MHEA BULKEX anticipating strong attendance for 2019

The Materials Handling Engineers Association, (MHEA), is anticipating strong attendance at this year's BULKEX, which takes place 16-17 October at the Eastwood Hall Hotel, Nottingham.

Featuring a full speaker programme, exhibition and Excellence Awards, this is a must-attend event for anyone involved in the bulk materials handling industry or affected by it.

The Excellence Awards were launched in April and entry is free. Awards Entry packs can be accessed through the MHEA website [www.mhea.co.uk](http://www.mhea.co.uk). With five categories to consider, the Excellence Awards are an essential part of the calendar and a real opportunity for MHEA members and non-members alike to demonstrate and celebrate the very best of their projects, people and ideas. The closing date is 20 September 2019 and members are urged to put together their entries before the summer holidays in order to prioritise the awards and the deadline.

The five categories comprise Apprentice of the Year; Engineer of the Year; the Innovation Award; Project of the Year; and Supplier of the Year.

The speaker programme is comprising bulk materials experts and industries who work with bulk handling partners. Confirmed speakers include Mike Brinkley of Network Rail; Gary Sinclair of Compass Materials; Martin Downey, Immingham Bulk Terminal; Declan Barry of Atex Explosion Hazards; and Mike Bradley of the Wolfson Centre.

John Connolly, President of the MHEA, said: "This year's BULKEX is shaping up to be an excellent event, with high calibre speakers, a strong selection of exhibitors and Excellence Awards that will again shine a spotlight on this great industry of ours. We would

urge anyone considering registering to do so as soon as possible and make sure they don't miss out."

With a number of sponsors already signed up, there are still an exciting range of sponsorship packages available. With a host of flexible packages available for the awards dinner, and other opportunities during BULKEX, businesses should enquire as soon as possible if they are interested.

Attendance at the two-day event is free but those considering attending should register and book overnight accommodation as early as possible. The registration form is on the MHEA website and the link is here <https://bit.ly/31QeDei>.

For more information about exhibiting or attending BULKEX 2019 please go to [www.mhea.co.uk](http://www.mhea.co.uk), email [secretary@mhea.co.uk](mailto:secretary@mhea.co.uk) or call the MHEA on 01787 226995.

## Travis Perkins Group is supporting key customer Miller Homes

Helping Miller Homes with their commitment to Habitat for Humanity Great Britain by sending representative, Gemma Black, who is Inventory Manager for BSS, to help build new homes for orphans and vulnerable children in Malawi.

BSS, which is the UK's market-leading distributor of pipeline and heating solutions and part of Travis Perkins, nominated Gemma to travel to Salima in Malawi to help build up to three 'Habitat Homes' there as part of a trip organised by Travis Perkins customer, Miller Homes, and Habitat for Humanity GB; a global charity focused on long-term poverty alleviation through affordable social housing.

Gemma is joining 17 other Miller Homes colleagues and partner representatives, and be in Malawi until 23rd June: "I'm preparing myself for working in 26 degrees heat, on anything from bricklaying, to mixing matope, moving bricks and fetching water. This build will certainly be very different to our day jobs! Luckily in the team there are a few bricklayers joining us! I've been advised to bring energy tablets and pain relief

to compensate for what will be a tough week of heavy lifting!" Gemma explained.

"We will also be joining in with local activities; playing games with the children and sharing stories, and getting to know the families we are building the homes for. I'm extremely grateful for this once in a lifetime opportunity to hopefully make a positive difference to people's lives," she continued.

Sales Director for Travis Perkins, Mark Newman, who is in charge of the Group's Miller Homes partnership, added: "We are proud to support Miller Homes and Habitat for Humanity to help transform the lives of some of the poorest and most vulnerable people in the world, which is very much part of our Cornerstones here at Travis Perkins. I'm confident

Gemma will give it her all! She is a great ambassador for our Group and I'm positive it will be a life changing experience for her."

"We are extremely grateful for Miller Homes' ongoing support and also delighted that their partners are getting behind their goals this year for Habitat for Humanity. It's difficult to imagine the hardships that many of those we support face on a daily basis and this pledge to build new homes and fund vital facilities, which many of us take for granted, will have a massive impact on both the families and the wider community," concluded Habitat for Humanity's GB Chief Executive, Tum Kazunga.

To donate to the Miller Malawi Partnership 2019, please click [here](#) You can also keep up with Gemma's experience across our social media channels, including Twitter Facebook and Instagram

## Travis Perkins Wins Gold Ministry Of Defence Award

Travis Perkins plc, the UK's largest supplier of building materials, has been recognised for their work supporting the Armed Forces with a Defence Employer Recognition Scheme (ERS) Gold award following the recruitment of over 600 service leavers across the Group since 2015.



Covenant in 2017, and offers its Reservists support during mobilisation. The company also encourages additional leave for training commitments. Its well-established recruitment programme for former forces personnel consists of providing work placements during resettlement, as well as CV and interview guidance, and engagement with Careers Transition Partnership (CTP) events.

