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NEWS

The PPMA Total Show proved a great success for visitors and exhibitors alike with the latest developments demonstrated at the event showing technology that provided benefits for users.

NEW MACHINERY

A new vertical form, fill and seal bagmaker developed by Ishida Europe is delivering a 30% increase in speed across snacks while also offering the flexibility the market requires. Find out more on page 14.

NEW MACHINERY

Multivac’s sustainable pack closure solutions are being offered for fresh produce.

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I am pleased to report that our PPMA Total Show in September was a brilliant success – and I thank all of the visitors for investing their time with us, and exhibitors for investing in their stands and machine demonstrations. There was a real buzz around Hall 5 at the NEC, with positive feedback from the majority of attendees and what’s more, it seemed like visitors had come with a genuine shopping list of requirements and new projects to discuss.

As you will see in our 22-page show review in this issue (starting on page 26) several companies sold equipment during the event, booked trials for new machines and many stands included first time exhibits which allowed visitors to see the very latest technology on offer to them. Over the three days, it certainly seemed that a lot of business was being done.

And what a fantastic way to start what will no doubt be a challenging end to the year for us all. It certainly felt that all the current economic and political turmoil did not adversely affect our annual event, which was very gratifying.

Visitors had come to the show with a genuine shopping list as well as new projects to discuss.

You will also find a pharmaceuticals and healthcare feature starting on page 46 in this issue, that reports on the very latest manufacturing developments seen across the sector. The fast-expanding generic and biopharmaceutical markets, development in OTC drug sales, rising demand for versatile and integrated packaging equipment, and the advent of regulatory standards on packaging and strict anti-counterfeiting norms are some of the key drivers for this market. It is certainly a sector that invests in high levels of equipment integration more than many others. It demands end to end solutions to deliver the performance values it requires to meet all the regulatory and compliance issues it faces.

These high standards of manufacturing often demand high degrees of automation as well as vision systems to fulfil its needs. But I would argue, these standards are becoming more commonplace across food and beverage, as well as FMCG. And this is precisely why the PPMA Group has launched its new Automation UK exhibition in Coventry next June to run alongside the established Machine Vision Conference and Exhibition. Vision is often the enabling technology for robotics, so it makes perfect sense to co-locate these two events, for the ultimate benefit of visitors. See you there!
A thermoforming packaging machine in the MULTIVAC Clean Design™ enables sensitive products to be packed under GMP compliance. Fast and reproducible format change, together with reliable line clearance, ensures that there are secure processes even with small batches.

Setting the pace.

Richard Keen
Medical Account Manager
richard.keen@multivac.co.uk
New machines proved popular with visitors looking for gains

The PPMA Total Show 2022 was acclaimed as a resounding success by visitors and exhibitors during its three-day tenure at the NEC, Birmingham at the end of September. “The show gave us a great opportunity to get in front of several robot integrators that were unaware of the full range we offer in terms of cobot applications; they’ve now requested demos so that will keep us busy,” said Colin Nevett, vacuum automation & robotic gripping team leader at Piab. “We’ve already seen orders placed as a result of meetings at the PPMA Total Show,” he continued.

David Hale, sales and marketing director at MDS was sure the company would get orders from the exhibition. “We are confident of orders as we’ve had some great enquiries,” he told Machinery Update.

“We have been pleased that visitors have brought products for us to test on the equipment we have running on our stand.” Meanwhile, Jane Watson from John R Boone said the company had received some fantastic enquiries and that it seemed many visitors had come with a specific shopping list, while Rachael Duckworth, marketing manager at Beckhoff felt the quality of leads had definitely been better than the last show, “they’ve been really good”, she said.

And this theme continued on the Gordian Strapping display. “Visitors to our new stand have brought Cap-Ex approved projects to us,” said md Andrew Lea. “There is still a belief that UK companies will invest in efficiency for their facilities.” Also enthusiastic about the exhibition was Daniel Hodson, marketing manager at Elesa UK. “It was fantastic to exhibit at the PPMA Total Show and it’s brilliant to see the packaging industry back on its feet,” he said. “The show was incredible and gave us the opportunity to showcase our new machine components, which has led to some new quality relationships.”

Mark Budd – UK North sales manager for Endoline said that the company had found that visitors had a real reason for coming to the show with live projects in mind. “Our stand was incredibly busy throughout the three days, giving a perfect opportunity to catch up with existing customers and to discuss our comprehensive product portfolios with new contacts,” said Andy Forrester, VP sales at Spiroflow.

“For us, the PPMA event was highly productive.”

• Learn more about the new technology on show in our 22-page PPMA Total Show review starting on page 24

Open Days educated attendees on the advantages of x-ray inspection

UK Inspection held a week-long open house at its Farnborough HQ in October and its range of metal detectors, checkweighers and x-ray equipment being demonstrated were popular with existing and new clients alike. Gary Harris, managing director of the company was pleased with the turnout and felt it had been a worthwhile event. “We wanted to show that although servicing this type of equipment is our speciality, and we have many years of experience in this area, we also wanted visitors to learn about the benefits of x-ray technology systems,” he said. Many visitors brought samples to the event to test out the technology for themselves.

The PPMA Total Show was certainly a place to do business for all involved.

THE BIG BISCUIT COMPANY BOUGHT BIG AT THE SHOW

HFFS was sold at the event

Alex Baker, co-founder of the Big Biscuit Company, is seen here on the left sealing a deal with Tom Poston, sales manager of Intamac Packaging Systems during the PPMA Total Show. The horizontal form, fill and seal (HFFS) machine was purchased to produce pillow pack style wraps for the company’s range of nutritional bars for dogs.

The open house event was very well attended
Food partners are wanted for alternative gas mix research

In light of the recent carbon dioxide shortage, Campden BRI is looking for partners to help with new research that aims to investigate the potential of a selection of gas mixes with a view to reducing or replacing carbon dioxide (CO2) in the event of a third shortage. Studies have been designed to provide information on the microbiological and sensory effects of the proposed mixes.

“In recent years, combinations of events beyond the control of industry or government have led to the closure of fertiliser plants that supply food-grade carbon dioxide,” explains Campden BRI microbiologist Greg Jones, who is leading the project. “Food products packaged in protective atmospheres, containing CO2, are at risk of a decrease in quality if there is another shortage.”

POULTRY PRODUCERS

The scientists are looking for poultry producers and retailers to work with them on the project, so that they can undertake comprehensive testing of alternative modified atmosphere gas mixes.

Danica Hillson, technical director for UK Poultry at 2 Sisters Food Group is keen to be a part of the project as she believes it will be invaluable for addressing the risk to its business posed by any future carbon dioxide shortages.

Participants will receive exclusive access to the results for a period of time, before release to a wider audience. The research is set to commence later this year, and any companies wanting to take part in the project or need more information should contact: greg.jones@campdenbri.co.uk

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New Automation Technology **BECKHOFF**
Family-owned Yorkshire Packaging Systems (YPS) celebrated its 45th anniversary in style this autumn while raising over £3,000 in charitable donations for hospices in the West Yorkshire area.

About 30 members of staff were among a 75-strong group of 'YPS VIPs' attending the afternoon event at the company's HQ in Armytage Road, Brighouse, which subsequently went on into the evening at the Holiday Inn Leeds-Brighouse hotel.

Founded 45 years ago by lifelong Halifax resident David Johnson, YPS supplies flexible wrapping and bagging machinery and materials. Now overseen by David's son-daughter team Glyn and Rachel Johnson, the business has gone from strength to strength in recent years, culminating in not only a successful rebrand but also a relocation from Dewsbury to Brighouse in 2021. Opening a second distribution centre late last year in Heckmondwike to accommodate its continued growth, YPS has also seen its numbers swell from 20 to 30 employees within an 18-month period.

A fundraiser at the event raised over £1,500 from donations which was matched-funded by the family and donated to two local hospices.

Attendees from scores of businesses (each of whom have played a part in YPS's journey) came together to celebrate the milestone, and for YPS’s most loyal customers and friends of the business that couldn’t make the date, luxury hampers and bottles of champagne were shipped across the UK and Ireland to thank them for their long-term support.

“We couldn’t have asked for a more perfect day to celebrate this happy occasion,” said YPS managing director Glyn Johnson.
Initial inspections are vitally important

Darren Hugheston-Roberts
HEAD OF MACHINERY SAFETY

When installing and then using Ex-rated machinery, end users must ensure a competent person carries out an intrusive inspection to verify conformity and compliance with ATEX Directives...

In the European Union there are two ATEX Directives – one for the manufacturer and one for the user of the equipment. The ATEX 114 ‘equipment’ Directive 2014/34/EU focuses on the responsibilities of manufacturers of Ex-rated machinery and other equipment. In the UK, it is implemented by The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, which is law.

The legislation’s function is to ensure that the design and manufacture of equipment intended for explosive atmospheres conforms with the Essential Health and Safety Requirements, so that these are met before anything is placed on the market. This is typically achieved by third-party testing and certification by an Approved or Notified Body. However, after machinery has been installed, how can you verify that conformity and also compliance have been achieved?

To ensure the installation quality and integrity of Ex-rated equipment post-installation, an intrusive inspection by a competent person should be carried out. This process is described within the requirements of EN60079-17 as an ‘Initial Detailed Inspection’.

When carried out correctly, such an inspection will ensure that the equipment, including its internal and external components, are fit for purpose and installed correctly. Manufacturers spend thousands of pounds designing and testing equipment intended for explosive areas, and typically the end-user will pay a premium for these products. So, if your installer compromises the manufacturer’s design, this invalidates the equipment and creates a potentially dangerous installation. As an example, they might discard cable gland internals and potentially start-up, alongside unplanned additional financial costs.

Installer competency is often a key issue, as it is common for suppliers and installers to hire workers for ad-hoc projects. While keeping a core team of technicians as full-time employees is not always financially viable, this does make the assurance of installer competency a difficult area to manage.

However, the problem can be more systemic, and looking at the bigger picture, the questions might be – did the supplier fully understand what they were asked to build and to what standard? Were the specifications and design documents supplied by the end-user or designer adequate? Did they cover the required legislative areas correctly and suitably? Were the appropriate standards referenced? At this point in a project, disputes and frustrations are common, which can lead to further delays and cost – all of which can be avoided.

Using a competent inspector to inspect ATEX installations prior to use can eliminate rework afterwards

Engaging a competent inspector to monitor the build, offer advice and potentially mentor as the installation progresses is an area that is often overlooked. However, by doing so, there is significant potential to minimise or eliminate the need for rework after inspection.

Another area that is commonly discounted is the use of an independent and impartial specialist to review the technical documentation and project deliverables with respect to the installation of Ex-electrical and non-electrical equipment. Design reviews, alongside build monitoring and inspection during the whole lifecycle of the project, will ensure both compliance and quality are achieved first time and on time.

It is clear that ensuring that the supplier or installer knows exactly what they are tasked with delivering is key to ensuring the safe and successful delivery of new Ex-rated installations. Specifying the scope and required level of competency is therefore vital, alongside the involvement of competent people in the design, procurement and installation in order to help to mitigate any Ex-compliance issues.

For more information contact www.tuv-sud.co.uk

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Celebrating outstanding sector achievements

This year’s PPMA Group Industry Awards were presented on the second night of the PPMA Total Show during the ever-popular exhibitor party. The independent judging panel felt there were many outstanding entries in this year’s awards – and you can read about them here...

