What price COVID-19?

The global pandemic has made everyone change their ways of working and in our special feature, we cover a raft of new products and services that PPMA members are now offering.
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MACHINERY UPDATE

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APPLICATIONS FOR FREE COPIES of Machinery Update are considered from specifiers, managers and purchasers of processing and packaging machinery in the UK.

ANNUAL SUBSCRIPTION:
£35 (UK), £50 (Continental Europe), £65 (rest of world).

ISSN 0969-4145

PRINTED BY:
John Good Ltd, Progress House,
Burlers Leap, Rugby CV21 3RQ
Tel: 02476 652800

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If there’s one thing that COVID-19 has taught us over the past six months; it is not to rest on our laurels. For instance, who would have thought in the aftermath of leaving the European Union in January, some of the biggest names in retail, aviation and automotive would be seeking a potential government bail-out for very different ‘non-Brexit-related’ reasons?

Despite the economic turmoil, there is at least some room for optimism. There are certainly business opportunities to be had during these unprecedented times, even if the driving factors are often logistics and ensuring your business is COVID-19 secure.

Whether we like it or not, everything is going to take a little bit longer, at least until a vaccine is made widely available. Being able to adapt is therefore paramount, as we cannot ride out the storm of another nationwide lockdown. It’s imperative that we find new ways of doing business, and in a sustainable way (our feature covering sustainability starts on page 64).

Today, using AI for remote diagnostics is no longer seen as a luxury, it is now a necessity

With several more food manufacturers being hit hard by COVID-19 outbreaks, there has been lots more discussion about robotics and automation. This, in turn, raises the question: Is greater automation the answer to maintaining social distancing? Turn to page 11-12 for a special BARA Webinar report.

I was asked recently if I thought this pandemic had forced more companies to think laterally? The simple answer is yes, although I think it is more sector driven as opposed to common practice for everyone. For industries such as life science, beverages, household goods – to name a few, they have certainly accelerated the process to bring about positive change.

Flexibility is also key for manufacturers overseeing multiple branded products, where one production line cannot make enough to keep up with demand, while another line is experiencing a downturn due to economic conditions. We have certainly seen some excellent examples of this, where companies have transitioned from manufacturing machinery to PPE for the NHS. Our special COVID-19 feature starts on page 34.

Businesses also now need to find a sustainable solution for engineers to service equipment in overseas locations in a world fraught with travel restrictions. Consideration should, therefore, be given to using artificial intelligence (AI) to assist with remote diagnostics; something that was previously seen as a ‘nice to have’, as opposed to a ‘need to have,’ today.
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Webinar event asked if C-19 would help automate food sites?

The British Automation & Robot Association (BARA) hosted its first virtual roundtable event in July to discuss whether COVID-19 will drive greater adoption of robot automation in the food sector.

The webinar brought together industry professionals and academics from the Food and Drink Federation, Allied Bakeries, the University of Lincoln, the BARA Council, Schubert UK, James Mae Industries and the Lloyds Banking Group.

Chairied by this magazine’s editor Gail Hunt, the seven panellists brought knowledge from the food manufacturing sector, automation suppliers and also from finance during the 90-minute discussion which also included questions from the audience. The panel agreed that social distancing guidelines could be the game-changer going forward.

Especially while COVID-19 outbreaks within food factories continue apace, everyone felt this did nothing for the industry’s reputation, but it was at least helping to highlight some of the issues.

Although cash-strapped food businesses have been slow to adopt new technology, the panel felt there was much “low hanging fruit” that could bring change without too much disruption and listeners were urged to consider the cost of ownership, as well as the cost of purchase.

• A full report on this event can be found on pages 10 and 11.

SPS 2020 cancelled and will now be an all-virtual event

Due to the ongoing travel restrictions and other fundamental changes caused by the coronavirus pandemic, Mesago Messe Frankfurt has decided to hold SPS 2020, the exhibition that covers smart and digital automation, in an all-virtual format.

“We’re very disappointed to have to cancel this year’s SPS event in Nuremberg,” says Martin Roschkowski, president of Mesago Messe Frankfurt.

The main reason behind the cancellation was that many participants had their concerns for the well-being of their employees.

The virtual roundtable event was devised by BARA

Meeting Hub will connect businesses

Following the unforeseen postponement of this year’s PPMA Show, the PPMA Group of Associations has initiated a new Meeting Hub to connect buyers with machinery and services suppliers.

The hub went live on 7 September and is FREE-to-use. It provides a gateway to over 1,500 brands from over 300 PPMA Show 2020 exhibitors and is therefore the largest single gathering of processing equipment, packaging machinery, robotics, and industrial vision companies throughout the UK.

VERY LATEST NEWS

Visitors can join other industry professionals to experience an eclectic mix of exhibitor news releases, product videos and company information; all from the benefit of their home or office.

It’s the most comprehensive pool of industry information online until the live PPMA Show returns to the NEC, Birmingham, on 28-30 September next year.

“The Meeting Hub is an extension of our PPMA Show and each visitor to the PPMA Show website will have unlimited access to hundreds of exhibiting companies from across the processing and packaging spectrum,” explains David Harrison, chief operating officer of the PPMA Group of Associations.

“It’s not a replacement for our annual flagship event, but it is a valuable tool for those looking to invest in the latest innovations to improve business efficiencies,” he added.
As COVID-19 continues to impact the food and drink sector, Campden BRI will hold a three-day online conference to help the industry understand how to control SARS-CoV-2 as well as other pathogens including Campylobacter and also Listeria.

This online conference, to be held from October 6-8, will cover the current and future microbiology issues affecting the safe production of food delivered by experts in the field. It is designed for food manufacturers, food and drink laboratory personnel, microbiologists and technical managers, quality assurance staff and food safety managers.

COVID-19 IS PLAYING A PIVOTAL ROLE IN FOOD

“The virus that causes COVID-19 has created the largest pandemic of our lifetime and it’s playing a pivotal role in many food and drink businesses’ decision making,” says Campden BRI’s Fiona Cawkell, manager of the Campden Microbiology Proficiency Scheme. “This makes our annual ‘hot topics’ in food microbiology conference possibly the most important to date, which is why we’ve brought together expert speakers to discuss how food business operators can guard against it.”

The usual suspects that cause foodborne illness, including Campylobacter and Listeria, also remain a public health concern and so experts from across Europe will discuss the issues they cause during the event and take questions from delegates to help them tackle the threats these pathogens pose.

A Conference will give advice on microbiological issues for food

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Over 200 models can now be rented from Ishida

Ishida Europe has launched a special rental scheme to help businesses effectively manage ever-changing circumstances resulting from the coronavirus pandemic.

The company is making available models from its weighing and quality control equipment portfolio, which can be rented for a minimum period of six months with full Ishida service support.

“Our rental option provides businesses with additional flexibility as they navigate these unprecedented times and enable them to cope without having to commit immediately to new equipment.”

Over 200 models from Ishida’s multihead weigher, checkweigher, x-ray inspection and AirScan ranges are now available to rent.

www.ishida.com

More new services and products relating to the pandemic can be found in our special COVID-19 feature that starts on page 34.

Training centre for Universal Robots has reopened for courses

As the UK lockdown eased, RARUK Automation reopened the UK’s first Universal Robots Authorised Training Centre at its headquarters in Shefford, Bedfordshire in August.

RARUK Automation has issued a statement on Staying COVID-19 Secure in 2020 confirming that they have complied with the guidance on managing the risks. Social distancing will continue to be standard throughout the building and for training visitors they can expect to have no more than two people training at any one time.

There will be a temperature check on arrival for the trainees before they are escorted to their designated area.

The reopening allows the RARUK Automation certified UR trainers to continue to provide tuition in collaborative robot programming. With its Authorised Training Centre Network, of which RARUK Automation is a part, UR training modules can be delivered in a local, classroom environment once more.

They cover core to advanced cobot programming, including cobot scripting, preventative maintenance, overall system troubleshooting and also any parts replacement.

Check for upcoming courses here: https://academy.universal-robots.com/raruk-automation/

The UR training modules can be accessed again

Clever vision use is nominated for a Farming Award

Scorpion Vision has been made a finalist in the Machinery Innovator of the Year category in the British Farming Awards after the judges had a tough job narrowing down the entries to just four in each group.

VEGETABLE PROCESSING

The nomination is for the company’s post-harvest vegetable processing systems for which it has worked with several robot partners to develop these automation systems for agriculture.

Scorpion enables the robots with AI augmented 3D machine vision to inspect and create the optimum cutting positions on vegetables, at speed. It replaces people having to use large blades, often in damp conditions, to trim and cut various crops on the fly.

Winners will be announced at the Virtual Awards Night being held on October 21.

A new web-based event will replace Chicago exhibition

November’s PACK EXPO International and Healthcare EXPO that were due to take place in Chicago have been cancelled and will be replaced with a new live, web-based event called PACK EXPO Connects 2020. The online event will take place between November 9-13 and include live chats, product and equipment demos and also educational opportunities.

PACK EXPO Connects will facilitate exhibitor and attendee interaction while continuing to provide the ability to see machinery in action through this new platform. It will also offer daily Jumpstart sessions on hot topics from industry thought leaders along with the Innovation Stages, a staple of previous shows, as well as the brand new Solution Room.

www.packexpoconnects.com

The centre is based at OWR’s HQ

Robot demo centre brings user benefits

OW Robotics (OWR) has launched a robotics demonstration centre for businesses looking to transform their warehouse, logistics and manufacturing operations through automation. Customer processes can be replicated in a sandbox environment.

Ishida Europe has launched a special rental scheme to help businesses effectively manage ever-changing circumstances resulting from the coronavirus pandemic.

The company is making available models from its weighing and quality control equipment portfolio, which can be rented for a minimum period of six months with full Ishida service support.

“Our rental option provides businesses with additional flexibility as they navigate these unprecedented times and enable them to cope without having to commit immediately to new equipment.”

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More new services and products relating to the pandemic can be found in our special COVID-19 feature that starts on page 34.
Will C-19 drive the adoption of robot automation for food?

The BARA (British Automation and Robot Association) Webinar in July gathered a panel of experts from the food industry, automation suppliers, education and banking to discuss whether C-19 and social distancing issues will advance robot use in the UK food industry.

It’s a well-known fact that the UK lags behind many of its trading partners in adopting robot automation in the food and drink sector but the COVID-19 pandemic has thrown a spotlight onto issues such as productivity levels and labour availability as well as social distancing within factories.

But what have been the barriers to their adoption? Chief executive of the Food and Drink Federation Ian Wright felt that the financial model is the first thing with access to capital a major difficulty, while the second is disruption in the factory and the third, was the lack of understanding by the people who sign the cheques.

CHILLED IS COMPLEX

Simon Pearson, director of the Institute of Agri-Food Technology at the University of Lincoln agreed, but also made a distinction between chilled food producers and long-life food producers.

“It’s much more complex to robotise chilled food operations, which are fresh-like operations, usually supplied into large retailers,” he said. Meanwhile, chairman of BARA Mike Wilson agreed that there’s lots of challenges in trying to apply robots and automation in handling the naked food product, but argued that there’s still lots of opportunities to apply robots for end of line packing as, in reality, there are many food companies that still employ people to do some very basic handling and palletising type applications.

Moving onto areas of current success, Martin Miller, the director of engineering and operations development at Allied Bakeries said that they did use robotics at all ends and in most of the industries that he’d worked within including snack foods through to abattoirs. “The packaging end is the easier end to do, but you are always doing it with one eye open as that’s the end that could change very quickly,” he said. For example, the upcoming plastics tax will cause issues, and the panic buying at the beginning of the COVID-19 outbreak saw certain SKUs spiked, and the still plenty of opportunity for regular pick and place technology. “I guess everybody is squeezed at the moment, but the opportunities are still there,” he told the Webinar.

Simon Pearson agreed on pick and place and went on to talk about COVID-19 and food manufacturing at the moment. He feels that anything that takes people out because of the virus is going to be really high on the priority list. “We know there’s 69,000 fruit pickers in the UK, and so we’re very active in that space, and also 121,000 people in food processing,” he said. “We have got to think about how we’re going to handle that food service demand went to zero overnight.”

Mark Stepney, managing director of Schubert UK said that today’s shorter production runs demanded by most of today’s food sectors meant that quicker changeover times were more and more important, while Bob Hinchcliffe, managing director of James Mae Industries said that flexibility had to be designed into an automation project right from the outset, to cope with all the SKU variants.

In terms of future success, Martin Miller felt there’s in the future, with a shortage of labour, and robotics is going to be key.

“There is an urgency that I have not seen before,” he said. Ian Wright felt that rather than think about the actual sector, it would be better to think about the nature of the workforce and the capacity to attract the workforce going forward as this was probably going to be a determinant of the businesses that are prepared to invest.

“If you could replace variants such as absence or difficult to reach places in the UK or migrant labour with robots, that might be very attractive, even to businesses which are financially stretched,” he said.

SOCIAL DISTANCING

Social distancing is also a potential gamechanger, particularly in applications such as sandwich making and convenience foods sectors. “If we keep getting these Covid-outbreak clusters coming from food factories, it’s just not good for the industry and not good for the industry’s reputation,” said Simon Pearson.

Mike Wilson said that for him, it’s about trying to find, within any facility, the applications that are very suited to robots; the very mundane, the very repetitive, the arduous type of applications, but then keeping the people doing the tasks where you need their particular skills.

“What that then potentially allows you to do is to spread the workforce out,” he said. But is it the availability of capital or financing that is holding back greater investment?

Availability of finance is the challenge for many and so David Atkinson, head of manufacturing SME & Mid Corporate at Lloyds Bank suggested that if a business was not experiencing the support that maybe you expected, think about who else you know that could provide the finance you need. “This could be another bank, different brokers, maybe the OEMs or the robotic suppliers.”
integrators themselves,” he said. They will all have their areas of specialization and credit appetite for different types of project or machinery.

He also advises to think about how to influence the decision makers in your own business before you go to them for the decision. “Think about how you de-risk those projects and get some expert help in order to help secure that finance,” he explained.

Mark Stepney said that those wishing to automate should definitely approach their OEMs and Schubert, for example, have a financing partner, to make things easier for customers, especially as these companies understand residual equipment values.

