

INDUSTRY UPDATE

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High vis 'Super-Stretch' comfort from ENGEL workwear



A new range of high visibility, flexible workwear which stretches to follow the movements of the body giving maximum comfort in any work situation has been introduced by Danish workwear specialists ENGEL.

Called 'Safety – Super-Stretch' the collection consists of a wide variety of garments with elastic fibres woven into a polyester and cotton mix; the strong yet extreme flexibility of the material allows each garment to return to its original shape thereby retaining all the inherent advantages of their design and style.

Comfort as much as durable practicality is important to any wearer as not only does the high visibility workwear provide protection throughout the day or night, it helps reduce tiredness, further minimising the risk of accidents.

The 'Super-Stretch' collection, which includes high-vis 'Safety' work jackets, trousers, shorts and bib-overalls will also be offered during 2021 in an environmentally friendly, 'Sustainable-Safety' version which incorporates 50% regenerated polyester fibres made from recycled plastic bottles.

This method of yarn production with the brand name of 'REPREVE' has been developed by Unifi, one of the world's most advanced recycling centres; waterproofs, T shirts, sweatshirts and a zipped hoodie using the same material are also due to be added.

For more details, contact Gareth Bladen at gbl@f-engel.com or call +44 (0)7759 520034 or visit: www.engel.eu/en & ENGEL Workwear – Catalogue at: www.f-engel.com <https://youtu.be/nc2se7xKkIE>

Ex protected analyser for safe measurement of oxygen and combustibles in gas hazardous environments



The COMTEC 6000 GasEx explosion protected gas analyser from ENOTEC reacts immediately to process gas changes and is ideal for safe and exact measurements of oxygen and COe in refineries or similar areas with explosion hazards (Gas Ex zones 1/2).

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under process conditions, including parts in contact with process gas. This certification builds trust in plant security.

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Typical Usage:
Pressure regulation of high-pressure liquid systems.

- Benefits:**
- Conical design lowers minimum required by-pass flow from 10-5%, which provides more consistent pressure.
 - Lower override pressure compared to competitive designs provides system protection and reduces wear and energy cost.
 - Superior valve design provides smooth, stable service with quiet operation and no chatter.
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- Available in steel/nickel-plated, 304 and 316 stainless steel.
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How welders deal with magnetism in components



Dealing with magnetism in components is one of the most complex tasks in welding technology. In its latest white paper, EWM AG shows how to overcome this challenge. Users will find tips and tricks for degaussing components, as well as instructions for reliable welding in practice.

Magnetism in components can quickly become a challenge for the welder, often affecting the quality of the end result. It leads to a deflection in the arc and instability that facilitates droplet detachment, spatter and irregular sidewall fusion. The end result subsequently requires a high amount of post-weld work, costing even more working time. But how does degaussing workpieces help to achieve high-quality, reproducible and cost-efficient results? EWM AG provides practice-oriented answers to this question in the latest white paper, exploring the subject in scientific detail. The authors take information from practice-oriented examples and make this available to readers for their everyday work.

You can request the white paper, which is free of charge, at the web address below. You can also get more tips and tricks for degaussing components from EWM experts in a video on the EWM YouTube channel at <https://youtu.be/XjcOSsdElGU>

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For all your drainage needs



Headquartered in Sleaford and serving Lincolnshire, Yorkshire and much of the East Midlands, Allerton is the premier off-mains drainage company covering sales, servicing, commissioning and repairs of all types of septic tanks, sewage treatment plants, sewage pump stations and soakaways.

As well as saving you money, the company will maintain your compliance with regulators, help you protect the environment and extend the life of your system.

Moreover, Allerton also does specialised pump stations for awkward situations. The company can accommodate specific requirements – such as if something very small, very shallow, or narrow is needed.

Although the company is making site visits, it will not enter the house or site, so you can rest assured it is COVID compliant.

To find out more, visit: www.allertonuk.com

New dates for PROFINET, PROFIBUS & IO-Link seminars

These free-to-attend seminars organised by PROFIBUS & PROFINET International (PI UK) address the key practical issues arising from the use of digital communications technologies in automated manufacturing and process industry applications, with particular attention being paid to Industry 4.0 and the Industrial Internet of Things (IIoT).

Covering key application areas such as control systems and energy management, pulp & paper, chemical, utilities, pharmaceutical, packaging and printing, mechanical handling and logistics, robotics, automotive engineering, electrical and electronics assembly, they focus on the practical aspects of using PROFINET, PROFIBUS, and IO-Link, from system design and safety & security considerations through to fault-finding and maintenance.

Live demonstrations

Supported by an exhibition with demonstrations of actual tools used in configuration and maintenance, these seminars will be of great value to Designers, Production/System Engineers, Instrument Technicians/Engineers and C&I Engineers involved in the design, operation and maintenance of modern automated factories and process plant.



Sign up here for more information and to be kept updated:

- ▼ Birmingham, November 17 – <https://bit.ly/PIUKBirmingham>
- ▼ Or Belfast or Scotland, exact dates TBA:
- ▼ Belfast – <https://bit.ly/PIUKBelfast2021>
- ▼ Scotland – <https://bit.ly/PIUKScotland2021>

Note: All dates are of necessity provisional, but registered delegates will be kept informed of changes and will be assured of a place at the event of their choice.

Places are limited so don't delay – book today!

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The Dependable Choice in Drainage

In rural areas without a mains drainage system, and where septic tanks will no longer reach environmental standards, Allerton can provide the ideal solution. Trading since 1974, Allerton are leading specialists in efficient treatment systems. They pride themselves on their individual, problem solving approach to dealing with alternative means of treating and disposing of raw sewage.

The Allerton ConSept converts your existing Septic Tank or Cesspit into a fully functioning Sewage Treatment Plant.

Servicing & Maintenance on a wide range of Sewage Treatment Plant and Pump Stations by BRITISH WATER ACCREDITED ENGINEERS.

The Diamond Sewage Treatment range is suitable for either individual homes or small population applications

When Gravity Drainage is not possible choose Allerton Pumping Stations for Sewage or Dirty Water

New lightweight filling material with high damping properties

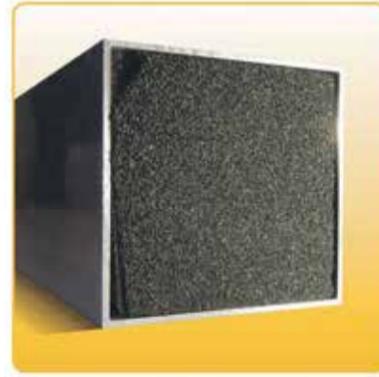
Numerous machines are impaired in their performance by vibrations. To counteract this, the German durcrete GmbH has developed the lightweight and highly damping filler material durcrete[®]cell.

durcrete[®]cell is a mineral filler to reduce vibrations in metallic structures. Damping is increased by over 300% and vibration amplitudes are reliably reduced. The damping material eliminates harmonics caused by sheet metal vibrations and reduces noise radiation. With its balanced weight-to-rigidity ratio, the lightweight material is ideal for moving components and for filling hollow steel and aluminium sections. While natural frequencies are changed only minimally, guiding rails and motors can be designed economically and the machine retains its dynamics. The

material is optimally used as a filling material in machine tools, in automatic placement machines and in measuring technology. The non-combustible foam is impermeable to liquids and vapour and can be used at temperatures between -200°C and +400°C.

durcrete[®]cell is supplied as plate ware and can be easily cut to size using woodworking tools. It is best pressed into hollow sections; for larger components, bonding is the ideal solution. The uncomplicated material, which is harmless to health, requires neither experience nor special qualifications.

T +49 6431 5840376
info@durcrete.de
www.durcrete.de



A&S launches isoPOD in UK



A&S International is pleased to launch isoPOD to the UK market. The isoPOD range provides a purpose built, portable, plug & play lubrication storage and dispensing system designed for both internal and external dispensing of lubricants typically used in the maintenance or servicing of critical fixed plant or mobile assets.

- Standard features of the isoPOD range include:
- ▼ Oil dispensing from standard 1,000L IBCs or 205L drums & grease dispensing from 180kg drums
 - ▼ ISO shipping container lockdown points, crane lifting lugs and forklift channels
 - ▼ Heavy duty, lockable equipment access doors with separate service staff doors
 - ▼ High quality, pneumatic pumps and premium oil filtration

Built in accordance with AS1940-2017, the isoPOD will ensure your lubricants are stored in a clean, easy to use and safe manner.

With various options available the isoPOD really is the perfect lubrication storage and dispensing system for industries around the world including cement, chemicals, food & beverage, mining/quarries, power as well as pulp & paper.

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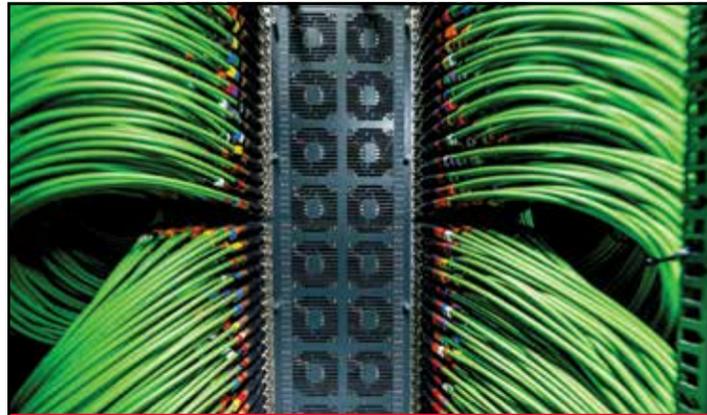
- ERV-R: WRAS Approval
- Type TA: fitted with a white PTFE lining for extensive chemical resistance, FDA approved
- ERV-GR: for Acids, Alkali and aggressive chemicals
- ERV-W: white Nitrile (NBR) to foodstuff standards
- ERV-GS: ISO 15540 (fire resistant)

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Waterblade joins online innovation portal to boost transition to net zero



Waterblade water saving mod for washroom taps has been chosen as an innovation partner for a new self-service, interactive and intelligent marketplace for sustainable technologies.

The Wates Innovation Network (WIN) portal is the first initiative of its kind and has been created by the Wates Group, one of the UK's leading family-owned construction, development and property services companies, to help businesses 'build back better'. The portal will connect companies directly, and free of charge, with partners that can offer solutions to help meet sustainability targets. It aims to create an industry leading network that will accelerate the transition to net zero by showcasing smarter solutions to design, construct and maintain buildings.

Waterblade has been providing its products since 2015. As an innovation partner Waterblade will feature on the WIN portal alongside 41 other suppliers approved by a screening panel including 40 environmental experts. Users can filter sustainable innovations based on their requirements to find the product and supplier most suitable for them.

The new online portal will enable businesses seeking water and energy usage reductions to connect with businesses directly and better support them in providing tangible environmental and operational savings. Waterblade has been proven to half water and energy consumptions without compromising on performance.

M 07956 247392
nigel@thewaterblade.com
www.thewaterblade.com

Warehouse safety: Abacus Flooring Solutions provides on-site survey to ensure a safe workspace



Company Director, Nick Megson, has always put safety first for his employees and clients on every job they complete. It's essential that with every industrial floor installation, a number of crucial checks and precautions are taken to ensure the work area is as safe as possible for people to operate and carry out their duties.

Abacus Flooring Solutions Limited has many tried and tested methods to prevent these accidents, from free advice to on-site surveys. It has recently completed a safety improvement project for a major company. After its knowledgeable advice and actions have been incorporated, it will now act as continuous protocol for the client and be implemented on a daily basis.