On the Wednesday evening of the PPMA Total Show, all of the winners celebrated their success during the exhibitor party that included a live Britpop band.

Innovative Robotics Solution
Winner: Pace Mechanical Handling for its six-axis robot solution

This unique robotics solution combines two six-axis robots which work in tandem, to feed, pack and hot air-seal animal feed pellets into plastics bags before leading on to a robotic palletiser. It was felt to be a great example of taking an unorthodox process to replace a time-consuming process for operators which had also caused a lot of downtime.

Innovative Packaging Machinery
Winner: Markem-Imaje for its ‘e-Touch’ labelling system

The e-Touch-S has been built with artificial intelligence to ensure that labels are applied to an exacting standard on every pack, at the highest production speeds, and in the safest manner possible – delivering cost savings, productivity, safety, innovation and efficiency. Markem-Imaje impressed because they tick all the boxes for manufacturers today – cost savings, productivity, safety, innovation and efficiency, said the judges.
Innovative Processing System
Winner: Fortress Technology for its ‘Fortress Halo’ processing system
The Fortress Halo solved a problem applicable to all food manufacturers for processing metal detection. Fortress developed a simple system, which is easy for staff to use and causes no production disruption in operation. The Halo system was praised by the judges for offering a quick return on investment and also helping to reduce staffing levels.

Innovative Vision Solution
Winner: Crest Solutions for its CXV Global SmartFactory Line Clearance Assistant
This vision-based solution digitalises the manual line clearance process. Customer ROI calculations showed that with a 20% deployment across its packaging lines, the LCA could achieve a 65% reduction in visual inspection time. Judges were impressed with the quite remarkable cost saving potential that the company had achieved with this innovative vision-based solution.

Outstanding Customer Service
Winner: Epson (UK) for its ‘Robot Academy’ customer service tool
Epson’s Robot Academy enables its customers to become specialists themselves in Epson Robot technology. Delivered in small groups, the sessions teach clients theoretical and practical knowledge involving ‘real’ robots. Practice sessions reinforce what was learnt while trainers are on hand to respond quickly to any questions attendees may have.

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New Machinery

Sealed Air has launched its first paper wrapping systems to meet growing demand from low and medium volume eCommerce retailers and fulfilment companies.

The new QuikWrap Nano and QuikWrap M systems both provide businesses with a small, ready-to-roll paper wrapping solution that’s easy to operate. The systems don’t require any electricity or maintenance and involve little or no assembly.

In operation, each system produces a double layer of FSC certified honeycomb paper and interleaf tissue paper to enhance product protection. The paper is 100% recyclable using kerbside services and is dispensed using special ‘tear and hold’ technology for quicker and safer operation, without the need for scissors.

“QuikWrap Nano and QuikWrap M are ideal for small and medium sized businesses that want an easy to use, space saving and efficient paper wrapping solution,” explains Andrea Questa EMEA fulfilment paper solution manager at Sealed Air. “The two new systems have a compact footprint, making them ideal for smaller operating spaces and these ready-to-roll dispensers enable packaging operations to be up and running in no time.”

The box and interleaf can be branded if needed

Bagmaker delivers maximum versatility for today’s snacks

Ishida Europe says it has further consolidated its position as the leading manufacturer of complete snacks packaging solutions with the launch of a new vertical form, fill and seal (VFFS) bagmaker.

With a 30% increase in speed compared to previous models, the INSPIRA Box Motion is designed for food manufacturers that want to reduce costs and ensure error-free production while also maintaining a flexible operation to meet the ever-changing pack format needs of their customers.

At the launch in October, Ishida’s snacks business manager EMEA Andrew Green said the new developments focus was on solving customer challenges through smarter, greener, faster and more flexible features. “It is designed to meet today’s challenges, not pre-COVID, but today’s challenges,” he said.

Importantly, the bagmaker can operate in both continuous and intermittent motion modes, so it can handle the widest variety of both product and pack formats, including the introduction of recyclable films and paper packs, while maintaining excellent seal quality and integrity.

As well as ensuring a more consistent and reliable seal, the Box Motion technology can handle all the latest pack formats which, in addition to pillow packs, include side gusset, block bottom, chain packs and flat bottom.

The INSPIRA machine features a new splice table light-bar for easier and faster automatic film splicing to overcome the challenges associated with manual intervention. Capable of completing a film splice cycle in just 20 seconds, this important addition allows operators to manage more machines per head and can result in huge operational cost savings.

With increasing consumer demand to enhance and expand flavours and portion choice, production runs for many snacks can be shorter, making changeover time a bigger factor in maximising throughput.

Switching between continuous and intermittent motion can be carried out through pre-settings on the machine with no change parts or operator intervention required. Similarly intelligent, automated features for centring film, managing air fills and adjusting tensions ensures faster changeovers with minimal operator intervention required.

At the same time, the machine uses 17% less energy when in operation and 25% less energy on standby than previous models.

“Our new INSPIRA Box Motion has been designed to allow manufacturers to continually adapt to the latest market trends while offering a new level of automation and efficiency,” says Green.

“This minimises the chance of human error and helps to consistently produce quality bags while cutting costs and increasing profitability.”

0121 607 7700
www.ishidaeurope.com

Sealed Air has launched its first paper wrapping systems to meet growing demand from low and medium volume eCommerce retailers within eCommerce

New paper wrapping system meets the growing demand from low to medium volume retailers within eCommerce
With vertical farming growing media providing the perfect breeding ground for pathogens including E-Coli, Salmonella and Listeria, thermal processing company Holmach has been working closely with Revtech of France to develop a heat treatment solution for the processing of materials including Coir and Mycelium, which are used as moisture retainers for the seedlings.

Revtech’s offer revolves around a clever concept of continuous heat treatment. Based on a combination of electrical heat generation and vibrational transport techniques in a closed stainless-steel spiral, all risk of fire is removed, and post-treatment cleaning is easy. To reinforce the sustainability objectives of vertical farming, Revtech’s technology is electrically powered, ensuring it can run solely on renewable sources, unlike traditional fossil fuel alternatives.

CONTROLLED PRE-HEAT
This solution sees the chosen growing media being indirectly pre-heated in a controlled environment, prior to the use of a steam flush to achieve the wet kill. Condensation is carefully controlled to ensure there is no regrowth of micro-organisms and the treated material can be delivered directly for use or stored in a clean environment in sacks or bulk bags after cooling.

Managing capacities from 200-2,000 kgs/hr the system is independently validated to 6 log reduction with destruction of pathogenic micro-organisms and other contaminates such as yeasts and mould, fly or beetle larvae and seeds from other plant species.

01780 749097
www.holmach.co.uk

Heat treatment option provides growing vertical farming option
The new DS500 metering and dosing pump from Verder has been designed for challenging solutions to pumping applications in aggregates handling, pigment/paint manufacture, sampling applications and the chemical industry.

The principle behind this technology is to improve the accuracy and save the end user money with both direct costs in terms of chemical usage and indirect costs by minimal tool free maintenance and servicing.

This latest product and design are the most recent in a series of new product releases from the Verderflex range this year. Key features include:

- No valves – no clogging or gassing issues
- True self priming and dry running pump
- Great for abrasive products, and those with soft and/or hard solid content
- Tool free cartridge change in seconds
- Easy to set up and use with touchscreen control
- Accurate flow performance from 0.1 to 500 ml per minute and pressures of up to 7 bar
- Minimal fluid ‘live’ containment ensures user safety and reduced clean up
- Remote assistant to support monitoring and ensure accuracy in the process.

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Tooling concept delivers plastics savings for foods

G Mondini’s latest tooling development called ONE4ALL, is said to deliver maximum flexibility with minimal investment and operator hassle. Providing rapid changeover of the Mondini pack format range – this tooling concept supports plastics saving strategies by operating the latest pack formats such as:

• Downgauged monoPET 300μ vacuum trays
  Downgauge technology in combination with Darfresh on Tray delivers significant reduction in tray thickness and weight, total packaging weight and ratio of plastics per kg of product
• PaperSeal Skin
  Delivering excellent product display opportunities and traditional skin pack benefits with up to 90% less plastics
• PaperSeal Slice
  Offering brands and retailers the opportunity to replace traditional thermoformed plastics trays used for sliced smoked salmon, meats and cheese with a barrier-lined paperboard alternative.

This tooling system works with the Trave tray sealer range from G Mondini – Mondini says the pack provides new opportunities in pack styling, merchandising and product communication. “The latest ONE4ALL tool design provides businesses with the flexibility to satisfy local customer demand and recycling landscapes for optimum compliance,” says managing director of Mondini in the UK Ross Layton. 01785 812512 www.gmondini.co.uk

Online shop gives users competitive pricing on all orders

PAR Group has launched a new PAR Direct online shop. The website, first launched in 2017, allows users to conveniently purchase from a vast range of plastic and rubber products commonly used in industry. This includes rubber and plastic sheet materials, gasket materials, rubber mouldings and extrusions, hose and couplings, heat sealing and conveyor consumables and a range of safety products.

The latest launch has a number of improvements and includes more features, such as: Quick filtering – Each page now has filtering options which are product/page specific, helping customers to find what they are looking for; Live chat; Click and collect; Responsive viewing; Live stock levels and Account history.

Users benefit from free standard shipping on orders over £50

Cheese with a barrier-lined paperboard alternative.

Formed from a single piece of paperboard, PaperSeal Slice delivers up to 90% less plastics

Slimfresh
Extend shelf life and deliver food safety while reducing plastics content by up to 80% with Slimfresh. Combining a fully printed flat cardboard support with high barrier liner and vacuum skin technology
Multivac is now offering two more sustainable pack closure solutions for the fresh produce market called Top Wrap and Top Close, joining its existing Full Wrap option.

Whereas Top Wrap involves applying a label to the top and both sides of a fruit or vegetable tray, Top Close seals the tray with a label from above. Both concepts are the ideal choice for all fresh produce that do not have to be packed under modified atmosphere, says Multivac. It means that a single label can seal a tray closed and also deliver attractive product information. “Top wrap is the cost effective, environmentally friendly solution for packaging that the fresh produce market have been crying out for,” says David Hadley, product manager for labelling and marking at Multivac UK. “It offers a 100% kerbside recyclable pack.”

USB3 cameras are available quickly in a range of housings

IDS Imaging Development Systems has added numerous new USB3 cameras to its product range to combat the supply chain issues caused by the worldwide chip shortages that are facing the industry.

The company has been pushing the development of alternative USB3 hardware generations with available, advanced semiconductor technology in recent months and has acquired components for this purpose. Series production of new industrial cameras with USB3 interface and Vision Standard compatibility has now started.

In the CP and LE camera series of the uEye+ product line, customers can choose the right model for their applications from a total of six housing variants and numerous CMOS sensors. 01256 962910

www.ids-imaging.com

New Machinery

Filling machine delivers for the chemical industry

Shemesh has launched a net weight liquid filling machine for thin liquids featuring hot fill of viscous and abrasive materials. Called the Falcon, the machine incorporates the Shemesh Deenex denester as well as a special parallel servo-driven indexing conveyor for maximising throughput potential. It has been developed primarily to target the chemical sector, however, the design also makes it suitable for filling foods, such as tubs of tahini and hummus.