As an integral part of its recruitment programme, Travis Perkins is also working with leading employment charity, The Poppy Factory, which supports wounded, injured and sick veterans into civilian work. This work has in the past 12 months resulted in the successful placement of five referrals across the Travis Perkins and BSS businesses (see Will's case study below).

Travis Perkins is now extending its support for the Armed Forces by signing up to the Forces Families Job Board. This is a central portal for employment and training opportunities for Service spouses, partners and family members, which is being developed by the three armed forces' Families Federations in collaboration with Defence Relationship Management so that applicants can apply directly for jobs with employers, like Travis Perkins, who have signed the Armed Forces Covenant.

The gold accolade is a recognition by the Ministry of Defence for companies that demonstrate exceptional effort to support, recruit and develop armed forces personnel and their families, and is being awarded to Travis Perkins for their ongoing commitment to supporting the Armed Forces community.

CEO for Travis Perkins, Nick Roberts, said: "The key to our success has always been our people. But we will only be more successful as a business if we reflect the communities we serve and tap into talent from a variety of sources, encouraging and creating a diverse environment where everyone can be themselves and not feel disadvantaged or excluded in any way. Welcoming service leavers to ensure they have a successful transition to civil life is part of that.

"This is close to my heart, and given that I was a Reservist Officer in the British Army for 10 years, I am so proud of the recognition for our engagement and support for reservists and the Armed Forces, which has resulted in so many successful appointments across our Group. These colleagues have demonstrated that a range of their skills, such as teamwork, problem-solving, IT and many more, are so useful in civil employment for companies like ours. "The respect for others, integrity, discipline and loyalty they have developed, are also key values that match our own Cornerstones and make former forces personnel a desirable group that we want to tap into across all areas of our business," Nick concluded.

Travis Perkins signed up to the Armed Forces

For more information visit: [www.travisperkins.co.uk](http://www.travisperkins.co.uk)

## Birmingham hosts UK-China symposium on clean energy utilisation and energy storage

British experts from academia and industry joined their Chinese counterparts for the 2nd UK-China symposium on clean energy utilisation and energy storage.

Over 100 delegates gathered at the University of Birmingham to showcase their recent developments in addressing some of the toughest challenges of climate change through the use of clean energy utilisation and energy storage.

Hosted by the University's Centre for Energy Storage, the conference saw delegates exchange knowledge, enhance existing collaborative relationships and begin developing long-term collaborations between the two countries.

The three-day conference was chaired by Professor Yimin Xuan, Nanjing University of Aeronautics and Astronautics, Professor Haisheng Chen, Institute of Engineering Thermophysics and Professor Yulong Ding, University of Birmingham.

Reflecting on the congress, Professor Yulong Ding said: "The UK and China face similar and colossal

challenges in achieving net-zero (UK) or nearly net-zero (China) carbon emission target over a 30-year period.

"Clean energy utilisation and energy storage – two key themes of the conference - clearly have a key role to play. We are pleased to initiate the conference series and are extremely encouraged that the conference series is sustained."

The event was supported by the British Council through the Newton funds, National Natural Science Foundation of China, UK Royal Society through an advanced Newton Fellowship, International Energy Storage Alliance, UK-China Consortium on Engineering Education and Research (UCCEER), and Birmingham Centre for Energy Storage.

Amongst the 52 presentations delivered over the course of the three days, distinguished guest



speakers included, Professor John Loughhead FREng, Chief Scientific Adviser to Department for Business, Energy & Industrial Strategy; Sir Chris Llewellyn Smith FRS, University of Oxford; Professor Andy Schofield, Pro Vice Chancellor, University of Birmingham; and Dr Jun Ji, National Natural Science Foundation of China.

A key emphasis of this conference was to provide a platform for early career researchers from both China and the UK to share and promote their research whilst establishing new links between both countries.

At the end of the conference, it was announced that the third UK-China symposium on clean energy utilisation and energy storage will be held in Beijing in 2020.

## ECS ensures continued operation at the Environment Agency's West Stockwith HV pumping station

The pumping station at West Stockwith in South Yorkshire provides a lifeline for the farmers and residents along the River Idle, pumping excess water into the River Trent.



inspection ECS recommended brush replacement in the near future to OEM specification. The motor assemblies were cleaned and the rotors, stators and associated cables were subjected to insulation and continuity testing.

Finally, ECS engineers turned their attention to the switchboard which governs the entire pumping capacity of the station. This included assessment of the two 3.3 kV incomers that deliver power to the site to give them a clean bill of health for years to come.

As a turnkey electro-mechanical service provider, ECS is uniquely positioned to meet the maintenance needs of the Environment Agency and its flood control assets. In terms of ensuring the protection of farmland or personal property, inspection and maintenance work carried out on these pumping installations is vital. In times of high-water level, this assurance will mean that West Stockwith pumping station not only continues to be a strong asset for the Environment Agency, but for the whole area.