Warehouse safety can be viewed in many ways; however, Abacus Flooring Solutions is aware that the loading area is perhaps the most hazardous. It carried out work to all 120 dock levellers while the warehouse was closed to guarantee both maximum safety and minimise disturbance to the client's operation.

Nick Megson commented, "If you look at the role of the Dock Leveller, it has many moving parts. When the dock leveller is in use, the door is opened and the dock is raised. This is when the risk of an accident is greater, through trips and falls."

Nick and the team are determined to not only carry out a first class install service but to also go the extra mile and provide customers with solutions on potential safety issues including line marking, slip resistant floor areas, dock loading areas, and fire exits to name a few.

On this project Abacus has treated the perimeter of the plates to include the front of the plate and the extension plate that sits onto the trailer.

For more information on how Abacus Flooring Solutions can add critical safety measures to your work space, please contact Nick Megson on 07904 396962 or email: Nick@abacusflooringsolutions.co.uk



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Our tow tractors range from a 1-tonne tow capacity up to 25-tonnes. Available in a number of cab and body options, ride on, and pedestrian, our wide range is suitable for indoor and outdoor applications. Should your operations require a bespoke solution, our team can assist in building the perfect solution for your needs.

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Smart-Space supplied LSE Retail with ideal short-term storage solution

LSE Retail Group fulfils over 1 million customer Lighting orders each year from its distribution centre in Manchester. Six months ago the company opted for a short-term hire on a Smart-Space instant building in anticipation of a move to larger premises.

Iain Todd, Operations Director for LSE worked with Jamie Southam (pictured) from Smart-Space initially. Jamie visited the site and advised LSE on the best way forward. "Jamie helped me understand what our options were. This was particularly useful as the ground sloped and we didn't want to invest in a base as this was always going to be a stop-gap measure for us. We also looked at other providers but found Smart-Space to be easy to work with: cost-effective and clear on what they could provide and so easy to end the agreement with just seven days' notice."

When it became time to off-hire, Iain emailed both Jamie as initial point of contact and Lisa Clarke as the project co-ordinator and it was taken care of immediately and efficiently. "The removal of the building was timely and professionally managed," commented Iain.



Iain was keen to stress that such a project might appear daunting. Taking on a 40m x 15m PVC industrial tent for just a few months could, on face value, prove to be a lot of work. "Smart-Space is very good at holding your hand and making each stage quite clear," he concluded.

Contact
T 01827 330000
www.smart-space.co.uk

Improving control of conveying systems

Beckhoff Automation UK has launched a new EtherCAT-based controller for motor-driven roller (MDR) conveyor systems. The controller, the EP7402 EtherCAT box, provides complete control of roller motors irrespective of the motor brand or conveyor vendor. This allows enhanced efficiency, improved communication and reducing cabling requirements in multi-zone conveying applications in intralogistics, warehousing and distribution centre environments.

The EP7402 features two motor outputs with an integrated controller for brushless DC (BLDC) motors. These



motors can be directly connected to the EtherCAT box, with eight additional M8 input/output ports for peripherals, including sensors, vision systems and switches. Power is supplied to the EP7402 using a single 30A hybrid B23 cable, building on Beckhoff's One Cable Automation

(OCA) technology.

With complete control over the roller motor, the EP7402 is readily adaptable based on performance characteristics. Parameters including maximum rated current, acceleration or deceleration ramps and various others can be configured to support adaptations for different applications. This control is completely sensorless and is determined based on programming & motor performance.

To learn more about the EP7402, visit: www.beckhoff.co.uk or to read the rest of this article, visit: www.beckhoffblog.co.uk

Palamatic's materials handling equipment

Palamatic Ltd is a leading supplier of materials handling equipment for use in industrial and cleanroom areas for handling product such as sacks, drums, boxes, IBCs, boards, pallets and reels.

The range includes vacuum lifters, automatic sack openers, post hoists, drum tippers, wire rope hoists and mobile handling systems. All can be supplied to meet ATEX regulations and to suit clean process areas for food, pharmaceutical and biopharma companies.

Palamatic takes an innovative approach and remains focused on developing new, unique and much-needed product solutions every year.

Where a custom solution is required, Palamatic has a design team who can work with customers to provide a solution designed for their requirements. They are assured that Palamatic has the experience and talent to collaborate with them when they need something more bespoke, and they know they are guaranteed continuous life-long care and support for their equipment, their operator's safety and their own production commitments.

Providing equipment that ensures the safety of both the operator and end product is a driving factor at Palamatic and systems are designed to reach the standards of controlled environments,



and use the most robust and premium materials.

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Euro Pallet sizes of Stakker® Roll Cradles now available!

Alderney Race Limited ('HenryAR') are the European Agents for Henry Molded Products, the leading manufacturer of moulded recycled-paper fibre packaging and the originators of the Stakker® Roll Cradles.

Now also available in Euro Pallet sizes 800mm in length, added to our ever-growing range of stock and bespoke Stakkers® held 'in stock' for immediate despatch to our customers in the UK and throughout Europe.

Henry Molded Products packaging items are distributed throughout Europe from our warehouses in the UK and in mainland Europe for fast, efficient and cost-effective delivery for customers preferring just-in-time supplies.

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New safety module for sensorless standstill detection of drive systems

If a machine or system is expected to produce potentially hazardous overtravel movements, a combination of safety interlock on the guard and standstill monitor in the switch cabinet can provide the requisite level of safety. The SSW303HV is the Schmersal Group's latest sensorless standstill monitor, offering a significant improvement over its AZR and FWS series predecessors.



A key development goal was universal application of the new standstill monitor, which in total replaces fourteen variants of the previous product range. This is made possible thanks to use of a wide-range power supply for all common AC and DC operating voltages, from 24V/DC / 24V/AC to 230V/AC. The increased temperature range of -25 to +55°C also opens up additional application potential.

A further benefit is its compact design – the SSW303HV takes up just 45mm of structural width in the switch cabinet. The pluggable, coded connecting terminals ensure rapid, error-free installation, while an additional signalling contact provides information on the error status of the module.

As the standstill monitor operates entirely without sensors, the machine builder no longer needs to intervene with the 'hardware' of the surrounding structure. The safety module is connected directly to a three-phase motor and directly measures the frequency of the induced voltage, at rated motor voltages of up to 690V. The safety contacts for releasing the locking mechanism close as soon as the motor comes to a standstill.

The SSW303HV can be used in safety circuits up to category 4/Performance Level e in accordance with EN 13849-1 and SIL 3 in accordance with EN IEC 61508, with all typical safety interlock designs from applicable manufacturers.

T 01684 571980
swatkins@schmersal.com
www.schmersal.co.uk

JSP announces investment in new manufacturing facilities for PPE

JSP has announced that it is investing in new manufacturing facilities to increase production capacity of PPE in both its UK and Germany factories, as well as further supporting the growth of its overseas operations in its main international markets in Europe, USA, UAE, Asia Pacific and China.



JSP is Europe's leading independent manufacturer of PPE specialising in head, eye, face, hearing and respiratory protection and has seen a sharp rise in demand for PPE and Respiratory Protective Equipment (RPE) since the start of the COVID-19 pandemic. In response, JSP has restructured its healthcare division to meet an increasing demand from both new and existing UK and international customers and has played a key role, along with its distribution partners, in supplying products to more than 120 NHS Trusts in England.

New investment will include large scale automated production lines capable of mass production of RPE (Respiratory Protective Equipment) and will support the growing demand for disposable and reusable masks as well as Powered Air Purifying Respirators (PAPR), protective eyewear and face-shields. Further investment has been made with additional ISO9001 BSI approved test-houses in each manufacturing facility together with Quality Assurance Laboratories and a new team of Research and Development Engineers for future product innovation and development.

JSP will officially open these new production facilities in the UK and Germany as early as April to strengthen capacity to guarantee a sustainable supply of large volumes of Respiratory masks and other requirements of PPE in the UK and Internationally for frontline workers in Healthcare and the NHS, and other key workers.

T +44 (0)1993 826050
www.jspsafety.com

Bring PPE to life with the new interactive DigiHUB from JSP

The DigiHUB is an exciting, innovative new platform from JSP that allows you to safely explore, learn and share the core range of JSP products with your customers and supply them with all the technical information they need to select JSP with confidence as their trusted PPE provider.

Products can be selected by name, range and standard, or by industry and task using the interactive '3D-landscape'. Simply click on the product to see the three-dimensional rotating image of the product showing a short description of the product and its key features alongside the JSP product code. View the list of product specifications, certificates of conformity and understand the standard

the product conforms to, with useful 'How to Fit' videos and frequently asked questions. Learn which accessories will fit and which products are compatible with each other to offer the right solution to suit your safety requirements.



Generate the product's Technical Specification with the click of a button. All data can then be emailed as a record of selection. Branding of Logos available in the Head and

Ear Protection sections. JSP DigiHUB brings PPE to life, complete with the knowledge you need at the touch of a button, available on touchscreen, computer, tablet and mobile both on and offline.



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Your global partner for dosing and control systems



Industry Update is proud to announce that SEKO has been chosen as our Dosing & Control Company of the Month.

SEKO designs, manufactures and supplies chemical dosing pumps, dispensing systems, and control units for the cleaning & hygiene, water treatment, and industrial processes markets. Offering a turnkey service, SEKO provides dedicated customer support from the design stage through to post-installation technical guidance, aligning with its mantra of 'Your Choice, Our Commitment' – when you make a choice to work with SEKO, the company provides a binding commitment to you and to your project.

This excellent service is based on over 40 years of experience. Established in



1976, SEKO's headquarters are based in central Italy with numerous other locations across the globe. In fact, the opening of SEKO Colombia in 2020 marked the company's 23rd worldwide subsidiary.

Renowned for reliability, dosing precision and ease of use, SEKO is also becoming increasingly known for its integration of remote connectivity. In response to the COVID-19 pandemic in 2020, SEKO launched DispenserONE®, a revolutionary hand sanitiser system that combines high capacity (up to 25,000 doses between refills), automatic, touch-free electric motor-powered dispensing and remote access to, and management of, data via smartphone.

The system allows operators to do away with brittle, low-capacity conventional dispensers and replace them with a permanent unit that requires virtually

zero maintenance. With up to 50 times the capacity of a conventional dispenser, the DispenserONE® is ideal for airports, supermarkets, hospitals, shopping centres, sports stadiums, and countless other large-scale sites. To discover more about this solution for a COVID-secure future, head to its dedicated website: www.dispenserone.com

In addition, SEKO is increasingly integrating IoT in its products, such as its Wash Series laundry dosing systems and the Elektra pump controller, which allow programmes to be monitored and managed from any location via smartphone. Operators can view system status 24/7 wherever they are, meaning maintenance can be properly planned and unwanted downtime prevented.

SEKO has also recently rebranded its Industrial Processes division as Exakta, which was accompanied by a new website launch: www.exakta.com. This is in line with SEKO's constant evolution, progressed each year through product innovation, shrewd acquisitions and the opening of new branches around the world.



And, this agility certainly helped SEKO face the challenges of COVID-19 head on. The company continued to operate despite the difficult economic and logistical conditions the business faced. Many staff worked from home, while SEKO was able to continue manufacturing with appropriate COVID-safe procedures in place. As a global business, SEKO met the challenge of each country having its own coronavirus restrictions and worked to ensure compliance in each territory.



To find out more information, head to SEKO's website or get in touch using the details below.

T +44 (0)1279 423550
sales@sekouk.com
www.seko.com
www.exakta.com

The Adhesive Specialists

In this issue of Industry Update we are proud to announce that we have selected AdCo UK as our Adhesive Specialist Company of the Month for its innovative selection of products and services.