The machine design combines a clever sequence of technologies that can load, sort, fill and package a variety of cleaning agents, creams and pastes. Using gravity or other positive displacement methods of filling ensures almost pin-point net weight accuracy, says the company. There are many materials that are sensitive to specific gravity changes due to temperature, but this new filling equipment will accurately control the net weight to help manufacturers comply with legislation.

Shemesh’s VP global sales & business development Yonatan Levy, says the Falcon is built for long-term durability, avoiding the widespread problem of degradation of machine parts by harsh materials. “What sets this machine apart from its competitors is its parallel infeed system, which is used to maximise the throughput from the denester,” he says. “The tank and nozzles design guarantees that the liquid path is free from any kind of mechanical parts such as pistons and seals which can suffer from wear and tear because of the abrasiveness of certain materials.”

The PLC and HMI controls both the filler and the denester which essentially creates a single combined unit. The Falcon is also easily and rapidly adjustable. All parts are tool-less for quicker changeover times which are less than 15 minutes – a benefit for more niche producers switching between product lines more frequently.

01252 518082

www.shemeshautomation.com

Two latest pack closure solutions designed for the fresh produce sector are available as more sustainable options

New Top Wrap options

that do not have to be packed under modified atmosphere, says Multivac. It means that...
ACOPOS 6D allows you to move products freely through an open manufacturing space – unbound by the limits of one-dimensional production flow. Magnetic levitation provides six degrees of freedom for unprecedented processing density on a fraction of the floorspace.

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RMGroup has installed a fully integrated bag filling and palletising system for specialist decorative aggregates supplier, Long Rake Spar to help the company fully control its supply chain. The solution is capable of producing up to 40 bags a minute and over 2200 pallets of bagged aggregate a week.

To meet the required throughput of aggregates, the automated bag filling and palletising system for bagging conveyors, two douser weighing systems and vertical form, fill and seal (VFFS) bag filling systems with operator platforms. The filled bags are positioned onto pallets by ABB IRB 460 palletising systems with gripper heads and safety systems.

Palletised loads are conveyed to the end of the line and wrapped by a Lachenmeier Powerflex T1 stretch hooder.

“The new bagging plant fully meets our expectations, the installation of which was highly professional throughout,” says Kenny Dean, Long Rake Spar’s procurement and logistics director.

01686 621704
www.rmgroupuk.com

An integrated bag filling and palletising system supplied to a decorative aggregates producer has provided supply gains

To ensure top inspection quality of its PCBs used in automotive applications, Robert Bosch GmbH is using Omron’s third generation of the VT-X750 3D x-ray inspection system.

It is based on ultra-high speed computed tomography (CT) to guarantee precise and reliable inspection of hidden soldering areas during production. Solder defects such as ‘head in pillow’ or void in BGA, LGA, THT, and other discrete components can be detected more easily than with other tomographic methods, says Omron. The image quality of the CT process, for example, is significantly higher than with Laminography or even tomosynthesis.

Automotive applications demand increasingly higher quality standards to comply with autonomous drive system control levels 4 and 5 by 2025. As a result, the development of components has become more sophisticated and powerful, where PCBs become smaller in this context, while their assembly density is increasing.

One hundred percent reliable PCBs are essential because of high quality and safety requirements. Due to the immense complexity of automotive components, the need for automatic and high-quality testing has increased where International automotive groups impose strict requirements on the quality of inspection technology. With the VT-X750 3D-AXI AVL devices used by Bosch, the inspection can be performed without stopping the assembly. This ensures high speed with better resolution. Meanwhile, the CT process provides true 3D data that operators and programmers can also use.

Fault-free processes are the focus of the VT-X750 units, the latest 3D CT AXI technology on the market. Technical improvements have enabled enhanced improvements in cycle times by up to 1.5 times faster compared to the previous VT-X750 models, enabling the new VT-X750 to be the first viable in-line CT AXI solution. Added to this are clever AI functions that reduce programming time and take a lot of effort out of the operator’s programming where BGA’s are created in less than 60 seconds including automatic extraction for accurate measurement.

VT-X750 software adjusts the contrast image by automatically correcting the x-ray tube voltage as well as current exposure time, and CT value. Self-propelled systems can be connected.

Omron believes the VT-X750 supports Bosch and other users with advanced inspection for PCB design without design limitations. Added to this are full 3D CT data processing and implementation of IoT projects for manufacturing. It thus makes a valuable contribution to streamlining PCB inspection, strengthening quality in the automotive sector, relieving employees, and improving overall safety in general.

01908 258258
www.industrial.omron.co.uk

Latest x-ray inspection system is guaranteeing PCBs’ performance

This latest version inspects any hidden soldering areas

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Malaysian-based system integrator MODU System opted for a KR DELTA from KUKA to handle measuring spoons for baby foods.

Two KR DELTA robots pick up measuring spoons from a conveyor belt and place them on a second belt in open conveyor pockets, each holding a food bag with baby food. In a free area next to each bag, a sticker includes a bar code. “When the robot detects the free area via the camera, it knows to place a spoon there,” explains Rajinderjit Singh, regional manager of MODU System. Another machine then pushes the bag and spoon into a box. “Naturally, the solution centres on the KR DELTA, which can come into direct contact with food because of its stainless steel body,” explained KUKA employee Lim Jia Ming.

With a cycle time of as little as 0.5 seconds, the KR DELTA is extremely fast. “Two robots manage about 80 spoons per minute,” says Lim Jia Ming. At the same time, the robots and the KUKA software behind them, such as KUKA. VisionTech for 2D object recognition and KUKA. PickControl, work with high precision, avoiding potential manual errors. One of the biggest initial challenges for this process was accurate calibration. This is a precondition for the two KR DELTAs to grip the spoons with precision at high speed. Before this installation, the baby food manufacturer carried out this process in a potentially dangerous manual way.

“The customer has great confidence in the automation solution that KUKA and MODU System have developed,” Singh explains. “We ourselves are impressed with the stainless steel design of the KR DELTA and believe that the application is ideally suited to the food industry, which places great emphasis on hygiene. “The system is very easy to operate, looks good, and the stainless-steel robot design convinced our food-industry customer.”

Before this new installation, the baby food spoons were handled manually.
Rapid automated inspection saves millions of bottles being wasted

UK integrator Bytronic Vision Automation has helped one glass manufacturer save millions of premium glass bottles from unnecessary destruction thanks to a new automated in-line inspection system that was deployed in under 48 hours.

After discovering a potential quality issue with a batch of its premium whisky bottles, the company needed to rework 4,000 pallets of stock – over three million bottles – in less than 10 weeks. The issue was the shape of the bottle neck. Each neck must exactly match the angle at which the whisky makers apply a cap and sleeve to securely seal the liquid inside.

Adding Automation
The customer identified one batch in which the shape of the neck may have been incorrectly made, but it was unclear as to how many bottles had been affected.

Using a pre-existing rework line, Bytronic engineers swapped the manual option with a rapid automated in-line inspection system – capable of checking five bottles per second – within 48 hours. Three million bottles were checked, and roughly 60% were saved from the bin. That’s nearly two million premium bottles that would otherwise have been smashed, reformed and recycled needlessly, costing money, time and also energy.

The on-site quality product manager was pleasantly surprised by the accuracy and repeatability of the equipment. The company has never had any issues, and Bytronic has never let any bad glass get onto a finished pallet.

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KRONES
The PPMA Total Show is declared a triumph by visitors to the event

Visitor and exhibitor feedback from the PPMA Total Show held in September has acclaimed the event a resounding success which, says the PPMA, firmly positions it as one of the most highly valued on the UK events calendar.

“Visitors seemed to agree, with Brian Povall-McMahon, site engineering manager for Morrisons saying: “I’m a great believer in getting out there, and these kinds of shows are perfect for that.”

Over the next 21 pages, you can find a number of new technologies that featured at the three-day event.

The PPMA Show 2023 will take place next September...

Following the success of this year’s event, the positive feedback from all involved, the PPMA are urging exhibitors and visitors to save the dates of next year’s exhibition.

The PPMA Show 2023 will take place in hall 5 of the NEC, Birmingham from Tuesday 26 – Thursday 28 September. Owned and organised by PPMA Group of Associations, it is the UK’s biggest, free-to-attend exhibition for the processing and packaging industry. Now entering its 34th year, the three-day event continues to support a range of exhibitors and visitors alike.

Fish company buys this weigher

A fish company walked onto Ishida Europe’s stand during the PPMA Total Show and left having purchased a weigher designed to accurately weigh sticky fresh products that cannot be controlled by standard vibratory multhead units. In operation, it cuts giveaway to less than 1% of pack weight and reduces labour costs by typically three operators per shift.

Omron’s Patricia Torres’s speech

Richard Little from Jenton spoke

Latest bagger steals the show with many new trials booked

Yorkshire Packaging Systems (YPS) saw a healthy pipeline of bagging machinery leads at the PPMA Total Show, in particular for its Max Pro 24 vertical bagger which generated a huge amount of interest. Indeed, a number of trials have been booked with potential customers in the next few weeks to demonstrate its prowess in a real-life warehouse environment.

“It’s a total game-changer for eCommerce and industrial applications; any business bagging apparel, hardware, electronics, cosmetics or PPE should definitely consider it for the guaranteed gains in output and efficiency,” says Tom Hill, the firm’s in-house bagging expert.

“It offers users a very swift payback on investment,” he says.

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Markem-Imaje demonstrated the new eTouch-S intelligent print and apply labelling system at the PPMA Total Show to further enhance its portfolio of end-to-end supply chain solutions and won the Innovative Packaging Machinery category in the PPMA Group Industry Awards at the same time.

With a proprietary design and patented technology, the eTouch-S applicator is the latest addition to Markem-Imaje’s 2200 series. It has been developed in response to customer demand for reduced environmental impact and in operation, it removes the need for plant air without impacting supply chain traceability or increasing the risk of retailer fines for returned cases.

Capable of production speeds of over 150 packs per minute, the eTouch-S is said to combine top performance with the highest levels of operational safety. Compliant to EN45-10 safety standards, the new system offers fully unhindered operation without the need for additional safety measures regardless of application type and installation constraints. It has built-in artificial intelligence to ensure that labels are applied to an exacting standard on every pack, and at the highest production speeds. The applicator’s special SoftTouch technology offers full movement control and application monitoring, alongside pack sensing which allows application without unnecessary force, and the ability to automatically detect variation in the pack position.

An optional Advanced Trigger Sensor (ATS) provides the ability to label on packs with infinitely variable distances and speeds with constant label placement and without the requirement for operational intervention or complex line integration. “The eTouch-S is a truly intelligent, high-performance print and apply system,” said Mike Kirk, print and apply product marketing manager at Markem-Imaje. “It’s a game-changer for customers looking for a solution that is exceptionally safe, lightning fast, hugely durable, and simple to operate, all while reducing downtime,” he continues.

“The eTouch-S applicator is ideal for any business looking to be fully compliant with labelling standards, while eliminating the need to regulate production throughput, require changes to existing production methods, or for expensive additional pack control.”

