

# INDUSTRY UPDATE

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Packaging Specialist

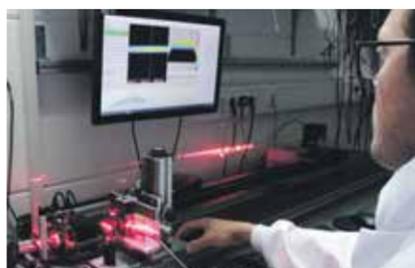
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## Siemon's new Value Vertical Cable Manager System

Siemon, a leading global network infrastructure specialist, has expanded its family of cost-effective open rack and cable management solutions with the new Value Vertical Cable Manager (VVC) system. The Value Vertical Cable Manager system has been specifically developed to integrate with Siemon's 2-Post Value Rack, 19-inch Rack-Mount Horizontal Cable Managers and pathway support accessories to provide an equipment mounting and cable management solution that simplifies both the deployment and long-term management of critical network cabling infrastructures. Easily assembled in as little as five minutes, the new 45U vertical managers mount directly to Siemon's 2-Post Value Rack as well as

other Siemon racking options, providing a cable management system that can be deployed rapidly. Available in widths of 4 inch (10cm), 6 inch (15cm), 10 inch (25cm) and 12 inch (30cm), the VVCs are offered in both single and double-sided versions to enable a broad range of infrastructure topologies, simultaneously supporting cord management for high-density patching fields, efficiently routing horizontal cables, mounting PDUs, and routing equipment power cords.

For more details on Siemon's new Value Vertical Cable Manager, including a brief overview video, bill-of-material generator, spec sheets, and instructions, visit: <https://ecatalog.siemon.com/#/en/Racks-and-Cable-Mgmt>



and- Cable-Mgmt/Cable-Management/ Value-Vertical-Cable-Managers To learn more about Siemon's full line of Value Rack and Cable Management solutions, visit: <https://ecatalog.siemon.com/#/en/Racks-and-Cable-Mgmt>

## Adhesives & glue guns



AdCo UK is one of the largest manufacturers of shaped hotmelt adhesives and water-based adhesives for use in packaging and product assembly markets for over 21 years, from its Head Office and manufacturing facility in Liphook Hampshire with additional distribution facilities based in Leeds UK and a network of approved distributors based throughout the UK.

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## Foremost introduces systems from TEKNOKOL

Foremost Electronics, the engineering-led Essex based importer and specialist distributor of electromechanical components, announces a new distribution partnership with TEKNOKOL. Based in Turkey, TEKNOKOL is a manufacturer and supplier to world-leading integrators of control panels.



The Teknokol family of products support machine manufacturers in providing ergonomic machine control panels. TEKNOKOL products are designed to enhance the Human Machine Interface (HMI) experience. The panels are designed to incorporate support/suspension arm components and include industry standard VESA mounts for monitors and separate panels to incorporate keyboards. All TEKNOKOL enclosures are modular and configurable suiting a wide range of applications.

Two enclosure series are available from TEKNOKOL: ECO line and TKP for light and heavy duty service respectively. The internal depth of the enclosure can be selected to suit a particular application, with deeper versions available known as the X90 Solution featuring hinged access.

Standard features include IP65 protection, anodised aluminium colour, RAL 7035 corner couplings, and RAL 7016 corner covers. TEKNOKOL can provide custom-coloured couplings and covers upon request, as well as machining for LCD screens, buttons, switches, etc.

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As well as the features above, it also includes a report generator to easily pull your selected results with star ratings and comments into an editable report. You can also export data in order to carry out analysis outside of the database. The database now also includes a sophisticated chart dashboard to run pie charts, bar charts, world maps, bubble charts and heat maps on your patent results.

Patworld is looking to revolutionise patent database technology by the implementation of innovative tools and flexible access options.

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## North Ridge Pumps helps a distillery

A distillery contacted us which wanted to bulk transfer Methanol at 95% concentration, liquor and gin from IBCs into a bulk holding tank.

They required a flow rate of 100-120L/min at 6M Head, for the unit to be food grade, self-priming, ATEX rated and mobile. This would be a tall order for some companies but for North Ridge Pumps, configuring a pump kit for users' requirements is something we are accustomed to.

Mobile pump kits provide a versatile solution, ensuring portability across process with multiple liquids with ease and without spillage.

We selected our GR ADPE Atex Rated side Channel Pump in stainless steel, trolley mounted with 5M of Anti-static



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The unit was coupled to a 230V 0.76Kw motor, enabling the kit to be used throughout the factory without modification to existing electrical circuits.

A side channel pump was chosen due to its self-priming ability, meaning it could be surface mounted, handle low viscosity fluids, and, being of metal construction, be ATEX rated.

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# Hand dryers do not spread COVID

**B**ack in May, the government issued its COVID-Secure guidelines to help businesses get back to work safely. This included details around signage and training, as well as cleaning and hygiene facilities.

A very clear message contained within these guidelines was that businesses must ensure sufficient hand washing and drying facilities are in place, recommending either paper towels or a warm air dryer as safe solutions.

In a bid to get things moving again, organisations clamoured to stock up on supplies and make decisions on whether to install paper towels or hand dryers based on ease, economics, personal preference, and sometimes, sadly, misconceptions based on the old paper towel versus hand dryer debate.

COVID-19 has brought with it speculation, scare mongering and rumours that hand dryers are unsafe to use, somehow spreading or harbouring germs, which have time-and-time again been quashed by reputable organisations such as the World Health Organisation, the Centres for Disease Control & Prevention and numerous international universities – who all deem hand dryers as safe as – or in some cases, particularly with the growing popularity of no-touch units – safer than paper towels.

In March 2020, at the start of lockdown, The World Health Organisation put out this message on the subject of hand washing: “To protect

yourself against coronavirus, you should frequently clean your hands with an alcohol-based hand rub or wash them with soap and water. Once your hands are cleaned, you should dry them thoroughly by using paper towels or a warm air dryer.”

In other words, either drying method is completely safe as long as the hands are cleaned properly, and the choice between dryer and towel should come down to personal preference, or what’s available to use in the washroom, and certainly not outlandish claims that either will spread germs.

This is likely due to exaggerated headlines that have appeared in the public domain in recent years around hand drying methods which range from ‘Paper towels harbour bacteria’ to ‘Beware of the electric hand dryer’ – which can, in the majority of instances, be traced back to the respective paper towel and electrical hand dryer industries.

However, the independent findings of Dr Pritam Jagansing Pardeshi, whose extensive 2018 study ‘A Comparison of Effect of Three Hand Drying Methods on Washed Hands’ for The Global Journal For Research Analysis, concludes that “warm air hand dryers, of the type used in this study, are a hygienic method of drying hands and therefore appropriate for use in the healthcare [industry]. Both warm air dryers and paper towels gave



acceptable and comparable results.”

The Centres for Disease Control & Prevention (CDC), WHO and scientists at John Hopkins University and the College of Public Health at University of Arizona have all categorically confirmed in the USA press, as recently as September 2020, that hand dryers do not spread coronavirus. In fact, several in-depth, independent studies not conducted or funded by the paper towel or hand dryer industries over the last 30 years have shown that there is no significant difference in the hygiene between paper towel use and hand dryers.

Neither is a harmful method of drying, yet it doesn’t follow logic that paper towels can be considered a more sterile and hygienic choice over hand dryers. Paper towels and their dispensers are not made in sterile areas, they live in the same washrooms as hand dryers and are subject to the same levels of cross contaminations.

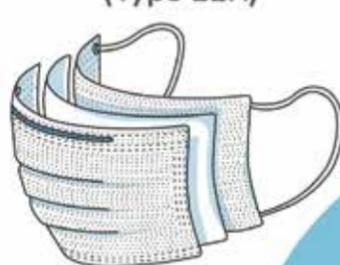
That said, truly independent and credible scientific studies conducted over the years prove that the most important aspect of hand hygiene is, and remains to be, thorough hand washing and drying with your preferred or available method.

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## What is the Ecoray® System and how can it help with infection control during COVID-19?

The Ecoray® system is a totally autonomous addition to the range of Grande Brio Scrubber Dryers and Willmop Vertical Scrubber Dryers from TSM Italy – brought to the UK market in an exclusive partnership with Hooper Services Ltd in Portsmouth, Hampshire.

Using UV Technology to destroy micro-organisms on a cellular level, the Ecoray system can destroy up to 97% of bacteria, mould or viruses without the use of a chemical.

The system sits at the back of the machine after the squeegee and turns on automatically when the machine is in use, so there is no need for any training or maintenance.

There are many benefits to using the system in, for example; schools, offices, hospitals, doctors’ surgeries and various other industries. The system doesn’t produce ozone, it can reduce odours and pollutants contaminating the floor which would subsequently reduce symptoms of allergies, asthma and other diseases.

The system has been independently tested by one of Italy’s top oncology institutes, the CRO National Cancer Institute near Venice, which has shown that in the areas tested



System on the Willmop 50B Ecoray

just using water, one with public access and another with restricted access, have a significant reduction of between 96.5% and 100% of micro-organisms in the points tested.

As the testing at the CRO suggests, maintenance of floor areas can be completed in just one pass with the Ecoray system mounted, saving time, money, chemicals and maintaining infection control standards.

According to an article published in the American Journal of Infection Control in 2017, a person doesn’t need to touch a floor for the bacteria to transfer to them, all it needs is for another object to have been in contact with the floor to be handled by the person, so it has been suggested that floor areas should be classified as ‘critical’ in maintaining infection control standards.

According to the Evening Standard, Transport for London (TfL) are trialling a similar type of UV Technology on the London Tube network.

In a statement released on 10th July, TfL said, “The device, which could help supplement TfL’s extensive anti-viral cleaning regime, is connected to the escalator handrail and uses its motion to power a UV bulb that breaks down surface contamination to sanitise the handrail.” TfL is now assessing the benefits of the technology, which could be installed more widely in the future.