AdCo supplies a wide range of highly technical adhesives, allied products and application equipment. Providing a variety of adhesive solutions to a range of different industries, AdCo supplies to industries including packaging, print and bookbinding, laminating, furniture and cabinet making, joinery and timber construction, building and construction, education, arts and crafts, product assemble and electronics.

From the company's new premises in Passfield, Hampshire, AdCo



maintains a team of key personnel with combined experience of over 80 years in the adhesive industry. Each personnel is trained and dedicated to providing unrivalled customer service and AdCo prides itself on providing the right solution for each customers application needs. Providing administration and distribution, adhesive evaluation and manufacturing all in-house AdCo is equipped with extensive knowledge of adhesives, bonding systems and application methods.

The main ethos at AdCo is to ensure that all of its customers have equal opportunities for advice and assistance in the use of adhesives and application systems, regardless of the size of their operation. Utilising AdCo's technical expertise, companies of all sizes benefit from the latest technology. Putting the utmost importance on its professional services, AdCo prides itself on being able to search and select adhesives or applicators to meet the ever demanding requirements of its customers. This service includes the



evaluation of new substrates and delivering assistance and guidance in application techniques for its customers to ensure that maximum efficiency is achieved. AdCo also provides a contract bonding facility where its experienced personnel glue and assemble components for its customers.

In terms of AdCo's range of products, the company provides a whole host of solutions including its own range of adhesives which include: Proflex (Shaped Hot Melt Adhesives), ThermoCure (Bulk Hot Melt Adhesives), HydraCure (Water Based Adhesives), Lockfast (Engineering Adhesives), ReactaCure (Reactive Adhesives) and Howarine NCR adhesives.

AdCo also supplies a full range of specialist adhesives and sealants from international manufacturers, including AkzoNobel, Bostik Limited, Nordson Corporation, Sealock Limited, Adhesive Technologies INC, Apollo Chemicals Limited, HB Fuller and Chemique Adhesive & Sealants.

Notably, AdCo is a full member of BASA; the British Adhesive and Sealants Association. BASA is the only trade body in UK that is dedicated to the adhesives and sealants manufacturing industry and its suppliers. AdCo are also ISO:9001:2015 accredited.

With a team of friendly experienced personnel, AdCo is solely dedicated to assisting its customers with their adhesive requirements and is on hand to provide the most efficient guidance and advice.

For any more information or to explore AdCo's range of products and services, please see the details below or feel free to give them a call on the number stated.

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How C-SAM acoustic microscope inspection technology is enabling high-power EV battery switching module production

Custom Interconnect Ltd, (CIL), based in Andover, Hampshire, is a long-established electronics manufacturer engaged in producing some of the most technically challenging electronic assemblies in the UK. Their capability allows them to meet the functional, environmental, and dimensional demands of high-reliability, mission-critical applications in sectors like medical, aerospace, oil & gas, and others.

However, challenges can arise for other reasons as well. For example, CIL is strongly involved in technology for electric vehicles (EVs) of all types, including battery electric vehicles (BEVs). These vehicles have needed innovation in the design of their power delivery networks because of the very high power levels associated with their batteries.

Two major EV projects

These issues are being addressed within two major projects currently running at CIL. In the first, the company is engaged with BMW on APC15@FutureBEV to maximise potential for future BEV systems. @FutureBEV is one of 10 projects funded by the Advanced Propulsion Centre (APC) in its latest round of Government and industry funding for low-carbon emissions research. These collaborative projects between automotive manufacturers, suppliers and academia are working to achieve around 60 million tonnes of CO₂ reduction.

In the second project, CIL is the project lead on GaNSIC – a project that stems from the UK Research and Innovation's (UKRI) 'Driving the Electric Revolution' challenge and brings together CIL and Compound Semiconductor Applications Catapult (CSA Catapult). It is set to develop novel ways of applying Silver Sinter pastes to Wide Band Gap (WBG) semiconductors such as Silicon Carbide (SiC) and Gallium Nitride (GaN) devices to optimise their thermal coupling and solve complex power module assembly.

WBG semiconductors are being adopted into EV battery switching systems because of the very high power densities involved. The 800V EV batteries can deliver hundreds of amps, which means that tens of kilowatts of power must be switched in spaces often sized no larger than a mobile phone. Up until very recently these devices were bonded to a substrate using conductive epoxies or solders, but there has been a shift away from this traditional method of die attach to Silver Sinter die attach methods to handle the high power density requirements. Silver sintered joints are capable of operating at near 1,000°C temperatures.

CIL is involved in designing and manufacturing both SiC and GaN assemblies. These assemblies comprise devices mounted on substrates and interconnected through copper conductors that must be very heavy gauge to manage the required power levels. The associated die bonding process can produce voids; these can compromise thermal properties and result in early failures – and, in BMW's terms, create "a thermal event which is roadside spectacular".

However, inspection for voids, which may previously have been performed using X-ray technology, has become challenging due to the copper's thickness; X-rays cannot penetrate to the required depth within these conductors.

C-SAM acoustic inspection: An innovative inspection technology

The solution is to use c-mode scanning acoustic microscope (C-SAM) technology, as acoustic imaging can reach the required depths within the copper conductors. In fact, C-SAM is the final piece of the jigsaw. The silver sintering method used is a very exacting process, requiring precision at every stage. It can only be properly controlled using three complementary inspection methods – X-ray, C-SAM and CT-Scan.

For example, acoustic imaging works by collecting reflected sound waves. Air gaps and voids reveal themselves clearly by reflecting the signal strongly. By



contrast, X-ray images are created by shadow imaging instead of reflection. All material features are shown at once. Rounded objects that would scatter acoustic waves can be imaged in detail.

CIL is implementing this three-part inspection strategy using Nordson technology supplied by UK inspection and test specialist Cupio. This comprises a Nordson Dage Quadra 5 X-ray and CT-scan machine supplied a couple of years ago, and a Nordson SONOSCAN Gen7 C-SAM acoustic microscope that Cupio has just installed.

Nordson SONOSCAN's acoustic micro-imaging (AMI) technology collects the highest resolution data from all three dimensions of a sample, creating a virtual sample from which minute defects and features can

be detected. The transducers used are specifically developed for AMI analysis, and deliver maximum resolution and maximum penetration at each frequency.

The Gen7 is the seventh generation of the Nordson SONOSCAN technology, and accordingly has many advanced features. Dual 28" 4k monitors provide high-resolution, detailed images, while the machine runs Sonolytics 2 under Windows 10. This is an advanced software package which provides highly intuitive operator interface menus. These maximise results and save operator time.

With five individual motors, the machine offers faster acquisition times, with an up to six times increase in acquisition rates compared with earlier products.



Support for CIL's capital investment programme

CIL's decision to buy the Gen7 as its C-SAM solution was based on Cupio's advice. CIL's confidence in Cupio comes from its long experience of Nordson technology and Cupio training and support. This spans several years and now includes four major items of capital equipment – a dispensing system, a selective soldering station, the Nordson Dage Quadra 5 X-ray inspection system, and the new Gen7.

All the equipment has been reliable, and Cupio's response to any questions has always been fast and effective.

Projects like these are supported not only by CIL's investment in its inspection systems and other equipment – which ran to £1.5m in 2020 alone – but also by its quality management system, which covers both its manufacturing sites. The company is accredited to ISO9001:2015, AS9100 Rev D for Aerospace & Defence and ISO 13485:2016 for the manufacture of Medical Devices. It is also working towards the ISO/TS16949 Automotive Qualification.

"The new C-SAM acoustic inspection technology is exciting, because not many manufacturers have it, yet it can be used across many industries, and for applications other than electronics," commented John Boston, Managing Director of CIL. "There are many other manufacturing situations and materials with potential flaws that could only be revealed by this technology, and voiding is a major issue that spans all applications sectors.

"In any case, we will continue with our capital investment programme which is designed to ensure we maintain the most advanced manufacturing capability in the UK. As part of this, we look forward to our continued relationship with Cupio, because we know we can trust them to provide the right inspection solutions to meet any new challenges we may face."

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How the right environment can optimise X-ray inspection performance

X-ray inspection machines offer great benefits to CEMs and OEMs in both quality control and troubleshooting applications. However, the most powerful machines are complex, advanced-technology devices, so users need excellent training and support to optimise day-to-day performance.

This aspect is well-recognised by Newport-based CEM Axiom Manufacturing Services, who highly emphasise the 'human factor'. Their people-based approach to their workforce, customers and suppliers has facilitated remarkable growth, reaching £50.1m in 2019.

Accordingly, they continuously nurture and enable their workforce, while offering extremely high customer service levels. They also seek to work with suppliers who share their ideals, because this allows them to rapidly absorb and obtain

competitive advantages from advanced-technology machines like X-ray inspection equipment.

Axiom recently demonstrated this strategy while upgrading their X-ray inspection facility. They invited Cupio, as suppliers of inspection, production, and test solutions, to discuss an X-ray inspection upgrade. Firstly, Cupio reviewed Axiom's existing machine, providing insight into its full potential; accordingly, it remains in service, with improved benefits for Axiom.

Cupio then showed how the Nordson Dage Quadra 7 X-ray inspection and failure analysis machine's advanced technology would enhance both their production and troubleshooting activities.

Along with the Quadra 7's 100nm resolution and 4k image

quality, it provides a massive improvement for higher-volume production because of its throughput. Easily programmable with automated routines, it accepts up to five boards simultaneously. This parallel processing is valuable where 50,000 boards/month throughput is typical, with batch sampling rates of 20-30 boards.

Axiom regards Cupio's ongoing training as absolutely crucial to their X-ray inspection success. The programme has covered SMT inspection, BGA, QFN, and voiding measurements for customers, and through-hole fill measuring. It will also include Quadra 7's X-Plane CT functionality and μ CT, encompassing 3D plus 2D imaging.

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Addressing real challenges in the electrical testing market



Metrel is one of very few companies that develops and manufactures its products at a single location in Slovenia, starting with design and ending with final assembly, quality control and calibration. From its UK office in Epsom, Surrey, Metrel UK supplies its leading range of measuring and testing equipment to customers across the country, as well as providing repair, adjustment and calibration services.

Metrel's extensive range of instruments offer innovative solutions for testing and measuring, ensuring its equipment is easy to use, intuitive and future proof. Many of Metrel's products are software based and use touchscreen technology, addressing the real needs and challenges of end users to create a range of products that will enhance the user experience.

Without a doubt, Metrel is committed to solving the issues workers face every day. "Right now lots of electricians own, and use daily, testers that are capable of storing their test results but find the feature too complicated and long winded to use, because they need to make notes about which circuit and board each relates to which location in the tester's memory," said Brendan Beaver, the UK Manager of Metrel. "They prefer to fill a copy of a certificate by hand and then make a fair copy either in their best handwriting, or by typing it up in a computerised certificate when they get home. What a waste of their time!"

Metrel understands that engineers need to be able to do their testing and save the results and notes on their tester without needing pencil and paper, so that it is ready to send to the depot or to quickly download. This kind of functionality is not available when a conventional LCD screen is the only thing available, as found on an ordinary multi-function tester.

With the introduction of dot-matrix displays from Metrel, an increasing number of users of multi-function testers like MI3152 and MI3155 are realising the advantages of being able to make notes using the touchscreen's full keyboard, eliminating the need for pencil and paper. What's more, the on-board fuse table and connection help screens allied with the pass and fail indicators to give the operator confidence to pass the results to storage.

Metrel's new memory management system is unique. Also benefiting from the dot-matrix touchscreens, it allows the operator to visualise the installation, highlighting components with a coloured icon, which makes it easier to post the results to the correct circuit without writing anything down. This simplicity is continued when the results are downloaded quickly and easily into an 18th Edition certificate via the USB port.