Markem-Imaje has developed a new hybrid driver which provides the eTouch-S with a combination of high-speed motion accuracy and inbuilt hardware safety to remove the need for additional safety measures even at high speed. Designed with reliability in mind, the eTouch-S is billed as drastically reducing maintenance requirements thanks to its minimal moving parts. Efficient design allows for lower print speeds at higher throughput regardless of the data complexity or content, reducing machine burden, decreasing wear and total cost of ownership.

Multipix Imaging demonstrated a live turntable picking demonstration. Alongside the new robot cell, which featured a UR3 cobot, the vision company also showed a live turntable demonstration of the new Photoneo MotionCam-3D Colour and meshing software.

This year, Multipix Imaging was in close partnership with its supplier Photoneo on its PPMA Total Show stand, and displayed its new robot cell and showed the latest release of Photoneo’s Bin Picking Studio running a full bin picking demonstration.

Alongside the new robot cell, which featured a UR3 cobot, the vision company also showed a live turntable demonstration of the new Photoneo MotionCam-3D Colour and meshing software.

Newly built robot cell with cobot on board was shown along with bin picking display

Intelligent print and apply labelling system takes top honours in awards

Moving materials in a safe, efficient way

Automated Handling Solutions (AHS), provider of automation solutions and material handling equipment, comprising Spiroflow and Cablevey Conveyors, joined with Advanced Material Processing at the PPMA Total Show. Representing AHS, Spiroflow showed a universal T2 bulk bag unloader, alongside its existing flexible screw conveyor, together with a range of spirals and tubes, while Cablevey demonstrated its enclosed tubular drag conveyor for moving materials in a safe, clean and efficient manner.
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westrock.com/automation-uk
Minebea Intec presented new products and powerful software tools that help automate the processing and production of manufacturing plants at the PPMA Total Show. The key topic for the show from the weighing and inspection technology company was automation that could overcome current global challenges for all of its customers.

The new product VisioPointer was one of three new vision inspection products to be seen, which when combined with the automatic weigh price labeller, the WPL-A, allows customers to automate their entire end of production line where labelling plays a significant part of manufacturing. “Normally the overwhelming justification (for companies buying automated machinery) is product saving, but we’ve really noticed a switch now to labour saving - and not just labour saving but automating a process because there is no labour available to do them,” said Peter Walker, country manager for the UK and Ireland at Minebea.

“By automating more of the production process, the need for staff diminishes allowing long and consistent runs of product. “It also reduces the requirement to train and maintain staff’s skills and absence is no longer a worry or concern for management,” he continued. “Consistency has been proven to greatly improve because everything is being checked and everything’s being done in a consistent way time and time again.”

Minebea says the wide range of products within its portfolio enables customers to identify products that can improve their manufacturing process. “We offer a consultancy where we visit the customer and talk through the entire process, so we can really understand the requirements and challenges they face,” explained Mark Clifford, new business manager – UK & Ireland. “As part of that consultation, we identify where automation can benefit them and then demonstrate how it can be implemented so they are confident in making an investment in it.”

The company advised visitors to its stand to review payback and consider ROI when evaluating any new automation, and also consider futureproofing. “We have our own in-house service team, and we offer a range of contracts to meet the requirements of each individual customer depending on the type of response times they are looking for and how involved they like us to be with their maintenance,” explained Peter Walker.

Contact us today T 0121 779 3131 E info@minebea-intec.com W www.minebea-intec.com
Design, build and fit-outs are offered to food/drink factories

Visitors to the Oakley Food Projects stand during the PPMA Total Show discussed a range of features of the company’s turnkey design, build and fit-out services for production, clean room and temperature-controlled food and beverage facilities throughout the UK.

The company works with small and medium size business that have identified a requirement for increased production capability to facilitate growth, but that don’t have all the expertise, time, or resources in-house to achieve these changes. Oakley delivers the entire project for customers, from design through to handover as a turnkey, fixed cost package. This, it says, reduces risk and allows an SMEs’ team to focus on running the growing business operations.

The firm can deliver turnkey projects

The food processing plant design, planning and fit-out projects can be anything from cold room installations or drainage installations to a complete factory design, including factory fit-outs, or resin flooring and even white-walling at a facility.

The company believes that delivering the entire growth phase for a company removes the stress, distraction and risk to their businesses.

Tel: 0118 228 0888
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Thermal processes to offer sustainable gain

At the PPMA Total Show, Holmack’s key themes included vertical farming, shelf-life extension and sustainability. Healthier production processes and sustainability are high on the agenda for Holmack and its technology partners. Solutions that eradicate preservatives and minimise waste and the use of energy and natural resources have been a clear priority for its customers.

As well as discussing these issues with visitors to its stand, the new Perfcooker tiltable table from Perfinox, that is designed to replicate restaurant quality meals on a commercial scale, also featured. Perfinox’s new tiltable unit has been designed to speed up the production of high-quality ready meals. Designed for both frying, cooking and cooling in one single unit, the new tilting feature addresses a long-term manufacturing challenge by simplifying the transfer of highly viscous products such as pasta fillings, corned beef and vegetable paté, for further processing. For non-viscous products, a pumping solution is built into the design.

With almost 50 years of heritage and the expertise of its partners, the company used this year’s show to relaunch its brand with product and sector extensions. “Our specialist subject has always been thermal processing, with a clear focus on the food industry,” explains managing director Chris Holland. “However, taking the lead from our customers we’ve extended the scope of our portfolio to encompass robotic handling and filling and closing solutions, with new innovations seeing our technology transferable to the non-food sector including cosmetics, personal care and household products.

“With everything that we do, we will continue to ensure that innovation, sustainability and production efficiencies remain at the core.”

Latest stretch hooder is described as offering several new advantages over other existing models on the UK market

Ehcolo introduced a new stretch hooder that it says, presents several advantages over other models on the market including reliability, easy installation and simple maintenance.

The compact new stretch hooder uses tubular PE stretch hood film with no gusset which can be printed on all four sides for easy identification and branding on the pallet. Its mechanical opening system (with no vacuum) means it can handle any variation in film quality, easily, and it is also reliable.

The company says this compact unit has reduced moving parts compared to conventional stretch hood machines which makes it easy to install, use and also maintain. All servicing is at floor level, to make life easier for engineers.

“Our machine offers a low investment,” says Hans Andersen from Ehcolo.
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Film reducing technology can be trialled in UK soon

Film reduction was a theme across the range of technologies that were included on the stand of Ulma Packaging UK at the PPMA Total Show.

As part of the company’s sustainability plan, that aims to achieve a circular economy across the board, its Packaging Technological Centre has a team of over 50 engineers working on a range of technologies and applications to improve sustainability through innovation. Its challenge is to reduce the impact of the linear economy culture by mitigating the overall impact of plastics packaging, maintaining preservation properties and avoiding food waste.

And the UK company is backing this up by investing in a versatile TSA 680S tray sealer so that UK customers can conduct trials with meats, fish, cheese etc more easily.

“LeafSkin has brought sustainable benefits to a wide range of food products. James Couldwell. LeafSkin allows food items to be sealed in vacuum against a 100% recyclable flat cardboard tray.

The pack’s design enables plastics reductions of up to 80%, including an ‘easy open corner’ and a ‘recycling corner’ to allow for full separation of the plastics and board materials to make the recycling process easier.

Up to 25 cycles/min in cut&seal and up to 20 cycles/min in MAP can be achieved on the machine, handling all kinds of preformed regular trays. This equipment has been designed for integration into medium-high production lines or processes with high accuracy in tray positioning. The sealing process can be on one row (single-line) or in two rows (double-line), depending on the formats to be packaged.

01909 506504
www.ulmapackaging.co.uk

LeafSkin has brought sustainable benefits to a wide range of food products

Independent robotics and automation advisors launch a Birmingham operation to help transform manufacturing

At the PPMA Total Show, independent advisors on robots and automation Gain & Co launched its operations in the UK by setting up its first UK office in Birmingham.

The Danish company believes independent advice is key to unlocking the massive potential for transforming British industry through automation.

It guides businesses through each phase of an automation process, from understanding where to start through to implementation and optimisation. The company is completely market neutral with no ties to any robot and automation suppliers.

“With so many robot sellers and solutions on the market, it can be difficult for customers to know where to start and how to find the best solution at the right cost,” said ceo Søren Peters.

During the show, the company’s HowToRobot marketplace was also being promoted and discussed with visitors to the stand. This website is designed to match suppliers to buyers, free from any pressures while offering practical help like writing specifications for a project.

Elias Lundström, corporate communication & public affairs at the company told Machinery Update that the show had been good for them.

“We have been helping visitors that are experiencing labour shortages in their businesses,” he said.

www.buckham.co.uk

Successful event saw a twin container filling line sold at the show

At the PPMA Total Show, Engelmann & Buckham says having the addition of the AiCROV SPI drum filling machine on its stand helped to draw more interest to this growing area of its business across the UK.

Indeed, on the final day of the show, the E&B team signed a deal for an AiCROV twin container filling line for ATEX rated products, and with a promise of more sales in the pipeline.

John Orme, sales manager at E&B had a successful show.

“Visitors were drawn to the build quality and functionality of the equipment and were able to see how it could be integrated into their businesses,” he said.

01420 593680

www.machineryupdate.co.uk

E&B had a very rewarding event

PPMA Total Show Review
100% content uniformity tests for tablet producers

Visitors to the Europharma stand at the PPMA Total Show could discover a new inline testing system from Pharma Technology that is designed to ensure the quality of each individual tablet. It does this by combining the inspection of two major quality attributes: API fraction and also mass.

Seen for the first time in the UK at the show, the CU-120 analyses individual dosage from each single tablet up to speeds of 120,000 tablets per hour. This data can be used to control an upstream process application such as a tablet press, and all non-compliant products will be rejected.

“It is the ideal tool for content uniformity inspection and real time decisions,” Hervé Dengis, sales director at Pharma Technology told Machinery Update.

In operation, each product is inspected by the multipoint NIR SRS ‘near Infrared spatially resolved technology’ probe to predict API fractions, and a 3D microwave resonator measures individual mass. The unit includes an encapsulated weighcell or a 4-P tester (measuring mass, thickness, hardness and diameter), for automatic calibration of the mass measurement instrument.

Data is processed and analysed by high-speed processors and stored in CFR21 acquisition software. This data can easily be exported to an upstream machine in operation.

“The new CU-120 from Pharma Technology was well received at the exhibition,” said Green.

The benefits of adopting a manufacturing execution system were heard by visitors

Harford Control showcased its manufacturing execution system (MES) at the PPMA Total Show that proved popular with visitors facing the joint challenges of inflation and the energy crisis and that were seeking opportunities to sustain and lower production costs.

The Harford system is built to scale across entire factories, from goods-in to despatch and makes all-production-related information available within a single system. All collected data is analysed, prioritised and distributed to networked PCs, laptops, tablets and mobile phones in real time, so operators can make adjustments and managers can make decisions, immediately.

“We help factories eliminate risk, reduce wastage and improve efficiency by turning data into actionable information,” says Roy Green, managing director at Harford Control.

Easy to use Delta robot offers gains

On the stand at the PPMA Total Show, Vita-Nova Solutions introduced a Delta robot that works in a collaborative manner to pick and place products at high speeds and that is also mobile.