The station contains four impressive pumps each requiring 3,300 volts to drain the local watercourse. In times of need the reliability of the site is a key concern for the Environment Agency and this service has been entrusted to ECS Engineering Services, the Environment Agency's appointed MEICA framework contractor.

In autumn 2018, ECS was again contacted by the Environment Agency to conduct a thorough assessment of the electrical and pumping equipment at the station. As a leading provider of electro-mechanical solutions for water control applications, ECS engineers were well-placed to conduct this condition report on the equipment.

Each pump starter was subject to a visual inspection, assessing the condition of wiring looms, connections, relays and contactors. ECS engineers proved security measures and checked for signs of excessive heat. Indication equipment was examined, with operational testing carried out to prove isolation and lock off mechanisms. Insulation tests were carried out on the contactors, and the overload settings were checked and adjusted where necessary to give the operational side of the station a clean bill of health.

The high voltage pump motors received a similarly thorough examination with the checking of brush gear and slip rings. Following the documented

For further information visit:  
[www.ecsengineeringservices.com](http://www.ecsengineeringservices.com)

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# Seals Deliver Long Life In Chemical Processing Applications

Based on a proprietary and patented crosslinking system that has been developed specifically for the chemical processing industry, DuPont™ Kalrez® Spectrum™ 7275 seals exhibit minimal swelling and improved retention of physical properties when exposed to aggressive chemicals such as concentrated nitric acid, organosilanes, chlorosilanes, pure ethylene oxide, butyraldehyde, amines, vinyl monomers and acrylic monomers. Kalrez® 7275 seals are available in the UK from authorised distributor Dichtomatik Ltd.



DuPont™ Kalrez® Spectrum™ 7275 seals exhibit minimal swelling and improved retention of physical properties when exposed to aggressive chemicals.



Pump seal life was more than doubled when using Kalrez® 7275 seals at a paper mill in North America.

Any process plant that uses chemicals as an inherent part of its operations knows the importance of reliable, long-lasting seal technology. With Kalrez® 7275, which is a special perfluoroelastomer product, users enjoy excellent

compression set resistance and good retention of physical properties after ageing at high temperatures. In fact, the seals will deliver a higher level of performance in any aggressive chemical processing application with temperatures up to 300°C, especially where high resistance to strong oxidisers such as nitric acid, chlorine and chlorine dioxide is required.

Among those able to vouch for the benefits of Kalrez® 7275 is a paper mill in North America that relies on chlorine dioxide for its pulp bleaching operations. The paper mill was experiencing frequent failures of a pump handling chlorine dioxide in water. According to the reliability engineer, the incumbent non-black FFKM seal

typically failed within 5 months of installation because of the extremely aggressive nature of the stream. However, following replacement of the seals with Kalrez® 7275, seal life doubled to more than 12 months, removing the pump from the paper mill's list of "bad performers" and into routine yearly maintenance. Increasing the MTBR (mean time between repair) in this way contributes to reduced maintenance costs and longer equipment life, while improving process safety.

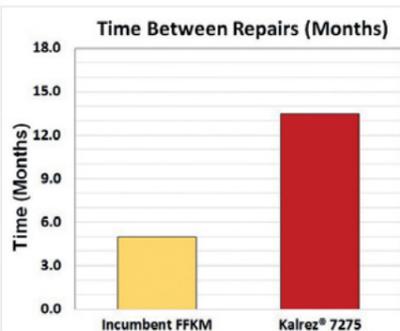
Aside from pumps, Kalrez® 7275 will benefit many other applications which depend on mechanical seals as part of their critical processes, including valves, compressors, filtration columns and analytical equipment.

Uniquely identifiable by its light brown colour, Kalrez® 7275 offers: a Shore hardness (A) of 75 (on the slab) and 81 Shore M (on the O Ring); 100% Modulus of 9.7 MPa; tensile strength at break of 14.5 MPa; elongation at break of 160%; and compression set of 22% (70 hours at 204°C). The product is available in a broad series of standard O-ring sizes and custom parts for a wide range of sealing applications.

Further information is available from: Dichtomatik Ltd, Donington House, Riverside Road, Pride Park, Derby DE24 8HX Telephone: 01332 524401

e-mail: kalrez@dichtomatik.co.uk www.dichtomatik-kalrez.co.uk

Durability of Kalrez® Spectrum™ 7275 relative to the MTBR of the incumbent FFKM in a chlorine dioxide/water stream.



# Hi-Line Welcomes Three New Appointments And Celebrates Latest Safety Accreditation

Hi-line Industries, a leading UK supplier to the compressed air sector, has welcomed three new employees to its ranks. Reflecting the company's ongoing success and growth, Stephen Martin joins as Sales Director, Matt Johnson takes up the title of Project Engineer while Brad Beesley arrives as Internal Sales Co-ordinator.



