The dairy sector is facing an almost perfect storm of increasing costs, labour shortages and consumer pressure for sustainability, as our feature explains.
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THE LIGHTLINE FLOWPACKER

The lightline machines from Schubert can be delivered quickly and are especially attractive in terms of price. With the preconfigured machines, customers can adapt more flexibly to market trends and significantly speed up their time-to-market.

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MACHINERY UPDATE

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Pragmatic solutions are key today...

David Barber
CHAIRMAN, PPMA GROUP OF ASSOCIATIONS (INCORPORATING PPMA, BARA AND UKIVA)

It is hard to remember a time when supply chains were in such turmoil and when practically every business you can think of is having to cope with disruption across their sectors.

Every day seems to bring news of another manufacturing industry, retail sector or food group that is having to cope with shortages and/or incredibly long lead times. And that is on top of the spiralling costs that businesses and also individuals are facing at the moment.

There seems to be no end in sight to the cost-of-living crisis, so does this mean we all have to batten down the hatches and not only stop developing our businesses, but also put projects and goals (that we know will help bring success in the long run), on hold? I would argue not. At times like these, it is incumbent on all manufacturers to show corporate responsibility and strive to maintain standards across the board.

Collaborative working is going to be critical in helping to combat the challenges that we are all facing

In upholding safety standards for our employees and our customers, for instance, and continuing on our sustainability journeys through new ways of working and, maybe investment, so as not to lose any ground that has been made. Although many consumers are struggling right now, they will still demand new products – even if they are value-engineered – and they will still expect manufacturers to behave in a responsible way. And environmental gains cannot be put aside for now and switched back on when the good times return.

Maybe, this is the perfect time for digital options to come to the fore, so businesses can reap the rewards from their adoption? Investments in robotics, automation and vision systems are certainly helping the hard-pressed dairy processing sector, as can be seen in our special 24-page feature that starts on page 36 of this issue.

And at our Machine Vision Conference and Exhibition held in April, new vision systems with and without robotics, were seen across the event. Vision is an evolving technology and there is always something new to talk about which the visitors certainly seemed to appreciate. The presentations given throughout the day were also well attended, with delegates keen to learn about the science and the commercial opportunities they could deliver.

One thing we can be sure of is that if we work pragmatically, on collaborative solutions, then we will all be able to weather the current storm more efficiently and effectively.
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**Adhesives firm is now celebrating 70 years of success**

In 1952, Valco Cincinnati established itself as an adhesive dispensing systems manufacturer. Renamed Valco Melton in 2008, the Valco Cincinnati Inc Gluing and Quality Assurance Systems Business, has since become a leading manufacturer of adhesive dispensing and quality inspection equipment.

Today, Valco Melton celebrates its longevity, growth, and success supporting adhesive applications and quality assurance across 12 industries for seven decades. Starting as one company with only 50 employees, Valco Melton’s brand and technical service now extends across 96 countries and employs nearly 600 people worldwide.

**Queen’s Award for Enterprise awarded to Bradman Lake**

Bradman Lake has been granted the Queen’s Award for Enterprise in the International Trade category, one of just 226 organisations to be recognised with the coveted award this year.

“We are incredibly proud to receive this extremely prestigious award,” says John Marlee, managing director at Bradman Lake. “The Queen’s Award affirms our commitment to continuous product innovation to meet the demands of today’s fast moving consumer markets worldwide and to our close relationships with our multi-national customers.”

“Congratulations and thank you to all our employees, everyone within the organisation has had a part to play,” he says.

**Labelling specialist is marking 20-year company milestone**

Print and apply labelling specialist Industrial Labelling Systems (ILS) is celebrating its twentieth anniversary this year. During this time, the company has grown to become one of the UK’s leading suppliers of automatic print and apply labellers for a variety of industries.

From its original small office in Rochdale, ILS now operates from an 11,000sq ft facility in Middleton, near Manchester. As well as the company’s UK customer base, sales of its equipment have extended across the world to Europe, the USA, South Africa and also Australasia.

**Machine vision event delivered new options as well as sector insight**

At the end of April, the UKIVA’s Machine Vision Conference and exhibition (MVC) took place in Milton Keynes as an in-person event again, having been an on-line offer for the last two years. And delegates attending this one-day industry forum were greeted by the very latest technologies that the nearly 50 participating companies, including new participants, had to offer along with a range of seminar sessions across six theatre spaces.