This new option is manufactured by Wyzo and distributed in the UK by Vita-Nova who can offer a free analysis of any automation needs before adapting the technology to deliver a bespoke specification. It is described as delivering high performance and simplicity at the same time, and visitors to the stand, certainly liked the collaborative nature of the technology.

“Visitors loved the Wyzo collaboration that is offered and the fact that this is a high-speed solution that can be delivered in weeks, not months,” said Paul Millard, sales director of Vita-Nova. “We’ve had an absolutely fantastic reaction to this exceptionally easy to operate robot.”

The software takes account of the environment the robot will be working in, the product to be processed and the speeds that are required. Any regular end-effectors can be used. It is billed as the world’s first high-speed pick & place technology that is able to work with a production team.

The new cobot option in action

100% content uniformity tests for tablet producers

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Easy to use Delta robot offers gains

On the stand at the PPMA Total Show, Vita-Nova Solutions introduced a Delta robot that works in a collaborative manner to pick and place products at high speeds and that is also mobile.

This new option is manufactured by Wyzo and distributed in the UK by Vita-Nova who can offer a free analysis of any automation needs before adapting the technology to deliver a bespoke specification. It is described as delivering high performance and simplicity at the same time, and visitors to the stand, certainly liked the collaborative nature of the technology.

“Visitors loved the Wyzo collaboration that is offered and the fact that this is a high-speed solution that can be delivered in weeks, not months,” said Paul Millard, sales director of Vita-Nova. “We’ve had an absolutely fantastic reaction to this exceptionally easy to operate robot.”

The software takes account of the environment the robot will be working in, the product to be processed and the speeds that are required. Any regular end-effectors can be used. It is billed as the world’s first high-speed pick & place technology that is able to work with a production team.
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Smart Packaging Solutions

Solving the Most Pressing Challenges in the Food Processing industry—One Pick at a Time.
Solutions that answer fluid path challenges were demonstrated

At the PPMA Total Show, Watson-Marlow Fluid Technology Solutions (WMFTS) showed options for the food and beverage, packaging and biopharmaceutical sectors that enable customers to optimise efficiencies by increasing productivity and reducing energy, water, and waste in their manufacturing processes.

“Our extensive range of peristaltic pumps eliminate the need for ancillary equipment and the associated costs,” explains Andy Ashton, country manager at WMFTS. “Pumps ensure accurate metering, transfer and filling and can deliver significant process efficiencies over the lifetime of the equipment.”

For low shear, low pulsation flows, MasoSine Certa sinusoidal pumps offer powerful suction and typically require up to 50% less power than conventional pumps used in viscous fluid handling duties. Meanwhile, Aflex hose products are created through a combination of clever engineering and materials knowledge. Lined with polytetrafluorethylene (PTFE), Aflex hoses offer chemical resistance and are both highly flexible and kink resistant.

WMFTS also showcased the Watson-Marlow 530 series and Qdos pumps, in addition to Flexicon PF7+ and FF30 filling machines on its stand.
Flow wrappers and VFFS units use a diverse range of materials

GIC showed the versatility of its vertical form, fill and seal (VFFS) packaging machines during the PPMA Total Show highlighting the low cost of ownership of its range and their suitability for a wide range of sectors, including frozen and fresh produce.

A high-speed GIC8100 with servo gusseting and an integrated TOSS back seal and pack perforation system for packing frozen products took centre stage on its stand alongside an intermittent GIC2100 with a versatile dual sealing system for packing fresh vegetables.

“The PPMA Total Show is an important date in our calendar,” says Andy Beal, GIC’s managing director. “This year, we wanted to showcase our versatility. “We think a lot of people know that GIC has a significant presence in the fresh produce sector, but our machines are capable of packing a much wider range of products, from bullion and aggregate all the way through to pet food and powders,” he said.

A continuous motion machine, the GIC8100 is ideal for high-speed bag styles up to 400 mm wide, such as pillow gusseted and block bottom. It can pack everything from fresh produce and snacks through to confectionery, pulses and powders. The inclusion of the TOSS system has been made possible through GIC’s relationship with Ceetak.

This hot air sealer can be specified to machines when they need to run at very high linear film speeds. The relationship with Ceetak also allows GIC to integrate QPH sealing technology into its machines, enabling full calibration, control and diagnostics of the system via the GIC touchscreen. A dedicated Ceetak sealing page on the HMI allows the user to control all operating characteristics related to the sealing, cooling and release phases of the product cycle.

This page also allows the user to calibrate the system to ambient conditions, ensuring efficient use of the equipment, and diagnose potential faults and warnings through a descriptive dialogue box.

A further benefit to GIC machine users is that the company’s machines can now feature interchangeable jaws, allowing traditional heat seal methods or Ceetak’s high-integrity QPH sealing technology to be fitted or removed quickly. This gives operators flexibility in specifying methods of heat-sealing polypropylene, polyethylene and laminates on the same VFFS machine.

Working at speeds of up to 60 packs per minute, the GIC2100, which was next to the G8100, can work with the same broad range of products as the GIC8100, but is designed to produce smaller bags, up to 250 mm wide.

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Compact Controller 100, a fully-fledged IIoT device with gateway functionality. This way, Wago combines the requirements of two different domains within one device in the best possible way, bringing its expertise to bear where “automation meets IT”. Thanks to its design as a DIN-rail built-in installation device per DIN 43880, it can also be mounted in small distribution boards.

The new Compact Controller 100, with a real-time Linux operating system, gives users maximum freedom, says Wago. Visitors to the Wago stand saw this compact device, which is freely programmable with CODESYS V3, but can also be used for IEC 61131-independent engineering, for instance with Node-RED, Python or C++. Later installation of Docker as a virtualisation environment also makes the sliced products in a variety of visually appealing, space-saving and consumer-friendly ways.

Meanwhile, the GEA PowerPak PLUS thermoformer offers efficiency, pack quality and safety with improved productivity and reduced operating costs. It handles meats, cheese, seafood, dairy and fresh produce by providing hygiene, easy access and simple handling.

The SmartPacker TwinTube system combines high speed and output levels. It achieves combined speeds of up to 500 bags per minute (weighing between 10 g to 18 g each) and can be used for a variety of applications such as confectionery, savoury snacks, nuts and small cookies.

At the event, the machine was running plastics and paper materials, demonstrating its flexibility and ability to run sustainable options.

GEA engineers at the show used interactive technology to give visitors a digital experience of the company’s choice of complete production lines available for a wide range of manufacturing applications. This included the benefits to the food industry of its efficient slicing technology and thermoforming machines.

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The spotlight was also on GEA’s range of flexible slicing solutions which can help products stand out on crowded supermarket shelves. Its slicing, scanning, weighing and loading systems arrange sliced products in a variety of visually appealing, space-saving and consumer-friendly ways.

“PPMA was the perfect platform to showcase the technology and expertise we can offer to current and prospective customers alike,” said Greg Austin, director of sales at GEA. “We’re confident our range of equipment, which can also be adapted to provide vacuum and MAP, meets any manufacturer’s demands.”

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Comprehensive range of inspection/robotics

Acrovision were delighted to be back at the PPMA Total Show, and demonstrated an array of vision inspection, industrial barcode reading, and precision robot displays. Taking centre stage was its range of Validator – end of line label and packaging inspection series. The entire family was on the stand:
- **Validator 100** – Checks correct and readable 1D and/or 2D barcodes
- **Validator 200** – As above plus checks for correct and legible characters such as use-by dates
- **Validator 300** – As above plus checking packaging quality such as fill-levels and seal detection etc.

The hot topic of Deep Learning/AI Vision was addressed with the Cognex InSight 2800 Edge-Learning display. This showed how easily a cost-effective smart camera can be programmed to carry out inspection tasks previously not possible with traditional ‘rule-based’ vision systems.

The company’s Meca-500 ultra-precise industrial robot attracted a lot of attention during the event. It took on visitors in a game of steadiness and accuracy with the wire-buzzer challenge. Not surprisingly the world’s smallest, most precise 6-axis industrial robot with its 5 μm repeatability won the day! “We also simulated a food processing and packaging line to show how we use vision to inspect items before and after they are packaged,” explained Acrovision md Paul Cunningham.

Finally, the company showed precision 3D laser profiling with the Micro-Epsilon scanCONTROL product. “Along with the 3D Inspect software, it enables extremely accurate and high measuring-rate applications to be easily configured,” said Cunningham.

Valco Melton welcomed visitors to its stand at the PPMA Total Show to discuss its adhesive dispensing equipment and quality assurance systems and also to present its new energy efficient Kube.

The new Kube Series leads a new generation of energy-efficient melters that optimises the heating process. Thanks to its improved insulation, the new Kube minimises energy lost to the environment which translates into economic savings (more details on page 15 of our last issue). The optional automatic adhesive feeding system prevents charring and optimises the time the adhesive stays in the tank.

Visitors also saw the all-electric hot melt EcoStitch applicator, which is specifically designed for the food and beverage industries and capable of working at high speeds. Based on a precise adhesive dispensing control, it produces accurate adhesive dot patterns and is designed to reduce adhesive usage by up to 75%.

#### Take control of AGVs with ease...

With the increasing employment of AGVs (automated guided vehicles) in factories and warehouses, there are great opportunities for companies that can supply compact, low-level, integrated motion control packages to manoeuvre them.

An illustration of such technology, that visitors to Lafert’s stand at the PPMA Total Show could discuss, is the ‘Smartris’ unit. The Lafert Smartris is a compact, battery-powered unit comprising a gear, servo motor, drive and wheel. It features a gear in-wheel design that provides low floor levels to help maximise an AGV’s space and load carrying potential. It is equally suitable for unit load carriers, assembly line trucks and mobile robots.

Application flexibility for AGVs is offered thanks to various mounting options – including shaft rotation and frame rotation. Consequently, it is easier to incorporate into a vehicle’s design. In addition, there is a wide range of load capacity options to further extend the systems potential applications.

Other technology on the stand included the company’s high-efficiency, permanent magnet motors (offered with or without integral drive), and the ‘Marlin’ stainless steel motor range. The IE4/IE5 permanent magnet synchronous motors can reduce motor size and weight by up to 50% while offering efficiencies exceeding the latest mandatory regulations, thereby future proofing designs.

#### Latest melter offers energy and economic savings and joins all-electric hot melt unit

Valco Melton welcomed visitors to its stand at the PPMA Total Show to discuss its adhesive dispensing equipment and quality assurance systems and also to present its new energy efficient Kube.

The EcoStitch applicator was shown into economic savings (more details on page 15 of our last issue). The optional automatic adhesive feeding system prevents charring and optimises the time the adhesive stays in the tank.

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Pouch packaging can be easy to do

The horizontally operating FME 50 form, fill and seal machine that could be discussed on the Penn Packaging stand at the PPMA Total Show enables a quick and easy entry into the world of flexible pouch packaging. For the packaging of dry products, the FME 50 meets the highest demands with easy handling on a very small footprint, explained the company.

With the proven SN technology, most pouch types such as stand-up pouches or four-side sealed pouches, are produced from the film reel and filled on the rotary table. The insertion of resealing systems (zippers) is also possible with the SN entry-level model.

The FME 50 processes a wide range of recyclable films and at relatively low energy consumption.