Metrel also offers a dedicated repair service and expert technical support, working with distributors and partners to offer solutions to any problems, to ensure its products are being used correctly and to their full potential.

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Floorbrite is a leading commercial cleaning and facilities management company providing a diverse range of services to businesses of all sizes across all industry sectors. With a longstanding family ethos and commitment to working in close partnership with our clients, we can provide efficient, innovative and comprehensive solutions specifically tailored to the needs of each business.

With over 45 years' industry experience and an existing client base in the hundreds throughout the UK, this generation of Floorbrite will continue to provide the same level of care and attention as we did when we started out in 1972.



Daily Cleaning

For over 45 years, daily cleaning has been at the forefront of our business. From offices to distribution, factory, retail, medical, education or leisure facilities, you name it, we clean it. Our wealth of experience has earned us our reputation as the reliable, efficient cleaner of choice. We provide a 24-hour, 7 day a week cleaning service that ensures your business stays clean and hygienic.



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Floorbrite specialise in reactive as well as preventative pest control. Our fully trained technicians are able to deal with all manner of pest related issues, quickly and effectively with minimal impact on your business or customers. We provide pest control and riddance solutions for rodents, insects and flying insects, bird and small or large mammals. We offer cleaning services involving the removal, treatment and disinfection of nesting material and infected goods and maintain a minimum level of pest activity via a number of pest proofing and deterrent systems.



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Our industrial and specialist cleaning division brings clients into contact with a small core of personnel that have particular skills beyond the scope of a general cleaning team. They meet the demands of our clients requiring 'one off' periodic, specialist and sometimes emergency cleaning in the event of flood or other unforeseen disasters. Also specialised in Hazmat cleaning (Hazardous Material) and able to remove Body fluids, Pigeon guano, needles and many other substances that may pose a reasonable risk to health, property, or the environment.



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Working closely with supply partners, we offer a range of interior plants, grounds maintenance and landscaping services tailored to meet your needs. Assessing your preferences when it comes to plant displays, tropical plants and office plants – with a range of containers and colours that compliment your corporate style. We also specialise in Christmas and making your premises look stunning, including corporate Christmas trees, decorations and displays and a complete design, decorate and dismantle service.



Carpet Cleaning

An essential maintenance service Our carpet cleaning services cross all industry sectors including offices, education, retail, leisure and healthcare, and the work we do can range from sparkle cleans in show developments to builders cleans and salvage work. We also provide our carpet cleaning to clients as a service on its own, as one-off cleaning, or within a periodic maintenance programme such as quarterly, six monthly or annual cleaning.



Security

The security challenges faced by our clients require an experienced team that can carry out a full security review, highlighting any weakness in your current system, so we can tailor our solution to your needs. We offer an extensive range of security services across the UK including: the provision of security officers, key holding, mobile patrol, emergency response, CCTV and access control installation, system maintenance and remote monitoring of alarms and CCTV.



Window Cleaning

Our specialist team collectively have over 150 years' experience cleaning the windows of listed buildings, state of the art office towers, business parks, factories, entertainment facilities and department stores. The challenges presented in cleaning such a variety of modern and historic buildings is so diverse that our team constantly undergo regular training to ensure the safest methods and practices are adopted.



Building Maintenance & Access Solutions

Our property maintenance services assist in the upkeep of your buildings and the development of your infrastructure, these include planned and reactive maintenance which cover the fabric of the buildings, plumbing and sanitation, electrical, decorative, and external groundwork. Further services include refurbishments and refits of retail and office environments, and commercial painting and decorating, as well as providing access solutions to ensure no corners are cut or missed.



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Our 30M Palfinger truck mounted access platform is available for hire and is a great mobile solution for safely working at height. We also supply scissor and spider lifts, scaffolding towers and various sized and reach, mobile elevated work platforms.



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We offer a range of services covering trade waste removal, recycling, food waste removal, secure shredding, hazardous waste and diversion from landfill. Our own Environmental Consultant can offer a bespoke waste management package unique to your requirements with a focus on achieving your specific environmental goals including baling and compaction equipment on site to reduce your waste footprint before it even travels.



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Our dedicated Health, Safety and Compliance Director has worked in the industry since 2000, he and his team are highly qualified and have the practical knowledge required to advise on all matters in this field. They also provide support to our core service delivery, offering a value-added service to existing customers of our cleaning client base. We can provide health and safety support across a wide range of areas to assist in client compliance, reduction of costs and litigation limitation.



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Industry 4.0: the quality revolution

Approaching quality in the digital era

British industry has a productivity problem. Compared with major competitors like the USA, Germany and France, its productivity lags. It isn't because we're not working hard enough – studies have shown that British workers put in the longest hours in the EU. So, if we're working longer, but are still less efficient, where are we going wrong? Here Mike John, managing director of industrial metrology specialist, The Sempre Group, explores how the UK industry can start a quality revolution.

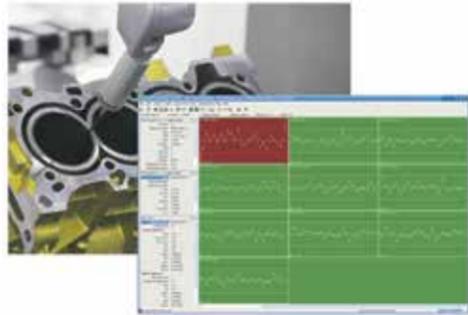
From experience, the UK industry has been slow to adopt technology – particularly quality control systems – and this reluctance is holding it back against global competitors. So, to up its productivity game, British manufacturers require a high skill level a good knowledge base and, most importantly, a willingness to adopt the latest technologies.

Traditionally quality has been an afterthought and more like a policing engine than a vehicle for improvement, so manufacturers are often reluctant to invest in new measurement equipment. However, Industry 4.0 brings with it a data-driven, digital approach to quality, which manufacturers can use to glean insights and for decision making. A fully digitised approach to quality removes the challenge of integrating data from fragmented sources, reduces room for error and enables manufacturers to improve their productivity.

A model for Quality 4.0

The model we recommend for digitalised quality management is integrate, automate, connect, comply (IACC). The first point is to integrate all quality management into one unified electronic quality management system (EQMS). In a paper system, suppliers may be performing quality checks, only for the parts to be inspected for compliance again when they arrive on the manufacturer's site. By taking a digital approach, the manufacturing company could simply access the relevant data on its EQMS, the extra step is eliminated.

The next component is to automate – using programmable systems like robotics to make manufacturing and packaging processes more efficient, traceable and productive. Staff can be moved out of low value, monotonous work and into more important areas of the business, making better use of the workforce. As well as automating processes themselves, manufacturers can automate data collection and accurately record data in a central system instead of having a paper trail of handwritten data.



Connectivity is a central part of Industry 4.0, as it is Quality 4.0. Inspection, robotics, digital inputs and outputs, software, SQL data management and enterprise reporting can be pulled together into systems greater than the sum of their parts.

Wireless connectivity of equipment to the Industrial Internet of Things (IIoT) and portable tablets means manufacturers can easily implement a factory-wide data collection network. The manufacturer can connect suppliers, operations, customers and products with edge analytics and bring the data together into a common SQL database for all business processes.

Monitoring data

collected by equipment and storing it in a central system enables manufacturers to detect trends and take proactive actions to decrease scrappage. For example, a Universal Robot UR5 could be combined with a Micro Vu Optical CMM and wireless Andon status lights. The manufacturer could then connect these through Sempre Connect software to a database, to achieve pull through reporting, monitoring and trend detection.

These steps make meeting compliance obligations easy. Manufacturers can generate reports automatically, whether it is first article inspection reports (FAIRs), initial sample inspection reports (ISIRs) or production part approval process (PPAP) documents, to comply with standard like ISO 17025, ISO 9000, 21 CFR or AS9100.

The UK's productivity puzzle can only be solved with a cultural shift. We need to change our mindset towards quality equipment and invest in the technology required. By working with a trusted partner, implementing a Quality 4.0 approach can be easy and deliver dramatic return on investment. For more information, visit www.thesempregroup.com.

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Time-domain NMR spectrometer

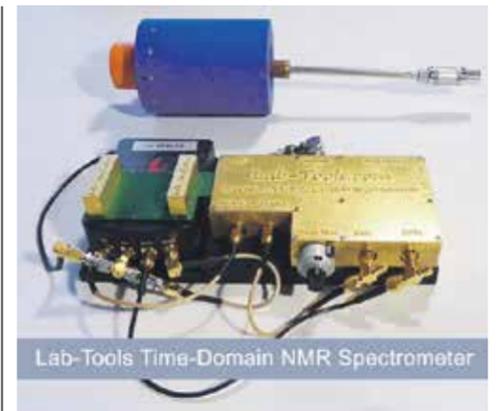
Designed by a British company active in the NMR field for decades, this highly compact Mk3 time-domain NMR relaxation spectrometer provides physical information on liquid and solid samples in the lab and in the field, at a very competitive cost.

NMR Relaxation is an extremely useful quantitative technique for material science, particularly for studying polymers and porous materials. The measurement of NMR relaxation amplitudes and decay times enables the measurement of both the mass and qualities which are variously described as mobility, dynamics, stiffness, viscosity or rigidity.

The Graphical User Interface has extensive software for on- and off-line analysis of material and sample data, and built-in modules for process on-line monitoring and control. The signal-to noise is excellent, and digital RF processing on a Field-Programmable-Gate-Array gives high long-term stability.

This spectrometer is robust, and compact enough for use in the field. It has a 3D printed stainless-steel/bronze case, gold flashed, and weighs just under 1kg. A battery supply module for 1 working day's use is in current development.

There are now various possible designs of compact fairly lightweight NMR magnets, mostly constructed with multiple magnetic elements, based on Halbach & Mandhalas designs.



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Watlow's new 1/32 DIN PM LEGACY™ controller is the first in the industry to feature Bluetooth® technology

Watlow®, an industry leader in the design and manufacture of complete thermal systems, recently introduced its new 1/32 DIN PM LEGACY™ controllers, which are the first 1/32 DIN controllers on the market to incorporate Bluetooth® wireless technology. Bluetooth® is used to enable EZ-LINK™, Watlow's mobile app for setting up, monitoring and adjusting PM PLUS™ and PM LEGACY controllers.

Watlow's PM LEGACY SERIES panel-mount controllers are industry-leading PID controllers that offer optimal performance utilising simple control and menu functionality without complex features. They are ideally suited for basic applications and usage levels.

PM LEGACY controllers include one universal input and an option for up to two outputs. These controllers can be ordered as PID process controllers or as dedicated over and under-temperature limit controllers. The LEGACY SERIES controllers feature a SMOOTH-TOUCH™ keypad eliminating contamination points on the front of the controller and creating a better seal on the front panel as well as a function key for simple, one-touch operating of user-defined, repetitive activities. PM LEGACY controllers are backward compatible with EZ-ZONE™ PM controllers.



"There was a need in the market for a simple controller for basic applications, so we developed the LEGACY SERIES to fulfil that void," said Andy Borkowski, product manager. "Our customers don't always want the most powerful, high-end controller. Some applications require basic control and this product line is made for those situations. Earlier this year we introduced the 1/16 DIN and now we can offer the 1/32 DIN as well, which is the first of this size in the industry to incorporate Bluetooth® technology."