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# The bottling & packaging specialists

**In this issue of Industry Update we have chosen Bruni Erben as our Packaging Specialist Company of the Month.**



H. Erben Ltd was founded in 1951 by entrepreneur Harry Erben. Starting from humble beginnings, the company's first office was a single room on the corner of Brompton Road in Knightsbridge. Developing significantly, Bruni Erben maintains an expansive amount of experience gained throughout its 69 years of production and is today part of the Berlin Packaging family.

We spoke to Michal Szczygiel, Sales & Marketing Director who told us that, "As part of the Berlin Packaging group, we are the largest supplier of packaging materials across Europe providing an extensive catalogue of stock and fully bespoke glass, closures and machinery to the food, beverage, spirits, wine, pharmaceutical and home fragrance markets."



Bruni Erben specialises in a range of glass, closures and machinery for the bottling and packaging industry. With a growing global presence, Bruni Erben maintains its headquarters

in Hadleigh, Suffolk and has a main office in Edinburgh as well as operations in South Africa. As part of its larger Berlin Packaging group, the company also has offices throughout Europe, the Far East, and across North America, with its parent company being based in Chicago.

In terms of the industries it serves, Bruni Erben is extremely versatile and has a wide range of customers from all markets ranging from spirits and beverages, through to soft drinks, home fragrance and a range of food producers including chocolatiers, confectionery and sauce manufacturers.

"We are working with a number of companies that are just about to launch into retail, and we've helped support them with their glass & closure packaging, as



well as providing packaging machinery." Michal stated.

Placing an importance on providing great customer satisfaction, Bruni Erben ensures that its customers' needs are at the heart of its production and is the most important focus of the company. "Customer satisfaction is first and foremost." Michal continued, "We are able to adapt to our customers changing requirements, bringing



their products to market by providing a complete package, whether that be

using standard stock items or by utilising our extensive packaging design capabilities. When we develop custom packaging, we use client's cost targets, knowledge of packaging materials and processes, and the expertise of our in-house engineers to ensure that we're providing viable design options. We follow principles of 'design for manufacturability'."

The company has a couple of notable developments in the pipeline. Bruni Erben is launching its new 50ml miniature capacity bottle in its popular Dorica & Marasca range, allowing its customers to expand their family of products and create convenient sample sized tasters. The company has also expanded its gourmet range, producing its Evolutions jars & new Sirio jar design.

Michal stated, "We're working our way into the food



and gourmet markets, which is a relatively new area for us, but we have huge plans to bring our full range of packaging solutions and product enhancing services to both the small craft producers as well as the large international brands of the market."

Due to the on-going pandemic of COVID-19, the company was unable to attend its planned trade shows this year, however adapting with the industry, Bruni Erben has managed to participate in a number of virtual expos and webinars. Michal stated, "We're hoping in 2021 we'll be able to dust-off our exhibition stands once again, and travel throughout the UK to visit some of the best trade shows in the industry."

**For more information, please see the details below.**  
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## Drilling Update

# Expert's guide to sonic drilling

*John Rodgman uses his industry expertise to discuss the relatively new trend for sonic drilling*

**In the drilling industry there are many techniques and equipment that have been used over the years to conduct drilling operations, but one of the more exciting and innovative pieces of equipment has been the sonic drilling rig.**

### What is sonic drilling?

Sonic drilling is a more efficient method of drilling by using high-frequency resonance to create a smoother path of travel for the drill by reducing or even eliminating any frictional resistance from subsurface materials being encountered. The high frequency resonance results in a vibrating head that is being both pushed up and down by the mechanism, rotated via the drill string and vibrating because of the high frequency resonance; creating a powerful force to displace subsurface materials and to reach the operator's objective.

Because of this incredible design, the core samples that are produced as a result of sonic drilling are far superior to samples provided by other drilling methods. An undisturbed, quality, sample is possible due to an innovative advanced casing system that can capture the sample and maintain its integrity with as little as 1% deviation as opposed to other comparative methods such as a standard rotary drilling rig. When the sonic head is active and drilling through the subsurface materials, it liquifies any loose soil and can reduce any rock or harder material to a fine dust, meaning there is up to 80% less waste compared with a standard rotary drill as the waste can be confined to the original hole and later returned to its original state.

### How does sonic drilling work?

A sonic drilling rig is unique in contrast to a standard rotary drill due to the sonic head at the helm of the rig. Within this sonic head are two rotating counterweights that produce a large amount of vibratory force, which becomes the resonance energy needed for the sonic

drill to penetrate subsurface materials. The energy from the two counterweights is projected vertically down the drill string which causes it to rotate within the head. This resonance energy is evenly distributed to the sonic head, creating the sonic drilling effect that allows more efficient and effective drilling. To maintain the integrity of the sample, a casing is advanced over the core barrel, closing off the sample and protecting it as the core barrel can then be retracted and the sample received with little mess and excellent quality.

### Uses of sonic drilling technologies

There are many applications for sonic drilling technologies, one of the primary use cases being for geotechnical site investigations. Due to the low waste and high-quality yield of a sonic drilling rig, it is the ideal solution for any environmentally sensitive product to reduce any impact on the environment due to a geotechnical investigation.



On an ecologically sensitive site, the efficiency of a sonic drill cannot be flawed due to its on average 400% quicker yield time compared with a sonic drill, allowing for a short drilling session to reduce impact on the surrounding area.

In the construction environment, a sonic drill can be an incredibly powerful piece of equipment on projects such

as bridges and dams to ensure the structural integrity of such important structures. By using the advanced casing system, once the investigation is complete the integrity of the site is still maintained as the casing remains as a placeholder to prevent any collapses of the subsurface structures. It is even possible for the sonic drill to penetrate traditionally tough materials such as limestone and dolomite, which usually pose a threat to standard rotary drills due to their geological qualities.

### Versatility of sonic drilling

Being flexible is something that is required when conducting site investigations as the situation can always be challenging, which is why sonic drilling rigs can be adapted to fit different circumstances. A number of rigs can be fitted with caterpillar tracks, allowing them to be moved into position by an operator without the need for more heavy vehicles to pollute the site. There are also smaller sonic drilling rigs that can be interchanged depending on site conditions, which can all be planned with a preliminary site inspection to ensure the right tools are being used to deliver the best results possible. Because sonic drilling can be done without fluid or air, it is often used for things such as earthen embankments where it is not possible to use traditional methods, giving it a wider range of uses outside of the commercial industry.

When the sonic drilling equipment has been laid



out on site and prepared for use, the core barrel penetrates first with the sonic head attached to begin drilling into the subsurface material. Once you've reached the desired depth to retrieve a sample, the casing can then be inserted over the core barrel to capture the sample.



It is best to complete this dry without the use of water to displace any materials so as to preserve the material as best as possible and prevent any contamination of the sample with the mistake of groundwater being present.

Upon retrieving the core sample, it can be extracted from the sonic drilling rig to be placed in a dry and secure container for any geological examination that may be required by surveyors. If the circumstances require that just a borehole is needed, the samples can be extracted through the core barrel and disposed of appropriately with minimal waste, and the casing advanced over the core barrel can be left for the borehole installation. If challenged with harder materials such as bedrock, sonic drilling can still penetrate these harder materials with excellent efficiency compared to the more traditional rivals, making it a truly more effective and worthwhile technology to deploy.

John Rodgman is Managing Director of Borehole Solutions.

[www.boreholesolutions.co.uk](http://www.boreholesolutions.co.uk)

# Extending the service life of electronic systems – without compromising quality or risk

How to extend the service life of Industrial Control Systems without risking your reputation by Ken Greenwood, Technical Sales Manager, Rochester Electronics (pictured right)

**Industrial Customers typically need guaranteed longevity when it comes to service support for their Systems. The electronic components at the heart of many of these Systems, present a unique challenge because their life-cycles are normally much shorter than the Systems they control. Whether it's major infrastructure controls for Power Distribution, Drives,**



**Motor, or Process Controls, Customers regularly need 15+ years of guaranteed service from their suppliers.**

In addition to longevity of supply, there are some other unique supply needs that any

Repair & Service organisation requires:

- ▼ Instant availability
- ▼ The widest range of components
- ▼ Small irregular quantities
- ▼ Guarantee of industrial/extended temperature grade performance
- ▼ Guaranteed no pre-use or reworked products
- ▼ 'New' performance of replacement parts
- ▼ Risk-free confidence

Historically, as components are discontinued, System

suppliers purchase their forecast lifetime needs. Storage costs and the tied-up capital commitments are significant. Really extended storage times, under normal warehouse conditions, also brings with it the certainty that component quality and final yields will deteriorate. This liability and risk have to be carried by the system supplier and a 'factor' added on top of the last-time-buy forecast.

When ultimately, demand exceeds the life-time stock, tough decisions have to be taken: Prematurely stop in-service support; or attempt an expensive re-design and re-qualification. Neither option will improve Customer satisfaction and could well unnecessarily open-up the Supplier's installation to new competition.

Faced with these stark choices, it is not surprising that some System manufacturers attempt to source discontinued components through non-authorized/broker/grey market channels because perhaps they assume that there is no alternative. The increased risks associated with: re-used, re-marked, and counterfeit components, as well as components which have simply been poorly stored and handled, are inevitable. But they are wrong!

Most semiconductor companies now have an Authorised distribution partner to help support both active critical shortages, when supply is tight, and long-term needs after discontinuation. Authorisation provides Customers with an assurance against poor quality, uncertainty, or counterfeit. No extra testing extra is required. Components are sold with a full warranty, and are 100% guaranteed to be HW/SW identical.



The Authorised supply of discontinued components built by the Original Chip Manufacturer (OCM) can provide a medium-term solution for most Industrial customers. However, for critical core semiconductors, where really long-term support needs to be guaranteed or future market demand is uncertain, the safest and most economical solution is: wafer storage and scheduled long-term production.

Known-Good-Die stored in nitrogen cabinets has an almost unlimited storage life. Storage costs are significantly less than finished semiconductors; and if combined with scheduled ongoing final packaging and test, it means that new components are available throughout even the longest of service commitments.