Penn Packaging specialises in supplying packaging machinery systems from partners that are some of Europe’s leading manufacturers which can be supplied as single units or as part of turnkey installations.

Herma UK has adapted its labelling range to suit a wide range of market sectors with the introduction of its new modular labelling concept. Designed to meet the high demand for labelling systems delivered on very short lead times, the company’s design team were tasked with creating a collection of standardised dimensions that could be easily configured in different ways. The result is a system that can be designed, manufactured and delivered on a very short lead time.

This concept is now known as the ‘Modular Machine Platform’ and was seen for the first time at the PPMA Total Show on the modular 752C MMP wraparound labelling system.

The new system not only looks aesthetically pleasing in line with the Herma uniform of systems, but it also provides the same efficient labelling on a stainless steel or aluminium frame design, to comply with strict food industry standards.

This modular design allows for a more flexible and timely approach in machine build and allows the company to meet the demand for short lead times efficiently.

Herma offers shorter labeller lead times

Penn Packaging can be easy to do

The range of equipment was discussed at the show

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Herma offers shorter labeller lead times
Range of converting equipment delivers gains across industries

Specialist supplier of components and machinery for the converting, packaging, tissue and corrugating industries, Jarshire exhibited in its own right at the PPMA Total Show following the company’s restructuring and relocation earlier this year. The focus of its stand was summed up as efficient elements from a range of suppliers that all lead to cost-effective production processes.

For instance, lightweight airshafts from Svecom Srl can benefit process speed. Manufactured from aircraft-grade aluminium, the low weight of the shaft allows easy and safe manual handling, resulting in efficient insertion and withdrawal of the shaft from the reels, thereby increasing production through quicker reel changes.

CONVERTING OPTIONS
Knife holders and Slitting Systems produced by Espo include pneumatic knife holders for shear, crush and razor cutting that are rigid and compact in design and thus suitable for harsh conditions, while brakes and clutches from Renova srl are designed for unwinding and rewinding rolls of any size.

Meanwhile, Tecnomec3 specialises in the design and manufacture of spreader, bowed and banana rollers that are designed to eliminate creases and wrinkles and prevent interweaving of slit widths in slitting applications.

Finally, Jarshire’s Reelsaver reduces waste and will restore 3 in, 6 in and 8 in ID cores on old or damaged reel stock with a flick of a switch, allowing customers to make substantial savings.

Tel: +44 121 630 2052  www.jarshire.co.uk

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Protection system for palletised products made its debut at show

PACE Mechanical Handling launched a new protection system for palletised products at this year’s PPMA Total Show after entering into a partnership with one of Spain’s leading bagging, palletising and wrapping machinery manufacturers.

Pace signed an agreement to represent TMI SL in the UK and Ireland in June, and as well as announcing the agreement, the company used the event to show visitors TMI’s ILERBOX development, a protection system for palletised products.

The ILERBOX automatic wrapping system places a protective layer of corrugated cardboard around the pallet, which is then stretch wrapped securely to protect the product in transit and storage. As well as protecting the palletised products, ILERBOX removes the need for human intervention as well as costly pallet boxes.

“The ILERBOX system from TMI is unlike anything else available in the UK,” claimed Nick Cesare, managing director at PACE. As well as selling TMI’s solutions, Cesare and his team provide a complete after-sales support package, including installation, servicing and also engineer support.

“We have been designing, installing and servicing automated packing solutions since 1996 and have worked with a wide range of companies across agriculture and food production through to aggregates, chemicals and animal feed manufacturers, amongst others,” said Cesare. “Being able to offer TMI’s machines alongside our range of robotic solutions puts us in a completely new league, and we’re really looking forward to seeing where this new relationship takes us.”

Thanks to its long-standing partnership with Motoman of Japan, PACE offers a wide range of robots, from pick and place up to specialist heavy lifting models. By having its own team of fabricators and software engineers and experience in designing and installing complete production lines, the company says it can deliver everything from a small, automated packing robot to a complete turnkey solution.

PACE is based in Oxfordshire and has its own R&D and manufacturing facilities. It is a subsidiary of Motoman Robotics UK Ltd and works with the Motoman Europe Group, which creates customised automated production lines for a variety of applications.

For more information, contact 01775 630900 or visit www.robotpalletizing.co.uk.
Functional barrier paper was aimed at eCommerce wraps

At its 7th consecutive PPMA exhibition, Friedheim International showcased beck packautomaten’s Paperbag machine that is designed for the eCommerce market.

Earlier this year, beck teamed up with Mondi to launch a strong, flexible paper-based packaging option dedicated to the growing eCommerce sector for which Mondi’s consumer research found a need for new recyclable packaging options. The solution uses 95% paper and is recyclable across all European paper waste streams. This FunctionalBarrier paper from Mondi features enhanced barrier properties to guarantee premium product protection against water vapour and moisture.

This development also replaces unnecessary plastics packaging, helping to reduce packaging taxes, carbon footprint and also increase eco-conscious consumer satisfaction.

The substrate is available in three grades, offering diverse barrier options, strong mechanical properties and also thin paper/coating grammages.

With the help of the beck Paperbag machine, users can make use of a tear strip for easy opening and also a resealing adhesive. As well as the various grades of materials, it is also available in white or brown and plain or printed.

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Printer Intelligence. Packaging Intelligence. Brand Intelligence.

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As pharmacies, hospitals, and other healthcare providers realise the key role that data plays in patient health and safety, they are placing pressure on producers of pharmaceutical products to provide more granular information on their products.

Of course, one way to facilitate increased data exchange between manufacturers, healthcare providers, and patients is including a 2D code, with product, dose, batch code, and expiry information, on individual tablet strips, blister packs, or, at the individual item level, on each pocket containing a tablet.

Therefore, this type of coding is gaining popularity in the pharma sector; with one of the most prominent pharmaceutical companies in the US Fresenius Kabi, recently announcing plans to add 2D codes to its whole range of drug product labels, despite there being no current legislation to compel this move.

Unique 2D codes at the blister or individual item level can be used by hospitals and other healthcare providers to improve medicine distribution and reduce the number of cases where patients unintentionally receive an incorrect medicine or dosage.

First launched in 2020, the K600G from Domino Printing Sciences (Domino) – a blister foil and web digital printing solution for pharmaceutical applications – provides pharmaceutical manufacturers with an on-site solution for variable data printing, which includes coding at the individual item, and pocket level. With the K600G, manufacturers can customise product packaging on-site with additional data added directly to strips and blister packs of medicines. This allows pharmaceutical suppliers to provide more on-pack information for pharmacies and healthcare providers, while reducing reliance on external packaging providers.

“The K600G was launched as a future-ready option for pharmaceutical manufacturers, and we are now seeing the real benefit of this solution,” says Bart Vansteenkiste, global life sciences sector business development manager at Domino.

Meanwhile, at the PPMA Total Show in September, Raupack presented Thymaris by Hicof, which is an alpha digital anti-counterfeiting camera detection, code printing and software tracking system. According to Gregor Rauch, md of Raupack, Hicof has turned a potential weakness of a QR coding system to a huge strength, and he believes it is set to become a benchmark in anti-counterfeiting measures across many industries.

Like other systems already in use, the Thymaris alpha digital anti-counterfeiting system uses cameras and software to capture and record product codes. However, the company realised that as each printed code dries in a random and unrepeatable way, it creates a random and unrepeatable code. Armed with this revelation, it therefore created a system that records, then stores the unique print features of each 2D matrix code. Applied to every product at manufacture, as part of existing tracking and coding procedures, Thymaris recognises this unique ‘fingerprint’ across the entire supply chain, making every single product truly traceable.

Through a smartphone app, customers can verify that the products they are buying are originals, whether medicines, designer perfumes or whiskies.

Another PPMA member, Zebra Technologies, has recently unveiled Deep Learning optical character recognition (DL-OCR). The solution supports manufacturers and warehousing operators who increasingly need fast, accurate, and reliable ready-to-use deep learning solutions for compliance, quality, and presence checks.

Today’s smart cameras and intelligent...
Currently Indatech provides solutions mainly for the pharma, biotech and the chemical industry including high-speed inspection of a tablet (hardness, API, homogeneity) and powder either in manufacturing or in the process development phase.

“Our solution is now compatible with manufacturing machine speeds, we have been able to inspect from 150,000 to 800,000 tablets per hour based on homogeneity and API concentration,” says Sylvie Roussel, founder of the French company.

At the same time, a pharmaceutical services company that provides solutions at all stages of product development and production recently contacted Piab to discuss an application sampling product from a chemical reactor. The environment surrounding the pump was a mixture of aggressive chemicals, and the company needed a vacuum pump that was resistant to this mixture. Piab’s solution was the Lab Vac LVH40K6, with Viton sealings and Kalrez flap valves.

With the Lab Vac, the customer was able to sample its product as frequently as required without worrying that the vacuum pump would degrade. Vacuum pumps for applications such as rotary evaporation, vacuum filtration, degassing or gel drying are also suitable for this Lab Vac product.

Bradman Lake is a company that designs and manufactures a variety of packaging machinery across a multitude of market sectors, but several of its product offerings are finding success within the pharmaceutical market.

For instance, its flow wrapping machines were supplied during the pandemic to package many lateral flow and other similar test devices while its new and refurbished S2000 roll wrappers handle effervescent and pharmaceutical tablets.

Secondary packaging equipment such as cartoners have also been used for pharma test kits, while its top loading cartoners are used for applications that require track and trace validation. Meanwhile, the range of wraparound case packing machines can be enabled for serialisation and aggregation integration.

This year has also seen Shemesh Automation launch a new nutraceutical gummies line that offers end-to-end solutions for all bottle shapes. Shemesh Automation’s VP Global sales & business development Yonatan Levy says Shemesh is the only machinery manufacturer to provide an entire uninterrupted bottling line for gummies and jellies where all the core machinery in the line is made by just one manufacturer.

“It’s hugely beneficial for customers to be able to partner with a single manufacturer capable of meeting all their needs for gummy packaging from product feed to palletising,” he says.

A Specim system works...
Rigid blister machine adds user benefits

Shawpak is currently developing the Shawpak rigid blister machine which forms the blister, die cuts the outer profile and stacks them ready for use in production to give pharmaceutical and medical companies control over their supply chains.

“This machine gives customers the full flexibility in making their packaging on demand from roll stock rather than relying on their supply chain to deliver the packaging they require and keeping months of stock to ensure supply doesn’t run out,” explains Tony Crofts, sales and marketing director at Shawpak. The tooling can be quickly changed to give full flexibility and control, it allows users to make the blisters and pouches they require just ahead of time and not keep pallets of stock taking up space and tying up cash.

Firstly, outer profiles are cut to deliver the packaging they require and keeping months of stock to ensure supply doesn’t run out. The formed blister which says the company, is a highly flexible and clever solution for packaging flat medical products. It is designed to pack flat products to a maximum thickness of 5 mm in packs up to 600 mm x 340 mm and can produce outputs in excess of 4000 packs per hour.

The machine can also be utilised to make 3-side-seal open pouches allowing medical device customers to make their own pre-made packs to hand fill and seal. By incorporating the latest technologies and functionality, the machine helps to ensure high efficiencies and low maintenance.

With this one-box solution, users are able to monitor as well as control their entire operations.