“If you go the lease direction; operating lease direction, essentially, you don’t start paying for the equipment until it’s in your factory and earning you money,” said Stepney.

VISION TECHNOLOGIES
In terms of technologies that will make adopting robotics easier, Bob Hinchcliffe felt one really big game changer is the development of vision technology. “Combine neural networking with the new 3D vision cameras, and we will see massive changes across the machine vision spectrum,” he said. While what has struck Simon Pearson in the past three months is the power of digital twins, as he’s been developing some very advanced picking robotic systems through lockdown. Twenty people working on it collaboratively all over the world via a digital twin.

“They de-risk, give more flexibility and you can do more ‘what if’ statements,” he said.

And finally, many of the panel felt that there would be an increase in robotic automation adoption in the coming years, for all sorts of reasons discussed in this article. And as Ian Wright said: “Crises are often the stimulants to real innovation and new ways of doing stuff.”

Devising a half-way house could be key to food manufacturers adopting robots

Robot integrators need to listen to their customers more closely before coming up with an all-singing, all-dancing option, says a senior food industry engineer.

When asked what system integrators could do differently to make robotics more appealing for food manufacturers during a BARA Webinar in July, Martin Miller, director of engineering and operations development at Allied Bakeries said the following: “Help us find a halfway house, rather than going straight to lights out.

“I get so many offers of here’s your solution that will take everybody away and that’s when you hit the problems,” he told the panel. “I can think of lots of examples where I’ve put automation in and then taken three bodies out per shift, only to find you’ve missed some of the nuances of what some of these guys do,” he continued.

“Everyone wants to sell their lights out solution, but nobody wants to actually really work with you to implement the technology in perhaps three steps,” he said. Why not admit that it’s going to be a journey, he asked.

“If I was going to ask for one thing, it is how can you break it down into component parts so that you don’t miss anything,” he said. “When you are finally brave enough to take the last person out, you have to know that you’ve got every base covered.”
Farleygreene has launched a localised dust extraction system (LDEE) to operate with its Sievmaster Easilift sack tip sieve. The new LDEE is based on the company’s Sievmaster Easilift sack tip station and can be fully integrated into production lines to enhance and improve all aspects of safety and hygiene while sack tipping powders.

“The concept originally came about following a customer request,” explains Daniel Morlan, area sales manager at Farleygreene, “but the design has proven to be a successful addition to our popular Easilift model and so is now available for general sale”. The LDEE model incorporates a horizontal filter and side mounted fan system, which is built onto the back of the sack tip hood.

Controller makes robot cycle faster

TM Robotics has released the new TS5000 robot controller which forms a launch pad for the next generation of industrial robots from Shibaura Machine — formerly known as Toshiba Machine. Boasting faster position control, the TS5000 improves robot precision and shortens cycle times in operation.

Compared to previous controllers, the TS5000 has been designed to improve synchronisation and control. Its position cycle is three times faster than previous models, allowing more control during fast movements, and combined with an automatic adjustment function for acceleration, these features reduce vibration and stress.

Communication functions of the TS5000 have also been enhanced. The controller enables real-time data transmission between the robot and controller, allowing manufacturers to integrate the system into a smart factory environment. This improved communication also enables vibration analysis for predictive and preventative maintenance.

The new TS5000 also has dedicated ports for status feedback and control, allowing additional ports for priority communications such as vision interfacing and control. For non-protocol communication, the TS5000 boasts eight ports — a four-fold increase on the previous model.

Alongside the new controller, TM Robotics has released the new TP5000 teach pendant as an optional add-on.
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Easy-to-use machine is launched for on-demand cushioning range

Antalis has extended its range of protective packaging solutions with the introduction of the new PadPak Guardian from Ranpak which brings together many of the benefits of other Ranpak converters into one compact, fast and simple-to-use machine.

PadPak Guardian is an in-the-box solution that is able to convert both single and two-ply paper, offering businesses greater versatility from just one machine and providing a sustainable alternative to traditional plastic cushioning. In operation, paper is fed from a pre-folded block into the converter to create a variety of cushioning pads, on demand.

Adaptable Options
The converter is extremely adaptable – with options to work at height or lower – and can be moved around the packing area with ease. Its neat design and size means it can be positioned in tight corners to maximise use of space while also improving process flow.

With three speed settings – producing up to 1.2 m of pads per second – and five operation modes managed by touch screen, the PadPak Guardian can help to optimise production whatever the demand. From automotive to e-Commerce, Antalis says it is suited to almost any packaging environment thanks to its ability to produce pads that offer strength or flexibility, depending upon what’s required.

The new pads can be used to cushion both light and also heavy items.
Still waters produced more efficiently with less space

Two years after the initial launch, Sidel is introducing the next-generation of Super Combi Compact that, as indicated in its name, is even more compact. Allowing up to a 30% reduction in footprint compared to the previous model, the solution also offers efficiency enhancements for still water production thanks to the new filling technology embedded in the Sidel EvoFILL HS Still. This new development is said to guarantee a 30% faster performance.

With the Super Combi Compact, Sidel presents a product that is designed and engineered to deliver the lowest total costs of ownership (TCO) and production costs per sq ft to meet customer demand for optimising all company resources.

Like its predecessor, the Super Combi Compact is integrating five process steps – preform feeder, blower, labeller, filler/capper and cap feeder – into an all-in-one, smart system to deliver 54,000 bottles per hour (bph) in a reduced space. Furthermore, its ergonomics and the latest technologies support easy access, operation and maintenance while ensuring high end-product quality, says Stefano Baini, product manager filling and Super Combi at Sidel.

Maximum productivity is delivered by the range of improvements at the blowing, filling and labelling stages. The new filler with proportional filling valves, controlled by electro-magnetic actuators, guarantees a 30% faster filling with total control and accuracy when it comes to dosing the liquid into its designated container.

“EvoFILL HS Still is a simplified solution characterised by fewer components and functions, resulting in less maintenance costs, and a highly reduced filler footprint with less filling valves,” explains Baini.

New cobot offers solution for a post lockdown factory

Fanuc’s new lightweight collaborative robot (cobot) is now available to UK customers. Called the CRX-10iA, this 39kg cobot was launched at IREX last year (see page 23, March/April issue), and is a compact cobot aimed at manufacturers looking to increase productivity while adhering to current social distancing guidelines.

“As with all cobots safety is key, but we’ve also made installation and set up as straightforward as possible,” says Andy Armstrong, sales and marketing manager at Fanuc UK.

“An intuitive touchscreen panel allows programming to be completed through a ‘drag and drop’ function, which means those new to automation can create work programs quickly and easily,” he says.
Crate destacker offers maximum flexibility

Brillopak has launched a new dual crate DESTAKer for feeding empty retail crates to food packing lines at high speed and with maximum flexibility. Based on the same proven operating principle as the original system, the new version destacks two stacks simultaneously, to allow 18 crates per minute to be handled and the servicing of multiple packing lines.

Brillopak’s Crate DESTAKers are employed in packing facilities for food products ranging from fresh fruit and veg to meat, baked goods and pizzas. Rather than picking up the entire stack and relying on gravity to despatch the bottom crate in operation, the Crate DESTAKer clamps the bottom crate down, lifts the rest of the stack up, and then despatches the bottom crate.

In a typical packing hall set-up, crates are transported to the line via forklift by the pallet load (usually about 30 to 40 crates high). The pallet load is pushed onto an accumulation conveyor that feeds stacks (usually five crates) into the crate destacker, leaving operators free to focus on other tasks while the machine continues to destack onto the line.

In its original single stack configuration, the machine operates at speeds of between 8 and 9 crates per minute. By lifting two stacks simultaneously, the new Dual Crate unit handles 16-18 crates per minute, giving food producers and packers a high output option.

The units can be supplied as a stand-alone system, to integrate with a factory’s existing packing automation system, or in conjunction with the UniPAKer robot, also from Brillopak.

New liquid filler is an efficient and a sustainable option

Rovema has further developed its vertical continuous form, fill and seal machine to develop a new version to handle liquids destined for food service customers. The BVC 310 Liquid is now available with a fitment option for use in portion dispensers as hygienic product removal is essential for many system restaurateurs. Even lumpy products in brine can be packed in low-air pillow bags, says the company. This application can replace rigid packaging such as buckets or cans as a more sustainable option. This flexible solution, for instance, uses less packaging material in terms of volume and weight without compromising on product shelf life and quality.

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New Machinery

Travtec has upgraded its conveyor accessories range to offer increased flexibility and versatility for users of its coding solutions. The Diverter, Paratran, and Mini-press all now feature a new drive assembly for improved speed and accuracy. An all stainless-steel construction with full IP66 certification allows easier installation and maintenance and enables the equipment to operate in the harshest of factory environments.

Conveyor accessories upgrade is delivering greater user flexibility

The Diverter now offered by Travtec

Offering two separate solutions for the coding of information onto the base of packs and containers, including bottles, jars and cans, are the Diverter and Paratran. The Diverter is designed to be mounted onto existing conveyors up to 150 mm wide to provide a compact solution where space is at a premium, while the Paratran is installed between existing conveying lines.

Both models can be integrated with either continuous ink jet or laser coding equipment, and both can also be used for inspection operations, using a vision system or barcode scanner. Adjustment between container sizes takes only seconds, and the synchronised, twin side-belt drives ensure positive control and guidance.

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New robot is a compact option

The new, ultra-compact KR 4 Agilus small robot from KUKA is designed to offer high performance at a favourable price. It is designed optimally for the standard workspace of 600 x 600 mm which is customary in electronics manufacturing and for a multitude of handling tasks in other industries that have limited production space in factories.

The potential for automated production processes is virtually unlimited with the new model in the payload category up to 4 kg – not only in the electronics industry, but also in many other sectors. The robot can be installed in any position either on the floor, wall or ceiling, and at any angle.

In operation, the robot moves loads of up to 4 kg quickly and safely. With its increased reach of 600 mm, it has even more application options – compared to previous generations, the work envelope has been expanded by almost 40%. At the same time, KUKA says it delivers precision in a minimum of production space.

“With the KR 4 Agilus, we are not just closing a gap in KUKA’s portfolio, we are supplying a new small robot in the 4 kg class that is a real ‘big hitter’,” says Markus Hollfelder-Asam, portfolio manager at KUKA.

0121 505 9970
www.kuka.com

More control is now offered

Dustcontrol UK has entered a new era of smart technology with the launch of two comprehensive control systems that are set to cover up to 90% of its stationary units worldwide.

“Our new Smart Panel and Base Panel will be a gamechanger in the way our stationary machines are operated, offering a high degree of functionality and automation as standard,” explains James Miller, md of Dustcontrol UK.

The Base Panel is a standardised and configurable product with a clear and simple definition of functions and built-in frequency drive. It has been developed as a compact and efficient control system suitable for the central vacuum systems.

Meanwhile, the Smart Panel comes in a compact, standardised format and delivers a configurable solution suitable for the majority of Dustcontrol’s more complex installations. It will be used in combination with an energy-efficient, externally mounted frequency converter for starting and controlling the motor to deliver Industry 4.0 benefits.

“Ultimately, the new technology will give us significant benefits in terms of preventative maintenance, as well as helping us provide better service and support to our customers,” says Miller.

Smart Panel is delivered ready to be connected to Dustcontrol UK’s cloud-based solution, enabling data logging, monitoring, and control of the system.

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Tray system provides optimum positioning

Roseal has launched a tray positioning system – billed as the first of its kind - that calculates the required tray spacing set-up parameters for individual tray sealing tool-sets, eliminating the trial and error usually associated with this process.

The new patent-pending ProPosition feature automatically identifies the best position for trays, to ensure the perfect alignment every time. Its advanced technology provides food manufacturers and processors with a simple one-step tool-set-up while removing the time consuming and potentially wasteful process of running test trays through the tray sealer to ascertain the best position.

Instead, operators are guided through the set-up via easy to follow animated instructions on the machine's touch screen. The system then permanently saves the relevant parameters for each tool, which greatly speeds up product changeovers and avoids operator errors during set-up.

ProPosition is fitted as standard to all new Proseal GT platform machines. Additionally, as part of Proseal’s ongoing strategy of futureproofing its equipment, the software can be retrofitted to any pre-existing machines which have the suffix GTe and GTs.

“The new system showcases our incredible engineering innovation and underlines Proseal’s commitment to being at the forefront of product development and innovation,” claims Paul Watkin, Proseal systems development manager.

“This pioneering technology helps to minimise downtime, reduce errors and minimise waste to deliver valuable cost savings that will deliver a fast return on investment,” he says.

New inline barcode verifier operates at a high speed to provide user assurance

Cognex has launched the new DataMan 475V inline barcode verifier to provide contract-compliant assurance in adherence with the International Organisation for Standardisation (ISO). This high-speed system delivers the most reliable code verification and quality reporting for 1D, 2D, and direct part mark (DPM) codes, says Cognex.

DataMan 475V ensures quality compliance for every code without slowing down production and is equipped with precision optics, powerful lighting, robust grading algorithms, and a high-resolution camera to capture and grade even the most difficult codes.

A DataMan 475V does not slow down production
Yorkshire Packaging Systems (YPS) is now in partnership with TOSA, an Italian manufacturer of stretch wrapping machinery. This new tie-up means that an exclusive range of premium, high-speed fully automatic pallet wrapping systems can now be brought to the UK market. TOSA’s newly launched range includes three distinct models of pallet wrapping machine - turntable, rotating arm and rotating ring – all of which are fully automatic.

Variations of these models are available to suit differing applications, such as extra-wide for very large pallets, stainless steel for food and drinks products, machines incorporating top sheet dispensers for dusty, damp environments or vertical corner application units for corner protection of items. Each model can be supplied with a choice of film carriage, loading ramp, conveyor configuration and wrapping cycle for a truly tailored solution, says YPS. As standard, however, every machine in the range boasts an intuitive user interface, a pre-stretch unit to get the maximum yield from every roll of stretch film and a film roping feature for maximum load stability. “Every aspect of the design and build conforms to TOSA’s philosophy of high performance, low maintenance,” says YPS managing director Glyn Johnson.