With careful planning at the last-time-buy stage, an Authorised long-term manufacturing partner can secure known-good-die, the original test IP, and the rights for long term production. Even P/No.s remain the same!

Examples of Rochester Electronics long-term manufacturing from wafer extending the life of industrial systems:

- ▼ Elevator company – NXP 8Bit MCU build from wafer – 5 year production extension to existing design – service extension TBA
- ▼ Drives company – Infineon TC1130 MCU build from wafer – 10 year production extension – re-design cancelled
- ▼ Power Grid Distribution Controls – Cypress FIFO/ Dual Port SRAMs – Enabled a 10 year extension of in-service maintenance contract
- ▼ Industrial Encoder manufacturer – Analog Devices TigerSharc DSP – Bridged a 2 year production gap when their new product was delayed
- ▼ Multi-IO Module for Simulation equipment – IBM PowerPC 750 – Allowed customer to win un-forecasted additional sales after normal LTB

The supply of components, which have always remained inside the AUTHORISED bubble, guarantees that the customer gets original performance. AUTHORISED manufacturing, using original wafer and the original test processes, can provide security of supply for decades – all totally risk free!

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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.

T 01924 245000  
info@metrel.co.uk  
www.metrel.co.uk



## CircPro takes over MK Sentry licence for the UK

Following the decision by Honeywell to cease selling the MK Sentry range of circuit protection into the UK market, many users of the range made it clear that they were disappointed to see it go having used it for over 20 years.

To this end, the company that manufactured the MK Sentry range for Honeywell has secured a licenced agreement with them to supply the UK market in a seamless transition.

The product will be supplied to the UK market by CircPro (UK) Ltd who are the UK arm of the manufacturing company that produces the product range. It's the same products including MCBs, RCDs,



RCBOs and 18th Edition complaint boards made in the same factory but brought to the market by CircPro (UK) Ltd instead of Honeywell.

From its base in Rainham Essex, CircPro (UK) Ltd will be delivering to the whole of the UK so once again, this iconic range of circuit protection will be available to the UK market.

The product range will once again be available via your regular electrical suppliers and more details can be found at: [www.circpro.co.uk](http://www.circpro.co.uk) or by calling 01708 986180.



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CircPro (UK) Limited are the UK registered company set-up to provide the sales and distribution of the MK Sentry Circuit Protection product range. Our parent company Yihua Holding Group holds the exclusive license and have been manufacturing and supplying the consumer units for around 12 years. Offering the full comprehensive MK Sentry range of MCB's, RCD's, Surge Protection and consumer units it aims to deliver a seamless transition with its technical and manufacturing experience to its customers.

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# Next-gen thermal management

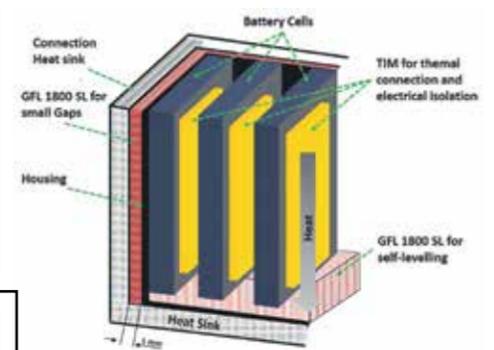
**U**ltra-low viscosity Gap Filler Liquids – handling like a potting material while performing like a high class thermally conductive and electrical isolating Gap Filler.

The switch to electric drive systems and the increasing variety of sensors and electronics imply completely new challenges for the automotive sector. Besides the field of electric powertrain, the

battery is one of the most critical parts of the EV or PHEV. A perfect temperature control is crucial and therefore, the selection and integration of thermal interface materials is mandatory.

Of course, there are many different types of battery cells, modules, manufacturers and requirements on the market, which vary widely. That in turn leads to a lot of different thermal management solutions

that can be applied. In totally it seems to be the most common solution, to transfer the heat of the cells to the bottom of the module and to connect these cells with a Gap Filler Liquid (GFL), which is compensating any kind of mechanical tolerances. But also a thermal connection to the side of the module can be useful. Due to the size of the battery modules, a very large area and in case of the side connection thin gaps that must be covered.



To fulfil that kind of requirements, always thinking about weight, handling and cycle time, KERFAOL invented an ultra-low viscosity Gap Filler, the GFL 1800 SL. It is a two-component system with 1.8W/mK, 15kV/mm and a viscosity of <math>< 5,000\text{mPas}</math> which means about 1/10 of comparable Gap Filler systems. Therefore, the material is 'flowing like water' and has the advantage of self-levelling and filling up every corner, which comes very close to a potting material.

For the thermal connection of the side wall, the dispensing must be started at the bottom to avoid air inclusion. Consequently, a long and very thin dosing needle must be used to fill that kind of small horizontal gap. While it is not possible to fill a gap of e.g. 1mm with standard Gap Fillers, the GFL 1800 SL has a special particle size, shape and distribution and can be dispensed by small dosing needles that have an inner diameter of only 0.6mm. It takes only a short time to fill that gap and the curing

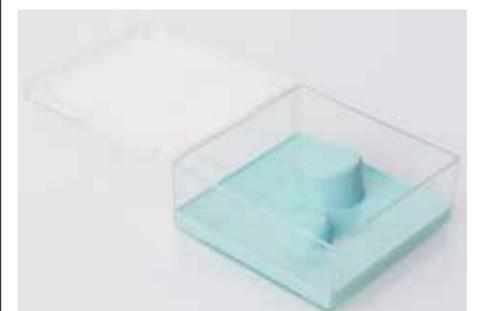


time of 60 minutes at room temperature can be speeded up with heat. After curing, the GFL 1800 SL, which is based on low volatile silicone, is very stable and at the same time still soft over the whole lifetime, perfect match for compensation of vibrations and thermal expansion of other components. The GFL 1800 SL combines good thermal, electrical and mechanical properties with a new way of processing. Due to that special flow behaviour, also difficult small gaps can be dispensed automatically.

Whether battery, or electric powertrain, The Gap Filler Liquids of KERFAOL are already an approved solution for a wide range of automotive applications and available in the UK from Thermal Issues Limited.

Wolfgang Höfer (Sales Manager KERFAOL GmbH & Co. KG) & Neil Wilson (Director Thermal Issues Limited)

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Correlator and acoustic water leak detector combined

## SeCorrPhon AC 200

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### 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.

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- Integrated audio player to compare leak noises directly on site
- Unproblematic measurement of various pipe sections, pipe materials, diameters and pipe lengths
- Sophisticated firmware allows the user an almost automated measuring process



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LAUDA – Experts In Thermal Control And Measurement Providing Innovative Solutions For Thermal Process Control, Chilled Water Applications, Water Baths, Freezers, Incubators, Shakers, Stills, Tensiometers, Viscometers And Contact Angle Measurement.

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The new range of water chillers has been

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The TR250 is particularly versatile. It can monitor several sensors simultaneously to a limit value or a sensor to up to 3 limit values and it can even measure the difference between two sensors.

The TR250 comes with pre-set programs for motor and transformer protection make commissioning particularly easy.

The switching behaviour of the 3 output relays, monitoring working or quiescent current, switching delays or storage of a switch-off is programmable on the device.

This makes the TR250 suitable not only for the protection of electric motors or transformers against over temperature but also for control and monitoring tasks in a wide range of applications.

ZIEHL supplies further devices for 1 to 8 temperature sensors with up to 7 output relays as well as a range of electrical measuring and protection devices.

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## Chell's Environmental Chamber puts gas meters through real-world paces

Gas control and measurement experts, Chell Instruments has launched a new Environmental Chamber which allows gas meters to be tested using hazardous gases.



The GMTS2000 builds on the success of the company's line of gas meter test equipment and enables safe testing using flammable and explosive gases which better represent the gases which meters are intended to carry.

While most testing and calibration apparatus utilises air and other low-risk gases, the new system incorporates several risk-assessed features, which make it safe for more volatile and combustible gases.

Within the chamber, gas meters and other devices can be tested using air, nitrogen, hydrogen or methane, at temperatures ranging from -30 to +70°C and flow rates from 20sccm (0.0012m3/hr) to 480 slpm (28.8m3/hr).

The Environmental Chamber also allows the fitment of varying types and quantities of gas meters by employing purpose built internal racks.

To help reduce carbon emissions, international gas suppliers are investigating mixing low levels of hydrogen with traditional natural gas. Chell's new Environmental Chamber allows gas meter manufacturers to experiment and assess the performance of their products.

A GMTS2000 Environmental Chamber system has already been supplied to a commercial gas meter manufacturer in Asia. Given COVID-19 restrictions, Chell is also providing the company with complete remote support to enable comprehensive commissioning and training.

For more information on the GMTS2000 Environmental Chamber, please visit: [www.chell.co.uk](http://www.chell.co.uk) or contact Chell on 01692 500555.

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## Mace Industries



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Our equipment provides simple but effective solutions for all aspects of material movement, increasing performance while minimising manual handling, injury, time and costs. For over 30 years, our portable conveying and lifting solutions have proven invaluable to the construction, industrial and warehousing industries.

All our conveyors are built in-house and as an ISO 9001:2015 certified company, our products undergo many quality checks during assembly. Mace Industries will always strive to exceed customers' expectations and are regularly developing and launching new innovative products.

Our offering to the warehousing industry is the UL-500. A highly modular conveyor designed to provide a conveying solution between a ground floor and an upper level, making it perfect for mezzanine floors. With a wide range of available belts, cleats and flights, the UL500 is suitable for a magnitude of product.

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## Leading masonry manufacturer chooses Compact Fork Trucks



Midlands-based forklift truck sales and service provider, Compact Fork Trucks, is no stranger to the Hyundai brand and already has a large existing user portfolio which it has built up over a number of years. With an ever-growing demand for Hyundai equipment, Compact Fork Trucks decided to sign on the dotted line and is now the official Hyundai Material Handling importer for the West Midlands area. Compact Fork Truck's key deciding factor was purely customer focused - improve the customer journey through direct access to Hyundai's recently completed training academy, technical support and parts centres all located in Belgium, Europe.