PharmaEdge consists of a B&R industrial PC running a hypervisor solution with both Linux and Automation Runtime operating systems. It offers machine and process automation libraries for easy configuration. There are no limitations to internal tags and no incremental costs for additional tags. Built-in features support easy reporting and historical data retrieval. Quality, regulatory compliance, safety, easy track-and-trace and efficient data access are the trademarks of a world-class pharmaceutical facility. PharmaEdge provides a quick and easy way to implement and customise audit trails. Features offered by PharmaEdge include data archiving and retrieval, electronic signatures, batch reporting, access protection and central user management as well as audit trail and change management.

B&R Automation has developed an integrated single-PC solution for users in the pharmaceutical industry to monitor and control their entire operations, which also meets the increasing demands of FDA compliance. PharmaEdge offers all the benefits of SCADA and a powerful control system in one device, says the company. With the possibility to add energy monitoring, condition-based predictive maintenance and MES/ERP connectivity, it enables implementation of smart machines for the future of the pharmaceutical industry.

The integrated PharmaEdge solution helps users optimise the performance of their automation systems while simultaneously improving cost and energy efficiency. Instead of deploying separate control systems for process control, SCADA, energy monitoring and condition monitoring, users get all this functionality in a single, integrated system, and also with built-in cybersecurity.

“With this solution, users benefit from maximum security without having to implement organisational measures. With this one-box solution, users get all this functionality in a single, integrated system, and also with built-in cybersecurity.”

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**Pill inspection and validation**

*Acrovision* has installed a new pill inspection and blister pack barcode and text validation system...

Acrovision has installed a new pill inspection and blister pack barcode and text validation system to a leading UK pharmaceuticals company.

The company's Validator CFR pill inspection vision system has been seamlessly retrofitted to a current Marchesini blister packing machine with limited down-time involved. For this project, 100% inspection of a blister was required to ensure the correct size and colour tablet, or capsule had been dosed into the blister. And any missing tablets, incorrect variant or broken tablets are rejected in a controlled method.

Acrovision’s Validator 100% checks the variable data printed on the rear foil. This includes the inspection of multiple lines of text (OCR) over 14 separate blister pockets. Any incorrect or poor-quality barcodes or text will again be rejected in a controlled method.

The new vision system needed to be integrated into a current Marchesini blister packing machine and so bespoke bracketry was designed and fitted to ensure a seamless installation that looks like it was fitted when new.

“This new offering allows us to provide a more complete solution to the biotechnology, drug, and medical equipment manufacturing industries, who are always looking to improve their quality and profitability, at an affordable cost,” says Acrovision md Paul Cunningham. “What makes our Validator CFR21 stand out, is the fact that it is custom tailored to each customers needs at unbeatable pricing.”

1. **Electronic signatures**
   - Individual and multi-level passwords for all users
   - Specify frequency of change/Alpha/Number/Case
   - Based upon cryptographic methods of originator authentication

2. **Electronic records**
   - Audit trails
   - Back-up and restore routines
   - Disaster recovery
   - ‘Like for Like’ exchange

3. **Validation**
   - Formally define how all elements of the system are supposed to work
   - Relevant documentation
   - Code Control.
Technology supplier Syntegon and drug containment solutions provider Stevanato Group have conducted an industry-first series of experiments to explore the potential of vapourised hydrogen peroxide (H₂O₂) for outside surface decontamination of RTU vials in trays or tubs/nests.

It comes as no surprise that the market for ready-to-use (RTU) containers has been growing at a rapid pace over the past years. While more and more drug producers are turning towards RTU vials, some questions remain unsolved, especially regarding the appropriate transfer method. In a conventional bulk process vials are cleaned, sterilised, and depyrogenated in a washer/tunnel configuration before the containers enter the fill-finish area.

However, this method reaches its limitations when used during small batch manufacturing. Drug producers are therefore looking for a sterile transfer method that is more compatible with small batch manufacturing, allowing them to decrease changeover times, gain more flexibility, and optimise production efficiency, and of course without affecting safety.

Today, the classical way to get RTU vials packed in trays or tubs into the sterile area is the so-called ‘no-touch transfer’. Before the vials leave the glass suppliers, they are packed in a tray or tub/nest, sealed, and packed into bags. The tray or tub is protected by one or more layers of (in most cases) Tyvek material, which is required for the final sterilisation process using dry heat, radiation, or gas.

Although the no-touch transfer is practiced globally, experts are constantly searching for new solutions to reduce contamination risks during unpacking.

More drug producers are turning towards RTU containers, as they can offer increased flexibility in use.

Syntegon and Stevanato have completed experiments for vapourised H₂O₂ decontamination of RTU vials.

Transferring tools and environmental monitoring material via a fast transfer chamber with a bio-decontamination cycle for outer decontamination is common industrial practice. However, the same principle is not used to transfer RTU vials into the isolator – at least not to date.

Vapourised hydrogen peroxide (also known as vapourised H₂O₂) shows enormous potential. It is already widely used for the inner decontamination of isolators for classical bulk glass vial production. Until recently, there was not enough data available to prove the safety of the H₂O₂ method for RTU vial transfer. But in 2021, Syntegon and Stevanato examined the effects of H₂O₂ on RTU vials to better understand the method’s potential for small batch manufacturing.

For this method to be safe, the amounts of H₂O₂ need to be low enough to not cause negative oxidation effects on the products inside. The process exposed both plastics and glass vials to a typical H₂O₂ decontamination cycle in an isolator. The results show that multiple parameters, including vial size, vial material, and aeration time have an influence on the H₂O₂ concentration within...
the container. The data also indicates that glass vials absorbed less vapour than plastics variants. When aerating the isolator until the residual H$_2$O$_2$ concentration inside reaches the standard typical amount of 0.5 ppm, only negligible traces of H$_2$O$_2$ penetrated the sample vial.

Vapourised H$_2$O$_2$ can hence be considered a safe method for decontaminating the outer packaging of pre-sterilised vials – opening the door for a potential shift in the industry.

Meanwhile, at Achema 2022 this summer, Syntegon highlighted new solutions for process development and manufacturing of solid pharmaceuticals, including Fluid bed Solidlab 2 Plus: an efficient development of batch and continuous manufacturing processes; TPR 200 Plus: a flexible tablet press with containment for small to medium-sized batches and an automated product feeder ‘APD Feeder’.

With the fluid bed laboratory unit Solidlab 2 Plus and also the tablet press TPR 200 Plus, the company displayed upgraded versions of two proven systems. Both enable time-saving product transfers from laboratory to production scale, also supporting continuous manufacturing processes.

Sealed trays with Tyvek material

In addition, both systems ensure easy cleanability as well as optimal operator protection thanks to containment features.

In addition to the equipment on show, the Syntegon portfolio includes further solutions for the production of solid pharmaceuticals. These include stand-alone machines and complete options, both for laboratory-scale and high-performance applications. In addition to tablet presses, the company offers capsule filling machines, tablet coaters, high-shear mixers and continuous manufacturing systems such as the Xeltum platform.

A consulting and service offering spanning the entire machine lifecycle completes the company’s portfolio.

www.syntegon.com
Feature: Pharmaceuticals and healthcare

Design gives safe way to handle drums

Packline was tasked with developing a drum clamp attachment with motorised rotation and flow control valve to suit a pharmaceutical customer’s requirements when using the Packline ‘Compac’ lifting machine to handle, load and unload plastics drums.

The attachment has powered drum rotation and a completely ‘tool-free’ clamping arrangement which uses a manually operated, quick-release mechanism to securely hold the drum in place. It also incorporates an optional, pivoting drum cone incorporating a diaphragm flow control valve.

The valve retains the drum’s contents while the drum is lifted and rotated into the dispensing orientation. When the drum is in the emptying position, the valve can be opened to allow the contents to flow.

This ‘Compac’ lifting machine has a ‘Dual Column’. This feature allows the operator to lift the drum to a greater than standard emptying height.

The raising and lowering of the drum clamp attachment is made by a battery powered mechanism, operated by a combination of a selection switch and simple button controls. These provide both the ‘rotation’ and ‘up and down’ actions and are ergonomically and conveniently located on the machine’s control panel.

The machine’s ease of operation is further enhanced by a slow start feature providing the operator with precise and accurate positioning when handling, rotating and emptying the drums.

System is saving costly downtime

Cobalt Systems devised an offline solution to help an allergen testing components company

Cobalt Systems was approached by a major manufacturer of allergen testing components to help solve a production problem that was costing both time and money.

The manufacturer already runs several fully automated lines, producing large volume batches of more common allergen testing components, in this case, vials filled with assays or reagents. But with an ever-increasing array of allergies that patients can be tested against, large volume production is not always appropriate. This means there is not necessarily the demand nor an acceptable product shelf life to justify fully automated production and labelling.

To manage this problem, Cobalt proposed an offline solution to satisfy low frequency, small batch production while also not interfering with large volume runs that can cause costly line downtime. It is a two-part process which applies wraparound vial labels via a semi-automated line which houses a print and apply solution. Vials are fed onto the line, which prints and wraps the contents onto a label that can be machine-read by immunology analysis laboratory equipment when testing actual patient samples.

The offline process has reduced downtime and provided cost-effective flexibility for the user.
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#MakeitOMRON
Feature: Pharmaceuticals and healthcare

Precise depositing meets sector needs

Baker Perkins has created dedicated production lines to make functional and medicated gummy and jelly confectionery by introducing two new depositors specifically for this market – the ServoForm Flexi and the ServoForm Mini+. Another new option is the gummy cap, a gelatin gummy with a liquid or gel filling developed by Rousselot on Baker Perkins’ depositors, with applications in both healthcare and confectionery.

Hygiene, accuracy, economy and efficiency compared with traditional methods including the starch mogul make starch-free depositing the first choice for producing gummies for healthcare markets including supplements and over the counter (OTC) pharmaceuticals. Functional ingredients include vitamins, minerals, protein, fibre, CBD, Omega-3, probiotics and energy supplements while pain relievers, cough suppressants and antihistamines are typical OTC ingredients.

**SIMPLICITY & HYGIENE**

Baker Perkins’ ServoForm Flexi depositor is designed to meet the needs of manufacturers looking for the hygiene and simplicity of starch-free depositing but with the longer setting times and versatility of starch moguls.

Depositing is at final solids, so although the products need time to set before being demoulded, no drying is required. Setting time varies according to composition, from a few minutes for some pectin recipes up to a maximum of four hours for gelatin. This significantly reduces the time, energy and space required for the post-depositing operations.

Two versions of the ServoForm Flexi are available: a single depositing head gives outputs up to 125,000 pieces/hr; a longer machine with two heads can produce up to 250,000 pieces/hr. The new ServoForm Mini+ depositor targets a rising requirement for short runs of centre-filled gummies and jellies, and also products made from high-viscosity syrups. It is an extension to the proven 50kg/hour ServoForm Mini depositor, of which more than 150 have been sold.