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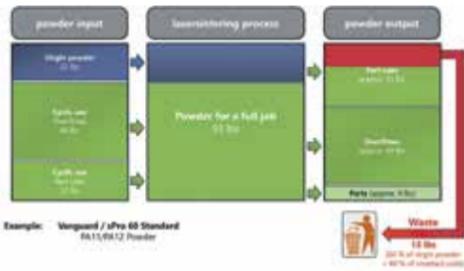
Re-manufacturing sintering material for a closed loop environment

Industry Update is proud to announce that **GS-Pro GmbH** has been selected as our **Laser Sintering Company of the Month**.

Established in 2011 by Soeren Griessbach, GS-Pro remanufactures sintering material to create a closed loop environment, as well as offering tailor made solutions for laser sintering powder, such as colouring the powder instead of the parts. The company has developed methods and process parameters for both build and part profiles, and material reuse. This is in addition to optimising the process itself to become a manufacturing method like injection moulding or CNC.

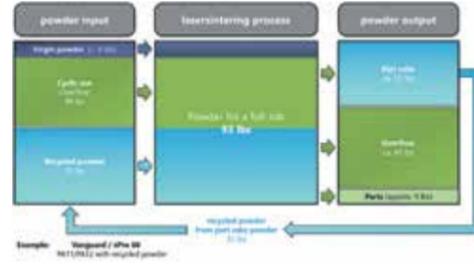
"We take care of used laser sintering material and recycle it," Soeren explained. "Without our service, usually 30-90% of the laser sintering material is thrown away. So, by recycling, we allow our customers to save money and even increase the quality of the parts they build, all while saving the environment."

The laser sintering process produces excessive waste powder, which has been exposed to heat multiple times.



This means the particles grow and become too large to melt under the heat of the laser, causing surface blemishes and mechanical property variances. This not only results in unnecessary costs, but it is also incredibly harmful to the environment.

The material must be refreshed at very high rates of between 33% and 50%. Not refreshing, or refreshing



with less virgin powder, often causes surface defects and unusable parts. On average, laser sintering builds yield or consumes about 6-8% of the powder in the whole part cake. This means you can lose around 25-40% of the material. A mid-frame machine has an average throughput of about 1kg/h. This means that you create 0.25-0.4kg waste per hour. As production machines run about 5,000 hours per year, you will end up with around 1.3-2t of waste per machine per year.

There are other options, such as using material with an improved recycle rate, but often this does not reach the same mechanical properties of the regular materials. And, with some materials, there is no recycling so up to 94% of the powder is lost.

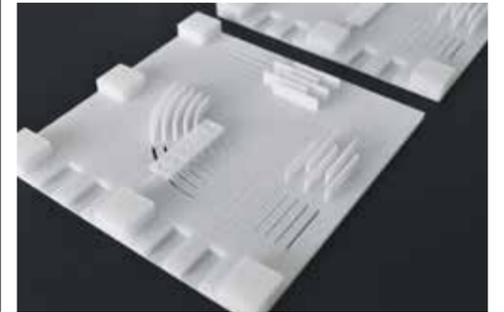
Thankfully, GS-Pro offers options to re-use this powder. It is possible to use refined powder alone, or you can create a closed loop of material use and recycling. Instead of mixing in 50% virgin powder, it is possible to reduce the virgin powder amount down to 10-15% by using 35-40% refined powder, and then your regular overflow and part cake blend.

Over the last eight years, several of GS-Pro's customers have established the use of refined powder in their systems. Some customers run 100% refined powder mixed with overflow powder to create the best surface finish, part quality, and mechanical properties. This has the added benefit of eliminating the sifting of part cake powder, and because GS-Pro's system is closed loop, the part cake gets saved, sent for remanufacturing, and the customer gets their recycling powder back to use as virgin powder. Nothing goes to waste.

Looking to the future, GS-Pro will be building on its already impressive achievements. "We are working on the verification of more materials and machines to offer a sustainable solution for any powder-based 3D printing machine or material combination," Soeren explained.

To find out more information, head to the website or get in touch.

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Stoelzle Glass Group acquires US glass plant



The European-based Stoelzle Glass Group has acquired the Monaca, Pennsylvania glass factory from Anchor Hocking Glass Company, a wholly owned subsidiary of The Oneida Group. This transaction executed following a comprehensive sales process and closed on March 1st was announced by Georg Feith, CEO of the Stoelzle Glass Group. Terms were not disclosed.

With the Monaca, PA factory, the Austrian Stoelzle Glass Group, which serves its international customers in its four Business Units – Pharma, Perfumery & Cosmetics, Spirits, and Consumer, opens its seventh glass plant and a new chapter with its first plant in the United States and the first outside Europe.

“Our clear focus on manufacturing, service excellence and 200 years of experience led us to a global leading position and will ensure stability and business continuity to all customers of the Monaca plant,” explains August Grupp, President of Stoelzle USA Inc.

The Stoelzle Glass USA Inc has lined up with the clear

ambition of achieving outstanding results for and with the customer. Therefore, Stoelzle is bundling its experts and highly experienced specialists together with a tremendous amount of investments and modernisation in the next years to secure sustainable growth, paired with fulfilling the highest quality expectations to all customers and becoming the leading supplier for high quality glass containers in the United States and North America.

Stoelzle Glass Group is one of the leading international producers of high-end packaging glass for the spirits, consumer, perfumery & cosmetics and pharma markets. Now with 7 glass production sites, 3 decoration sites, and a total of 3,100 employees, Stoelzle is a one-stop-shop for glass packaging development, production, decoration and closures. Proud of the 200 years of successful glass making history, the acquisition of the Monaca glass plant is the first step to ensure the next 200 years of family-run Stoelzle business.

www.stoelzle.com

Stoelzle Glass Group is proud to join IPGR

Stoelzle Glass Group, which is one of the leading manufacturers of high-end packaging glass in Europe, is proud of being now one of the 10 companies taking part in the renowned research association IPGR, International Partners in Glass Research, which is situated in Germany, Aachen. IPGR sets its clear focus and purpose on increasing & maintaining the competitiveness of glass in the packaging industry by research and development.

Sustainability has been a major issue to Stoelzle for years now, and significant investments have been made in R&D, technologies and processes throughout all production and decoration sites in order to achieve important targets in the field of energy reduction and to boost eco-friendly processes and technologies. Therefore, joining IPGR was a great honour and important step in Stoelzle's Sustainability Roadmap.

“It was a logical next step to join forces with other top



global glass makers in R&D activities. We are confident to make a significant contribution to the research programs of IPGR and will enhance the glass expert teams by our Head of R&D, Mr Niklas Zwettler, PhD, and the Head of Technical Engineering Group, Mr Wilfried Lenk,” says Group CEO, Georg Feith (pictured above).

T +43 3144 706
www.stoelzle.com

HALO Open Art Studio brings art experience to your living room

CCL Label, the global supply chain leader of innovative premium packaging, promotional vehicles and comprehensive label solutions, is introducing an update of their connected packaging label and sleeve technology. The ‘browser-based’ version renders the installation of any extra app on the user’s phone unnecessary, making packaging interaction even more user-friendly and efficient.

Connected Packaging amongst top packaging trends in 2021

Packaging Europe, one of the leading trade magazines for packaging, recently named Connected Packaging a major trend for 2021, “Expect to see further advances in the area of augmented reality”.

The new technology powered by CCL's development partner Arilyn (<https://arilyn.com/>) has now been released together with a demo that demonstrates the unlimited creative possibilities for brands to connect with their customers via packaging. CCL is the only global packaging company where Arilyn technology can be licensed to power campaigns with Connected Packaging.

The brand-new demo features a virtual 360-degree tour of a famous Finnish artist studio, Halosenniemi (more information: <https://webar.arilyn.com/halosenniemi/>). It is a place on the shore of Tuusula Lake in southern



Visit Finland! Just scan the code with your phone's photo app – there you go

Finland that offered ideas and inspiration to the artist Pekka Halonen in the early 1900s. Halonen is one of the most beloved artists of the Golden Era of Finnish art.

This new, browser-based ('no App needed') version is very easy to use: All the consumer needs to do is to scan the QR on the CCL Label and follow the instructions.

More information regarding Connected Packaging at CCL can be found here: <https://ccllabel.com/portfolios/promotions-connected-packaging/>
The Video can be watched here: <https://campaign.ccllabel.com/portfolio-items/connectedpackaging/>

DataLase



DataLase's range of diversity water based coating solutions are approved for Swiss Ordinance compliance

In providing a laser-active alternative to traditional inks and printing methods, leading photonic solutions company, DataLase, has developed a range of diversity water-based flexo coatings, targeting packaging markets.

The coatings, which can facilitate laser-imageable text, date & lot codes, and graphics on various packaging substrates, can lower carbon footprint (cf. print and apply labels), reduced transport costs and late-stage customisation without ink consumables at packaging fill.

In Europe, chemicals that are recognised as appropriate for such purposes are thoroughly tested and analysed to gain accreditation by the globally recognised SWISS Federal Food Safety and Veterinary Office (FSVO).

In working with the FSVO, the German Federal Institute for Risk Assessment (BfR) assessed and recommended a key component of the DataLase diversity coatings range for inclusion to the positive list of German Ordinance printing inks. They also advised that it will be included in Annex 10 of the 'List of permitted substances for the production of packaging inks, and related requirements', following endorsement by the FSVO – otherwise referred to as 'Swiss listing'.

This achievement has ensured that the FSVO will recognise every component in the diversity coating formulation as compliant.

For more information on DataLase's Swiss listed water-based flexo coatings and pigments, contact DataLase direct at: sales@datalase.com

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Reduction in carbon emissions against alternative solutions*

*Independent report by Carbon Footprint Ltd. estimates made using publicly available data.

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DataLase.com

The right all-in-one device for prelocation, pinpointing and correlation

The **SeCorrPhon AC 200** combines the characteristics of a correlator with acoustic water leak detection. This makes it an all-in-one device for leak detection, which brings together the three important functions of prelocation, pinpointing and correlation in one single, functional system. Users can react to any location scenario, even in the most challenging of conditions. Switching between the different functions or processes is simple and fast.

The **SeCorrPhon AC 200** makes structure-borne and ground-borne noises caused by leaks from water pipes audible to the human ear. The frequency spectrum is traced and made visible on the device, and the current acoustic intensity is shown as both a graph and numeric readout. The user can also see the pre-calculated volume settings and the current frequency analysis of the device on the display at all times.

To then carry out the pinpointing of the leak, the user uses the **TS 200** carrying rod and **BM 200** (for paved surfaces) or **BM 230** (for unpaved surfaces) ground microphone on the section found during the preliminary detection stage.

The **SeCorrPhon AC 200** transmits the acoustic signals and shows the intensity as a graph on the screen, pinpointing the leak with sufficient accuracy to allow confident excavation.

The acoustic features of the piezo microphone are outstanding: even the faintest of leaks or leaks occurring in noisy environments can be identified and detected. At the touch of a button, the **SeCorrPhon AC 200** will apply tailored filters to the current noises and will automatically select the appropriate frequency ranges. Filter limits can also be adjusted to accentuate the leak noise and to permit improved comparability between recordings (e.g. for use in databases or teaching/presentation purposes).

The **SeCorrPhon AC 200** is ideal for use for leak detection across all sections, materials, diameters and lengths of pipelines. Numerous additional functions are also available for complex location scenarios – whatever your leak detection requirements, this system will fulfil all of them.



Correlator and acoustic water leak detector combined

SeCorrPhon AC 200

professional – flexible – intelligent

- Easy and reliable operator guidance through applications
- Integrated audio player to compare leak noises directly on site
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- Sophisticated firmware allows the user an almost automated measuring process





UNISIG

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Boost process efficiency and production output with automation

When David Rybacki founded DRG Manufacturing in the Chicago suburb of Lake Zurich in 2015, he started off with nothing except a commitment to manufacture total solutions for his customers. Since he was not basing his production process on existing equipment, he set out to incorporate automated systems and processes that would provide him with the highest levels of productivity.