After a comprehensive procurement exercise, Telford-based masonry manufacturer, Besblock, purchased a 70D-9, 7,000 kgs diesel forklift truck from Sales Manager, Greg Silvers. The company was so impressed with the mighty machine, it has recently placed an order for another 70D-9 which is currently on route via cargo ship from Hyundai's Belgian European Headquarters.

Mr Silvers explained, "I have been selling forklift trucks within the Midlands area for over 13 years and have driven past Besblock's factory on many occasions. In the last few years I have built up a relationship with the team and an understanding of their operations. The requirement for an additional truck soon arose and the brief was simple; a robust and reliable forklift capable of safely operating in the busy environment of the UK's largest concrete block manufacturing plant."

For more information or to arrange a free site survey, please contact the Compact Team on 01384 238000 or email: info@compactforktrucks.co.uk

## OWR launches Europe's 1st robotics demonstration centre

OW Robotics (OWR) has launched Europe's first Robotics Demonstration Centre for businesses looking to transform their warehouse, logistics and manufacturing operations through automation.

Based at OWR's Lincoln HQ, the centre allows UK businesses to replicate their processes within a sandbox environment, so they can get first-hand experience and insight into how a tailored, automated robotics solution would impact their business. This gives business leaders a clearer understanding of how it will meet their requirements, the scalability of a robotics system and how it can reduce training, safety, recruitment and absence costs, as well as improve picking rates and accuracy. All before making an investment.



Joe Daft, head of robotics at OWR, said, "By visiting our

Robotics Demonstration Centre, visitors can see our robots complete tasks that mimic their own processes in a simulated environment, which helps to bring clarity and understanding on how they can meet their demands and challenges - there's no better way to get the right solution."

Earlier this year OWR announced a partnership with leading Chinese robotics manufacturer, Hikrobot, to make robotic automation more accessible for businesses of all sizes in the UK.

Book a visit for your own business by emailing: [greg.downey@owrobotics.co.uk](mailto:greg.downey@owrobotics.co.uk) or visiting: [www.owrobotics.co.uk/tour-2020](http://www.owrobotics.co.uk/tour-2020)

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### Istec presents new generation overspeed protection system

Istec presents its SIL rated overspeed protection system: The SpeedSys 200. A game changing innovation driven by decades of experience with speed applications, to broaden the range of rotating machinery that is eligible for high integrity overspeed detection, and to suit a growing demand for SIL-certified solutions. The SpeedSys 200 is expected to be globally available in Q3 of 2020.



The overspeed protection market is mainly occupied with rack-based systems that are overly complex for smaller or less critical rotating equipment. SpeedSys 200 negates complexity by delivering the core layer of SIL rated overspeed protection with a compact architecture. Its small technical and financial impact enables accessibility to a wider range of rotating equipment, without any safety concessions.

The demand for high integrity safety systems for rotating machinery is increasing simultaneously to the increasing demand for machine availability for both highly critical and less critical machinery. Istec breaks new grounds by taking scalability to a new level, to bridge the gaps between what could and could not be protected.

One of the major drivers of change within the machine protection market is the global adoption of SIL, which applies to both large and small rotating equipment. End-users want to comply to these standards to reach and maintain their safety levels. Industrial standards and insurance companies impose the use of functional safety to a wider range of applications. The SpeedSys 200 architecture suits the technical and economical environment of both large and small rotating machinery.

T +31(0)252 433 400  
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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.



Photo: DRG/UNISIG

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.

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.

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](http://www.unisig.com) or follow the company on LinkedIn and Twitter.

### UNISIG adds five new models to its proven range of deep drilling & milling centres

With the new range of UNISIG's USC-M deep drilling and milling centres, mould makers now have seven powerful and versatile solutions for workpiece diameters of up to 3,600mm and workpiece weights of up to 30t.

All machines combine several processes in one machine: the deep hole drilling and milling on all four sides of a workpiece, while at the same time reducing setup times and increasing accuracy for mould makers. All machines support the high feed rates of modern indexable gundrill tools.

In addition to the use of gundrill deep hole drilling tools, some models can even support the more effective BTA deep hole drilling tools for the high performance drilling of waterline holes. A CAT50 quill allows you to perform all deep hole drilling and machining operations within the machine's working range. The machines are equipped with a 360-degree rotary work table and a programmable deep drilling and machining spindle. The machines can be equipped with an automatic tool changer with up to 120 tool positions, a laser tool presetter, workpiece probes, Heidenhain glass scales for increased accuracy,



as well as an automatic pallet changer.

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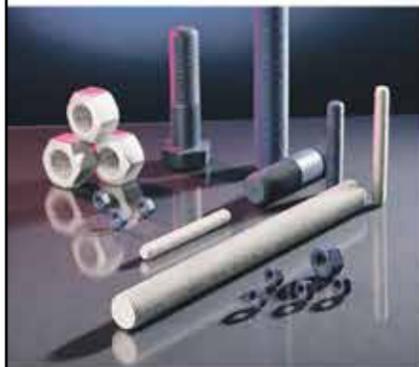
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# Removing the barriers for advanced materials manufacture and volume adoption

Industry Update is proud to announce that A|2|O Technology Group has been selected as our Composite Technology Company of the Month.



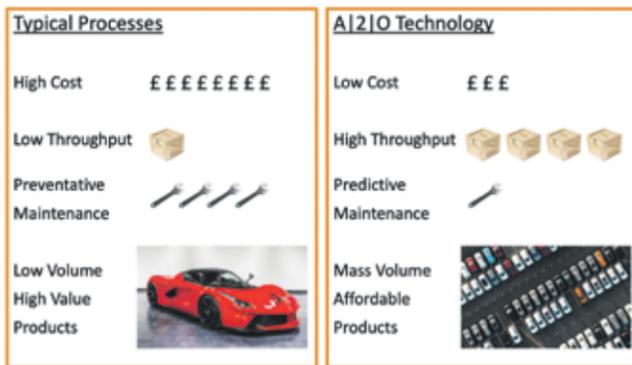
A|2|O Technology Group has a mission to deliver carbon reduction technologies via process efficiencies, component manufacturing cost reduction, and structural reliability systems. A|2|O's Affordable Composite technologies closely align to the Grand Challenges identified in the UK Government's Industrial Strategy White Paper ([www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future](http://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future)). Their ambition is being achieved from the ethos of simplifying innovation and bridging the gap between new concepts and commercially viable products.

Advanced composite materials are often considered for weight reduction, A|2|O Technology Group's technologies, all of which are IP protected, are focused on removing the barriers to adoption of these materials. This is through lowering component production costs and increasing manufacturing throughput, whilst improving component reliability by enhancing quality and the 'live' indication of component structural degradation.

"I identified an opportunity in the composite industry, where there seemed to be barriers preventing companies from adopting advanced materials technology," explained Dr Chris Berg, Founder & Director (pictured above). "For a lot of companies, the cost is too high and the reliability of composite components too low compared with those made from a legacy material, such as metal."

"We began by looking at manufacturing processes that are more cost-effective, as well as looking at composite component reliability monitoring to identify any degradation and indicate it before it becomes an issue. To aid commercial adoption strategies we can demonstrate and digitally simulate our technologies in a scalable production process. This enables the cost of adoption and component manufacture to be predicted before equipment

## A|2|O's Advanced Material Decarbonisation Technologies Overview



and systems are put place. We work with customer requirements, rather than just offering a single solution that can't be adapted. We are proudly customer-centric to ensure that we are developing products that suit their needs, we achieve this by looking at the whole product cycle from concept, to manufacture, through to service life."

Whilst A|2|O Technology Group's technologies can manufacture components that are more cost-effective their CHASM System offers on-board 'live' structural health and condition monitoring for enhanced component reliability and predictive maintenance. The latter increasing asset availability and reducing maintenance costs whilst increasing the safety of critical systems or those requiring high reliability in sectors such as Transportation and Renewable Energy. CHASM indicates and tracks structural integrity changes detecting degradation before it becomes critical to reduce the need for lengthy and costly preventative maintenance solutions currently used. "During the development of the CHASM product we found that the technology can be used on many materials, for example indicating pre-fatigue failure in metals" explained Chris. In collaboration with STFC, CERN and The Hartree Centre, the CHASM will be available for trials in Q1 2021.

Crucially, following the emergence of the COVID-19 pandemic and the National Lockdown, there has been a visible reduction in CO<sub>2</sub>, this has initiated

calls for a 'green recovery' post-COVID-19. "COVID-19 continues to bring its challenges and we have relied on our network to provide stability and enhance resources. We are looking at the 'new norm' as an opportunity to introduce a hybrid working strategy with a combination of remote, office, and application location based staff. We are proactively adopting best practice for employee, customer and visitor safety. We are planning now as we expand and see increased interest in our products for a greener future."

A|2|O Technology Group is inviting companies to get in touch and discuss technology developments to suit their needs. A|2|O Technology Group has been identified as a high growth potential business and is open to investment opportunities inviting investors to get in touch. The company is currently planning its trade show exposure in 2021 and is rebranding to emphasise the commercial focus of its offerings.

See the contact details below to find out more, or keep a lookout for the soon to be updated website.

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M +44 (0) 7733 105766  
enquiries@a2otg.com  
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Photo: Science and Technology Facilities Council

# Are you ready to reopen post-COVID?



Industry Update is proud to announce that Rubbermaid Commercial Products (RCP) has been selected as our Commercial Cleaning Company of the Month.

With over 50 years of experience in the industry, RCP boasts a history of iconic durability and is a global leader in the commercial cleaning industry. Rather than specialising in a single product category, such as cleaning, RCP pioneers world-class products in multiple categories, that meet the challenges of all kinds of commercial facilities. This comprehensive range makes RCP a one stop shop for anyone looking to safeguard the cleanliness, hygiene and waste management of their facility.