Centre-filling is a one-shot co-depositing process, where the casing and filling are deposited simultaneously. Small quantities of each are
solved by the combination of Rousselot’s SiMoGel fast setting gelatin and Baker Perkins’ depositing technology. The gummy cap combines the benefits of soft gel capsules and confectionery gummies. It comprises a soft, flavoured shell with a liquid or gel filling for highly accurate dosages of active ingredients in pharmaceutical OTC and nutraceutical products.

needed so accurate dosing and tight control of the product flow is required. The ServoForm Mini+ uses the same high-precision servo-controlled depositing process as all Baker Perkins’ depositors to achieve consistent and efficient forming of the product. This includes the mould-lift feature, available for the first time on a ServoForm Mini depositor. Lifting the moulds up during the depositing cycle is crucial for successful centre-filling as it maintains control of the syrup flows during the co-depositing cycle.

A LIQUID CENTRE-FILL Baker Perkins’ technology enabled Rousselot to develop the gummy cap. This gelatin gummy with a liquid centre-fill offers an alternative to the traditional soft gel capsule as a new delivery format for active ingredients. The liquid filling is prepared and deposited at ambient temperature to avoid heat degradation of the active ingredients. The problem of liquid casings and fillings merging and degrading high-value active ingredients in one shot depositing has been solved.

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Deep Learning is a healthy solution for Nestlé product

Nestlé health science production facility in Germany is operating Sick’s cloud-based Deep Learning system to solve a difficult application to inspect containers for the presence of transparent measuring spoons.

Nestlé manufactures products for people with specific nutritional requirements, such as sip feeds and supplements, at its plant at Osthofen in the Rhinehessen region of Germany. Towards the end of a supplement manufacturing process, a measuring scoop is inserted into each container prior to automated powder filling. Until recently, as part of the quality control system, a vision camera using a colour pixel counting tool inspected for the presence of the plastic scoop in the container at a process speed of over 80 cans per minute.

Changing to an almost colourless plastic scoop improved the recycling rate. However, the transparent scoop with its slight grey appearance, proved difficult for a conventional image processing system to detect on top of an aluminium foil lid of a similar colour, which was also corrugated, embossed and reflective.

With Sick Deep Learning, users follow the intuitive graphic interface of the company’s dStudio online service to select and train their neural network in a few simple steps: Once the devices are set up, users are prompted to gather images of the inspection in realistic production conditions, and then sort them into classes. Using dStudio, the pre-sorted images are uploaded to the Cloud where the image training process is completed by the neural network. The user can then apply further production images to evaluate and adjust the system.

When satisfied, the neural network can be downloaded to the Deep Learning-enabled Sick device, and the automated inference process will begin with no further Cloud connection necessary. At Nestlé, Sick neural networks were trained by being shown images of the enclosed scoop in a wide variety of orientations. Then, the taught-in decision-making algorithm was downloaded to the picoCam 2D camera.

With Deep Learning, the image inference is carried out directly on the device in a short and predictable decision time, without the need for an additional PC, and results are output to the control as sensor values. Whenever this system detects that a scoop is missing, it stops the process. As soon as it detects that a scoop has been added, it allows the system to continue without a manual restart.

According to Sick’s Klaus Keitel, the collaboration between the two companies ran smoothly. “We conducted tests both in our laboratory and on site to demonstrate just how confident we are with the solution,” he explains.

Thanks to this intelligent type of automation, Nestlé achieved extremely high reliability from the system, while implementation was simplified. The system also offers Nestlé the flexibility to expand its use to run on any new applications.
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The EX-FILL-S is a robustly constructed gear pump filling unit, ideally suited for both the first-time user of liquid filling machines or within a busy production environment, where flexibility, accuracy and rapid changeovers are required.

Omas modular “Uniflex” filling line. The Twin-Head automatic filler and capping line allows flexibility for filling a wide range of products. Available in 2, 4 and 6 head versions.

Axo 800 - Automatic tube filling and closing machine. Automatic tube loader, Hopper capacity 45 litre, Output Speed - 3800pcs/h

Omas Filling and Capping POD machine for E-liquid pods. Designed for quick easy change over between pods and flavours available as both semi-automatic and fully automatic high-speed lines.

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Code reader is quick and reliable in harsh settings

With four times the resolution of previous products and ten times faster evaluation, the new O2I multicode reader from ifm electronic can read almost any type of barcode or 2D code quickly and reliably, even in challenging conditions. Furthermore, it is as fast and easy to set up as an ordinary sensor and, in everyday applications, it can be made ready for use in just a few seconds.

With their one-button teach function, O2I readers automatically recognise the code type and optimise the focus and exposure settings, making them ready for immediate use. For users requiring additional control, the automatic settings can be fine-tuned with the user-friendly companion smartphone app. Alternatively, ifm's Vision Assistant software can be used to configure the O2I reader for more complex applications, such as the recognition of multiple codes in a single image, or sequential control.

To ensure dependable code reading even with ‘difficult’ targets, such as those with reflective surfaces, the O2I reader incorporates a polarisation filter to increase contrast and also offers optional integrated illumination. In addition, its fast evaluation system means that multiple images with different exposure times can be captured very quickly, allowing codes to be recognised even if ambient light levels are changing or the targets have variable surface characteristics.

The new O2I multicode readers from ifm are available with standard, wide-angle or telephoto lens, and can be supplied in versions which use visible red light or infrared light. All types incorporate TCP/IP and Ethernet/IP interfaces accessed via a rotatable connector to aid installation, and all have robust diecast bodies that provide excellent protection even in demanding operating environments.  

The O2I multicode reader can read almost any type of barcode or 2D code.
Position detection for a new safety bar code system uses single sensor

The new FBPS 600i safety bar code positioning system from Leuze enables position detection with a single sensor.

The FBPS 600i is connected to a safe evaluation unit via two SSI interfaces and is suitable for applications up to performance level e.

In intralogistics, it is important that the stacker cranes and transverse transfer cars pose no danger to the staff. The position and speed must be monitored during maintenance work or when operating with a manned car. Until now, system manufacturers had to use a redundant setup with two sensors in order to meet performance level d.

Leuze says this problem is now solved with the new single-sensor safety bar code positioning system FBPS 600i, which already meets the requirements of performance level e. This means that safety functions can now be easily implemented. The system is connected to a safe connection unit, for example, a frequency inverter, via two SSI interfaces. The FBPS 600i also requires less space in the system, and the installation effort is reduced significantly.

The FBPS 600i has an error reaction time of only ten milliseconds.

Safety gains with only one sensor

www.machineryupdate.co.uk November/December 2022 Machinery Update 59
Components

Top tips on reducing the energy costs in factories

EB Automation provides various solutions and products that can help reduce energy usage, and therefore energy costs, and has put together a list to help plant and machine operators.

Power supply and regeneration
Energy is often burnt up in braking resistors. This increases the risk of fire and wastes precious energy. Cyclically occurring processes in particular have a high potential of regenerative energy that can be used easily and efficiently.

Where masses are decelerated, supply and regeneration can be considered. With the COMBIVERT R6 regenerative units, KEB offers the possibility to return the regenerative energy of the drive controllers into the supply network. The new TÜV-certified PSR-MM35 over-speed safety relay from Phoenix Contact monitors speeds economically and without the need for any additional sensors. This over-speed safety relay, which is just 12.5 mm wide, expands the safe PSRmotion series. In automated guided vehicle systems or rotating axes in machine tools, for example, it reliably protects against hazardous movements up to SIL 3 or PLe.

Motion monitoring is based on the rotary field measurement of the drive and therefore does not require any additional sensors, such as encoders or proximity switches. The motor frequency is determined via direct connection to the single-phase or three-phase drive, and the machine movements are reliably monitored. Using the free, intuitive PSRmotion configuration software, functions can be set quickly and easily by users.

Over-speed safety relay monitors speeds at economical rates without additional sensors

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Efficient pairing of servo pumps and drive controllers
The use of KEB frequency inverters ensures energy savings in numerous applications. This is also the case in combination with servo pumps, which can vary the speed of hydraulic pumps in combination with drive controllers and compact DL4 servo motors.

Bistable clutches: up to 99% less consumption
KEB offers bistable industrial clutches for various applications, which have the function of maintaining the switching state (open or closed) without any further energy supply.
A new 3mm diameter capacitive displacement sensor is launched

Precision sensor manufacturer Micro-Epsilon has introduced two new sensors to its already extensive capaNCDT range of non-contact capacitive displacement sensors. The capaNCDT CSE01 and capaNCDT CSE025 are extremely compact sensors that provide a measuring range of 0.1 mm and 0.25 mm, respectively. With a diameter of 3 mm and a length of 15.6 mm, the capaNCDT CSE01 is one of the smallest triaxial sensors in the world, says the company.

The CSE025 has a diameter of 4 mm and a length of 16.1 mm, making both sensors ideal for distance, position and thickness measurement tasks in confined installation spaces.

As well as being small, the new sensors offer extreme measurement performance with resolutions of just 0.08 nm and 0.188 nm for the respective ranges.

Applications range from vacuums and clean rooms, where sub-nanometer accuracy is possible, to industrial applications in harsh environments, where the sensors offer sub-micron accuracy.

The sensors are sufficiently robust to withstand extreme temperature conditions (low to high, -50degC to +200degC).
### Who’s done what and gone where...

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<thead>
<tr>
<th>Multivac</th>
<th>Shemesh Automation</th>
<th>Ulma Packaging UK</th>
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<td>Guido Spix will terminate his contract as group president of Multivac for family reasons this December, which will end almost 14 years of working for the company. Under his leadership, the company has developed from a machine manufacturer to a supplier of complete solutions.</td>
<td>Mike Lynch has been appointed director for the North American market by Shemesh Automation, with his expertise expected to benefit customers across the world. He brings over 30 years of machinery and equipment experience gained at companies such as Bauer, Multivac and Elsner Engineering Works to his new director's role.</td>
<td>James Couldwell is the new managing director of ULMA Packaging UK following the retirement of its former long-standing managing director Chris Pickles. Having previously worked for the company between 2016-2020, Couldwell’s return will see him focus on expanding market share for the UK division and also growing the brand in the food and medical sectors.</td>
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<th>ALS Mechatronic</th>
<th>BW Flexible Systems</th>
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<td>Chris Fitzsimmons has been promoted to services director at ALS Mechatronic in recognition of the significant contribution he has made to the company during his 16-year tenure.</td>
<td>Chris Frank has been promoted to the role of vice president of operations at BW Flexible Systems, a Barry-Wehmiller company. As a member of the executive leadership team, he will direct leadership for the engineering, manufacturing, supply chain and field service teams across the company's global locations.</td>
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<th>TÜV SÜD UK</th>
<th>Ishida Europe</th>
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<tr>
<td>Darren Hughestone-Roberts has joined TÜV SÜD UK as the new head of its machinery safety division. He joins from Bureau Veritas where he was service lead of engineering, technical services and technical manager for its &amp; UKCA Approved Body, having previously served for 25 years in the British Army. His appointment further strengthens the team’s capabilities to deliver excellent customer service.</td>
<td>Jorgen Groenewegen has joined Ishida Europe as general sales manager for Northern Europe, covering the Benelux countries, bringing 15 years’ experience working close to the food industry to the role.</td>
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### Busch Vacuum Solutions

Three generations of the Busch family were present to witness the honouring of Ayhan and Dr Karl Busch. The couple were rewarded for their joint life’s work, their social and cultural commitment and their dedication to the community with the Gold Medal of Honour, the highest award the district of Lörrach bestows. District Administrator Marion Dammann presented the certificate and the Medal during a District Council meeting.
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