YPS supply and fit every TOSA machine with a comprehensive service contract free of charge and an extensive warranty. The company can also combine the TOSA stretch wrapping machinery with the supply of stretch films in a range of sizes, thicknesses and stretch ratios, all of which can be delivered next day across the UK.

Food manufacturers can provide retailers with assurances that their packaged products contain at least the quantity displayed on the label, and not less, thanks to a development from Loma Systems. Intended to be used to complement end-of-line check weighing, the X-weigh feature is now available on the companies X5 x-ray system. It is fast to set-up and uses algorithms to convert data from an image into a weight. Weight discrepancies in packaged goods can occur when products contain multiple sections - such as yogurts or ready meals. Whereas a checkweigher will only check the total weight, X-weigh will check all compartments separately to provide both an overall and an individual weight for each and any discrepancies are now flagged by X-weigh.

X-weigh feature identifies any weight discrepancies in all packaged products

Checking for any weight fluctuations is easier
Domino understands that integrating innovative, new equipment into the toughest production lines requires reliable, compliant products, simple integration and a consistent global support infrastructure. We have already launched products, including our new Thermal Inkjet Gx-Series printers, which offer in-built future-proofing to keep pace with customers’ increasingly intelligent factories.

Domino are trusted by a wide range of food, beverage, life sciences and industrial manufacturers, as well as global packaging machinery manufacturers who partner with us to offer fully-integrated solutions with customisable options.
Omron has introduced the HD-1500 mobile robot which is described as the strongest and newest addition to the company’s range as it boasts a heavy payload capacity of up to 1500 kg. It has been designed for factories where autonomous materials handling solutions need to manage more demanding industrial automation tasks, along with implementing new social distancing requirements due to the COVID-19 pandemic. The 1500 kg payload capacity of the HD-1500 enables transportation of large automotive components such as car chassis and voluminous pallet size payloads – items that would have traditionally been moved using forklifts. The launch means Omron’s mobile robot range can transport a wide variety of items – from components to work in progress, finished products and heavy materials. Ensuring efficient materials handling in factories, Omron’s Fleet Manager can control up to 100 mobile robots of differing sizes, configurations and payload capacities under one system to automate complex material transport and logistics applications. The robots can automatically calculate the best route while collaborating safely with people and navigating around obstacles, without the use of magnetic floor tapes or other guides. The HD-1500 battery charges in just 36 minutes and can handle a full shift on a full load, to help reduce any possible downtime. “Onsite logistics, the movement of products and materials within the factory and warehouse, is becoming a real bottleneck for many companies due to the frequency and tediousness of the job, compounded by the need to meet social distancing protocols,” explains Tom Mathias, president, and ceo of Omron Robotics and Safety Technologies. “Fast-paced manufacturing environments require speed and flexibility.”

ixapack Global says its compact and modular palletising solutions are suitable for handling a layer, a row or a unit picking operation for cases, bundled packs, bags or buckets. These palletising solutions are designed to be flexible and enable various stack positions to be handled in a variety of layouts. An automated robotic islet enables the company’s robot palletiser to handle up to 4 lines simultaneously, thanks to fast and controlled cycle times, in a secure enclosure, while its Cartesian option is ideal for single-line palletising. This economical solution has a reduced footprint and also automatically places interlayer sheets, as does the robotic islet option.

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Ulma Packaging UK says it has developed one of the fastest tray sealers on the market to meet food processor demand for quick and energy-efficient packaging of meat and also all types of vegetable produce.

The TSA tray sealer range has been tested to prove a capability of 20 cycles/min for modified atmosphere packaging, while in cut and seal applications, these speeds increase to 25 cycles/min.

Higher speeds are offered on both

This new tray sealer can also integrate into existing packaging machinery lines, including single and double-lines, with box or tray distribution and palletising.

Further advantages of the range include a powerful 10 tonnes of sealer force, for guaranteed safe hermetic sealing, which achieves low residual oxygen levels of between 0.1 and 0.2%.

And to reduce energy outputs, a single vacuum pump is used.

“All TSA models are equipped with our UPC 4.0 control system, allowing for further efficiency measurement and optimisation, and the possibility of remote servicing, which is a key priority while social distancing continues to affect in-person technical training and assistance,” says Dave Berriman, technical sales support manager at Ulma Packaging UK.

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ARTWORK
**New Machinery**

### Smart pallet mover will automate the ‘last mile’

With the Smart Pallet Mover (SPM), Interroll will be offering a new, mobile robotics solution for the automation of pallet transport around production machines and order picking. This flexible and scalable solution represents a mobile and autonomously operating transport system that can be used, for example, as a cost-effective enhancement of static conveyors. It replaces manual processes which have so far been carried out by hand or by forklifts and is designed to transport pallets or boxes weighing up to 1000 kg.

The new development follows an Interroll survey carried out last year covering production logistics in SMEs which found that not quite one in five manufacturing companies achieves more than a 75% degree of automation in their material flows. However, these companies are aware that automation would improve accuracy and safety in their operations and are therefore looking for robust, simple and yet digitally-ready solutions to deliver this aim.

The modular SPM consists of several components. It has a battery-operated drive that runs on rails and autonomously moves modular conveyor units with pallets or boxes. Depending on the solution, special modules such as pallet magazines are also available. It also has height-adjustable feet to give additional flexibility and also enable the system to be installed on uneven floors, if required.

Designed to be easy to install, to operate and to maintain, this plug and play solution can be put into operation without lengthy production downtime, while an online tool makes it possible to configure the system quickly and easily.

### A compact traysealing solution will support the rapid response needed in ‘new-normal’

G Mondini UK has launched the Trave 384R, a simplified and more compact version of the original traysealing option, but still offering the same high line speeds, build quality, seal integrity, hygiene, and food safety.

Built with flexibility in mind, the new compact design further supports businesses with quick changeover tooling which increases machine availability and productivity while continuing to support a wide range of food packaging applications. These range from meat, fish and poultry to ready meals, dairy and pet food.

The Trave 384R is built for heat seal, gas flush, vacuum skin and vacuum skin protruding applications and, as standard, the package includes the tray sealer, a complete sealing tool, a tool trolley, delivery, installation and commissioning as well as an extended warranty.

Built to stock in the UK, the Trave 384R is available with rapid delivery options and flexible commercial agreements to support customers with ever-evolving demands.

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**Automation designed as a safe option**

Festo has further developed the BionicMobileAssistant, a prototype robot system that deploy artificial intelligence to move independently, identifying and gripping objects and adaptively working with humans. The company believes the system is perfect for differentiating good product from bad product, or for use as a personal assistant: for example, as a service robot helping in assembly or assisting workers in carrying out ergonomically monotonous work tasks.

It has a modular design consisting of three subsystems: a mobile robot, an electric robotic arm and a pneumatic gripper – the BionicSoftHand 2.0 – an earlier version of which was first presented by Festo last year. It uses a combination of compact valve technology, sensors, electronics and mechanical components integrated in the outer sides of the robot hand.

BionicSoftHand 2.0 wears a tactile glove with force sensors on the fingertips, the palm and the outer sides of the robot hand. This allows it to sense the nature of the item to be gripped, and to adapt its gripping force accordingly – just as the human hand does. Thanks to a 3D-printed wrist with two degrees of freedom, the hand can also move both back and forth as well as to the left and to the right.

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**The new unit will be built to stock in the UK**

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Cartoning machine embraces a smart design for total flexibility

In a recent project, Cama was tasked with designing and integrating one of its CL 175 cartoning machines into an electrical component fabrication line at one of the world’s largest automation vendors Rockwell Automation.

In addition to proving the integration capabilities of the control solution, Cama had to demonstrate that its machine would fit seamlessly into the rest of the line, the majority of which had been developed and built by US company Calvary Robotics, a specialist in the design and build of automated assembly, test and material-handling systems.

The line is designed to be as flexible as possible. So that small batches of the material-handling systems can be fabricated - to order just-in-time - as efficiently as possible, with minimum re-engineering and downtime.

“As a result, our packaging solution had to deliver a commensurate level of flexibility, to adapt and change to the various product throughputs,” explains Giovanni Panzeri, automation project leader at Cama.

It was Cama’s experience with the global automation supplier’s independent cart technology (ICT) that helped seal the deal as well as providing the all-important physical link into the rest of the production line.

“Cama was one of the first companies to deploy the iTRAK ICT in a customer application,” Panzeri explains, “so we already had a good grounding in its operation and how it could be leveraged to deliver the additional flexibility many end users require”. Using iTRAK, with its near limitless motion profiles, the individual product carriers within Cama’s machine, controlled by the central PLC, are pitched automatically based on the width of the product or product groups that require insertion into the cartons.

Thanks to this, the cartoner can work intermittently or continuously depending on the product and throughput required at any one time.

A vital element of this installation was the way in which the CL 175 integrates with the downstream assembly processes, as so not to cause any bottlenecks. This, as it turns out, was made possible using another Rockwell Automation ICT technology, this time the MagneMotion Lite.

Preceding the CL 175 cartoning machine, the Calvary Robotics line comprises three assembly machines, a product-printing module and two testing stations, arranged in a ‘U’ shape. All of the assembly and testing steps are interlinked using the MagneMotion ICT and so the MagneMotion technology was extended into the packaging operation.

“Thanks to the complete integration and the holistic control environment, having MagneMotion as the in-feed supply solution was a straightforward proposition,” Panzeri explains. “The Allen-Bradley control architecture delivers seamless interactions across all elements of the line, as if it is one large machine, so our packaging solution was simply another step in a larger process.”

Four Delta robots are handling vol-au-vents with delicacy, accuracy and speed in Italy

Sfoglia Torino’s vol-au-vent cases are so popular that when the company needed to meet higher volume demands, it decided on a robotic solution to speed up the packaging of three different sizes of product (38mm, 50mm and 60mm) direct from a conveyor into thermoformed blister packs.

An early challenge identified at the Italian plant was how to pick up (from the top) such a delicate product, and one which has so many variations in its finished shape. Especially with such high volumes passing through at high speed every hour.

**CONVEYOR TRANSPORT**

As the vol-au-vent cases leave the ovens, they are transported on a wire mesh conveyor into a cooling chamber before going on to be packed for dispatch. The packaging station downstream of the cooling section is essentially a cabin housing the conveyor and four Kawasaki YF-03N Delta robots, each equipped with some interesting vacuum gripping devices that lift the individual vol-au-vent cases three at a time with precision and also speed.

A vision system monitors the positioning for pickup and placement into the adjacent blister packs, and the complete system has proved to be a significant enhancement to Sfoglia Torino’s productivity.

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Manual handling process keeps to the correct temperature range

CKF Systems was commissioned to automate a process within the Rick Bestwick Chesterfield facility to reduce the manual handling requirements of its blast freezing process, increasing safety and also streamlining all the processes.

The temperature-controlled storage company receives palletised cases from customers in a chilled condition which require blast freezing for storage. To allow efficient blast freezing there has to be a suitable airflow through the entirety of the pallet, but on receipt the cases are palletised one on top of the other allowing no airflow between the layers. Previously this meant operators had to manually remove cases from the inbound pallets and place them onto a new pallet, inserting freezer spacers between each layer.

This was an extremely time-consuming, manual task, with cases frequently reaching weights of up to 25 kg and the layer cards also being large and unwieldy.

Using an ABB IRB 660 robot and a series of vision systems, CKF developed a new system that automatically detects the position of cases on the pallet in both the vertical and horizontal planes. A system was also developed to identify the position of the layer cards on a pallet or within the storage to accurately and repeatedly position the robot suitably.

Using a single tool, the robot picks and places full and part layers of cases, slip sheets, eggshell freezer spacers, UK standard pallets and Euro pallets. In operation, the system initially receives a pallet, stripped of all pallet wrapping into the system. It then automatically detects the height of the pallet, position of cases and whether it is a full layer on the top of the pallet or a part layer.

The robot places an empty pallet in the palletising position, followed by a slip sheet directly onto the pallet and then picks the complete layer from the pallet and places it onto the pallet, ensuring position and skew of the layer is corrected (in the case of a part layer, the robot will place these cases to one side temporarily). Once the cases are placed onto the pallet, a freezer spacer is placed onto the cases and the operation repeated until the donor pallet has been fully moved across with freezer spacers between each layer. Any part layers will then be placed onto the top of the new pallet.

After the pallet has been through the blast freezer, it is then de-palletised and re-palletised so that the freezer cards are removed from the pallet while product is then placed on a wooden pallet and a slip sheet for storage and shipment.

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Soup cooling facility upgrade delivers volume increase need

Thermal process solutions provider Holmach has installed a NIKO raining water tunnel cooler for hot-filled product in a soup manufacturing facility when this long standing customer needed to promptly merge sites and rapidly increase production volume.

Site space constraints were a particular challenge and so NIKO designed the new 20-metre long tunnel to be slid on top of an existing NIKO machine to allow for a ‘double deck’ operation. A leg support structure that was able to support the new deck while still allowing full access to the existing lower tunnel was also designed and installed.

ENERGY COST SAVINGS
Featuring a patented pump design, the unit offers savings of 50% of the energy costs compared with off the shelf pump/motor combinations, says Holmach. Delivering double the flowrate means that good temperature distribution across each deck is guaranteed.

Chilled water is used to rapidly lower the temperature after filling and the cooler features a double skin construction allowing insulation, again concentrating on energy optimisation.

Pasteurising and cooling tunnels can be constructed to any size and with multiple zones, specific temperatures can be set and held for any desired thermal process.

The German company specialises in difficult to handle products such as gherkins, lemon slices and half cherries which present challenges when moving across stainless filling tables and on weighers.

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Sula, a producer of hard and soft candies, relies on weighing and software solutions from Minebea Intec to deliver the shape, taste and consistency of its products in a variety of packaging formats.

The company uses the Synus dynamic checkweigher which is designed to offer reliable measurement results even at high process speeds and ensure that packs are ejected if they are outside the legally prescribed tolerance. In addition, the checkweighers can regulate upstream filling systems via the integrated control, should overfilling or underfilling of the packs become apparent.

The Synus checkweighers were developed in accordance with hygienic design guidelines to simplify cleaning processes. Their technology, menu navigation and design are geared towards simple and flexible changes in the production line so that a changeover to new or seasonal confectionery products can be implemented easily.

“The dynamic technology and ease of operation are the cornerstones of our system,” says Franz-Josef Laumann, Sula plant management.