Due to the breadth of RCP's capabilities, the company has access to a wealth of information and a wide scope of experience. This expertise makes RCP a trusted thought leader on cleaning, hygiene and recycling best practices in commercial facilities, knowledge which has recently been channelled into the company's 'Love Recycling' initiative.

This is Europe's biggest research project into commercial recycling, looking at how it is implemented and where improvements are needed. Running since January 2020, a report on the first study was released in March, and RCP used these findings to inform development and offer guidance to companies in multiple sectors.

Since the COVID-19 pandemic and lockdown, RCP initiated a second study focusing on the impact of these on commercial waste and recycling processes. Whether businesses have remained open or had to close during the lockdown period, they have been affected by waste issues in closed facilities or reduced frequency of waste collection services. Significantly, in the healthcare sector there has been a large



increase in the volume of PPE thrown away, almost none of which can be recycled.

This is why the second part of RCP's Love Recycling research has investigated how the pandemic is affecting recycling now and in the future. The report on this was released to coincide with WRAP's annual Recycle Week on 21st September and is ready to download free from the Love Recycling website where the first report is also available. [www.loverecycling.com](http://www.loverecycling.com)

Further, in response to COVID-19, RCP has been helping facilities understand how its products can make areas more hygienic and safer for staff, how they can control the spread of disease and keep surfaces clean for longer, and ultimately ensure a facility is ready to reopen safely. This includes a range of cleaning checklists and product recommendations specific to each industry sector, and RCP can also be contacted directly with any questions or enquiries.

This kind of guidance is clearly essential in the current climate, especially when many places are falling short with hand hygiene provisions. Hand pump dispensers and bulk sanitiser refills are breeding grounds for bacteria and infection, however many



facilities use these in the belief they offer enough protection. RCP understands the processes behind maintaining proper hand hygiene, and many of its products meet the rigorous criteria required for policies in healthcare facilities. Its hands-free dispensers, sealed container refills and quick-dry foam all minimise the risk of cross-contamination and the spread of infection.

In fact, RCP recently completed another survey into hand hygiene, with the aim to guide businesses to keep customers safe, as well as match hand hygiene expectations required in a post-COVID environment. RCP found that 51% of respondents would avoid venues without hand sanitiser, and 72% would avoid sanitiser provisions that look unhygienic.

For more information on RCP's full product range and guidance, head to: [www.rubbermaid.eu](http://www.rubbermaid.eu)



# Leading UK manufacturer of bespoke power screws



**K**ingston Engineering is one of the UK's leading manufacturers of bespoke power screws. Based in Hull, the company offers a vast selection of materials and specifications designed to suit their clients' requirements. "We produce power transmission equipment used in a variety of industries, including aerospace, nuclear, medical, water, rail, and many more," explained Paul Bielby, Director.

With a history dating back to 1919, Kingston Engineering celebrated its 100-year anniversary last year, an admirable feat which proves the company's



outstanding reputation in the industry. For over 60 years, Kingston Engineering has specialised in manufacturing right hand/left hand, single/multi-start, cut thread power transmission screws and nuts, all of which are adaptable for mechanical power transmission. These products also conform to the standards of British, European and American requirements and meet ISO 9001-2015 accreditation, as well as being thoroughly examined during the manufacturing process.

Working closely with both suppliers and end users to provide the best purpose-built screws possible, Kingston Engineering has customers throughout the UK and the US, offering one off prototypes to full batch manufacture. Kingston Engineering specialises in offering bespoke manufacturing services, addressing its customers' specifications to ensure their needs are always met. These services are informed by over 100 years combined experience between the company's directors, all of whom are committed to investing in Kingston Engineering's skilled workers, facilities and technologies to ensure continued success.

Certainly, Kingston Engineering is always engaging in plans to help the company become global leaders in screw / nut manufacturing. One recent investment was in a new Mitutoyo Euro M544 Measuring Machine, which has become invaluable in the company's inspection department. This allows Kingston Engineering to measure the physical geometrical characteristics of an object. The machine creates printed inspection reports and is controlled by an operator, with measurements designed by a probe attached to the third moving axis of the machine.

Additionally, Kingston Engineering invested in a Hi-Tech 450 AMC Turning Centre, the latest addition to its CNC Turning capacity. This one piece heavy duty cast iron construction is a major contribution to the company's turning capacity. All details are available on the website or why not give us a call for a chat about your requirements over a virtual coffee.



"We're very much looking forward to what the next 100 years will bring, as we focus on continued investment in our machinery and our people," Paul explained. "Engineering in general has been hit by the COVID-19 pandemic, but our work in the medical, water and machine refurbishment fields has enabled us to maintain a high level of production while adhering to social distancing guidelines. We'd like to thank our customers and suppliers for their continued support through these challenging times, and now we're focusing on seeing the company continue through the next generations while upholding the strong name we

have within the industry."

If you would like to find out more information on everything Kingston Engineering has to offer, head to the website or get in touch using the contact details below.

**Contact**  
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# Innovators in site safety equipment

In this issue of Industry Update, we have selected Metal and Modular as our Site Safety Equipment Company of the Month.

With Metal and Modular's comprehensive range of 'Site Safety' equipment, everyone knows where to find what they need to get the job done, saving time, improving performance and getting projects completed on time and on budget.

With its in-house design expertise and manufacturing capabilities, Metal and Modular is an innovator in the development of high-quality safety and security solutions for tools and equipment, helping to prevent theft and accidents on site. With robust and simple-to-use solutions Metal and Modular supply the Hire Industry, Construction Contractors and Subcontractors, the Manufacturing and Engineering sectors to name but a few.



The company's entire range is designed and built in the UK and includes Site Vaults, Fittings Cabinets, a range of Auto Braked Trolleys, Cutting Stations, Pipe Stores, Pipe Racks, Safety Guards and Heavy Duty Work Benches, as well as low-level access accessories.

Notably, Metal and Modular has developed its Anti-Climb Guard for Power Tower's EcoLift and PecoLift vertical manlift systems. Fully approved by Power Tower, the system is easy to fit and meets all weight and weight balancing requirements to provide a proven solution to un-safe use of Eco and Peco vertical manlift equipment. Fabricated from steel mesh and sheet steel, the Metal & Modular AntiClimb Guard works by preventing operatives from using the lower handrail as a step, thus preventing them from climbing onto the upper handrail. The system deflects the foot to prevent any purchase on the handrail and is firmly held in place by tamper-resistant bolts.

Lynne Bowering adds: "Climbing on LLA equipment not only poses a risk to the person climbing but to all other operatives on site because this unsafe behaviour could cause the equipment to tilt or even topple over. It could also damage the equipment. All



of these scenarios are prevented by the Anti-Climb Guard system we've developed."

To complement this, Metal and Modular also offers Tool Trays which are purpose built for these access platforms. These provide a convenient and safe storage for tools, as well as special tethering lanyards to ensure the tools are secure while working at height. This eliminates the risk of injury to passing personnel and the public.

Metal and Modular is also renowned for its range of Patented Auto-Brake Trolleys. These includes the Panel Trolley, the Load Trolley and the Ductwork Rack Trolley all of which are compliant with BS EN 1757-3-2002. The trolleys' Auto-Brake system functions automatically when stationary and is always on for trouble-free loading, unloading and safe storage. To safely manoeuvre the trolley you simply operate the hand brake levers to release the AutoBrake. In addition Metal and Modular have also designed an optional carrier for the Panel Trolley which allows you to carry delicate materials with less risk of damage, such as glass, ceramics and soft metals. Feedback from our clients is that the Panel Trolley allows you to manoeuvre twice as many boards with less effort, meaning fewer Trolleys on site at any one time.

As well as its trusted product range, Metal and Modular also offers outstanding customer service, that only an inhouse design and manufacturer can offer.

Although the construction industry took a hit during the initial months of the COVID-19 outbreak, Metal and Modular is now seeing

positive signs of recovery with business increasing significantly over the last two months. "We're bringing out new designs all the time, and this didn't stop during the pandemic. We carried on designing and we'll be launching some new revolutionary products in the coming months," Lynne explained.



To find out more information on Metal and Modular's full range, head to the website or get in touch using the details below.

T 01327 343300  
sales@metalandmodular.co.uk  
www.metalandmodular.co.uk



# The most professional servomotor planetary gearbox manufacturer in the world

Industry Update is proud to announce that Apex Dynamics UK has been selected as our Automation and Process Control Company of the Month, for its outstanding range of high precision planetary gearboxes.

Established in January 2019, Apex Dynamics UK is the exclusive UK distributor of Apex Dynamics Inc.'s high precision helical planetary gearheads. Located in Uttoxeter, Staffordshire, Apex Dynamics UK services the UK and Ireland markets with all products created in its CE and ATEX certified manufacturing facility. With over 100,000 units in stock to meet clients' immediate needs, and over 84 different product lines to optimise servo applications, Apex Dynamics UK is a leading manufacturer and distributor of high quality and excellent value servomotor drive planetary gearbox technology.

"One of our key benefits is our industry-leading product design," explained Mike Gulliford, Managing Director. "We have numerous patents in our technology, and our



products feature high power density relative to their size. We also offer excellent delivery performance, with lead times of three weeks or less. This is market leading, with many other companies offering delivery closer to 16-20 weeks. We are also the only supplier in the industry to offer a five-year worldwide warranty, including the seals and bearings."

Without a doubt, Apex Dynamics UK's unparalleled delivery capabilities and unique five-year warranty makes it the number one choice for companies working in a vast array of industries. "Our primary customers work within packaging and food processing, printing and laser cutting, but we also have customers based in woodworking, medical and military sectors," Mike elaborated. "The range of applications for our planetary gearboxes is very wide, and we pride ourselves on being the world's most professional manufacturer of such technology."

Recently, to cope with its continued expansion, Apex Dynamics UK employed a new sales manager for the Northern region, Malcolm Hillary, who brings with him an impressive level of industry experience. "We will be adding more engineers and expanding our product range in the next few years. We've already expanded our range of gearboxes for the food industry, and we will be expanding our portfolio in relation to manufacturing and stainless steel in the near future."