The news comes in the same week as Hi-line celebrates its latest safety award: the company has been granted the prestigious SafeContractor accreditation by Alcumus.

The upward trajectory of Hi-line Industries Ltd has been noted across the sector. The company moved into a new, much larger production facility last year in order to meet growing demand for its range of highly efficient compressed air purification equipment. Hi-line is acknowledged as Britain's largest stockist of a broad range of air treatment ancillaries, and the largest supplier of refrigeration air dryers.

At a time when the company continues to grow year-on-year, recording a record turnover for its most recent financial year, the company decided

to further extend its strength in sales by appointing Stephen Martin as Sales Director, a move that Hi-line hopes will capture even more market share for the business.

Stephen has a wealth of experience within the compressed air and dehydration market having worked in the industry for over 30 years. He started his career in compressor distribution and filtration, running his own compressor agency, before selling to join SPXFLOW, where he spent 23 years supporting the company's dehydration distributor and direct project business.

"I'm looking forward to the opportunities that my new role will provide," says Stephen. "I've been tasked with looking after Hi-line's interests throughout the UK and I'm keen to meet our wide and varied client base over the coming months."

Also joining the Hi-line team is Matthew Johnson, who becomes Project Manager. Matthew started his career in the Royal Navy before moving into construction and engineering. He commenced an adult apprenticeship, aged 21, in electrical maintenance engineering before going on to study a HNC and HND in mechanical engineering at Sheffield Hallam University. Following six years as a maintenance engineer Matthew decided to move into a more managerial role and spent the past two years as a project engineer at a maltsters in Burton upon Trent, where he handled and delivered multiple capex projects varying in cost and size.

"I'm a firm believer in the work hard, play hard ethic, and I come to Hi-line Industries with the same drive and ambition as I did when I began my career," says Matthew. "I know I have the passion and determination to make an impact."

Having worked in the ink industry for five years, Brad worked his way through the ranks from Warehouse Operative to Account Sales Manager, and joins Hi-line as Internal Sales Co-ordinator. "I am looking forward to building strong relationships with new and existing customers in my new role," says Brad. "I understand the importance of meeting customers' needs and will go the extra mile to ensure I do that".

Arriving at the same time as its new recruits, the SafeContractor accreditation builds on the Hi-line ethos of safety first. After all, when it comes to the manufacture, installation and maintenance of pressurised systems, there is no margin for error. Awarded in July 2019, SafeContractor is latest endorsement of Hi-line's comprehensive safety standards

Further information is available from: Hi-line Industries Ltd, Telephone: 01283 533377 www.hilineindustries.com

# Leaked: A Guide to Saving you Money Air

By Andy Batey, Head of Engineering, Brammer Buck & Hickman

On average 10% of all industrial electricity consumption can be attributed to the production of compressed air. Although sounding like a minor issue in your daily operation, a compressed air leak, if not resolved quickly, can become a major issue.



Air leaks are a significant source of lost energy, often wasting as much as 20-30% of your compressor's output and costing you a significant amount of money.

There are many problems that can be associated with air leaks, some of which include a noticeable drop in system pressure as well as your machinery and tools functioning less efficiently.

Fixing leaks, if caught early, shouldn't be an issue, but fixing the problem can only be done once you've identified where the leak is coming from. Investing in a regular air leak audit is a small but sensible investment which could save you thousands of pounds.

Usually, as a scheduled routine check, an air leak audit will address all appropriate machinery for

leaks, as well as identifying possible changes in your current equipment. In most cases, a good audit will also provide a running report of items examined along with any suggestions to ultimately save you costs.

By using ultrasonic equipment, a good and thorough audit will collect the data whilst the audit provider should prepare a detailed report with a description of the leak. Alongside this, your audit provider should then estimate monetary value per leak, photograph the part or area which is leaking, and suggest a remedial list of parts or actions required to fix the problem.

Magna Exterior Systems is a leading global automotive supplier dedicated to delivering new mobility solutions and technology. Magna Exterior Solutions' UK plant in Banbury, Oxfordshire

invested in a Compressed Air System Audit, provided by Brammer Buck & Hickman.

The system was analysed using ultrasonic technology and a detailed photographic report was provided on any leakage found in the system, showing the location, size and cost of each leak. The customer's maintenance crew then took over to address the leaks using the report as a road map.

"Our technicians went around the plant using these reports and signed each off as they completed the work" states Paul Howard, Energy Improvement Co-Ordinator at Magna Exterior Systems. What's more, we did the same six months later – and every six months from then – and audited the results so we have proof of the success of this approach. It has really improved our energy efficiency. Air is one of the most expensive forms of energy. It's free to breathe but is very expensive to compress and pressurise!"

At Magna Exterior Systems, the audit resulted in £130k savings over three years. The company has gone from running three compressors full time to two, with the third for back-up. They are now using just two thirds of the energy and have reduced their servicing costs.