The Minebea Intec software SPC@Enterprise is also used by Sula to monitor all its devices. The data collected ensures complete traceability, among other things for audit, while Sula can review it to evaluate and improve overall line performance.

Sycamore Process Engineering has completed a new yogurt manufacturing facility for family-owned farming and dairy company Yeo Valley. The facility will enable the company to produce its new Super Thick Kerned Yogurt and deliver greater levels of efficiency and consistency.

“The new capability that this project has delivered was an important step for our business,” explains Colin Hingley-Price, head of project delivery at Yeo Valley. “Having Sycamore as one of our major partners has been key to delivering this project to a high standard within a tight timescale.

“They have worked with us collaboratively to provide an exceptional processing facility that will produce high quality products for years to come,” he says.

The project, which kicked off a year ago, has many complexities and systems which needed to flow seamlessly and work together to produce the final yogurt to the right quality and viscosity. The plant needed to have the ability to process a significant volume of product per hour to enable the Somerset based dairy company to keep up with increased demand.

This facility includes the installation of insulated cream holding tanks; a new pasteuriser; a new CIP system designed, manufactured, and commissioned by Sycamore Process Engineering.

“Sycamore have been instrumental in not only the design, manufacture and installation of the new process plant, but also to provide advice and experience within their field and I look forward to working with them again on further projects,” says Hingley-Price.

A core component of Sycamore’s process installation at Yeo Valley was to increase energy efficiency when it comes to yogurt production. The pasteuriser and ultra-filtration plant both include a regeneration system which recovers heat used during the process and saves energy by not requiring as much steam and chilled water. This makes the design very effective and efficient, says Sycamore. Meanwhile, all aspects of the operation are optimised to minimise product, water, chemicals, heat, and service losses which was achieved by trimming interface volumes back of both product and CIP streams. 01963 441405 www.sycamore.uk.com

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Wearable device is a safer option

Comau’s MATE exoskeleton was chosen by IVECO to reduce the fatigue on the upper limbs suffered by the operators engaged in the heaviest activities inside the various production departments at its Brescia plant.

For employees working on the interior construction of minibuses, the company wanted a guarantee of the best operating conditions as part of its World Class Manufacturing (WCM) philosophy.

“We considered different types of exoskeletons, but Comau’s MATE immediately stood out as the ideal solution for our needs,” explains Paolo Gozzoli, WCM plant support at IVECO.

“First of all, we required a tool which could help our operators in activities involving the upper limbs without reducing their mobility due to its structure or size,” he says. “Another crucial feature for us was our conviction that a wearable device should be easy to wear and lightweight, also considering summer heat as a detrimental factor in terms of comfort. And according to the operators using Comau’s MATE, it is very easy to wear and like carrying a backpack that just needs a few initial settings to be immediately operational.

Adjusting the shoulder straps is also quick and easy, which is really important, because the MATE is shared with other operators on the line.

Scott Automation has designed and built a fully automatic palletising system for a renowned Viennoserie producer in Flanders, Belgium that has coped with the demands of its cold chain while reducing labour costs at the bakery.

Since the installation, production output has increased by over 15% with improved line efficiencies and fewer line stoppages while also benefiting from reduced product damage and rejects, reduced packaging material costs through greater accuracy of stacking and reduction in board quality. Improved pallet load stability, reduced internal pallet and fork truck movement and reduced supply chain returns have also resulted for the baker.

One of the main challenges of the project was not to interrupt the cold chain required for the frozen bakery products and so two high capacity palletisers, in combination with accumulation zones in the freezer, ensures that this objective is achieved. The Moeskroen factory has six production lines located at different points around this established site, with limited space at the end of each individual line. The baking and freezing processes are continuous and extremely time critical, so process stoppages are costly, detrimental to quality and time consuming to clear up.

The packing operations take place at ambient temperature, with a frozen product, which is extremely temperature sensitive. Any new solution needed to handle multiple case sizes with complex layer patterns, case weights up to 15 kg, occupy as little space as possible and offer flexibility.

VERTICAL ELEVATION

Following the brief, the Alvey Scott team developed a solution based on vertical elevation at the end of each line to maintain access and handling of the materials. Case transport at high level utilises unused factory space and brings cases to a central buffer area within a minus 25deg C cold store to protect the product.

Alvey’s clever high level buffering solution means the product can be kept at a safe temperature. In operation, and while building up a full pallet load, the buffer system enables continuous production and far fewer stoppages when compared to any directly coupled solution. The tables themselves are designed to run without any operator interventions and to be virtually maintenance free, which is ideal in such a cold environment.

Once a full pallet load is ready, cases are transported back out to ambient temperature and automatically palletised on one of two Alvey palletisers. Each palletiser has been rated for extra capacity and product flows can be switched to either unit depending on availability. Each palletiser has access to five different customer specific wooden & plastic empty pallet de-stackers and can apply multiple inter-layer sheets without disrupting production.

To protect the product, palletisation is continuous, with completed pallets being wrapped, labelled and delivered back into the cold store in under 5 minutes.
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Safer working now delivered

PPMA member companies have spent this year devising clever ways to help UK manufacturers

COVID-19 has made everyone change their ways of working, and this has been especially true for PPMA member companies trying to install, service or maintain processing and packaging equipment at their customers’ manufacturing sites throughout the UK.

At the beginning of C-19, when food factories were trying to meet unprecedented demand created by panic buying, there was a need for engineering support to keep factories running at full pelt. There was often also a need for new tooling to cope with different packaging formats due to pack rationalisation and also the complete shutdown of the hospitality sector.

These services were sometimes delivered by more engineers on the ground, but often remotely, most of which was needed in double-quick time, when end users were also screaming for hand sanitisers and, of course, when there was a chronic lack of PPE.

As things have moved on, remote services are also now being offered for other things such as workshops, routine maintenance and for FATS. Other services such as more flexible pricing options, new products such as touch-free door openings and special door handles, along with protective screens for factory workers have all now been devised.

There’s also a raft of thermal or infrared imaging options available today, there are uv-equipped mobile robots, there are new people-counting sensors and sensors for automatic hand sanitisers.

There have also been many installations of wrapping, cartoning, bagging and pouch making machinery for face masks, as well as face mask-making equipment and mask folding units being designed. Fillers for hand sanitisers, disinfectants and anti-bacterial wipes have also been selling well, while many PPMA members have also been helping to manufacture PPE themselves.

All of these stories are covered in this feature which has been put together as a way of helping manufacturers to either keep their factories efficient, upgrade their processes or change their ways of working due to self-distancing guidelines.

And with the C-19 outbreaks in food factories becoming more and more of an issue, you could argue that the need for better ways of working have never been greater.

As the great philosopher Plato once said: ‘Necessity is the mother of invention’ and on the next 29 pages you will find a host of new technologies, products, services and installations that have resulted from the global pandemic, many of which are simple and cost-effective solutions.

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Engineers are at C-19 sharp end

PPMA members have relied on their technical experts to cope with the relentless workloads

Lockdown has had a profound effect on many businesses, especially those trying to keep the nation fed during the first panic-buying days of the coronavirus pandemic.

For instance, Engelmann & Buckham’s engineers such as Ian Fairbanks, who has worked for the company for seven years, was on the frontline throughout lockdown. “We had to deliver engineering to some sites that are over three hours away from home, normally we would stay overnight and continue working the next day,” he said. “During lockdown, we had to commute long distances, work all day and do the same again the next day.”

These sentiments are echoed by Luke Murphy, director at GIC. “Machines on-site required attention and we were facing a backlog of installations, particularly in food production, so the team was run off its feet,” he said. “I think the biggest challenge for us was finding accommodation and subsistence if our engineers were required to stay overnight,” he continues. “One engineer, in particular, was away from home a lot as they supported customers.”

G Mondini UK invested in its service and support teams during lockdown with new technicians and technical co-ordinators recruited to help manage the additional demand and volume of incoming service support requests. This facilitated rapid local deployment of engineers to increase customer support and maximise machine up-time.

In addition, the company experienced an increase in the demand for tooling, to fulfil the temporary requirement for increased pack sizes across multiple packaging applications. Increasing its UK-based tooling stock meant it could offer a quicker response to requests.

Nord Drivesystems has kept up its delivery availability throughout the pandemic with production, logistics and service continuing to operate as usual due to its international network of local production and assembly facilities.

Measures to protect production and the supply chain have been joined by precautions to protect the employees at its plants. These include the contact-free change of shifts, extensive hygiene measures, including compulsory wearing of masks and keeping safe distances, as well as a safe workplace design.

This includes transparent partitions between the workplaces in the assembly area with all personal tools.

Furthermore, the company is pursuing its investments as planned pre-COVID. Currently, Nord is expanding its production and assembly capacities in China, Poland and in the USA. A new automated small parts store is also being built at its Bargteheide headquarters.

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SMC - more than just pneumatics
**Hygienic handles are making door opening, safer...**

Ifm electronic has used the skills and expertise of its development team – which usually works on the company’s industrial sensors – to devise a novel door handle adaptor that reduces the risk of virus transmission. The adaptor makes it easy for doors to be opened by pressure from an elbow, rather than by using the handle in the usual way, which involves touching it with the hand.

After testing the new adaptors in its own factories and offices, the company has now repurposed part of its injection moulding facility to produce the adaptors in larger quantities and make them generally available.

Moulded from durable and easy-to-clean high-grade plastic, the adaptors can be fitted in seconds to any round door handle with a diameter between 20 and 22 mm. No drilling is needed, there is no risk of damage to the handle and the adaptors can be removed just as quickly and easily as they are fitted, should this be necessary.

“Like most companies, we wanted to make a contribution to the control of the coronavirus,” said Rob Birkett of ifm electronic, “so our team of first-class designers, who knew that door handles could be a breeding ground for pathogens, came up with the idea for the new handle adaptor.

“So, less than three weeks after our designers had the initial idea, we now have the adaptors in full production, and we can offer fast deliveries for anyone who wants to purchase them.”

**Handling is super clean**

The new handle is available in nine colours: green, red, beige, orange, blue, black, grey, white and yellow ground for pathogens, came up with the idea for the new handle adaptor.

“So, less than three weeks after our designers had the initial idea, we now have the adaptors in full production, and we can offer fast deliveries for anyone who wants to purchase them.”

**STOPPING THE SPREAD**

Meanwhile, OEM is selling Conta-Clip’s new HYDH hygienic door handle. When the coronavirus crisis struck, the team first focused on protecting the health of their employees and safeguarding critical supply chains. Then they set themselves the task of contributing to the fight against the coronavirus with the HYDH hygienic door handle being a simple and effective device that helps prevent the spread of infection.

With the HYDH you don’t have to use your hand to open a door, you can use your elbow or your forearm. It’s quickly and easily attached to an existing door handle and no tools are required. These handles are suitable for a wide range of different door handles, can be mounted on both left and right-hinged doors and tamper-proof clamps are provided to protect against theft.

Each packaging unit contains one hygienic door handle with two tamper-proof clips, an illustrated manual and a self-adhesive label.

Moving onto the shop floor, Efaflex is now offering ‘touch free’ door opening at a distance from 5 cm to 40 cm. The latest ‘Clear View’ is a non-contact switch using microwave technology that is designed to replace push buttons to reduce the risk of any bacteria.

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Robots disinfect range of spaces

Omron and partners have devised a disinfection solution with its latest uv-equipped mobile robot

The need for additional hygiene procedures during COVID-19 has ignited new fields of application for robotics for disinfecting various spaces including mobile robots mounted with ultraviolet (uv) light attachments. The automation of disinfection with uv light improves health and safety, thus contributing to the fight against COVID-19 with mobile robots being ideal for uv lamp use, which are not safe for humans to operate.

The new Omron LD 60/90 autonomous mobile robots are ideal for disinfecting various areas, as unlike traditional AGVs, they navigate by the natural features of the facility and require no expensive facility modification. Safety lasers and sonar allow the robots to detect obstacles in their path to prevent collisions. Multiple mobile robots can operate within a facility as a fleet thanks to the company’s fleet management software.

Automation is used for disinfection processes

“We have now adapted our uv technology to help our UK customers during the pandemic to treat enclosed spaces with the same uv light,” explains John Kane, technical manager at Topline Electronics. “In choosing to use the Omron LD mobile robot, our company can move the proven uv technology around customer spaces easily.”

Washdown range has improved hygiene for users

Lafert Electric Motors has supported essential businesses in the food, beverage, medical and pharmaceutical sectors through what has been, in some cases; their busiest times, particularly with its Marlin stainless washdown range of motors, gearboxes and IP66 inverters.

Due to customer demand and expectations in these sectors, the company remained fully open and stocked throughout lockdown and says it has managed to keep up its high level of support and fast turnaround.

“This has been critical to many companies for whom reliability and continued production is vital and in the case of the Marlin stainless range, where conventional motors may cause issues either through failure from ingress, or from a hygiene perspective,” explains Brian Bannister, managing director at Lafert. “We have been able to maintain our high level of on-time deliveries and order fulfilment of motors for mixers, pumps, conveyor systems and all manner of food and pharmaceutical processing lines.”

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Mixing it up for hand sanitisers

The entire range of mixers from Silverson have been supplied for hand sanitisers worldwide

Silverson Machines has supplied a number of machines to customers for the manufacture of hand sanitiser products including laboratory scale, pilot scale and full production scale batch mixers since COVID-19 began. A special unit normally used for the production of sauces was sent over to Malaysia for instance, assisting in the attempt to reduce transmission of the virus by using hand sanitisers, as well as showing the flexibility of the mixing equipment.

Another customer, a gin distillery in the UK, was able to pause its gin making and quickly begin producing hand sanitisers thanks to Silverson. As part of the fast delivery service offered by the company, it was able to quickly supply the distillery with a Flameproof Batch mixer so they could begin production. In this instance a Flameproof ATEX motor was specified as the hand sanitiser solution contained 80% ethyl alcohol.