After great success at the PPMA Show in September 2019, Apex Dynamics UK has a busy calendar of events planned for 2021. This will include The Manufacturing & Supply Chain Conference & Exhibition in Dublin (Citywest Exhibition Centre, 27-28 January), Future Robotics at the NEC (29-30 June), the PPMA Show (NEC Birmingham, 29-30 September), and the Drives & Controls Exhibition (NEC Birmingham, 5-7 April 2022).



Be sure to go along and see first-hand the leading quality products the company can provide.

If you would like to find out more information on everything Apex Dynamics UK has to offer, make sure you get in touch using the contact details below for the only official Apex Dynamics products and services available.

T 0121 737 1170  
sales@apexdynauk.com  
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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  $\mu$ CT, encompassing 3D plus 2D imaging.

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info@cupio.co.uk  
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## RK Rose+Krieger



RK Rose+Krieger (part of the international Phoenix Mecano group of companies) has been manufacturing components for automation and machine building for over 40 years. Our extensive range of products in the fields of linear adjustment, profile technology, connecting and module technology are renowned and respected for their reliability and performance.

Linear products are used in almost every single area of automation and machine engineering. From simple adjustments that may be seldom right up to highly complex, highly precise and highly dynamic multi-axis systems. Every task is different and every task requires a technically sophisticated and cost-effective solution.

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# Shaking up the world of maintenance to drastically reduce your downtime

**Industry Update is proud to announce that Faraday Predictive has been selected as our Predictive Maintenance Company of the Month.**

Faraday Predictive is a developer and provider of condition monitoring and energy monitoring systems, including hardware, software and services, all based on using the electric motor driving the equipment as the sensor. The company's MBVI technology ([www.faradaypredictive.com/technical-education/mbvi-technology](http://www.faradaypredictive.com/technical-education/mbvi-technology)), which has been developed entirely within the company, effectively turns the motor into a vibration sensor.

The units fit inside the motor starter cabinet, out of harm's way, and from there communicate information about the health of the rotating equipment, as well as the energy consumed and an assessment of the energy being wasted by each developing fault in the system. Faraday Predictive also provides portable systems that provide the same information on a snapshot basis.

We got the chance to speak with Geoff Walker, Director, about the importance of condition monitoring and how Faraday Predictive's technology can avoid the limitations of vibration sensors while maintaining their benefits.

"Many companies operate in the world of breakdown maintenance rather than predictive maintenance," Geoff

explained. "This causes unplanned downtime, loss of production and ultimately costs the company a lot of money. Alternatively, companies look at doing planned maintenance, where each year they will set out a time to maintain the machines. This comes with



The S200 kit mounted on DIN rail inside motor control cabinet



The Faraday S200 set for permanent installation, which comes complete with the split core current transformers, power supply and all the necessary interconnecting cables

a multitude of issues – you rarely know what the right tasks are or how frequently you should do them, so you might end up doing maintenance tasks far more often than you need to, resulting in unnecessary work and wasting money.

"With predictive maintenance, you avoid unexpected breakdowns, reduce maintenance costs, optimise energy usage and ultimately deal with a lot less hassle. Equipment is only maintained when it needs to be, providing a combination of the lowest costs and highest reliability for your machines. The only issue is you need something to tell you when these machines need maintaining – issues tend to develop over a period of time, not just happen instantaneously. So, if you can get an indication of things slowly deteriorating, you can do the only the maintenance that's really needed, and only when it's needed."

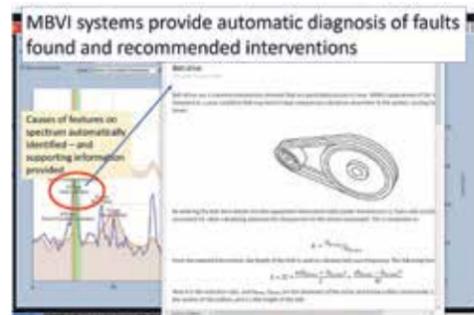
Companies which have switched to the world of predictive maintenance often use vibration monitoring, which has many benefits but is also limited in its capabilities. "You may need to put several sensors on each item of plant, so end up having numerous sensors, which increases the cost, and all of which need monitoring. And, if you have inaccessible equipment, it



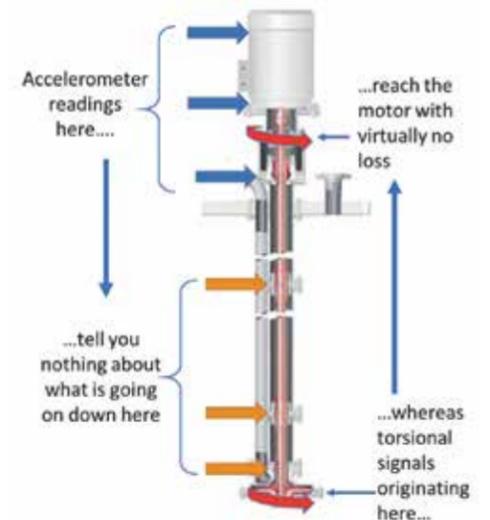
The P100 portable equipment health assessor complete kit

can be difficult to get reliable results.

"Our technology measures the torque, so can detect issues anywhere along the shaft. This is great for seeing, monitoring and diagnosing problems in inaccessible equipment. For example, with a submerged pump, it's difficult to know what is going on underground or underwater, and it's a challenging



A typical output screen, which has automatically identified a fault, and provides detailed guidance on the nature of the fault, what causes it, why the system has detected it, the effect it will have if not corrected, and the recommended corrective action



The benefits of this system over conventional Vibration Monitoring for monitoring inaccessible equipment

environment for vibration sensors so readings can be unreliable. Our technology can easily give precise diagnoses of any problems along the shaft in inaccessible applications such as wastewater pumps or in the oil and gas industry.

"With our technology, we're looking to shake up the world of maintenance, and show people the benefits of moving from chaos (the world of breakdown maintenance) to controlled, minimised maintenance (the world of Condition-Based Maintenance, CBM). As we continue to develop our systems in future, we want to get to the point where it's so cost-effective that people won't even question whether to put it on their equipment, making it as widely implementable as possible.

"Because this is all new, people tend to be sceptical or simply have questions about it. We are very happy to answer such questions either by email or phone. We're formed from a team of mechanical and electrical engineers, mathematicians and computer scientists, so we've got a breadth of knowledge and understanding of what clients are dealing with – we are always happy to help advise them on the best way to address things."

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## Industrial Update

### PatWorld The Global Patent Database

PatWorld is an innovative and cost effective patent search tool developed by specialists to meet the needs of industry.

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# PPMA equipment show postponed until 2021 over pandemic concerns

Organisers of the UK's key annual packaging and processing equipment event, PPMA, have stated the industry showcase is to be postponed until next year amid ongoing uncertainty surrounding the coronavirus pandemic.

The show's management said that it had held detailed conversations with the venue, National Exhibition Centre (NEC), and in the interests of health and safety for all concerned, it is moving from this September to 28-30 September 2021.

Major manufacturers of equipment across a number of sectors, including confectionery and bakery lines were due to be exhibited at the event, which has operated for over 30 years.

Speaking about the decision, the organising team said that it had considered the implications for visitors and exhibitors in respect of everything from social distancing, availability of hotels, travel and the preparation time required.

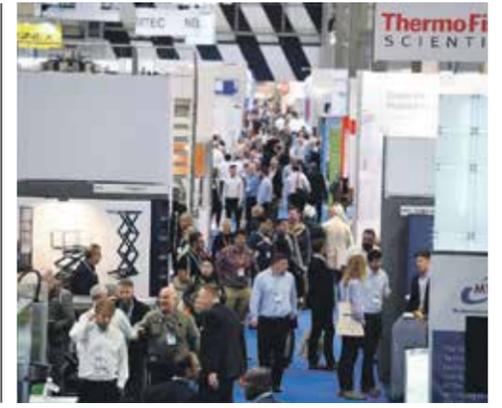
Furthermore, the team noted that the Government has also not yet relaxed restrictions regarding mass gatherings, or published any guidelines for staging large scale events, that had also impacted on its decision, with the health and safety of visitors remaining paramount.

As organisers noted, this year's planned show had already attracted strong interest, with over three quarters of all exhibition space sold seven months prior to the Government lockdown in March. The show was on course

to be one of the largest PPMA shows in 32 years, which reinforces its growing popularity and brand strength. The PPMA Show 2020 website ([www.ppmashow.co.uk](http://www.ppmashow.co.uk)) will remain a continual information source for exhibitors and visitors, which will include enhanced media and video content.

Playing our part, we at Industry Update would like to feature a number of companies deserving of your attention in the two year gap between 2019's show and 2021's hopeful return to the NEC, listed here in alphabetical order: BOPLAN®, Detectamet, Evolution Bottling and Packaging Solutions, Herma, Van der Graaf & VEGA.

[www.ppmashow.co.uk](http://www.ppmashow.co.uk)



## Protect your people, equipment, machinery and infrastructure

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## Van der Graaf BV

Van der Graaf is a Dutch, family-owned company with production plants in Holland, Canada and the States and produces and supplies the worldwide, well-known 'GV' drum motors. A drum motor is the ideal, one component, maintenance free drive for your conveyor with motor and reducer fully integrated in the roller.

The 'GV' drum motor is known because of its quality and reliability. All parts are produced according to the latest demanded high standards on a modern CNC machine park. Not only the quality but also the service is a very important part of our



successful development. It's our goal to keep your system on the move.

Drum motors can be used in many different applications, like for example food, agriculture, recycling, internal transport, sorting systems, crushers and bulk handling.

The range we can offer you varies

from diameter 80mm up to diameter 915mm with a power range depending on the diameter from 0.04kW up to 250kW.

Interested in what we can do to drive your conveyor too? Please send an email to: [sales@vandergraafpte.nl](mailto:sales@vandergraafpte.nl) or call 0031-527241441.