There are further benefits to be had, as Paul explains: "Another useful aspect to this service is the safety data provided. Compressed air is potentially very dangerous; it can damage equipment and cause serious injury. Knowing where the potential risks are is important and Brammer Buck & Hickman were able to recommend and provide suitable equipment to address any such issues."

For more information on Brammer Buck & Hickman's Air Leak Audits call 0870 240 2100 or email [engineering@bbh-rubix.com](mailto:engineering@bbh-rubix.com).

# Sulzer introduces wireless condition monitoring

Sulzer takes its expertise in pumping solutions to the next level by introducing the Sulzer Sense wireless IoT condition monitoring system. Sulzer's long experience in demanding industrial processes ensures that the Sulzer Sense monitoring device is built for real-life needs and conditions, to the benefit of our customers.



The solution includes wireless sensors that are attached to a pump, agitator, motor or any rotating equipment. The sensors measure temperature and vibration and send the data to the cloud. This means that the operating status of the equipment can be remotely monitored 24 hours a day, seven days a week. Sulzer Sense devices are battery powered and they operate in a wireless mesh network, making them easy and cost-efficient to deploy and operate.

The condition monitoring feature identifies changes in condition parameters and indicates

potential faults at an early stage. The new Sulzer Sense monitoring device will detect possible imbalance, misalignment, looseness and bearing wear. This supports predictive maintenance and helps to avoid sudden pump failure and eventual downtime.

The Sense data is sent to the cloud and can be monitored in Sulzer's online service on a mobile, tablet, laptop, etc. anywhere and anytime. The customer can set an alert value and will automatically be alerted if this value is exceeded. No manual measurement is required.

The cloud-based platform is easy to use and offers various value-adding services. The customers have secure access to the latest equipment data and related services, including documentation and condition monitoring values.

Sulzer Sense increases the productivity and efficiency at the site. It takes care of the process equipment in an easy, safe and convenient way.

Learn more: [sulzer.com/sulzer-sense](http://sulzer.com/sulzer-sense)

# Denso Paste & 80mm Tape Control Brunel Bridge Corrosion

Isambard Kingdom Brunel's Swing Bridge was constructed of riveted wrought iron plates in 1849 to provide a crossing over the entrance lock for growing vehicular activity in Bristol Docks.



It is a rare survivor of Brunel's Bristol work and predates the Clifton Suspension Bridge.

To hold back corrosion in the early days linseed oil and resin based paint coatings were regularly applied, but after 50 years of neglect the Grade 2 Listed structure has rusted seriously.

In the Bridge's one hundred and seventieth year the volunteers of the Avon Industrial Buildings Trust have turned to Winn & Coales (Denso) Ltd for a well tried protective system to help preserve important parts for the future.

The structure weighs almost 70 tonnes and is supported by a turntable ring running on just four wheels.

Denso paste has been applied to the underside of the ancient bridge's 4m dia forged iron ring to seal against water entering the deep rust-pits. Then the 3mm thick soft aluminium packers were wrapped with Denso Tape, bedded on to the new 20mm thick steel ring. This was then jacked up to bed on the underside of the old heavily-corroded



ring to provide a new track for the bridge to run on.

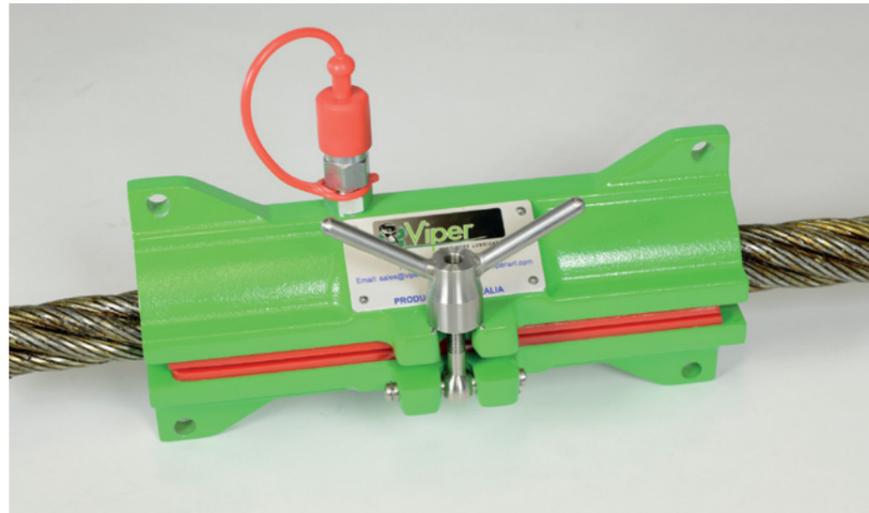
Geoff Wallis, the Avon Industrial Building Trust's project manager said: 'We chose Denso products because we know of their proven performance, and believed they will serve the Bridge well for years to come.'