There are a number of active ingredients used in hand sanitisers, but the most effective sanitising products are based on alcohol, usually isopropyl or ethyl alcohol. The alcohol is blended with an aqueous dispersion of carboxymethyl cellulose to provide the gelling effect. Although Carbopol makes up a very small proportion of the overall formulation, as with many powder/liquid applications, it has its own set of processing problems that can sometimes be exacerbated by conventional agitators. Carbopol is a low density powder which tends to float when added to water, requiring vigorous agitation to be incorporated. Carbopol also tends to form agglomerates when added to water, and a conventional agitator is unable to break these lumps down and fully hydrate the powder. This leads to poor yield, long mixing times, poor consistency and variations from batch to batch. To overcome these problems, many manufacturers are specifying high shear mixers for this application.

The high speed rotation of the Silverson rotor/stator workhead forces the powder directly into the high shear zone, rather than allowing it to float on the surface of the liquid. Any agglomerates that may have formed are immediately broken down in the gap between the rotor and the stator.

Once the carbomer is fully dispersed, the alcohol phase is added. Silverson In-Line mixers allow this via a manifold at the inlet of the mixer, ensuring that two phases are mixed immediately on contact.

As well as providing mixing equipment for hand sanitisser applications, Silverson has also created a ‘How to’ video and application report on hand sanitisers. The video demonstrates how Silverson high shear mixers can effectively disperse the Carbopol used in the formulation to then guarantee an homogeneous product, batch after batch.

The Silverson GX batch mixer has been in demand

Feature: COVID-19

Karmelle has answered the need for increased demand for hand sanitiser by designing, manufacturing, installing and commissioning two lines for a customer in just eight weeks.

The company supplied two turnkey bottling lines to West Yorkshire contract packing specialists Liquipak which has enabled it to fill, cap and label 50,000 units of hand sanitiser per day. Liquipak was contracted to pack the sanitiser for a market leading hygiene brand that needed help to meet unprecedented demand as a result of the COVID-19 pandemic. The Liquipak team reached out to Karmelle, whose engineers recommended two complete filling, capping and labelling lines to deliver these increased volumes.

The two lines were designed and manufactured in Karmelle’s Huddersfield facility.

Line one comprised a 4 head 1 litre filling machine, a 4CT capping machine, and a front, back and wrap labelling system. The second line featured an identical capper and labeller but a larger 8 head filling machine. Both lines were delivered to the contract packer within a couple of months which has been appreciated by the customer.

“Karmelle pulled out all the stops to ensure that the equipment was up-and-running as quickly as possible,” explains director at Liquipak Simon Dickinson. “Their engineers have also been on hand to provide aftercare and support,” he said.

www.karmelle.com

Lines were supplied in eight weeks

50,000 units of hand sanitiser a day is filled
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Supplying quickly with a special price

With quick turnarounds from order to installation, remote VPN assistance and payment options to suit different businesses, Multivac’s large product portfolio of packaging and processing machinery were readily available to keep critical food production and medical supply lines running during lockdown.

“At the start of lockdown in March, one of our customers faced a catastrophic failure on a second-hand machine they had previously purchased from a dealer, resulting in the complete stoppage of one of their critical food production lines,” says Phil Crozier, business development manager at Multivac. “Within 72 hours, a new machine was installed, and the customer’s production line was up and running again.”

The company has also been able to supply FRITSCH bakery equipment, including the ROLLFIX dough sheeters and cutting tables, at a special price aimed at artisan bakers needing to upgrade or replace existing machinery during these difficult times.

Online Workshops are tailor-made

Phoenix Contact has created the option of a bespoke online workshop which demonstrate how the company can help users create and maintain a competitive edge. These Phoenix Contact Online Workshops are tailored for individual requirements and held in an individual Microsoft Teams meeting to cover topics such as cabinet optimisation, cloud-based energy management and also robust communication.

Hygiene needs are met, easily

During the last five months, designer and manufacturer of hygiene equipment Unitech Engineering has been swiftly turning around requests from customers requiring answers to COVID-19 problems.

One such request came from a major convenience food manufacturer that needed a new solution to meet social distancing requirements for its employees working along production lines in close proximity. Unitech therefore designed, manufactured and installed protective screens with hygienic stainless steel frames and clear plastic sheeting to protect workers along five of the manufacturer’s production lines.

These screens were then later adapted for another customer who had requested a portable option for its manufacturing plant. The frames were fitted with castors and designed to fold in multiple ways for versatility and easy storage.

The company already supplies a wide range of sinks, but it has since adapted the design of its wash troughs, usually supplied with knee operated or sensor operated spouts, to be wand operated following a request from a client. The units were also adapted to incorporate Dyson wash and dry spouts making the hand cleaning and drying process fully contact free.

One customer requested a wash unit for use outdoors to allow delivery drivers to wash their hands upon arrival and on exit from its site.

NEW PPE CLEANING STATIONS

Unitech has also developed PPE cleaning stations in response to the current situation which were required at a large poultry processor to ensure workers were protected from splashback from other workers while washing. Each cubicle is separated by a stainless steel partition and the unit can be easily and quickly washed down after use.

Unitech also offers bespoke hygiene entrance equipment, including boot wash machines, barrier railing and hand sanitising turnstiles.

Workshops offer benefits

Phoenix Contact has created the option of a bespoke online workshop which demonstrate how the company can help users create and maintain a competitive edge. These Phoenix Contact Online Workshops are tailor-made for individual requirements and held in an individual Microsoft Teams meeting to cover topics such as cabinet optimisation, cloud-based energy management and also robust communication.

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Helping everyone to distance safely

Sick UK has developed a couple of SensorApps that help people keep their distance at work and in public spaces.

Responding to the need for technologies to slow the spread of COVID-19, Sick has developed PeopleCounter and DistanceGuard SensorApps which help to ensure that people keep to the recommended distance apart in working and also in public spaces.

The PeopleCounter is a SensorApp based on a machine learning algorithm running on the company’s MRS1000 3D LiDAR sensor. One or more sensors can be easily set up to count people at entry and exit points or allow users to control the number of people occupying a pre-defined area in real time. Because the system can reliably detect human contours, while ignoring other objects, customers or workers are counted accurately as they enter or leave buildings or other pre-defined spaces.

ON-BOARD ALGORITHM

The PeopleCounter works by using a specially-developed on-board algorithm to evaluate the point-cloud data generated by the MRS1000. Because the SensorApp can use data from the MRS1000’s four 275 degree scanning layers to determine direction of movement, the number of people in a monitored area can be updated in real time. The system can identify more than one person in parallel independent of their direction (in or out) within a range of up to 3.5 metres.

As it only sees the human outline, the PeopleCounter is able to process data at high-speeds and is completely anonymous with no need to detect or record any personal location or identification data.

Meanwhile, Sick’s Social DistanceGuard App works on the TIM 2D LiDAR sensor to monitor areas where the recommended distance between people must be upheld and provide an alert if they are too close. A signal, in the form of a light, audible alarm, or visual signal is triggered as soon as the distance between two people falls short of the minimum.

The on-device settings can be used to input or change the required distance at any time.
solutions,” explains Sick’s UK product manager for imaging, measurement and ranging, Neil Sandhu. “When combined with Sick’s programmable, high-performance LiDAR scanning technology, the result is simple, self-contained devices that are quick to install, and easy for customers to integrate into wider customer control or monitoring systems.”

The sensor helps in self distancing.
**Turnaround was quick for wrapper**

PFM Packaging Machinery played its part in a co-ordinated effort to help a new customer get vital, life-saving medical equipment to the NHS frontline quickly for use in the battle against COVID-19. A UK specialist manufacturer of respiratory products for critical, perioperative and neonatal care turned to PFM for the first time when it desperately needed to expand its packaging capacity to meet with surging demand for ventilator tubing.

Fast turnaround was the key factor for the manufacturer, especially with the challenge of travel restrictions in place due to lockdown – PFM UK had the ideal equipment in stock at its Leeds facility, the Pearl flow wrapper. A thermal transfer coder for labelling was also required, which was supplied and installed quickly by Clearmark Solutions.

After receiving samples of the product for packing, PFM’s engineering team prepared the Pearl to the required specification in company-record time. Videos of procedures for installation and operation were supplied that enabled the customer’s staff to get the machine up and running on site very quickly, with just a couple of phone calls for guidance.

“The Pearl was in stock and is simple to operate and so after receiving the samples we were able to send a video to the customer demonstrating the machine wrapping its products,” explains PFM sales and operations director Chris Bolton.

W www.interactivecoding.co.uk
W www.pfmuk.com

**Flexible fillers deliver gains**

Tristel Solutions automates disinfectant filling with four more benchtop fillers from Adelphi

Tristel Solutions, a global manufacturer and supplier of infection control, contamination control and hygiene products, has invested in four new Response benchtop fillers from Adelphi to keep up with demand for its disinfectant products in recent months. The four new fillers were supplied in April and bring the company’s total up to 10. With production up as much as 50% in some instances, the machines are all filling the two key disinfectant products which Tristel has geared its production to, in response to the coronavirus outbreak. These include Distel, a fluid for cleaning and disinfecting hard surfaces within hospital environments, and Jet, a powerful sporidal disinfectant, with proven effectiveness against SARS-CoV-2.

Tristel is also now running the Response Automation Base with four individual benchtop fillers. “The Response machines have really come into their own,” says Jenny O’Callaghan, production manager at Tristel. “We’re able to incorporate the Response’s into our automatic line or use them manually as production requires,” she said.

The new machines arrived within four working days of production engineer Peter Twelftree’s order being placed; “they were up and running quickly,” he says. Despite seals having become damaged in transit when the first two of these new machines were shipped, Twelftree remembers that “Adelphi got the replacements shipped out quickly along with our second two machines, and packaged them differently the second time, so no more damage occurred.”

When asked whether he had considered using any other machinery suppliers to help Tristel meet their increased production demands, Twelftree said: “I like the Response machines, I wasn’t worried about looking for someone else as they’re reliable and not temperamental.”

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The clamps enable simple assembly of ‘sneeze screens and shields’ for industrial safety enclosures, guarding of machines or workstations. Also, easy installation of protective panels onto industrial frames in steel or aluminium extruded sections is provided. This range has been extended with the PPR series in black or grey, for plain panels between 4 mm to 6 mm, or for wire mesh as an aid to ensuring compliance with machine safety requirements such as ISO 13857 para 4.2.4.

They are suitable for architectural panels and similar, such as stair panels, partitions, balconies and more. Clamps can be fitted to standard 1 inch square tube without drilling and come with or without internal vibration damping rubber grip pads for plain panels, or with locking teeth to suit electro-welded mesh type TEC (maximum wire diameter 3 mm). They are constructed in tough glass reinforced polyamide with flush mounted M5 AISI 304 stainless steel fittings for a quick and simple clamp-in-place installation.

www.elesa.com
Cartoner meets mask volumes

Cama’s side-loading cartoner has met current needs while also adapting for future demands

A recent plant-upgrade project for one of Cama’s UK customers couldn’t have come at a more important time. The customer, a major science and technology company that supplies a multitude of market-leading products to both industry and consumers, needed to replace a 20-year-old packaging machine to significantly boost throughput on its line.

“The incumbent machine, which is used to pack face masks, was creating a bottleneck in the production line,” says Mark Brooker, director of Cama UK. “Our customer needed to take its packaging throughput up to 400 products per minute, from its current level of 300.

“Even though the on-site engineers were highly capable and had already overseen multiple machine enhancement projects on other elements of the line, this two-decade old machine really had maxed out its potential and needed to be replaced,” he continues.

“As it turns out, the engineers on site really liked our proposal,” Brooker elaborates, “and they realised that our CL179 machine would not only fit the physical space, but would also blend and integrate very well with the existing technology – in terms of both its hardware and software. We were also able to offer a wider variety of options and could deliver multiple proof points of these machines in action in similar applications around the globe,” he said.

The Cama CL179 side load cartoning machine is well suited to non-woven products such as face masks, where it is already serving customers, handling soft-compressible materials, such as those found in feminine hygiene products as well as cosmetic and baby wipes.

The company’s CL horizontal cartoning machine series has been developed and continuously improved to offer high-performance and reliable solutions for side-loading applications. In this application, the machine delivers high speed, pocket based in-feed solution where products are fed either as single elements or pairs (depending on the product type). The products are gently compressed individually before being compiled into the packaging counts, where they are compressed once again before being inserted into cartons, in boxes of 20 or 40. Switching from single valve-equipped masks to double arrays of basic non-valve masks takes a matter of minutes.

“The machine is tailored to this application in the fact that it has a leaflet insertion and verification solution, which is unusual for these types of machines,” Brooker concludes. “It also has in-built flexibility to cater for future performance upgrades, especially in terms of product throughput.”

Cama UK has supplied a CL179 cartoner to pack face masks at higher speeds needed
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The global crisis in PPE supply earlier this year has seen a host of engineering skills deployed to try to tackle the issue. Antalis, for instance, launched a range of PPE solutions to protect people working in offices and warehouses and other commercial environments from COVID-19. Its protective face visors are made from a range of clear materials to ensure maximum hygiene and a high degree of clarity while disposable face masks are also available in a variety of materials and can be used in combination with these protective visors. Disposable aprons made from polythene are designed for single use to prevent contamination. Clearmark Solutions utilised its engineering and design knowledge to produce and donate PPE face shields to local NHS facilities that were experiencing shortages. This has been achieved by utilising its 3D printing systems to print the new visor components. The systems were initially introduced by Clearmark to manufacture bespoke parts for the coding integrations systems, offering increased accuracy and manufacturing flexibility.

**BESPOKE FACE SHIELDS**
Now, alongside creating bespoke parts, these 3D printers are used to produce the mounts for PPE face shields, while Asmech Systems laser cut the clear Perspex part of the shield which attaches to the 3D printed mount.

During the crisis, Minebea Intec donated 50 protective masks to Royal Glamorgan Hospital in the fight against the coronavirus crisis and continues to donate masks to hospitals in need. It formed part of the company’s European effort which saw the distribution of a total of 17,000 N95 protective masks around 17 European locations.

The company said its responsibility was to protect not only its own employees, but also the local communities and regional economies. Meanwhile in Italy, the Marchesini Group and the University of Bologna created a prototype that produces super filtering material for masks. It enables the production of filtration materials for face masks with greater protection against viruses and bacteria compared to materials currently in use. This new type of filtration material for masks is based on electrocharged polymer nanofibres.