DRG serves the firearms component industry, and the shop's commitment to quality has yielded dramatic results. In three years, it has grown from six to 40 employees and has increased its business eightfold.

"Business has been very good to us," Rybacki said. His commitment to making parts that exceed expectations has much to do with that success. DRG creates parts to three specific, equally stringent sets of specifications: their own internal specs, MIL-SPEC prints that constitute industry standards, and custom OEM prints supplied by individual customers.

The company approaches every new product and component build as an opportunity to produce it with the most effective process possible. One of the keys to that productivity has been DRG's fully automated gundrilling and reaming cell from UNISIG.

Before Rybacki invested in this cell, he evaluated several other gundrilling machines. "Most were limited to manually operated equipment that would not accomplish Rybacki's objectives. Only UNISIG offered a robotically run cell that could provide the functionality and flexibility DRG required," said a company spokesperson.

"Many companies in our industry put an operator in front of every machine," Rybacki explained. "Instead, our UNISIG automated cell gives us about a 150% production increase over such manual operations."

DRG's automated cell runs barrel blanks with chamfers at each end. A robot picks up a blank from an infeed system and loads it into a dual-spindle UNISIG UNE12-2 gundrill machine with a 12mm maximum part diameter capability. After the drilling process is completed, the robot moves the blank to a dual-spindle UNISIG UNR20 reamer.

Once the automatic reamer completes its part of the process, the robot moves the blank to a blow-off station to clear oil from inside the barrel. From there, the robot transports the blank to the outfeed station, where it exits the cell to be rifled. All aspects of the cell are automated, including the vision system with automatic compensation that allows the shop to quality check every part before human hands ever touch them.

DRG's completed automated gun drilling process simplifies completion of large orders with long delivery schedules. Most



DRG approaches every new product and component build as an opportunity to produce it with the most effective and productive process possible. One of the keys to that productivity has been DRG's fully automated gundrilling and reaming cell from UNISIG



At DRG Manufacturing, a dual-spindle UNISIG UNE12-2 gundrilling machine, with 12mm maximum part diameter, drills barrels for the shop's automated operations

of the shop's workflow involves long-term contracts and multi-month purchase orders for 1,000 or more barrel blanks. That workflow makes production planning easy because the company can establish shipping dates and work backward to create the build schedule. To meet their commitments, DRG normally runs three shifts—two attended by an operator and one unattended at night. Including the UNISIG cell, DRG has a total of five automated cells within the factory that operate a full 24 hours of every day.



"UNISIG offered a robotically run cell that could provide the functionality and flexibility DRG required, and the cell resulted in about a 150% production increase over manual operations," said a company spokesperson

When DRG receives a purchase order, it processes half the part total up front so larger volumes can enable them to amortise set-up costs over longer runs. In addition, DRG's Kanban inventory system enables the shop to maintain a replenishable inventory of high-demand parts for same-day shipping. Because the shop must be highly responsive to changing customer demands, inventory makes it possible to source smaller orders that DRG otherwise would refuse.

Originally, DRG outsourced profiling and barrel manufacturing work. But large orders and stringent specifications called for specialised equipment. For this reason, DRG acquired its UNISIG drilling and reaming cell in 2017 to produce raw rifled blanks.

Although DRG has the option of running the UNISIG R-2A rifling machine as part of its automated drilling and reaming cell, that is one process Rybacki prefers to keep manual. "We run rifling manually so we can QC it and make certain that all aspects are perfect," he said. "DRG's QC department air gauges everything the company makes, although the cost of the QC equipment is steep: about \$12,000 per caliber."

Among the other attributes that set DRG Manufacturing apart from its competitors is its commitment to automated equipment. Rybacki realises that some companies may shy away from implementing automated cells because of the upfront time involved in development and set-up.



DRG relies on its UNISIG equipment to achieve the shop's quality targets with part materials such as 416R pre-hardened chromium stainless steel and 4150 Chrome-Moly Vanadium (CMV)

"It is about being patient to achieve the results you want," Rybacki said. "We can buy machines from UNISIG, put them on our floor and run them manually – or we can wait about six months longer and buy a fully automated turnkey system that runs perfectly." He noted that the extra time investment enables DRG to double its production without adding personnel or shift hours.

When it comes to workpieces, DRG works with some challenging materials and tight part tolerances. It manufactures most of its parts from 416R pre-hardened chromium stainless steel and 4150 Chrome-Moly Vanadium, or CMV. On a 17" rifle blank, for instance, total indicator runout is kept to under 10 thousandths, with diameters at under one thousandth and size within a couple of 10 thousandths.

UNISIG's application support plays a key role in DRG achieving its quality targets with tough part materials. As Rybacki pointed out, "They are experts in deep hole drilling, and they taught us everything we needed to know. The learning curve was just a matter of mastering tool life, which they gave us suggestions on. After receiving guidelines on how to start we just took it from there. It is not trial and error because of UNISIG's expertise. It is only trial and error if you do not listen to them."

For the immediate future, further expansion at DRG will have to wait. Although DRG has not reached volume capacity, its growth and success has led to no available shop floor space. Automation has enabled DRG to increase its process efficiency and boost production output. But Rybacki is quick to point out that robotics only work in a shop with the right people to operate them. "You still need people," he noted. "People can grow into new opportunities. Robots do not take over completely."

UNISIG is also exhibiting at the EMO show in Milan, Italy from 4-9 October 2021. Further information on all machines of the UNI, UNR and R-2A series and the complete UNISIG machine program is available at: www.unisig.com or follow the company on LinkedIn and Twitter (@UNISIG).



The user-friendly UNISIG deep hole drilling system control helped DRG shorten its learning curve

Across every industry, manufacturers are working to meet growing customer demand in a globally competitive market

Despite a widening skills gap, by organizing advanced technology into highly optimized work cells, manufacturers are maximizing productivity through automation.

Specialised equipment, like a deep-hole drilling system, often is challenging to integrate, which quickly can create production schedule bottlenecks. To eliminate the risk, shops that perform deep-hole drilling should seek out OEMs that understand the needs of high-production manufacturers and have the capabilities to bring technology into the factories and work cells of the future.

Deep-hole drilling systems, which can produce holes that exceed a 20-1 depth-to-diameter ratio, are a unique class of manufacturing equipment because of the focused tasks they conduct. An increasing number of machining centers boast deep-hole drilling capabilities, but these machines simply cannot operate at needed speeds, particularly for parts that require exceptionally high accuracy. Manufacturers that must perform deep-hole drilling capable of rapid production and high throughput should instead select machines designed for the task.

Automating holemaking

These shops increasingly opt for deep-hole drilling systems that also work with automation. In a typical deep-hole drilling work cell configuration, such as



one for producing rifle receivers or automotive shafts, the equipment can use automation to time its cycle completion to mesh with other production processes. For straightforward automation, conveyors and pick-and-place robots move and position parts for deep-hole drilling with exacting repeatability and accuracy while automatic toolchangers, doors and inspection stations keep parts moving swiftly into, out of and around the cell.

Because deep-hole drilling tends to apply to long, cylindrically shaped parts, workpiece configuration eases or complicates some aspects of automating load-in and load-out cycles tied to drilling operations. Workholding axes, for example, can provide automatic part gripping with pneumatic or hydraulic chucks operated through advanced controls for deep-hole drilling systems. In this configuration, machines can pick up a part, drill it and set it back down on a conveyor or part collection area. In deep-hole drilling systems themselves, specialized designs also offer automatic chucking, while robot-tending systems can add further flexibility with end-of-arm tooling, workholding and measuring systems.

As the automation configuration grows more complicated, however, manufacturers require an OEM that can act as a collaborative partner to find available solutions or engineer individualized products for unique applications

or production lines. Shops that depend on deep-hole drilling as part of a high-production environment should seek a partner that has a demonstrated record of working directly with manufacturers to modernize processes and create robust automated work cells.

Gundrilling application

UNISIG, for instance, worked with a manufacturer of rifle barrel receivers to help it accommodate growing demand and relieve production bottlenecks. The manufacturer's older gundrilling machines were replaced by a multiple-spindle machine, the UNI25HD. It had the power and controls necessary to apply indexable gundrilling tools, significantly improving feed rates.

To enable fast one-piece-flow manufacturing, UNISIG integrated the system via automation for in-feed, pick-and-place, conveyor loading and automatic clamping, which fed two lathes that turned the parts. The result was an effective work cell that produced more than 100 parts an hour, a dramatic financial and process improvement.

The viability of automated deep-hole drilling production can depend on tool life and part length. At extreme depths, for example, some parts require more than one set of inserts to produce a completed hole, and the high level of hardness of some workpiece materials causes rapid tool wear. To overcome this challenge, UNISIG



programs its machines to detect wear and predict when a tool will reach its breaking point, allowing operators to prevent a failure that could stop the line.

For further process efficiency, deep-hole drilling machines should have either a CNC or programmable logic controller. Both can integrate with other control systems and interface with a controller in the work cell. Systems such as a fully automated barrel cell are capable of unmanned, lights-out production with efficient programming.

Deep-hole drilling equipment's application-specific configurations suit the production of parts that necessitate techniques and processes that go beyond the easy capabilities of general-purpose equipment. In years past, many manufacturers thought of this kind of specialized equipment as old-fashioned and a drag on production. But with the right equipment – and a partner with the right engineering and applications expertise – deep-hole drilling in work cells can keep up with the productive factory environment that manufacturers need to succeed.

Further information on all machines of the B Series and the complete UNISIG machine program is available at www.unisig.de or follow the company on LinkedIn and Twitter (@UNISIG).

Cutting & Grinding Update

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Quantum Controls expands UK Drive Service Centre network

Quantum Controls has expanded its UK Drives Service Centre near Newcastle, which will result in the UK's largest VSD Repair facility with the improved capacity to load test Variable Speed Drives up to 2 Mega Watt VSD power rating. The company has also opened a new Drive Service Centre in Scotland near Edinburgh called Q Electrical Industrial Services, with an additional 13 engineers now based in Scotland.

Quantum Controls, winner of the prestigious 'UK Drive and Motor Supplier of the Year' award for last 4 years already has a network of 7 Drive Service Centres around the UK at Thurrock, Thetford, Leeds, Birtley, Newcastle, Glasgow and now Lothian.

The national network of UK Drives Repair/Service centres speeds up services such as critical repairs, the upgrading of ageing components in line with manufacturers maintenance schedules, and defective components depending on application and operating conditions. The centre will also carry out in depth failure analysis to determine the causes of faults, helping users to cut downtime and all done at a local level wherever you are in the UK.

With over 25 years' experience as an ABB Drive Service provider and the Official Drive Service Partner for major Drive Manufacturers such as Danfoss, Vacon, Schneider Electric, Mitsubishi, Schneider, and WEG.

Our unique drive rental service offers immediate 24/7 install and commissioning of temporary VSDs to replace any failed units. With 2,500+ drives in the rental fleet covering all powers and voltages up to



4.5Mw we will always have a temporary solution that gets your plant back up and running.

Before repairing a VSD, our engineers will carry out full functional test to ascertain the fault with the drive. Our coordination team will then issue a full report detailing the fault and the cost to repair. After the repair, our engineers carry out a full function test on the VSDs across the speed range and at full load, a video of the load test will be taken and provided to the customer for their records along with signed test certificate before returning the drive back to site.



The centre holds the largest stock of critical drive spares for ABB, Schneider and Danfoss with parts for all other manufacturers available to us same or next day.