Winn & Coales (Denso) Ltd  
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Tel: 020 8670 7511  
E-mail: [mail@denso.net](mailto:mail@denso.net)

# Viper Wire Rope Lubricators

Providing Fast, Safe & Efficient cleaning & lubrication of wire ropes

The Viper MKII Wire Rope Lubricator range provides fast, safe and effective cleaning and lubricating of wire ropes. Wire ropes from 6mm (1/4") to 165mm (6-1/2") in diameter can be greased at speeds up to 2,000 meters per hour.



importantly massages the lubricant into the rope, thus increasing penetration of the lubricant and the protection from corrosion that this provides.

Other wire rope lubricators tend to simply coat the outside of the rope. The length of the Viper Mid and Maxi collar / seal combination also increases the dwell time that the rope has with the lubricant, which also helps with application and ultimately leads to longer rope life and extended lubrication intervals.

**Viper seals are proven to have lasted for > 15,000 metres of rope.**

### Viper Rope Cleaners (VRC's)

Viper Rope Cleaners enable the removal of contamination or built up old lubricant from the wire rope prior to lubrication, improving the effectiveness of the lubrication process via the Viper WRL.

Viper Rope Cleaners are available in left and right hand lay, to suit 6 and 8 strand ropes and other strand configurations on request.

For certain types of wire ropes where the standard Viper Rope Cleaner is not suitable the Viper 'Smooth Bore' rope cleaner is available. It would typically be used on ropes with a large number of outer strands, some non-rotational ropes, ROV cables, etc, where the valleys between the strands are minimal and do not readily facilitate a standard Viper Rope Cleaner.

For more information visit:  
[www.aands.international/our-brands/viper-wire-rope-lubricators/](http://www.aands.international/our-brands/viper-wire-rope-lubricators/)

The high strength cast aluminium collars are lightweight and with design features such as the unique inbuilt carry handles for the Viper Mid & Maxi WRL's, are easy to install & operate. The collars come complete with stainless steel hardware to provide maximum corrosion protection.

The Viper WRL package eliminates the HS&E risks associated with manual lubrication while delivering the best possible lubrication result for your wire ropes.

- Increases the life of wire rope assets by up to 300% compared to manual lubrication
- Reduces relubrication time of ropes from several days to several hours compared to manual lubrication
- Safer work environment
- Environmental benefit with less lubricant disposal needed.

### Viper WRL Variants:

The Viper WRL is available in three sizes, Maxi MKII, Mid MKII and Mini MKII. Constructed from high grade, cast aluminium with a robust protective coating.

Each of the Viper Wire Rope Lubricators are supplied in an aluminium storage case, with all the components required to get you started.

- Viper Mini 6mm – 36mm Wire Ropes
- Viper Mid 6mm – 67mm Wire Ropes
- Viper Maxi 50mm – 165mm Wire Ropes

### The Viper Seal

#### What makes the Viper WRL seal so special?

The unique Viper seal design is at the heart of the Viper WRL package. The selected polyurethane material is wear resistant to ensure long service life but still flexible enough to mould to the rope. This flexibility helps reduce leakage but more

# Mitsubishi Electric introduces new remote I/O modules

The latest slice type I/O modules from Mitsubishi Electric offer helpful features for PLC users in addition to saving space and helping reduce costs. Commissioning is made easier and quicker with fast-fit connections and hot-swap installation, plus, online and onboard software for settings.



Each slice offers a clip-in mounting system, while status LEDs help with visual diagnostics. A width of 11.5 mm means space is saved on the rack, allowing for larger systems to be wired into a smaller panel, up to 64 modules can be connected per row, potentially saving on hardware costs.

Wiring is made much faster and easier thanks to push-in spring clamp terminal blocks. The terminal block itself is detachable, allowing components to be wired-in and then simply plugged in to the I/O block while it is in position, adding convenience

and saving time. Set-up is accessible and flexible using the proprietary software GX Works3 or a dedicated onboard settings tool built into the communication module. The tool includes features such as monitoring/diagnostics and functional tests, helping to reduce engineering time and machine costs.

Communication modules provide connectivity to main European network protocols and can also be used to provide power to a row of I/O modules.

Power does not have to be manually wired-in as it is supplied discretely through each slice and there is the option for an extended power supply module. The modules are also hot swappable for fast installation and reduced downtime during system changes.

For more information about the latest slice type I/O modules: eu3a. [mitsubishielectric.com/fa/en/products/cnt/plccl/items/slice/local](http://mitsubishielectric.com/fa/en/products/cnt/plccl/items/slice/local)

# Coexistence of AC and DC in the Data Center

The consistent use of direct current in a data center makes sense. Losses can be massively reduced. On the power side, the IEC has defined the frame with TS 62735-1. Now it is the turn of the device side. AC and DC are supposed to coexist in a transition phase.