And in the US, employees at Vortex designed and produced cleanable, and reusable, face shields for the local hospital, Salina Regional Health Centre. In addition to the production of face shields, Vortex temporarily shifted from producing the Vortex Iris Valve to creating face masks for its essential employees. Sewing machines typically used to create Iris Valve sleeves were used to sew these masks.

In March, Intamac Packaging Systems began importing new mask-making equipment from the Far East. The IPS-KZ-N95 and IPS-KZ-1-2 mask-making machines were designed by its Chinese manufacturing partner and it has received unprecedented interest from businesses looking to adapt and help the fight against COVID-19 in the UK.

Festo, too, has been offering engineering support for mask making equipment, by supplying electric and pneumatic components as well as software for a new containerised production facility that enables businesses and healthcare organisations to produce their own masks.

The mini factory uses a scalable system that can produce between 50-100 face masks per minute.

Electric and pneumatic components from Festo ensure the reliable transport of the parts or perform clamping tasks at every stage of the process, from the three-layer...
unwinding station, to the shaping and folding station for the non-woven fabric, on to the ultrasonic sealing station for sealing the edges and finally attaching the ear loops.

When the crisis in PPE was at its height, Schib Packaging, a BW Flexible Systems’ company, lent a CO-50 flow wrapper machine to an Italian-based contractor, at no cost, to package face masks destined to help combat the spread of COVID-19.

FREE OF ANY CHARGES

When a local business converted its production for textile-finishing products to making face masks, instead, the packaging machinery supplier didn’t hesitate to help out. “Knowing the huge need for masks in Italy at that time, I didn’t think twice,” said Alessandro Stiffan, Schib’s general manager. “We already had the availability of a Schib CO-50 machine which is a good fit for packaging face masks.”

Meanwhile Screenworks, a company previously known for garment decoration in the promotions industry, has launched a new Bumpaa anti-viral facemask and snood which is treated with ViralOff technology. These products have been in high demand since inception which is why Friedheim supplied a Serienpacker S1750XJ from Beck Packautomaten within a week of the initial enquiry. This machine is capable of the consistent high speeds necessary to bag 600,000 masks, it sets up quickly and can handle over 1,800 items an hour, says the company.

The new Bumpaa anti-viral facemask
Fever screening units explained

Here are three options for checking temperatures that are designed to help businesses keep open

It is said that for fever screening devices to be truly accurate, they have to measure the temperature of a person’s Medial Canthus or tear duct region as it is generally accepted as a region that offers the closest correlation to the core body temperature. Another key prerequisite in determining whether a system is worth its salt, is the use of a ‘black body’ reference source.

As Dr John Dunlop, founder of Bytronic Automation warned in an open letter to industry in April, the margin for error in ‘off-the-shelf’ skin temperature software currently being rolled out could be up to six times greater than existing international standards allow.

“Checking temperature readings of crowds of people tells you something and nothing at the same time,” he wrote. “The margin for error could be up to three degrees, which in medical terms is the difference between good health and a serious cause for concern.”

Acrovision agrees and says that with so many offerings suddenly appearing on the market, potential buyers of such equipment should be asking themselves a number of questions about tear ducts, pixel resolution and black body reference source. Also, potential users should ask if the solution comes with a certificate of calibration.

Acrovision has launched the AFS-100 fever screening solution that it bills as reliable, accurate and versatile. It meets the ISO 80601-2-59:2017 standards for ‘Basic Safety and Essential Performance of Screening for Human Febrile Temperature’ and is designed to be easy to install and use, and yet remain ultra-accurate in its results.

The system consists of a high resolution thermal imaging camera, feedback monitor, plus the all-important ‘Reference Box’ that ensures the accuracy of +/-0.5deg C.

As an option, the AFS-100 offers a Data Collection bolt-on, which allows the use of Personnel ID cards to both trigger the camera and to log individual’s temperature measurements for further analysis or tailoring of results. It is also worth knowing that Acrovision is pleased to say that 10% of the profits from AFS-100 sales will be donated to the NHS.

In designing the solution, Acrovision analysed what the market needed and what was required to ensure the system was ‘fit-for-purpose’ and gave the greatest chance of highlighting fever-like systems. In operation, the AFS-100 targets the Medial Canthus area; it analyses every pixel (approximately 1.3 mm) of this area and highlights the hottest region before...
using a Reference Body to ensure the required accuracy, regardless of changing ambient temperatures.

Bytronic Automation’s new elevated body temperature (EBT) detection system measures body temperature by scanning the area around the tear duct and is accurate to within half a degree centigrade, meeting existing international standards. High temperatures automatically trigger an alert, either on screen or through a light or sound alarm – with that result immediately recorded to a database, giving a highly accurate indication of a possible fever or underlying infection.

**DISCREET INSTALLATION OPTION**

This EBT system can be discreetly installed at existing barriers or building entrances and is fully compliant with existing ISO and FDA regulations.

“The launch of this system is one small, but vital, measure to help combat the spread of disease and get businesses back open,” says Dr Dunlop. “We’ve combined Bytronic’s HotSpot software with our experience of vision systems and thermal inspection to provide a screening solution that’s highly accurate, meets all international standards and doesn’t require a constant human presence.”

To meet all agreed international standards for accuracy, the Bytronic EBT system scans the area around the tear duct and compares human body temperature to a fixed ‘black body’ temperature emitter within the same camera shot that is constantly re-calibrated, giving an accuracy level of between 0.3 and 0.5 degrees centigrade.

For accuracy, the EBT system will only scan one face at a time, not groups or crowds, and with glasses or eye coverings removed. It must be used with a high-resolution infrared camera with a minimum of 340 x 240 pixels, which can be included.

Micro-Epsilon has introduced the thermolMAGER TIM QVGA-HD-T100 infrared camera which is supplied with a certificate of calibration that validates temperature measurements made against a traceable $35\degree C$ temperature reference source (black body). The camera is accurate to $\pm 0.5\degree C$ when used with the TM-BR20AR-TIM black body source, which means it can provide reliable skin temperature measurements for fever detection systems. It is ideal for integration into an automated monitoring system which can be used in real time at point-of-entry into establishments, to prevent people with elevated body temperatures entering.

**THERMAL IMAGING CAMERAS**

“The basis for the effectiveness of thermal cameras as a fever screening tool lies in the correlation of outside skin surface temperature with that of the internal or core body temperature,” says Glenn Wedgbrow, business development manager at Micro-Epsilon UK.

“As a supplier of thermal imaging cameras, we are fielding many questions from existing and prospective customers with regards to their use as a screening tool for COVID-19,” he says. “Although our cameras do not detect any specific virus or condition, they can be used to detect elevated body temperatures in humans, which may indicate a possible fever.”

Individual screening is primarily used at controlled entrances and security gates. The Medial Canthus (tear duct) provides the strongest correlation between outside skin temperature and core body temperature and is measured more precisely from a close distance. This method is also best for detecting low grade fevers.

For this application, Micro-Epsilon recommends the thermoIMAGER TIM QVGA-HD-T100 infrared camera with 29 degree optics placed at a distance of 1 m from the target, or the same camera but with 13 degree optics at a distance of 1.5 to 2 m from the target. To achieve an accuracy better than $\pm 0.5\degree C$, the imager must be combined with the TM-BR20AR-TIM Black Body Reference Source.

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The first challenge for Intamac occurred at the start of lockdown and the imminent arrival of an IPS-8BT stand up pouch machine urgently needed by a British co-packing business. A normal FAT would have taken place in Italy, but it quickly became obvious that this would be impossible. Instead, it was delivered to its warehouse in Petersfield, then given a deep clean before the UK engineers performed a virtual FAT.

Helping to install new and vital equipment at food manufacturers in lockdown drove the need for digital FATs at Engelmann & Buckham. Its principal Volpak has developed a streaming platform for a live FAT that allows interaction with the customer in real time with a number of remote FATs already successfully completed.

**CHEESE CUTTING LINE**

ixapack Global helped to set up a cheese cutting line remotely from its site for one of its customers in Eastern Europe. To achieve this, teams connected to the customer’s network, but also directly to the new block cutter and two portioning machines, specifically with access to the different cells of the equipment.

Line commissioning was first carried out in empty mode, with the support of the teams on site for direct response by video to ensure the correct functioning of each station. Product was then introduced, and portions cut in variable weights very successfully.

AMP Automation has been incorporating remote access systems into its machines for several years, and the company believes it has never been more evident of how important it can be for all parties than in the last few months.

During the early travel restriction period, the company had a customer who had a problem with a machine installed overseas. To handle this, its remote service team accessed the software, found the problem and had the machine up and running very quickly. However, the line stopped again after only five minutes, and following a further fast investigation, a problem with a motor was identified. The error code showed the motor was overheating.

The time taken between the initial phone call from the customer to the new motor being packaged and despatched by courier was just six hours. “This is a very quick turnaround, and a much faster scenario than someone flying out to another country to identify the problem,” explains Adam Malpass of AMP Automation.

**A STEP-BY-STEP GUIDE**

Following its despatch, a simple step-by-step guide was sent to the customer showing how to calibrate the new motor within the machine. “While the customer was able to do this with the guide provided, there was still the option of remote access by one of our service team members if needed,” Malpass tells Machinery Update.

Other companies that have been actively offering remote services are OAL, who has begun offering remote training sessions, something that had only been carried out on-site previously; Ulma’s Remote Services is a suite of tools designed to offer flexible packaging machinery servicing support and maintenance, with optimal efficiency and security in
mind, and many of Proseal’s customers have taken advantage of the additional connectivity offered by upgrading their machinery to have an internet gateway installed. This allows Proseal engineers to remotely dial into the machine while speaking with the engineers on site.

Lots of PPMA member companies have also set up on-line showrooms. Minebea Intec, for example, now offers a digital platform for new and existing customers to visit one of their showrooms in a virtual space. Via an online video conference, interested parties have the opportunity to ask experts questions, see live product demonstrations and get the best solution for their individual requirements.

VIRTUAL DEMO SERVICE
At the same time, Endoline Machinery has introduced a new virtual machine demonstration service to ensure end-of-line machinery specifications are met exactly, without the need for face-to-face interaction, while Romaco has also set up a virtual showroom as well as harnessing digital channels for servicing and maintenance.

Flying in the face of all this remote interaction is Shemesh Automation, who managed to solicit the help of US Senator Ron Johnson to clear the path for some of its technicians to pass through the US border on a temporary basis to ensure all its US customers could be fully supported during the pandemic.

With manufacturers of disinfectant wipes and hand sanitisers urgently needing to upscale production, Shemesh has doubled its engineering team as well as other departments, with an overall headcount increase of 35%.

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Smart options are offered by ABB, B&R and KEB

ABB’s Robotics and Discrete Automation business has launched a special package of digital solutions as well as virtual and field service support initiatives to help businesses restart production lines that may have been idle for weeks or months during the COVID-19 pandemic.

As well as helping customers to troubleshoot and fix issues related to robots and operations lying dormant, the offer includes several ABB digital tools to help customers optimise processes and be more proactive in maintenance activities, which will help reduce costs in both maintenance and production areas.

The company is also supporting its customers with a virtual consultation and audit to help identify issues and support needed and delivery of spare parts to ensure customers have the correct part in stock for a quick and effective restart to production and to minimise risks in the restart process. Alternatively, old controllers or manipulators can be upgraded to extend the life of installed robots.

“In addition to virtual training, field service teams and spare parts, we can help customers remotely monitor, troubleshoot and optimise entire robot fleets via ABB Ability Connected Services,” says Sami Atiya, president of ABB’s Robotics and Discrete Automation business.

Meanwhile, B&R Automation is offering continuous, secure monitoring of machine data from a distance. Through LogTunnel, a feature of the company’s secure remote maintenance platform, machine builders can establish a continuous connection to plants and machinery in the field. With LogTunnel, data from machines all around the world can be archived in a central location and any irregularities in performance can be detected early to help maintain maximum availability.

Connecting smart gains

LogTunnel is a feature of B&R’s secure remote maintenance solution, and it offers continuous, secure monitoring of machine data from a distance.

The secure remote maintenance platform lets companies check in on plants and machinery anywhere in the world from an office or on the go and users can even take control of equipment if necessary – as if on site. Through continuous data logging, LogTunnel allows faulty components to be detected early and service intervals to be optimised. Setup is a simple matter of drag-and-drop and requires no special IT know-how. The platform functions in accordance with all the latest IT and cybersecurity guidelines, says the company.

**SECURE REMOTE ACCESS**

Another option for maintenance comes from KEB. It has introduced a hardware and software solution that provides users with a fast, secure remote access maintenance platform for industrial machines and automation systems. This concept of remote maintenance offers many advantages and opportunities, including not having to expose employees and customers to unnecessary risks – which is a particular challenge in the current global coronavirus pandemic.

Remote maintenance can remove the need to travel to machines or plant equipment and therefore saves time and travel costs. Technical experts can also provide support more quickly. Remote maintenance solutions make it easier to access devices from a different location, for example, during commissioning, maintenance work, troubleshooting and machine status analysis.

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Adding to the green debate

While coronavirus has delayed some packaging eco goals, the drive for sustainability remains.

With the long-trailed Plastic Packaging Tax and Deposit Return Scheme being put back until 2023, people are asking if the sustainable packaging effort can survive Covid-19? Whatever the timescales however, there is no doubt about the important role that packaging equipment manufacturers can play in the continuing drive for more sustainable packaging solutions.

Equipment manufacturers are working on power consumption reductions, lower compressed air usage, switching to central vacuum systems, and using less material to wrap products, to name but a few. Sustainable goals are definitely on the table in terms of NPD, as our feature on pages 62-63 illustrates.

But while new pack styles that reduce the amount of materials being used, including more recycled content, are being developed, they still need to be handled reliably and speedily on packaging equipment.

Another element that always needs to be in the mix is food waste, not just packaging waste. “Packaging materials and equipment can contribute to the reduction in food waste through various technologies,” says Torsten Giese of Ishida Europe. He highlights the company’s developments in modified atmosphere packaging, its leak detection equipment called AirScan and x-ray inspection units.

As the new Ecodesign Directive comes into force throughout Europe in the summer of 2021, the energy efficiency of standard asynchronous motors, in particular those designed for continuous operation, will have to continue to improve. To make this transition, Lenze has started to compile some basic information, as well as a checklist, for OEMs and machine operators.