## Detectamet: Detectable products

Detectamet is a global manufacturer and supplier of metal detectable & X-Ray visible products. Working with food and pharmaceutical industries, our award-winning products help to reduce the risk of foreign body contamination, averting the risk of expensive and damaging product recalls.

We are an innovative and enterprising company with a continuous to desire to improve and evolve our product offering to bring greater food safety standards to our manufacturing clients. Having started in 2003 as a start-up manufacturing company in East Yorkshire, we have undergone huge growth and now have 4 offices in the UK (main office), Australia, USA and Canada.

Despite growing to a globally recognised organisation within the food safety sector, we are proud of the fact that we are still innovative and dynamic enough to manufacture bespoke products upon request to suit specialist needs for our clients.

We have an extensive product range, from stationery to storage solutions to personal protective equipment, all manufactured to be detectable in a manufacturing



environment. Where practical, we manufacture reusable detectable products to reduce the amount of waste produced by our clients.

T 01759 304200  
[sales@detectamet.com](mailto:sales@detectamet.com)



## HERMA Labelling Systems

Have you thought about automation?

There are many advantages to an automated self-adhesive labelling solution. In comparison to other methods, self-adhesive labels are easy to apply, resilient and when used alongside a labelling machine, make for a significantly faster and more reliable product labelling process.

Easy to use, Herma's Labelling Machines, designed and manufactured in Suffolk, feed self-adhesive labels from a reel via an applicator, placing labels swiftly and precisely onto the product. This automated process has proven particularly beneficial to customers requiring a labelling system urgently during these challenging times.

Whether providing machines from their comprehensive stock, manufacturing bespoke solutions, or adapting processes to allow them to conduct live virtual Factory Acceptance Tests, Herma is focused on helping



customers meet an increase in demand for their product.

Should you require any assistance with your product labelling process, contact Herma on the details below, where one of the team will be happy to offer their assistance.

T 01440 763366  
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## From simple to complex

New sensors and switches portfolio for food, beverage and automation

The launch of its new, low cost, high specification VEGABAR pressure switch/sensor and VEGAPOINT level switches enables VEGA to help customers in even more areas in the food and beverage production processes. This brand new compact instrument series is perfectly tailored to the standard applications that still require high quality and strict hygiene.

The new level and pressure devices have options of:

- ▼ Universal adapter system of process fittings – providing flexibility to keep installation and spares inventory costs low
- ▼ 360° illuminated status display ring – ensuring visibility, safety and process reliability
- ▼ Displays and keypads with dual easy-read text and VDMA menu – guaranteeing the right set up every time
- ▼ IO-Link protocol – providing compatibility, intelligent data transfer and simple, fast system integration



The universal, flexible hygienic adapter system reduces not only the amount of work involved but also the spare parts inventory

- ▼ Bluetooth wireless communication capabilities – remote easy set-up or function check via the free, simple (and award-winning) VEGATOOLS App

More information available at: [www.vega.com/uk](http://www.vega.com/uk)

## Evolution and MBF: A dynamic partnership

Evolution Bottling and Packaging Solutions is the UK partner of MBF, the leading, global manufacturer of rinsing, filling and capping equipment for the bottling sector. With more than a decade's experience providing highly innovative machinery, Evolution and MBF bring technologically advanced bespoke solutions to UK and Ireland's premium drinks producers.

Evolution and MBF always put their customers first and fully appreciate the importance of maintaining the integrity of their customers' products through all stages of the filling process. Specialising in filling wines, spirits, beers and cider, MBF invests heavily in research to ensure that its technology provides the best solution to its customers, exhibiting a shared passion for the integrity of its customers' products.



The full Evolution BPS product portfolio also includes all types of labelling machines, end of line machinery, capsuling and wire-hooding machines, and a complete range of advanced inspection systems. The superior product range, combined with the excellent customer service delivered by the team at Evolution, facilitates the ability of Evolution

BPS to meet a spectrum of customer needs – whether an individual machine or a full turnkey solution.

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## LabelSaver™ nominated for Packaging Award

Dutch company O&PM Europa has been nominated for a prestigious award.

Its unique invention, the LabelSaver™, is nominated in the 2020 Packaging Awards in the category for Innovative Technology. The ceremony, which has been delayed due to COVID-19, will take place in February 2021.

The LabelSaver™ integrates O&PM Europa's own robotics with the Memjet-powered TrojanLabel print engine and proprietary coatings to create a self-moving printer for label-



less production.

It can be used to print high quality colour directly onto objects including metal paint cans, plastic containers, and bottles. As an example, LabelSaver™ can print at a rate of 500 jerry cans per hour in full colour, 360 degrees. The system is also capable of printing on Memjet-receptive coatings for flexible packaging and films.

LabelSaver™ was developed in response to the proliferation of SKUs and increased demand for short-run labels, which has driven small manufacturers to look

for more economical ways to label their products.

O&PM Europa is also working on a table top coater for applying water-based primers on self-adhesive materials. This system will make life very easy for converters to prepare their own inkjet receptive substrates, saving them significant amounts of money and increasing efficiency.

O&PM Europa has also developed primers especially for this system. As one of the few in Europe, primers have become one of their leading innovations for water-based inkjet technology. Primers can be formulated for any type of substrate.

See the details below to find out more.

T 0031 657 26 25 44  
www.opm-europa.com

## MBO at DataLase



L-R: Alexander Grant, Clare Lewis & Paul Dustain

The current leadership team at coding and marking specialists, DataLase, has acquired full independence for the company through a management buyout (MBO) from SATO, the leading global provider of Auto-ID solutions.

Advisory assistance was provided by international audit, accounting and consulting group, Mazars, and legal advice by UK law firm Shoosmiths. The deal was led by the firm's COO & CFO, Clare Lewis, CSMO, Paul Dustain and CTO, Alexander (Ally) Grant and completed on 15 Sep 20.

DataLase was originally acquired by SATO in December 2016. The change in direction is centred on SATO's strategic aim of concentrating resources on its auto-ID solutions business to build sustainable growth and enhance its corporate value. Meanwhile DataLase looks to push forward with increased technological advancement and to further develop its Photonic Printing offering.

Clare Lewis, now DataLase's CEO, said, "With an excellent understanding of the business and an appreciation of its future direction, the management team can now continue on the path of new product commercialisation and growing the legacy business."

DataLase has since refreshed its corporate identity. Its updated brand style includes the strapline 'Connected Photonic Solutions', referencing its innovative laser technology.

Find out more at:  
www.DataLase.com



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## GSE's Colorsat FCS ink dispenser: the recipe for productive, efficient label printing

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- Full ink batch traceability



www.gsedisensing.com/gse-colorsat-fcs-ink-dispenser/



GSE's Colorsat FCS manual ink dispenser brings cost reduction and traceability to small-scale label printing operations

GSE has introduced a compact, manual ink dispenser for fast accurate and efficient colour preparation, targeting small label or packaging printing enterprises.

The Colorsat FCS (Formula Checkweigh System), featuring GSE Ink manager software manages all conventional inks – including waterbased and UV-flexo, offset, gravure and letterpress inks, cutting makeready time, and reducing ink consumption by up to 30%.

Ink kitchen processes are simplified. Colorsat FCS's automatic ink recipe calculations enable spot colours to be prepared, on target and in the exact quantity needed for the printing job. It provides the formula of the base colours in exact weights, then leads the operator through a controlled weighing process using a precision scale, to create the colour. Inks returned from previous jobs can also be calculated into new recipes, keeping waste to a minimum.

With the optional GSE Traceability software module, Colorsat FCS brings full traceability of ink batches. In food and pharmaceutical markets, therefore, complying with strict GMP and BRC safety standards becomes much easier.

Both Colorsat FCS and its software are easy for the customer to install and use, without the need for a GSE engineer to provide on-site installation.

www.gsedisensing.com/  
gse-colorsat-fcs-ink-dispenser/

## Don't crack up

**B**ond It, one of the UK's fastest growing manufacturers of sealants, adhesives and building chemicals, has launched a new sealant to complement its already growing silicone and sealant range.

No Crack Caulk, introduced under the company's 'Superheroes' brand, is a water resistant, high quality decorator's caulk that prevents craze cracking when painted. This white, solvent-free, water-based sealant is highly flexible, with a joint movement capability up to 12.5% and can be overpainted within 1 hour.



With excellent gap-filling properties, this hard wearing Caulk contains a fungicide to retard mould growth and is suitable for use on both interior and exterior jobs.

Adheres to most surfaces without the use of a primer and is non-corrosive to metals. It is more resistant to movement than most standard caulks and is longer lasting. Perfect for sealing around window frames, architraves, cornices, PVC profile trim & cladding, plasterboard joints and for sealing cracks and gaps in plaster, brickwork, concrete, skirting boards and walls.

For more information on Bond It, contact our Sales Team on 01422 315300 or visit: [www.bond-it.co.uk](http://www.bond-it.co.uk)

## 3 ways to support and nurture your workforce

It's safe to say that employees are a company's greatest asset and a positive outlook is now more important than ever. The foundation is based on businesses being able to give employees a sense of certainty, empowerment and direction.



### Building a sense of certainty

Unforeseen challenges, like the COVID-19 pandemic, create difficulties for business leaders that few expect or often are prepared for.

As a result, businesses need to address the challenges by creating as much certainty as they can to refocus employees on the job at hand, whether they are working from home or in the office. Building this sense of certainty is one of the most critical tasks that leaders will need to implement, by clarifying priorities and communication strategies.

### Establishing a sense of empowerment

Employee empowerment is all about accountability and trust. Businesses need to give its team a certain degree of autonomy and responsibility for decision making during these unprecedented times. Not only will this benefit their daily work, but it will also help pave the way for long term success and an engaging workplace culture.

### Forging a sense of direction

Business leaders need to set the tone for the business from the top down. In order for organisations to succeed, senior employees should lead by example and drive the team to succeed.