The lifecycles of the supply infrastructure (PDU) are generally longer than those of the devices to be supplied, which are replaced more frequently by technological developments. Regardless of this, the aim is now to provide an AC/DC device plug that allows the device to be operated on both an AC and a DC supply. This means that the change from the current AC supply can be switched to DC as required. Only the supply cables have to be replaced.

### Company

SCHURTER is an internationally leading innovator and manufacturer of electric and electronic components. The company focuses on safe power supply and easy-to-use equipment. Its extensive product portfolio comprises standard solutions in the fields of circuit protection, plugs and connectors, EMC products, switches, input systems and electronic manufacturing services. SCHURTER's global network of representative offices ensures reliable delivery and professional

customer service. Where standard products are unsuitable, the company develops client-specific solutions.

For further information visit: [schurter.com](http://schurter.com)

## Increased demand prompts investment in Ashtead's CCTV fleet

In order to cope with growing demand, Ashtead Technology has invested more than £200k in its CCTV pipe inspection rental fleet over the last 6 months. "We are continuously buying new technology," reports Regional Sales Manager Jay Neermul, "but with more long-term national contracts in place, we have had to increase the number of cameras in stock, so that customers can choose the best and most appropriate equipment, wherever and whenever they need it."



Recent examples of Ashtead Technology's acquisitions include the iPEK Rovion ATEX crawler cameras and a range of MiniCam systems such as the iCam SOLOPro+ push-rod cameras with axial, pan & tilt and duo options, as well as the Proteus crawler cameras.

Eliminating the need for man-entry, a new floatation raft with EX Zone 2 certification has also been added to the fleet for applications with flowing water. With three powerful, angled, auxiliary LED light modules, the raft can be lowered in most manholes for the inspection of

pipes from 60cm to over 200cm diameter.

A new portable trolley is also now available to store and transport all of the necessary equipment for pipe inspections. The trolley has been designed for Proteus inspection systems, and is particularly advantageous in applications with difficult access where inspections are undertaken at some distance from a vehicle. Jay says: "The raft and trolley were purchased in response to specific customer requests, and are good examples of the way in which we respond to customer needs by investing in the fleet and expanding equipment

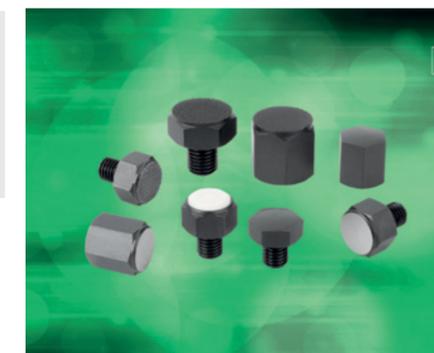
options for all of our customers."

Commenting on the growth in long-term rental contracts, Jay says: "Many larger organisations have re-evaluated their instrumentation fleets and decided that rental represents a more attractive option – avoiding heavy capital investments and depreciation costs, whilst retaining access to the latest technologies."

For further information visit:  
[www.ashtead-technology.com](http://www.ashtead-technology.com)

## Norelem's self-aligning pads and feet help engineers get a grip

With an extensive range of self-aligning pads and positioning feet, standard components specialist norelem ensures toolmakers and engineers have everything they need to support and clamp parts securely and work efficiently.



Widely used in jig and tool construction, norelem's self-aligning pads can be used for clamping fixtures, as well as for stops, supports and thrust pads. Positioning feet can additionally be used as thrust pieces in general machine and equipment construction.

Manufactured from high-quality steel or stainless steel, norelem's self-aligning pads feature toggle locators and an embedded ball which can be angled between 7.5° and 20°, making them suitable for a wide variety of contours and geometries. Available as flat, serrated versions or equipped with a hard metal insert (gripper), they're ideally suited for every challenge to give engineers confidence and reassurance.

With static load ratings from 10-165 kN, the self-aligning pads are designed to withstand high forces. For delicate surfaces, a non-colouring polyurethane

coating helps protect against damage. For slippery or smooth objects, an abrasive diamond surface provides maximum grip with minimal clamping force.

Meanwhile, providing a tightening torque between 8.5 and 60 Nm, the positioning feet are also suitable for a variety of contact surfaces. This includes flat, spherical and corrugated surfaces, or as a support with POM insert.

Part of a wider range of positioning products which include clamping brushes and plugs as well as hinges, the self-aligning pads and feet are available to order from THE BIG GREEN BOOK - norelem's renowned catalogue with over 45,000 standard components.

"Self-aligning pads and positioning feet provide a vital function. Engineers rely on them to position

workpieces in a quick and easy manner, and be assured that it is placed correctly, so that they can get on with the task at hand. With such a comprehensive choice of sizes and types, our self-aligning range is designed to meet almost every requirement quickly and reliably," said Marcus Schneck, CEO of norelem.