Lenze is also launching a new motor platform with the m500 series, while an intelligent web-based planning and conversion tool is also on the cards. The company has set itself the goal of making the switch to the new m500 motor generation as easy as possible for its customers and to further optimise the machine with its consulting services in one fell swoop.

One thing Domino Printing Sciences says is that ease of recycling can present an opportunity for manufacturers when it comes to thinking about a coding solution, particularly when coding with inks. “While some new sustainable packaging materials in the form of recycled plastics, paper and compostables can prove challenging from a coding perspective, recycled food and beverage cans have been part of the equation for years,” says Russell Wiseman, head of global beverage solutions at the company.
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Feature: Sustainability

Making a material difference

Machinery manufacturers are developing equipment to handle new, or less of the same materials to meet sustainable goals.

In the search for more sustainable solutions, machinery supplier Multivac and materials company DS Smith have teamed up to design and produce ECO Bowl – a new solution for fresh foods in modified atmosphere packaging (MAP) based on corrugated cardboard. The two companies have formed a strategic partnership to ensure maximum scalability of the ECO Bowl solution to customers in food production and retail industries across Europe.

The new pack is a fully recyclable corrugated cardboard tray covered with a plastic skin film and a lid film that reduces plastic by up to 85% versus a traditional tray. And ECO Bowl’s plastic skin and lid film can be easily removed for disposal, leaving the corrugated tray for recycling.

This new option is designed to run on Multivac thermoforming packaging machines and tray sealers and can guarantee equal shelf life when compared with MAP packs for fresh food, or even improve it, says Multivac.

Moving sectors, and with its Innopack Kisters tray packers, KHS is now enabling cans of food and beverages to be wrapped in paper. The new technology provides an alternative to shrink film or wrap-around cartons. “Our customers now want alternatives to the usual packaging systems such as film which should be as eco-friendly as possible,” says Karl-Heinz Klumpe, packaging product manager at KHS. To this end, the paper wrapping has now been developed together with an international beverage producer and works on packs of 12 or 24 cans at up to 90,000 cans per hour. KHS has also just developed a returnable PET bottle with Alpla.

Heat-sealable paper pouches are now being offered by Volpak on its equipment, a pack format that is suitable for a range of foods including confectionery. These pouches can be etched or flexo printed to stand out on shelf. The company’s machines, which are available in the UK from Engelmann & Buckham (E&B), can also produce flexible pouches made of coated and uncoated kraft papers.

Meanwhile, Holmach’s new partner, Atlantic Engineering of Belgium has developed and patented a solution that aims to cut plastics use, reduce transport costs, waste and improve food quality all in one compact solution. Billed as reducing plastics usage by 90% when compared with 3, 5 and 10 litre buckets, Innofill by Atlantic is a large pre-formed pouch filler that can be connected directly to a cooking vessel.

RECYCLABLE STRIP PACKAGING

Outside food, Romaco says that several international pharmaceutical companies are currently testing its Push Packs, its recyclable strip packaging for pharmaceutical solids that it developed with materials supplier Huhtamaki. The structure of the strip packaging foil enables it to be recycled back into the material loop, according to the UK agents Pharma Machinery.

In operation, Huhtamaki’s foil is processed into four-side sealed strips with a push-through function using Romaco Siebler’s heat-sealing technology. The Push Pack foil has the same barrier properties as blister foil but is much thinner and lighter. And as well as offering materials savings, the packs...
can be up to 60% cheaper than Al/Al blisters.
Back to foodstuffs, and Optima has developed a recyclable coffee capsule system that features a single-material capsule with recyclable lid film and a compatible packaging system. Working with partners to devise the ‘Green Lution’ system, it includes Optima’s CFL machine that combines filling accuracy for a variety of coffee types in minimal space, with optimal film utilisation, lower energy and gas consumption and a minimum production reject rate of below 0.05%.
Audion says it gets asked a lot about the materials that it offers to be processed on the machinery it manufactures which is why it is now supplying and using 100% recycled plastics for its equipment. The company is highlighting this fact on the bags its equipment makes so that when a product is packed, the end customer is left in no doubt.

The Speedpack Hybrid is a packaging machine that utilises both rollbag and bags on a roll which gives customers the option of making a recycled bag at whatever length required which minimises material waste as the bag can be made to suit the product.

POST CONSUMER WASTE
Yorkshire Packaging Systems (YPS) has just expanded its shrink film range with the addition of recycled-content polythene films to help businesses across the UK meet their circular economy goals, as well as future-proofing their wrapping operations by achieving Plastic Tax exemptions.
Responding to increasing customer demand over the last six months, YPS’s decision to supply post-consumer waste films is designed to offer relief for users with environmentally-friendly packaging aims as well as cost considerations. These films, which are designed for transit wrapping applications, are manufactured in the UK at a BRC-certified site using post-consumer waste collected exclusively from UK waste streams.
They are available in a range of widths, thicknesses, single-wound or centerfolded and in 30%, 50% and 70% recycled content specifications.
To complement these films, YPS can also supply a range of shrink wrapping systems that are compatible, including sleeve wrappers, high-speed side sealers and e-Commerce bagging lines.

The Speedpack Hybrid is manufactured by Audion

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Managing a retail format

Tesco shared its sustainability aims at the Sealed Air Packforum event, some of which are highlighted here.

As we go through this year, simplicity of packaging is key,” Denise Mathieson, senior UK technical packaging manager – fresh and packed quality at retail giant Tesco told Sealed Air’s Packforum. “How can we simplify packaging structures without adversely affecting shelf life?” she asked. And, she felt that when material is presented for recycling, getting it back through the system as a new piece of packaging has to be everybody’s ultimate ambition.

“If we need to manage the balance between pack performance and consumer appeal,” she said. Acknowledging, however, that COVID-19 had impacted consumer behaviour as before the pandemic, reducing plastic packaging was in the top three of consumer ambitions, while mid-crisis, this had dropped down to number 15. She felt this wasn’t a permanent change and so the retailer continues with its work in this area in the meantime.

Areas that have been affected, of course, are in fresh meats as well as fruit and vegetables where the desire for hygienically packaged products has been preferred. “We know that at this time, loose (meats) is not in favour, however what that looks like in six months, a year or two years from now, who knows?”

One thing Mathieson is particularly proud of is Tesco’s preferred materials guidelines which she describes as “a massive task to implement and also maintain.”

“We’re in continual dialogue with our suppliers, different packaging companies, brand owners and more importantly industry bodies to explain the decisions we’ve made,” she said. This Red, Amber, Green list has helped to remove hundreds of tons of non-recyclable material, and “we’ve been brave and spoken the truth from the heart,” she says. But she is keen to stress that Tesco’s approach is not to demonise plastic, even though...
the retailer’s stated aim is a billion pieces of plastic removal by the end of 2020. “We know that it’s a useful material due to the protection it provides to food and we absolutely don’t want to make any packaging changes that can (negatively) impact food waste. “However, where plastic isn’t playing a useful part, we have to ask ourselves – do we really need this packaging?” She also felt that the work on harmonising labelling systems was going to be a key to success in embracing the circular economy going forward and welcomes the latest update from OPRL (on-pack recycling label) in moving towards a binary system for labelling. “Now, for the first time, we can really start to remove the confusion from customers,” she says. “We see OPRL as a really positive initiative which is why we place their logos on all our packaging.”

She felt that although COVID-19 may have affected the green agenda just now, the retailer still ensures it is using the optimum amount of packaging and where possible, the recycled content increases year on year. “Ultimately, if it is determined that multi-layered materials are needed, we’re comfortable having this in our packaging portfolio,” she said. “However, I will ask the entire packaging industry to work with us and recyclers to find a positive recycling solution.”

Denise Mathieson was interviewed by Duncan McIntyre, fresh red meat marketing director, EMEA at Sealed Air as part of its on-line Packforum event that was designed to address some of the most critical challenges facing the food industry by improving sustainability, enhancing food safety and optimising efficiencies.  

Duncan McIntyre from Sealed Air

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Feature: Sustainability

Robots are remade to bring benefit

ABB is making manufacturing more sustainable by recycling and remanufacturing thousands of old robots across the world. The company is remanufacturing robots, controllers and manipulators, refurbishing them to give them a second life. This can help customers unlock new functionalities and advanced services while reducing maintenance costs and maximising return on investment, while sourcing unused and discontinued robots for this purpose ensures older robots avoid being scrapped when their lifetime could be extended.

Remanufacturing enables existing robot users to sell inactive or legacy robots to ABB with an attractive buy back service, rather than scrapping them or leaving them unused in a corner of the factory. Over the last 25 years, thousands of robots have been refurbished and upgraded by ABB’s remanufactured robot teams, to give them a second life. As well as previously owned robots, peripheral equipment such as controllers and manipulators are refurbished to ‘like-new’ conditions at one of ABB’s Global Remanufacture & Workshop Repair Centres.

Before being labelled as an ABB-certified remanufactured robot, every second-hand unit undergoes rigorous checks, including a detailed inspection and a minimum 16-hour functioning test. Each remanufactured robot comes with a two-year warranty and buyers of refurbished equipment enjoy the same level of support from local service teams, including installation and training, as they would with the purchase of a brand new ABB robot.

Simple change brings eco-gain

SMC achieved a range of environmental gains in 2019, with this year’s objectives underway...

Pneumatics and automation company SMC is proud of its environmental track record with many ground breaking initiatives already in place at its Milton Keynes facility.

But as an ISO 14001 certified manufacturing company, SMC UK is constantly looking at ways to reduce its impact on the environment and has two environmental objectives for 2020:

• to reduce plastic packaging purchases by 30% from 2019 levels
• to reduce carbon footprint by 10% each year in line with productivity.

During 2019, SMC achieved a 50% reduction in the amount of plastic packaging by just switching to crimped paper to void fill goods shipped from the UK warehouse last year.

Now, it has launched two new projects that will help it achieve this year’s target.

In the packaging department, for instance, it has introduced a bubble wrap re-use scheme. Bubble wrap collection stations are now sited around the 24,000sq m factory and warehouse facility where anyone can leave good quality used bubble wrap. This will then be re-used to package products sent to customers, saving on future bubble wrap purchases and recycling costs.

At the same time, a plastic bag re-use scheme has also been introduced, which has been facilitated by part numbers now being written on dockets placed inside the bags themselves, rather than written on the bags which meant they could only be used for that single transfer. Now, these bags can be used several times.

“Two of these simple changes are already making a real difference with plastic packaging purchases dropping by 40% in the first three months of the year,” explains SMC’s environmental officer Anna James.

SMC’s second objective is to reduce its carbon footprint by 10% each year, in line with productivity. Reductions have already been achieved through the use of more energy efficient production machinery, moving from mostly diesel to petrol and hybrid company vehicles and the installation of energy efficient LED lights.

In 2020, even more LED lights and sensors will be installed in addition to about 1,200 lights they have already replaced.

Other energy efficiency projects planned for 2020 include the installation of solar panels at the site and smart monitoring of all power usage through sub meter stations.

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Inkjet printers are delivering cost savings for a busy contract packer

Martek Industries has installed three United Barcode Systems LCX high-resolution inkjet printers at contract aerosol filler Aztec Aerosols to improve the efficiency and reduce costs on its outer case packaging lines.

Having seen the UBS systems printing directly onto white and brown kraft outer case cartons at the PPMA Show, the units were identified as a potential solution to hand-applying labels by Aztec Aerosols. Following a successful trial, the UBS LCX system was chosen since it delivers all the information previously printed onto labels to be clearly and legibly printed directly onto cartons including consistently readable barcodes.

As a contract filler, Aztec also required the system to be capable of storing large quantities of print layouts which could then be easily selected for printing. Despite its compact design, the LCX system features an integrated 5.7 inch touch screen controller which is ideally suited to previewing print layouts and monitoring the printing.

Three systems have been installed to print onto cartons immediately after taping, each of which has a driven belt conveyor to ensure smooth transfer past the printhead for optimum print quality. The LCX system uses a 72mm-high Seiko print engine with print resolution up to 180 x 360dpi and can print text in any font and point size from 2 to 72 mm high, detailed graphics, barcodes and also 2D codes.

Cost savings resulting from the installation have been in the region of 80%.

The system met Aztec’s objective of improving efficiency by eliminating the offline label printing process and the time-consuming hand-application of labels. Costs have been significantly reduced with a 1 litre bottle of UBS ink printing over 200,000 cases at a cost of about 80% less of the equivalent labels and ribbons.

A further benefit has been the elimination of backing paper waste from labels which cannot be recycled with the company’s other paper waste due to the siliconised surface.

Aztec’s managing director, Paul Butcher has been very impressed with the systems. “The printers have proved very reliable and have streamlined our end of line process,” he says. “The cost savings have also proved to be considerable and with the capacity to fill over 2 million cans a month, we are confident the printers will contribute significantly to improving efficiency.”

Martek Industries

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Live Factory Acceptance Tests for a range of self-adhesive labellers are now available

COVID-19 has put a stop to face to face Factory Acceptance Tests (FATs), even though they play a critical part in the labelling machinery purchasing process, which is why Herma has adapted its existing FAT procedures at its manufacturing facilities based in Suffolk.

The labelling machines are manufactured in Suffolk

The latest virtual FAT has received positive feed back from one blue chip customer who thanked the Herma team for “the best one so far”.

Herma manufactures its equipment in the UK which has proved to be beneficial to local customers requiring units urgently during this challenging time.

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www.herma-labellingmachines.co.uk

White Paper shows drinks code benefit

Markem-Imaje has released a White Paper that consolidates everything beverage manufacturers need to know to drive product, case and pallet coding efficiencies and minimise waste while protecting and promoting their brands.

www.markem-imaje.com/beverage-coding-white-paper
Latest fibre lasers offer beverage makers a fast and efficient option

Macsa ID has launched a range of next generation fibre lasers specially designed to offer low cost of ownership and maximum marking resolution and definition for high speed beverage can production lines. The company’s SPA F-100 can code up to 172,000 cans per hour.

The company says the new equipment provides a more precise alternative to continuous inkjet printing for the beverage industry as the laser generates a reaction in the aluminium cans to produce excellent visibility as well as ensuring a reliable and sustainable coding method without the use of inks.