As UKIVA chairman Neil Sandhu told *Machinery Update*, “our visitors came with an appetite for learning, and it’s been too long since we were all together. “Machine vision is an evolving technology that answers the needs of exciting new projects,” he continues. “We are proud that MVC is now a regular event and an established part of machine vision culture in the UK.”

The conference programme included 50 presentations including keynotes that were streamlined into six key technology threads. • Our review is on pages 26-27 [www.machinevisionconference.co.uk](http://www.machinevisionconference.co.uk)

**Robots are turning a problem into a solution**

Positive message in window

The future of retail has been highlighted by a 3D printing demonstration featuring an ABB robot in London’s Selfridges. Throughout April, the demonstration featured in a window display, with shoppers able to see an ABB robot 3D printing a variety of personalised designer objects made from Parley Ocean Plastic – intercepted marine plastic debris collected from Parley’s Global Cleanup network.
Construction work is now beginning on the largest investment in packaging machine manufacturer Schubert’s history which involves a new final assembly hall with an office wing at a cost of 38 million euros which will be completed by June 2023.

Two and a half years ago, the state road between Crailsheim and Dinkelsbühl was relocated to make way for this new building which at completion, will have a total area of over 12,000sq m.

“The expansion will open up space for 300 employees,” says Peter Schubert, who, as assistant to his father Ralf Schubert, managing partner at the company, is also involved in the project’s technical organisation in addition to engineering and design. The requirements of a modern working environment will be implemented in both the assembly hall and also the office wing.

Sustainability also played a major role in planning the new building. “We want to produce and manufacture in an entirely CO2-neutral way by the end of 2023, so the building will be equipped with a sustainable energy concept,” explains Ralf Schubert.
Site expansion will cope with increased demands

The continuously increasing demand for electronic components has necessitated the expansion of Nord Electronic Drivesystems’ site in Aurich, Germany. By the final expansion stage, the company will have tripled the production capacity of its subsidiary at an approximate cost of 3.2 million euros.

Since the beginning of the 1980s, Nord has been producing electronic components in the East Frisian district town of Aurich, especially frequency inverters. “The demand for customised configured devices has increased massively in recent years,” site manager Gerhard Harms explains. Therefore, the company has decided, to significantly expand the plant. The space for assembly of customer projects is to be expanded to 3,000sq m, distributed over two floors. Production capacity is planned to increase from 140,000 to more than 400,000 units in the final expansion stage. The first capacity increase of 50% will be put into action by the second quarter of 2022.

This investment is a clear commitment by the company to the Aurich site.

Queen’s Award for Enterprise rewards the progress made in international marketplace

Staff at agricultural engineering company Agrimech have reasons to be cheerful after the business on the borders of Norfolk and Cambridgeshire received the Queen’s Award for Enterprise for its outstanding progress in the international sales market.

The company, which supplies weighing, sealing and packing solutions for the agricultural sector, was founded in 2009 and only entered the export market in 2018, targeting North America. In that time the family-run business’ overseas sales have grown by more than 200%, moving from 3.9% of the company’s total sales to 13.4%.

“This is such a thrill for everyone on the Agrimech team,” said the company’s co-founder, Belinda Smith. Export achievements have focused on the North American potato industry

Export achievements have focused on the North American potato industry.

Apprentice prize is recognition of a successful project

Spiroflow apprentice Robbie Park has won an Apprentice Prize runner-up award at SHAPA’s Solids Handling Industry Awards. For this award, Robbie managed a project examining customer satisfaction that has now become a tool used daily by the Spiroflow team.

“I feel like this project highlighted what I can bring to a team, and I hope it is a sign of things to come in the future,” he says.

Spiroflow’s md James Podevyn feels Robbie has proved he has the tenacity and commercial nous to tackle complex and demanding assignments in the future.

Engineering advocate has passed away

Former managing director of Winkworth Machinery, and previous chair and vice chair of the PPMA, Grant Jamieson sadly passed away in March.

During his time at Winkworth, he was responsible for moving the firm into a new facility, developing a committed workforce and fine-tuning production efficiencies at the same time. He had a huge influence on the changes and future direction at Winkworth and is remembered fondly by colleagues. “He inspired us to achieve more, was always involved and engaging, but with a sense of purpose and fairness,” said Tim Simpson, sales director at Winkworth.

“Perhaps his greatest love has been that of an ambassador for students and young engineers, encouraging them at all levels to gain knowledge, develop and move onwards to great things.”