By bringing people across the organisation together and creating a sense of unity will help employees feel like they are part of the business' long term success and a vital asset when working through any crises.

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## Autoglym get shining results with new coding technology

Premium car care company, Autoglym, has installed new thermal inkjet technology (TIJ) on its bottling line, which has resulted cost savings of around 33% on the batch coding process.

Supplied and installed by Rotech Machines, a leading UK manufacturer of coding and marking solutions, the TIJ technology has increased output, reduced labour costs and gives Autoglym greater coding flexibility.

“Since installing the new printer, we’ve increased output by a third and no longer need any additional labour to label bottles,” said Autoglym Project Manager, Damien McKenzie. “The printer is so simple and effective – it sits neatly on the conveyor and requires little intervention, other than changing the settings on the software. This single printer has solved all of our previous issues and delivered some significant cost savings.”

Established in 1965, Autoglym’s award-winning products are distributed and sold worldwide, and they’ve earned two Royal Warrants along the way. Operating from its factory in Letchworth,



Hertfordshire, the in-house process of batch coding products is fundamental for global distribution and traceability.

However, when the company looked more closely at this process, it was proving costly and inefficient.

### Polishing up the coding process

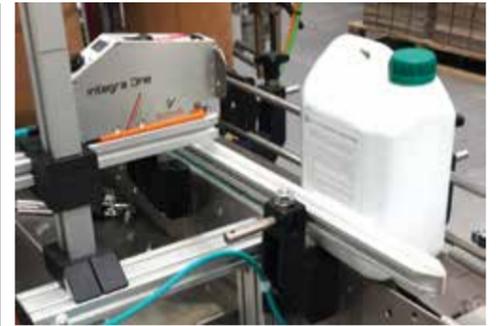
Autoglym products come in a range of types and sizes including cans, jars and most notably, plastic bottles. Their products are shipped all over the world and, by nature of the product, they are used in ‘wet’ or harsh environments, so product labels need to be robust.

The primary product brand label is consistent for each product type, therefore requiring little intervention on the production line.

However, on the bottles, the batch number and ‘best before’ codes are applied using a separate label because the information is constantly changing.

Traditionally, the batch and date code labels were printed and applied to the bottle by hand using a ticket gun, requiring additional labour and slowing down production. There was also a concern that this small, additional label may not always endure harsh environments – they needed to find a more reliable and cost-effective way of coding each bottle.

Rotech Sales Manager, Steve Ryan, said, “Autoglym were manually applying codes to 2.5 litre and 5 litre plastic bottles, printing black text in both standard English as well as Chinese characters for their Asian market. They needed to find an automated solution that was quicker, more reliable and more cost-efficient – one that would not interrupt the conveyor line. Importantly, the solution needed to be



durable, to avoid any potential issues with the labels becoming damaged by moisture, and to prevent them from being removed”.

### Coding that will stand the test of grime

The Integra TIJ printer was chosen because it is small, compact and ideal for integrating into small spaces or onto conveyor lines and produces high quality prints on just about all surfaces, leaving a highly durable print that will endure even wet environments.

TIJ is clean and reliable and requires no maintenance. The ‘click-in, click-out’ ink cartridge can print up to 400,000 clear, high-quality prints (up to 600dpi) – no mess and low consumable costs. Autoglym can now switch from black to red ink on specific products by simply swapping cartridges.

The required data is set through the iDesign format creation software, allowing Autoglym to create and edit their batch numbers, dates and times and line numbers, and switch to Chinese characters as required.

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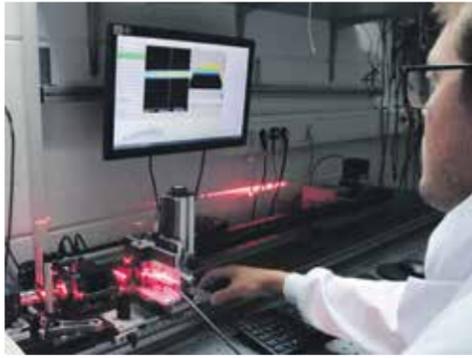
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# The perfect laser for any application

Industry Update is proud to announce that Z-LASER has received our Industrial Laser Company of the Year award.

Founded in 1985 by Kurt-Michael Zimmermann (right), Z-LASER is based in Freiburg, Germany with additional offices in Italy and Canada. Since its establishment, Z-LASER has been developing and producing high-precision industrial lasers for a wide variety of applications. These include homogenous line lasers for displaying cutting and sawing lines, positioning lasers for perfect alignment and positioning of objects, lasers for image processing with optimal characteristics for illuminating objects in front of cameras, and high-end laser



projectors. All laser systems are planned, developed and manufactured in Germany and are subject to the highest quality tests.

Indeed, Z-LASER offers the complete toolbox to ensure they can build the perfect laser for every application. The company can offer bespoke solutions and OEM lasers have been part of the company's services for decades; there is no doubt you will find the optimal laser for any application when you choose Z-LASER.

These industrial lasers are available in a vast range of versions and variations. All you must do is select the desired parameters in the product finder, such as line laser, cross laser, and laser projector, or even wavelength and output power, and the product finder will filter the catalogue to match your requirements, finding the perfect laser for your application.



Working with customers across the world, Z-LASER has over 60 partner companies globally to help guarantee a perfect service wherever its customers are, and its products can be found in nearly every industry. This is no doubt in part due to the company's dedication to constant development and its creative approach. "We are strongly driven by innovation," said Marcel Rottler, Head of Marketing. "More than 30% of our staff is working in our research and development department, something which is reflected by our slogan 'Bright Ideas'."

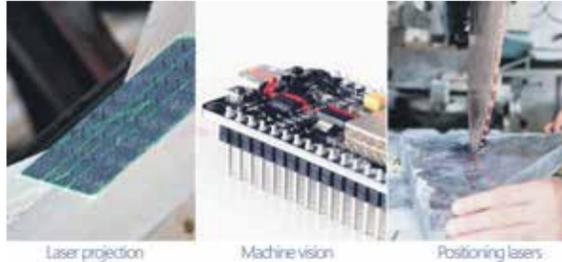
In 2018, Z-LASER welcomed Dr Hans Ebinger as the company's new CEO. This year, the company is developing a range of new products, which is looking to set a class of its own in the field of positioning lasers.



Dr Hans Ebinger, CEO of Z-LASER

If you would like to find out more information on everything Z-LASER has to offer, and how they can help build the perfect laser for your application, head to the website or get in touch using the contact details below.

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# An optimised design for valve actuators

**T**he Camtorc series actuator is 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 unique Camtorc design has many advantages over other actuator systems, and it is important for end users and buyers to be aware of these differences. This case study will explain the advantages of Camtorc, outline the modular components, compare Camtorc to other actuator systems, and also demonstrate how fail-safe valves, or applications where Maximum Allowable Stem Torque (MAST) is a concern, will benefit from improved torque-efficiency and a reduced risk of valve failure.



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. Consequently, the design has seen a big uptake in the oil/gas, marine and power generation industries.

What really sets this design apart 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 to fail, which contributes to a longer service life and lower maintenance costs.

Additionally, this optimised system also avoids two more, related problems. Firstly, 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 generally 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.

On safety critical valves (i.e. ESDVs) it is increasingly common to carry out some form of valve assembly testing, such as Partial Stroke Testing (PST). The advantages for plants and rigs are that critical valves are tested for integrity without the cost burden of shutting off the valve.

There are two distinct advantages to the Camtorc design when it comes to PST:



CAMTORC	V S	SCOTCH YOKE
<ul style="list-style-type: none"> <li>• Fewer moving parts = longer service life + lower maintenance costs = reduced Whole Life Cost</li> <li>• Integration of cam &amp; body pistons reduces dimensions of unit</li> <li>• Cam slides across low friction pads, increasing output efficiency to 90-96% of theoretical max.</li> <li>• Consistent output torques throughout the stroke: suited to modulating control</li> <li>• Large side-forces are eliminated = less external housing = suited to remote/inaccessible locations</li> <li>• Cam mechanism is backlash free = easily stopped/started mid-stroke</li> <li>• Reduces the risk of false-fails &amp; spurious trips during PST = lower risk of plant shutdown / damage</li> </ul>		<ul style="list-style-type: none"> <li>• More moving parts = more wear and risk of failure = higher Whole Life Cost</li> <li>• Inconsistent output torques throughout the stroke</li> <li>• Large side-forces at either end of the stroke require additional infrastructure/housing</li> <li>• Side-forces and pin friction reduces efficiency to 75-80% of max. theoretical torque</li> <li>• Larger unit + more complex assemblies = higher installation costs</li> <li>• Where MAST is an issue the stem size may need to be increased = larger unit / more assemblies</li> <li>• More likely to create false-fails or over-travel (spurious trips) during a PST test = damage or shutdown</li> </ul>



- ▼ In the dual piston-design of the Spring Module less air needs to leave the actuator to start the piston moving, and a much larger pressure drop is required to complete the stroke. This significantly decreases the risk of over-travel (spurious trips).
- ▼ To prevent over-travel a maximum pressure drop is often set, but on a scotch valve actuator this is usually very close to the pressure required to start moving the valve. Therefore, if the valve sticks a little (which often happens when a valve has been inactive) the test might fail erroneously: since a slightly lower pressure would cause the valve to move. With Camtorc, the larger pressure differential on the spring stroke allows for much more control of the PST system, and the maximum permissible pressure drop is far less likely to abort the test.

False fails and spurious trips are costly and risky on a plant or oil rig where they might lead to a partial or complete shutdown of operations.

For the buyer, all of the design benefits of the Camtorc actuator system result in a significantly reduced Whole Life Cost (Whole Life Cost is the projected cost of an asset over its entire life). The Camtorc series is available for pneumatic and hydraulic applications in either double acting or spring return configurations with a full range of modular control accessories.

**Please contact Imtex Controls on +44 (0)8700 340 002 or email: sales@imtex-controls.com for more information.**



## Solving Valve MAST Issues

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