In addition, the option of integrating these lasers into a station or enclosure produced from food-grade stainless steel with water ingress protection, can also be supplied. An option to add a code verification system that is scalable to suit individual requirements, is also available.

These SPA F-100 models feature a dual core signal processor that performs real time management to accelerate data input and increase laser marking speeds with increased resolution simultaneously. The flat field lenses are designed to provide higher quality accuracy and output over the entire work area. They are reliable in even the harshest conditions.
The software for image processing is improved

The parameterisable standard software for two and three-dimensional image processing, called uniVision, has been given an update. The latest release 2.2 enables smart cameras and control units to be integrated into controls quickly and easily via a PROFINET interface for the first time. New software modules and new functions for the visualisation of results also make this update particularly valuable for users, says wenglor.

Thanks to the integrated interface in smart cameras and control units, the results of image and profile evaluations can now be transferred in real time via the PROFINET Industrial Ethernet standard. This makes seamless communication between the sensor, software and control even easier.

"With about 6.4 million recorded devices, it is the most used real-time interface in the world," explains wenglor product manager Martin Knittel. "This is therefore an ideal opportunity for us to shape this development by integrating PROFINET in uniVision," he says.

Another feature of the uniVision update 2.2 is the new web-based visualisation function. This enables the results to be displayed as overlays (for example, measurement points or lines) directly in the image or height profile. A 'good/bad' display of the overlays in the signal colours red and green is also available, showing the user whether the test points are OK or not. All measurement results can thus be shown quickly and flexibly via a browser-based display.

"The user wants to see at first glance what the cameras or 2D/3D profile sensors are seeing – along with the results of the evaluation easily and directly in the image or profile," says Knittel. "All relevant information visualised clearly on a screen makes the system tangibly more user-friendly for end users."

Pneumatic fastening clamps are designed for faster production

Elesa has launched a powerful new MM range of pneumatic clamps (up to 475Nm) which offer fast repetitive clamping cycles on manual or automated production lines to help deliver lower costs and more efficient output for users.

The MM range is available as side locking, axial locking and axial centre locking (twin jaw) designs to suit the many variations required for handling jigs and components in all orientations. They are produced in robust black oxide finished steel housings readily fitted to production machines of all types using an extensive selection of accessories.

These provide many clamping adaptations quickly and easily with stock components to minimise down time. Meanwhile, correct positioning at speed can be controlled with Elesa MM proximity switches connected to the clamping controller.

Digital whisky cask filling process project could save millions for Scotland’s industry

Researchers at the University of Strathclyde’s Advanced Forming Research Centre (AFRC) have collaborated with industrial partners including Siemens to devise a digital whisky cask filling process that could save Scotland’s £5.5 billion whisky industry millions of pounds each year in inventory costs.

Bringing advances in Industry 4.0 to a manufacturing process that is steeped in tradition, project partners include the AFRC, Siemens, Diageo and Kigtek. The work is set to save distillers significant capital expenditure from logistics and warehouse space for additional casks by tackling the problem of inconsistent cask filling levels resulting from overspill and under fill.

"The collaborative nature of the project combined the centre’s design and digital manufacturing expertise with industry partner Siemens’ instrumentation know-how,” says Dann McMahon of AFRC. Siemens also provided software, hardware, design work and digital twin know-how to the project and further support with the cloud analytics using its cloud-based open IoT operating system.

Minimising power losses at high speed

New drive controllers and motor filters for high frequency applications from KEB Automation are helping customers develop efficient machine concepts for turbo blowers and CNC machine tool spindles.

The project has proved a real collaboration

"The project has proved a real collaboration"
Data acquisition tools

Ifm electronic has launched an easy-to-use plug-and-play data acquisition solution that allows IO-Link sensors to send process values to the cloud even from locations where no network connection is available.

The new IO Key supports up to two IO-Link sensors and transmits data via the GSM mobile network. It is fully preconfigured and requires no SIM card.

Users can visualise and analyse the data acquired by the system with a web-based dashboard that also offers options for setting limit values. If these values are exceeded, warnings can be sent automatically to the plant operator either by email or by text message. Additionally, all data from the sensors can be summarised and reported as required.

Ideally suited for monitoring and evaluating the operation of remote sections of a plant, such as tank farms or compressed air storage vessels, ifm’s new IO Key needs only a 24 V DC power supply and access to the GSM network. No connections to a controller, PC or the company network are required.

To suit the widest range of user requirements, it is offered in versions that transmit data to the cloud once per day, once per hour, once per minute and once every ten seconds.

New track system allows for higher driving forces

HepcoMotion has introduced the DTS+ track system, the latest addition to its range. The DTS+ incorporates key features of Hepco’s PRT track system and original DTS, combining them with a high load capacity connection from the carriages to the drive belt.

The carriages will not disengage from the belt, allowing transmission of higher driving forces compared to the original.

While the original DTS will often be the right choice for many applications, the DTS+ is suitable for applications with high loads, a vertical orientation, or where the free space inside the track circuit is required to integrate additional equipment units.

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www.machineryupdate.co.uk SEPTEMBER/OCTOBER 2020 MACHINERY UPDATE 75
New I/O modules simplify connections in harsh areas

Industrial producers can more easily and efficiently connect to devices in hazardous areas using the new Allen-Bradley 1718 Ex I/O modules from Rockwell Automation. The intrinsically safe distributed I/O modules provide EtherNet/IP connectivity to field devices in Zone 0 and Zone 1 hazardous areas.

The 1718 Ex I/O modules can be mounted in Zone 1, closer to field devices in these hazardous areas. The I/O modules can also save space with a compact, chassis-based I/O design that contains the primary power supply and an optional redundant power supply in the chassis.

Different chassis options and slot sizes allow users to scale the 1718 Ex I/O modules to meet a wide range of system requirements. Add-on Profiles in the Studio 5000 Logix Designer application help ease configuration of the modules. And a dual-port EtherNet/IP adapter that enables a Device Level Ring (DLR) topology can help improve network resilience.

The 1718 Ex I/O modules are designed for hazardous applications found in industries such as chemical, food and beverage. An ATEX-certified enclosure is required for the 1718 Ex I/O modules to be mounted in an ATEX Zone 1 area.

As a complete solution, Rockwell Automation collaborates with its Encompass partner Pepperl+Fuchs, who offer Zone 1 certified enclosures. The Allen-Bradley intrinsically safe distributed I/O portfolio also includes the 1719 Ex I/O product family, which is certified for mounting in Class I, Division 2 (North America) and Zone 2 (global) hazardous areas.

The component data of all IXON routers and accessories is now included in the EPLAN Data Portal. This makes it very easy for users of the EPLAN Platform to consult data from IXON routers and accessories and include those in their designs.

Remote service and IIoT service provider IXON is advancing worldwide to offer machine builders and system integrators remote access and data services for industrial machines and building management systems. To provide these services, IXON uses IXrouters, self-designed VPN gateways optimised specifically for this application. By adding IXON’s IXrouters to the EPLAN Data Portal, it becomes much easier and more accessible for designers of industrial installations to combine IXON with other products in their EPLAN designs.

“Many of our customers use EPLAN for the design of switch cabinets and so adding all IXON products to the EPLAN Data Portal was therefore a natural choice,” explains Bart van den Corput, product manager at IXON.
“Sensors are the most important components of smart machines.”

Dr. Alexander Ohl
Director of Development,
Wenglor Sensoric

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Running to keep still with IoT device security

Joe Lomako
BUSINESS DEVELOPMENT MANAGER (IoT) AT TÜV SÜD

Although current cyber security standards are lacking on some detail and appropriate applications, they are at least a good first start to keep early IoT business adopters safe...

Industry 4.0, the fourth industrial revolution, is pushing industry towards a more automated, and sophisticated manufacturing process and consequently, the systems we use are becoming increasingly complex, as a plethora of new technologies are employed by today’s manufacturers.

The process involves various components such as cyber-physical systems, cloud computing, edge computing, Artificial Intelligence (AI), the Internet of Things (IoT) or the Industrial Internet of Things (IIoT), to name but a few. But usually there is some physical component or sensor (usually many hundreds or thousands) which will part of the system, often referred to generically as an IoT device. These components and sensors connect industrial systems to each other and are the interface to the outside world – and they are continuously collecting data.

Although these components and sensors could be regarded as the strength of any given system, it is entirely possible that it could conversely also be its Achilles heel. According to a report from Kaspersky Lab earlier this year, half of all industrial control system networks have faced some form of cyberattack. Some connected devices lack the appropriate cyber robustness to prevent attacks and this, coupled with the fact that some control systems could be using outdated or bespoke operating systems, increases cyberattack vulnerability.

When we visit sites, we are finding that there is sometimes a perception that because a system is complex that it is automatically secure. That is unfortunately not always the case.

The introduction of the NIS Directive (security of network & information systems) in Europe is intended to improve this situation, but uptake is slow, as is the introduction of the standards required to assist in improving total cyber security. However, standards do exist or are being developed by international organisations aimed at providing baseline protection, to deliver basic security provisions for a first line in cyber defence. For example, this would include not having default passwords or ensuring that a device’s software can be updated ‘over the air’.

The two main standards that we see for IoT devices are NIST 8259 (US) and Draft EN 303 645 (EU). The scope of the NIST has been written with the intent to address a wide range of IoT type products, which have at least one transducer. So, it follows that it can apply to 4.0 industrial products. More importantly is that this standard has been mandated in California under State Bill No. 327, and it will likely pervade across the US.

CONSUMER DEVICES

However, the scope of the Draft EN 303 645 standard is aimed only at consumer IoT devices, so is not applicable for industrial products, although the general principles therein can certainly be applied generically to afford some modicum of protection.

There is some debate that the present cyber security standards are lacking some detail and appropriateness in application, and do not probably be more familiar to operators and integrators of control and automation systems. While this standards series has a mix of process and technical requirements, it covers what we would typically call a ‘product’. Therefore, and in addition to this, process requirements can be found in IEC 62443-4-1, and technical requirements in IEC 62443-4-2.

Although it may seem that the standards do not cover everything, and they don’t; they do at least offer that first line of defence. However, there are other options outside the present standards landscape, and that is to perform more stringent, bespoke testing or ‘pen testing’. This will identify deeper and more serious threats to a machine and the IoT system within which it sits. What is more, threat resilience is an iterative task. Not all threats may have been discovered on the first assessment as they may not even exist yet.

Sadly, at the present moment in time there needs to be more traction in device and component cyber assessment and it would be prudent for machinery end users to ask their supplier about the level of cyber assessment that has been performed and to also prove its cyberattack resilience.

It would be prudent for end users of machinery to ask their suppliers about overall cyberattack resilience providing baseline protection, which would help to deliver adequate cover of the scope of typical industrial applications. That may be true, but they are at least a good first start where nothing previously existed with this detailed scope.

There are several groups of published standards which are aimed at improving security from network infrastructure to devices. For example, it is possible that an IoT device could be certified under the IEC 62443 series of standards, which aims to mitigate risk for industrial communication networks by providing a structured approach to cyber security. This would

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Who’s done what and gone where...

**MTC**
Mike Wilson has joined the Manufacturing Technology Centre (MTC) as chief automation officer and will lead the organisation’s drive to increase the adoption of automation throughout UK manufacturing. He brings nearly 40 years of experience in delivering automation to a wide range of industry sectors, working for both users and suppliers of automation and also as an independent consultant. Wilson is also the current chairman of BARA, the British Automation and Robot Association.

**Shemesh Automation**
Tony Bryant has joined Shemesh Automation as sales director in response to increased demand for its equipment in the UK. He brings over 27 years of experience in capital machinery sales to the new role, joining from Iapak where he was technical sales manager. Previously he headed up the EMEA region for Peco-InspX and the UK territory for Loma Systems.

**CWM Automation**
Nick Birkin has joined CWM Automation as sales director where he will be responsible for sales team leadership as well as developing sales strategies for the company. He will also oversee the implementation and management of the sales activities and identify new market opportunities. Birkin was previously director of sales at BW Integrated Systems, developing sales in EMEA.

**Domino**
Alberto Sanson is the new chief information officer at Domino Printing Sciences following the retirement of Dick Wallin who led Domino’s IT team for the last twenty years. Sanson joins from Illinois Tool Works where he was group IT director and in his new role, he will be part of the executive leadership team responsible for the IT function.

**CKF Systems**
Dorothy Howell, sales and quality co-ordinator at CKF Systems for over 18 years, retired in the summer when all of CKF gathered into the workshop to say thank you for her valued service. She was also presented with a card and leaving present by md Bryan Wheeler and her line manager Robbie Dawson.

**Romaco Innojet**
Michael Van den Bossche is the new managing director of Romaco Innojet where he will be responsible for sales, laboratory, customer service and product management. He will share the management of the company with Bastian Käding who has been at the helm since 2018, with responsibilities for project management, engineering, operations and administration.

**Interroll**
Maurizio Catino is taking over the role of executive vice president global sales & service and member of the group management team from Christoph Reinemeier, who is leaving the company. Catino joined Interroll in 2013 and this promotion follows several roles held in this time.

**Bob Hinchcliffe**
Bob Hinchcliffe, managing director of James Mae Industries, has successfully completed his 92 day challenge to raise money for the NHS Charities Together fund by walking around his garden with his trusty Bergen backpack. During this time, he has carried a total weight of 2.31 tons, walked a total of 205,623 steps and climbed the equivalent of 504 flights of stairs. https://www.gofundme.com/f/captainbob-respectfully-doing-a-039captain-tom039.

**TÜV SÜD**
Mary Grigsby has been promoted to head of the UK Product Service division of TÜV SÜD having held various technical and managerial roles since joining the company 31 years ago as a graduate in its EMC Service Line. Most recently, she has been director of test operations, having worked across product sectors including aerospace, consumer, electronics, medical and automotive.

**Uhlmann Group**
Norbert Gruber, chairman of the executive board at the Uhlmann Group, sadly died in the summer following a long illness. Since his appointment in February 2011, he has contributed significantly to the growth and success of the company. “We are saddened by this loss,” said Tobias Uhlmann, chairman of the supervisory board of the Uhlmann Group.
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