He was passionate about attracting new talent into engineering to fill the leadership vacuum and he spoke at several conferences and even guest lectured at Portsmouth University.

At the PPMA, he latterly sat on the board of directors in a marketing capacity before stepping down from the role in 2021. Last December, the PPMA launched the Grant Jamieson Engineering Scholarship in recognition of his commitment to expanding the engineering talent pool.

He is survived by his wife Siu, and children Victor and Maylee.
Regulations

Getting practical with ‘UKEX’ needs

Paul Taylor
Manager for Machinery Safety atTÜV SÜD Product Service

Following Brexit, the EU’s ATEX Directive 2014/34/EU has been replaced by the so-called ‘UKCA Ex’ or ‘UKEX approval’ regulation and here, we outline some practical considerations.

The competence of responsible persons in Ex areas and Ex equipment manufacture is mandatory.

The DoC must contain appropriate information with regards to the correct assessment procedures which have been carried out for the product. The DoC must also contain relevant information to ensure that the product conforms with the relevant Essential Health and Safety Requirements (EHSRs) and that the correct conformity markings have been applied. In addition, the DoC must also include details of the approved body which carried out the conformity assessment.

The manufacturer is also required to appoint a responsible person, who must ensure that the DoC and technical documentation have been created and, as applicable, that an appropriate conformity assessment procedure has been carried out by the manufacturer. A competent person should have relevant knowledge and the necessary skills required for the scope to work. They must also be able to act competently across the specified range of activities. The competence of responsible persons, operatives/technicians and designers in Ex areas and Ex equipment manufacture is mandatory.

This is defined in EN ISO 60079-0:2018 and required internationally via IEC regulations and standards. The good news is that for the foreseeable future, the requirements of the UK Regulation will remain the same as those of the EU’s ATEX Directive. However, continuing UK market acceptance of CE marking until 31 December 2022 relies on EU and UK requirements remaining the same. If any deviations exist between EU and UK requirements, UKCA marking would be required immediately.

For more information contact www.tuv-sud.co.uk
TÜV SÜD Product Service is the PPMA’s technical and legislative partner.
ABB is adding two new robot families to its portfolio of large robots for complex manufacturing applications. Delivering enhanced speed, accuracy, flexibility, and a more robust design including integrated process cabling, ABB’s IRB 5710 and 5720 robots are designed to deliver increased productivity and enhanced performance. And also, with higher uptime for applications including electric vehicle (EV) manufacture, foundry, forging, rubber, plastics, and metal fabrication.

Eight variants with payloads from 70 kg to 180 kg are included in the range and parts handling. The benefits offered by the robots also make them ideal for use in plastic moulding, metal casting, cleaning and spraying applications. “These new robots accelerate ABB’s continuing expansion into the rapidly growing EV market, meeting customer demand for robust units with the speed, path accuracy and dexterity to handle complex EV battery assembly duties” says Joerg Reger, managing director of ABB Robotics’ automotive business line.

Both robot families are powered by ABB’s new OmniCore controller V250XT, the latest addition to the OmniCore controller family. Both robot ranges have multiple mounting options, including floor, angled, inverted and semi-shelf for maximum design flexibility.

The new digital service, called OTTO, from Busch Vacuum Solutions combines condition monitoring of vacuum pumps with service packages which can be retrofitted onto existing units in the field. The Busch IoT Dashboard and the Busch Vacuum App track vacuum pump data so that the performance can be analysed, and processes optimised. Busch installs a proprietary sensor package at the vacuum pumps, which collects and processes data. The data is then stored in the Busch cloud via a mobile connection. The IoT box constantly monitors process state and vacuum pump conditions and the IoT dashboard provides all collected performance data 24/7.

If you have any queries or wish to discuss your project with us, please contact us at: 

T 01992 677432
W www.busch.co.uk
Assa Abloy Entrance Systems says its new RP400 is a higher performing, high-speed door ready to offer a new level of safety, quality and reliability for manufacturing operations.

Designed with a range of integrated and optional safety features, this high-speed door is the most advanced machine protection door the company has produced.

New features include:

- Safety light curtain: integrated into the door’s side frame, covering the full width and height of the door to better protect workers and equipment.
- Advanced safety limit switch: more precisely prevents machine hazards with a higher stopping accuracy.
- Flat-bottom profile: no protruding edges and a smoother front profile to reduce the risk of serious injury during the upward movement of the door.
- Easy installation choices: door can be wall mounted or freestanding to optimise floor space, while its robust and stable frame construction leads to less vibrations during activity.
- Premium design: rounded edges and a better embedded motor to ensure a smoother, more flush profile.