For more about norelem in the UK and its range of components, please visit <https://www.norelem.co.uk/gb/en/Home.html>

## Laser Lines becomes UK reseller for SISMA's welding systems

Laser Lines, the UK's leading supplier of industrial & scientific lasers, accessories and 3D printers, today announces that it has become an exclusive UK reseller of SISMA's laser welding systems, suitable for customers in industrial and the mould tool repair markets requiring manual, semi-manual and automatic systems.

well as having some great features and a strong technical specification, SISMA's laser welding solutions in particular are very competitively priced. And SISMA offers a wide range of laser powers within their technology offerings."

Chris Ogden, Manager of the Industrial & Scientific Laser Division at Laser Lines, says: "We are delighted to be working with SISMA. With its offerings in laser welding, SISMA has an extremely comprehensive range of solutions including automated and programmable systems for the more demanding welding applications of modern industry."

SISMA offers both entry level systems for one-off welding applications, often used in the dental and jewellery industries, as well as more complex

systems which include advanced movement and programmable welding path features, that can incorporate robotics. SISMA's technology and products are recognised as being exceptional for users who are working on mould tool repair and those interested in an alternative method of manufacturing. Laser Lines will be selling systems based around both lamp-pumped and fibre laser technologies.

Chris continues: "Being able to sell SISMA's products was very appealing to Laser Lines. As

Laser Lines have two of the SISMA systems at its Banbury facility and are offering demonstrations from August 2019. Users in the industrial and mould tool repair markets and those who require combined laser and CNC capabilities, who are interested in visiting the facility to see a demo, should contact Laser Lines on 01295 672500, email [chriso@laserlines.co.uk](mailto:chriso@laserlines.co.uk) or visit [www.laserlines.co.uk](http://www.laserlines.co.uk)

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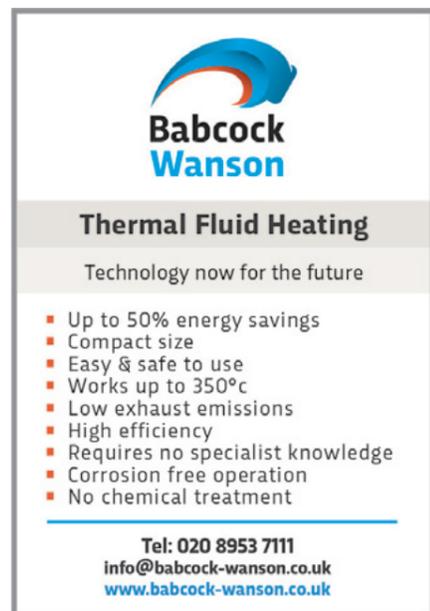
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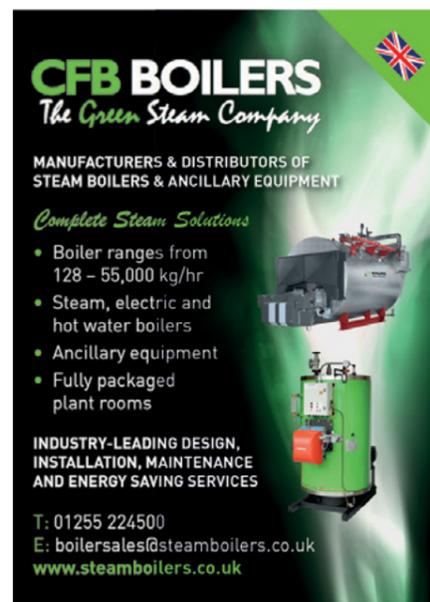


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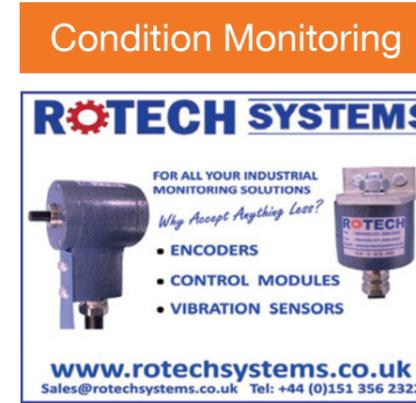


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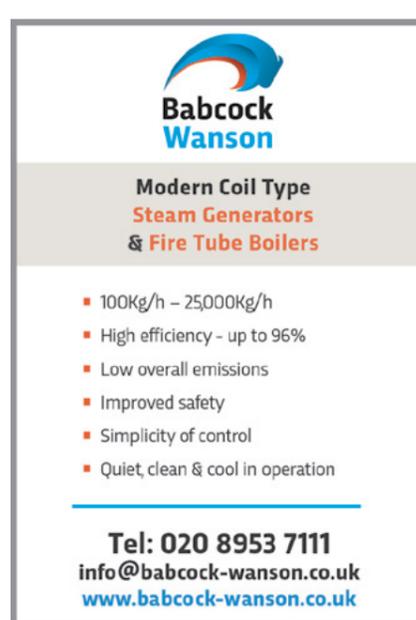
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