"Our UK Drive Service Centres are permanently manned by fully trained and certified drive engineers operating in a dust-free environment which is electrostatic discharge protected," says Quantum UK Service Manager, John Smith. "Available 24/7 our service centres provide the perfect facility to repair, service, maintain our customer's drives. If a drive is irreparable, we will arrange disposal and recycling according to local WEEE regulations."

With over 280 existing service partnerships in place throughout the UK, a number that is expected to double in the next 18 months, Quantum are already looking at further extending their unique Drive Centre UK network, with branches in the South West and Northern Ireland planned to be opening in 2021.

The expansion of the UK Service Centre Network is being led by Managing Director, Kevin Brown, who says



the further expansion will allow Quantum Controls to respond to evolving customer needs with greater agility. "We can provide a one-stop-shop for all our customers drives needs, for all makes of drives, for all power and voltage ranges and we do this at a local level for our customers 24/7."

For more information on Quantum Controls and services available, visit our website at: www.quantum-controls.co.uk or email us at: sales@quantum-controls.co.uk



New method of manufacturing micromotor windings

The result of seven years of research and development, industrial start-up and mechatronic pioneer, Mirmex Micro Motor, has announced availability of a new method of manufacturing high-power density electric micromotor windings.

Constructed from flexible printed circuits and developed using artificial intelligence (AI), the micromotors are reported to feature unmatched performance and maximum precision. They can be up to 50% more compact, 70% more dynamic, with 3 times fewer heat losses and assembled 10 times faster than most of the existing solutions using conventional windings made from copper wire.

Designed for use in high performance industrial and surgical precision powered tools, active prostheses, aerospace, and robotics, the motors are fully customisable thanks to Mirmex Motor's proprietary software developed in-house. The motor production is greatly simplified which results in a quicker manufacturing time with reduced tooling costs – an impossible process using traditional copper coils.

Mirmex Motor's technology is primarily applicable to slotless



permanent magnet motors, whether used as synchronous machines or as Slotless Brushless Direct Current (SBLDC) machines. These devices have existed for 40 years but have not seen significant innovation since their inception. While traditional high-performance coils are extremely complex to design, manipulate and manufacture, the company's innovation meets the demands of users looking for increased performance, compactness, and the convenience of custom-made micromotors.

T 00 32 475 229 659
sales@mirmexmotor.com
www.mirmexmotor.com/products

LABINOX bespoke stainless steel vessel, filter and furniture manufacture

LABTEX, the Huddersfield-based laboratory and scale up chemistry equipment specialist, has introduced LABINOX as a sub-brand offering off the shelf and bespoke fabrications in metal.

Sourced in the UK, the EU and the USA, LABINOX offers plain and jacketed vessels and filters and furniture to customer specifications.

Our work ranges from simple fabrications and machining to high specification bespoke projects for the pharmaceutical, food processing, water, paper and chemical industries.

Working in conjunction with skilled fabricators and finishers, LABINOX ensures that work is completed to the highest standard and is in accordance with relevant EU directives – in particular, the pressure equipment, ATEX and machinery directives.

LABINOX will project manage manufacture and installation of



assemblies, ensuring that not only stainless steel equipment but also associated equipment is procured and scheduled to meet your requirements.

Services include: draughting, design, quotation and feasibility studies, fabrication supply, and project management.

T 01484 600200
www.labtex.co.uk

Stronger overband magnet

Offering a more compact and powerful electromagnetic overband magnet, leading designer and manufacturer of magnetic separators, eddy current separators and electrostatic separators Bunting has launched the new ElectroMax-Plus.

In operation, an overband magnet, suspended over conveyors, screens and vibratory feeders, lifts and removes ferrous metals, such as iron rebar and beverage steel cans. Light and compact, the ElectroMax-Plus features a deep and strong magnetic field, enabling excellent separation performance at higher suspension heights.

Simply turning off the electromagnet releases any extremely large entrapped tramp ferrous metal. The shape and nature of this magnetic field means there is less wear to the self-cleaning belt mechanism.

The ElectroMax-Plus operates at a suspension height of 600mm, up from 450mm on a standard ElectroMax. At a suspension height of 500mm, the ElectroMax-Plus is more



than 105% stronger (in terms of Force Index) than the equivalent ElectroMax.

T 01442 875081
www.mastermagnets.com

Tool separator optimises work processes

Making tool handling safer and faster, RUD's new tool separator opens injection tools, punching tools and forming tools in, says the company, a matter of seconds. By optimising these processes, the tool separator offers a return on investment in less than a year.

Instead of taking three hours, and involving three members of staff, the tool separator needs a maximum of five minutes and one person to complete the entire process. RUD's tool separator operates with an opening and closing force of 50kN (corresponds to 5 tonnes).

A PLC control system ensures effective operation. Carefully controlled force and speed ensure tool halves can be opened gently and closed accurately: operators can set the degree of force from a theoretical 0 to 55kN, and set speeds from 0 to 2,000mm per minute.

Using the tool separator not only protects expensive tools but also safeguards the joints and vertebrae of its operators. At only 380mm high, the contact surface ensures work can be performed safely and ergonomically. After opening,



the operator can work directly on both halves of the tool, to perform minor repairs or maintenance tasks, while it is held securely in the tool separator, reducing the downtimes required for maintenance.

T +49 7361 504-0
www.rud.com

Leaders in Scotland's electrical contracting solutions



In this issue of Industry Update, we have selected Q Electrical Industrial Services Limited as our Electrical Solutions Company of the Month.



boards, bespoke control panels, installation services, electronic repairs, maintenance services, PLC programming, harmonic survey, EV Charging Installations, inspection and testing, emergency call-out services, power factor correction and much more.

"We offer electrical installation industrial services and we are environmentally and safety focused." Lyall continued, "We are a one-stop-shop solution. We can assist our customers through any stage of a project electrically. From start to finish, design and manufacture of control panels, installation and commissioning, software and programming – we provide a fully comprehensive service."

A notable service the company provides, Q Electrical Industrial Services Limited is offering Harmonic surveys. Since 17 June 2020, the new implementation of the Engineering Recommendation G5/5 came into effect setting the limits to be valid at the Point of Common Coupling (PCC). Through Q Electrical Industrial Services Limited Harmonic Survey service, the company carries out checks for compliance with these



standards and utility regulations to ensure its customer's sites are fully compliant and not at risk of receiving fines for noncompliance. Not only necessary for ensuring compliance, but this service is also vital for preventing harmonic issues which can cause deterioration and damaging of equipment, equipment failure and underperforming energy efficiency.

By using Q Electrical Industrial Services Limited's Harmonic survey service, the company provides customers with a detailed assessment of their

sites compliance and overall performance. Through the company's in-house team of expert engineers, Q Electrical Industrial Services Limited analyse the data and carry out a further report summary with recommendations. Best of all, the report provides a no-obligation quote and a discussion with one of its engineers on what recommendations can be carried out on site.

In terms of recent developments, due to the COVID-19 pandemic, many industries have faced challenges and a slowing or halt of services/production. Able to not only establish



itself through its merger but to have grown its business, Q Electrical Industrial Services Limited has been able to continue providing its services and has seen an influx of new business.

"We have been busier than ever as we have been

providing services in key industries." Lyall continued, "Unfortunately, we did have to furlough half the staff for six weeks initially, but since then we have been busier than ever and have managed to grow from it. We've created 9 new jobs in the first 3 months of trading and we continue to recruit Electrical Engineers in Scotland."

Indeed, the company has been showcasing its wealth of expertise through its services, proving to be a successful merger of the two leading companies. In regards to the company's plans, Lyall told us that, "We want to continue to be the go-to people in Scotland for that turnkey service in electrical installations."

For any more information, please see the details below.
T 01875 816302
sales@qelectrical.co.uk
www.qelectrical.co.uk

"We officially started in February 2021 after a new partnership was formed through Quantum Controls acquiring Lothian and Borders Electrical, which has produced 43% year on year growth to date," stated Lyall Colvin, Managing Director.

Known formerly as Lothian and Borders Electrical Ltd, Q Electrical Industrial Services Limited boasts over 40 years of experience in the electrical industry and through its merger with Quantum Controls, benefits from its over 25 years' experience as the UK's leading supplier of variable speed drives, electric motors and support services.

Streamlining its services, Q Electrical Industrial Services Limited is one of Scotland's leading NICEIC (National Inspection Council for Electrical Installation) accredited, electrical contractors. The company offers a wide range of electrical services for all electrical installation projects including industrial panels and domestic distribution

Engineering Update



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Your guiding light for LED solutions

“We were established in 2009 as OCIP ENERGY Ltd,” explained Aidan Brown, Managing Director. “As we approached our 10th anniversary, and with the acceptance of LED lighting into the mainstream market, we changed our name to LED Industrial Lighting Company Ltd to better reflect the nature of the market in which we operate.”

Based in Cheltenham, LED Industrial Lighting Company Ltd operates across the UK and Europe, and numerous key clients have used its services across their European operations. As the status of LED lighting as changed, so



the company has adapted its services to better address the needs of the marketplace. “The company’s role has evolved as LEDs have become more accepted,” explained

Aidan. “In the early days, it was about convincing businesses that LED was the future. Nowadays, we are effectively a specifier, assisting clients to identify and source the most appropriate product for their premises.”

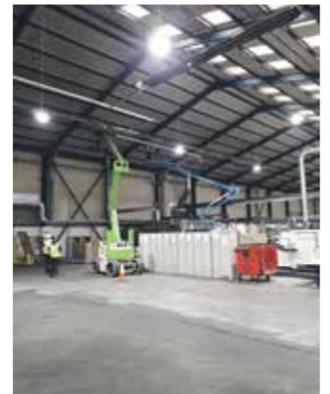
Working exclusively with LED lighting, the company has a focus on the commercial and heavy industrial markets, including hazardous area environments, as well as significant experience in the niche market for obstruction lighting.

With the increase in LED lighting’s popularity, there has undoubtedly been an increase in the number of poor

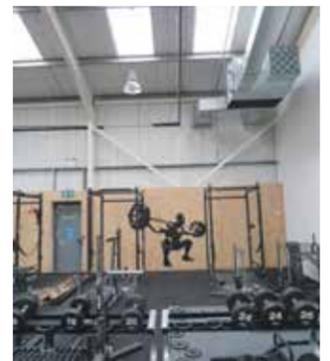


quality products, which have swamped the market and made it increasingly difficult to find the best and most suitable solution. Thankfully, LED Industrial Lighting Company Ltd’s extensive experience of the LED lighting sector allows it to match the most appropriate fittings to the client’s requirements, as well as guiding clients to the right products for their individual requirements, without making expensive mistakes.

Certainly, LED Industrial Lighting Company Ltd has a documented history of listening to the market and addressing its needs, something which is reflected in the company’s motto to ‘listen and deliver’. “We believe in understanding the client’s operational requirements and then developing a value proposition that addresses those needs, all within budget,” Aidan elaborated.



Of course, LED lighting is constantly evolving, but there are limitations as to where future efficiencies will be generated in the LED technology alone. “Where the real revolution is occurring is in the controls for these lights,” explained Aidan. “LED Industrial Lighting Company Ltd is able to offer the market leading remote monitoring platform, which allows a user to monitor and manage their lighting infrastructure from their own laptop, giving real-time data on what is happening within their office, building or entire estate. We can monitor a suite of parameters from energy usage to the status of the batteries in the emergency fittings. This offers potentially huge maintenance savings, and the system will automatically run test and report systems to ensure full regulatory compliance.”



With an outstanding reputation for quality, value and customer service, there is no doubt that the future looks bright for LED Industrial Lighting Company Ltd, a company which clearly possesses the drive and determination to continue its innovative work. “2019 was a challenging year for us as a business. Specifically, I was diagnosed with cancer in March and underwent chemotherapy for the best part of a year. During that time, I continued to work and am very grateful for the support of our existing clients, as well as the patience of the new ones. Having had the all-clear at the end of 2019, I am keen to drive the business forward and make up for lost time.”

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Boost process efficiency

When David Rybacki founded DRG Manufacturing in the Chicago suburb of Lake Zurich in 2015, he started off with nothing except a commitment to manufacture total solutions for his customers. Since he was not basing his production process on existing equipment, he set out to incorporate automated systems and processes that would provide him with the highest levels of productivity.



DRG serves the firearms component industry, and the shop's commitment to quality has yielded dramatic results. In three years, it has grown from six to 40 employees and has increased its business eightfold.

"Business has been very good to us," Rybacki said. His commitment to making parts that exceed expectations has much to do with that success. DRG creates parts to three specific, equally stringent sets of specifications: their own internal specs, MIL-SPEC prints that constitute industry standards, and custom OEM prints supplied by individual customers. The company approaches every new product and component build as an opportunity to produce it with the most effective process possible. One of the keys to that productivity has been DRG's fully automated gundrilling and reaming cell from UNISIG.

UNISIG is exhibiting at the EMO show in Milan, Italy 4-9 October 2021. Further information on all machines of the UNI, UNR and R-2A series and the complete UNISIG machine program is available at: www.unisig.com or follow the company on LinkedIn and Twitter.



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The future of valve automation and communication systems



Based in Deeside and with offices in the South of England, as well as sales representatives across the UK, Imtex Controls specialises in the production and supply of advanced, high integrity valve actuation, communication and control systems for the energy, marine and process industries.

Boasting many years of experience within the area of process valve control, Imtex Controls prides itself on the quality of its products, striving for only the highest standards to ensure its portfolio is unrivalled in durability and reliability. This also means its products have a long service life and a longer lifetime value. The company commonly receives Camtorc Actuators back only for minor maintenance after around 30 years of service on a rig, a prime example of the longevity of Imtex Controls' products.



As a pioneer in valve automation and communication systems, Imtex Controls engineers the best design for your projects, operations and customers. What's more, Imtex Controls is committed to offering products which are easy to install, use and maintain while remaining safe and environmentally friendly.

Working with the latest control technology in accordance with international standards, all Imtex Controls' products are engineered and tested to ensure continuous operation in virtually any environment, including extreme service applications.

Its key offerings include smart monitors and the Valvescan™ Diagnostic Monitoring System, an end-to-



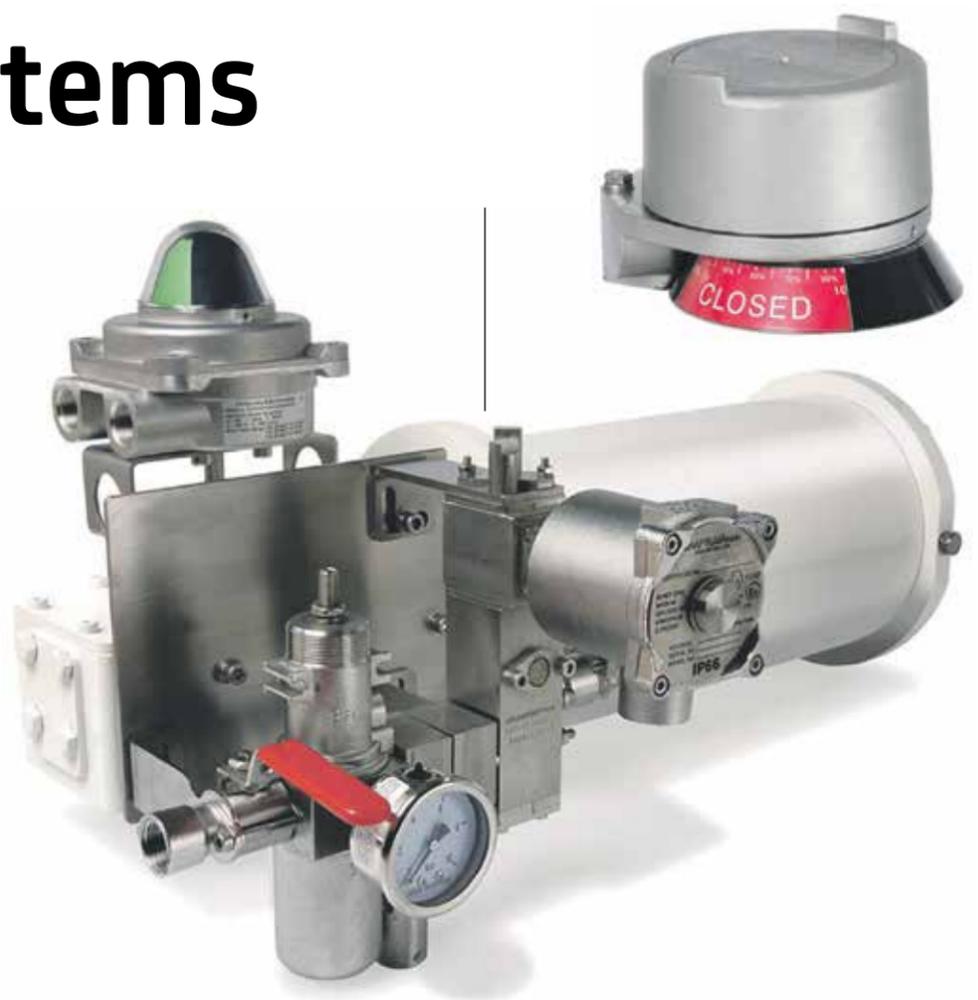
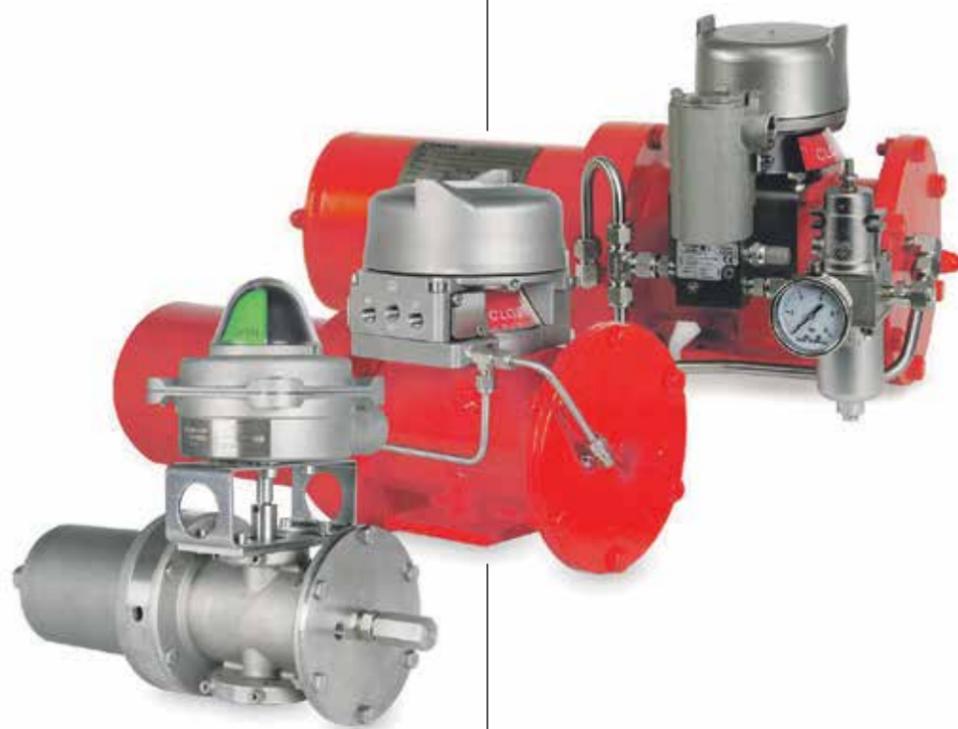
end solution that captures data from every valve operation, analyses it and provides targeted alerts on the valve health without any requirement for involvement from plant personnel or any potential impact on the asset real-time control integrity.

Thanks to the Valvescan™ Diagnostic Monitoring System, the valve will inform plant personnel before any maintenance or failure, preventing unscheduled downtime and the expense that goes with it. It is also more technologically advanced than many of its competitors thanks to its cloud-based application, which lets plant personnel access the dashboard from wherever they are.

Another notable innovation is the Camtorc series actuator, a mathematically derived cam system first manufactured in 1975. It has been in continuous production since, gaining a base in industries all over the world. Imtex Controls acquired all rights to the design in 2006 and integrated it into a modular assembly that is particularly suited to space-sensitive or remote/inaccessible locations. The series is available for pneumatic and hydraulic applications in either double acting or spring return configurations with a full range of modular control accessories.

The Camtorc actuator is a linear to rotary motion convertor primarily used for the pneumatic or hydraulic actuation of quarter-turn pipeline valves and dampers. As a consequence, it is highly popular in the oil and gas, marine, and power generation industries.

Its key differentiator is the mathematical profile of the cam, which ensures a constant output torque during the piston stroke. This eliminates backlash. The combination of zero backlash and constant output torque means there are fewer moving parts, reducing possible causes of failure, all of which contributes to a longer service life and lower maintenance costs.



What's more, the system also avoids two other related problems. The constant torque negates large side forces, which require additional infrastructure within the housing. This in turn avoids the problem of side loads, which require more complex assemblies. As a result, Camtorc actuators are more compact and have lower installation costs.

Compared to other actuator systems, such as the scotch yoke design, Camtorc offers substantial advantages. The scotch yoke actuator employs a piston that moves a yoke via a sliding pin. It is easiest to think of Camtorc as an optimised version of this design, clamping the yoke apparatus (attached to the pistons) around the cam so they remain in contact along a frictionless surface.

With sustainability on everybody's minds, especially amid calls for a Green Recovery post-COVID, it's good to know that the Camtorc actuators, as well as Imtex Controls' valve communication products, can also be employed in Blue and Green Hydrogen Production systems, Carbon Capture and Storage schemes, Biofuel Production Processes and Waste to Energy projects.

This market is a key focus for Imtex Controls this year. Its products already deliver greater efficiencies

and sustainability for these kinds of projects, helping companies achieve their low emission targets. With several low-carbon, CCUS and Hydrogen facilities being developed across the country in 2021, Imtex Controls' products can offer lifetime value for money here as well as reducing carbon footprint.

If you would like to find out more information on Imtex Controls' full range, head to the website or get in touch using the contact details below.

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CAMTORC VS SCOTCH YOKE

- Fewer moving parts = longer service life + lower maintenance costs = reduced Whole Life Cost
- Integration of cam & body pistons reduces dimensions of unit
- Cam slides across low friction pads, increasing output efficiency to 90-96% of theoretical max.
- Consistent output torques throughout the stroke: suited to modulating control
- Large side-forces are eliminated = less external housing = suited to remote/inaccessible locations
- Cam mechanism is backlash free = easily stopped/started mid-stroke
- Reduces the risk of false-fails & spurious trips during PST = lower risk of plant shutdown / damage

- More moving parts = more wear and risk of failure = higher Whole Life Cost
- Inconsistent output torques throughout the stroke
- Large side-forces at either end of the stroke require additional infrastructure/housing
- Side-forces and pin friction reduces efficiency to 75-80% of max. theoretical torque
- Larger unit + more complex assemblies = higher installation costs
- Where MAST is an issue the stem size may need to be increased = larger unit / more assemblies
- More likely to create false-fails or over-travel (spurious trips) during a PST test = damage or shutdown