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Fixed-mount barcode readers solve broad range of ID needs

Cognex Corporation has introduced the DataMan 280 series of fixed-mount barcode readers which have been engineered to solve a broad range of ID work, including tough 1D, 2D, and Direct Part Mark code applications in manufacturing and logistics.

The DataMan 280 features a high-resolution sensor combined with a dynamic image formation system to improve code handling and coverage. This technology, along with connectivity options for today’s Industry 4.0 manufacturing needs, allows users to read complex barcodes reliably while improving overall equipment effectiveness (OEE) and throughput.

To discover more about the machines that could transform your company please visit:

www.capcoder.com

Tel: 01865 891466  Email: info@capcoder.com
Peristaltic pump range gets a high flow option

The latest addition to the Verderflex Dura family from Verder is the Dura 55HF (high flow) peristaltic hose pump. It is for applications such as metering, bulk handling and transfer duties making it ideal for sludges, slurries and abrasives.

It features class leading performance of up to 16.5m³/hr and pressures of up to 16 bar, says the company.

Designed with enhanced performance in mind, the casing of the pump features a cast iron design which increases durability for longer pump life and each of the components’ materials has been carefully selected to further prolong the lifespan.

The hose is easy to change and can be swapped in situ, reducing maintenance costs and removing the need for heavy lifting equipment to service the pump.

The front cover window allows inspection of the pump parts without the requirement to remove the whole pump case. The window can be opened to check the shims and lubricant levels without dismantling the whole pump.

Meanwhile, total isolation between gearbox and motor means there is no risk of contamination of any of the lubricants and reduces the risk of gearbox damage. Also, the rotor shoe is robust and does not have to be replaced as often as resin or plastic rotor shoes which do not last as long as a fully metal shoe. This means that costly components need to be replaced more often compared to a rotor shoe, says Verder.

The company believes the Dura 55 HF is the next step in peristaltic pump innovation with a low shear design that’s ideal for abrasive or solid slurries.
The new packaging alternative from KHS, which wraps beverage cans in paper instead of film, can now also be retrofitted to existing Innopack machines that are manufactured by the Dortmund systems supplier. Customers can either opt for more flexibility by switching between film and paper packaging as required or permanently switch to paper wraps instead.

KHS’s existing packaging machines have provided a facility for wrapping beverage cans in paper, but to give customers maximum flexibility, a new function has been developed and integrated into a combined machine. This can handle wrap-around packs, packs on trays or pads with or without film or paper wrappers and can process a broad range of secondary packaging.

Paper may be a relatively new packaging material on the beverage market; especially as an alternative to plastics, however, beverage fillers are adopting this material more and more, says KHS. This latest paper wrapper meets consumer demand for environmentally friendly packaging material alternatives.

However, as not every beverage producer wishes to install a completely new machine, the paper wrapping unit is now also available as a conversion option. This means that bottling companies can quickly and easily react to marketing trends and consumer demands using their existing Innopack packaging machines.

KHS provides two retrofit options. If paper wrappers are to permanently replace shrink film as a secondary packaging choice, two modules are substituted, while the machine layout stays practically the same. Here, the former film wrapping module is replaced by the newly developed module that can process paper. The shrink tunnel is also substituted by a module that folds and glues the paper.

Meanwhile, beverage producers who do not wish to compromise on material choices when it comes to secondary packaging can retrofit the new KHS packaging system as an additional option on their existing machine. In this case, the paper wrapping unit is adapted and the paper folding and gluing module is installed on the machine as an extra.

Once the modules have been fitted, switching materials calls for no other conversion except the standard format changeovers. As soon as the packaging materials have been changed over and the hot melt devices are ready for operation, production of the new format can begin.

Costs for this conversion equipment are much lower than those for investment in a new machine.

Please contact KHS for more information:

Tel: 0121 713 6900
Web: www.khs.com
Wise Robotics has extended its range of autonomous warehouse robots by launching VisionNav’s vision-guided, counterbalanced VNP15 automated forklift into its growing portfolio. The VNP15 uses vision-based intelligence to automate materials handling, storage and retrieval. Its technology enables it to learn and then navigate existing infrastructure, making it far more adaptable and easier to deploy with minimal site modifications.

Vision-guided automated forklift is added to warehouse robot units

This launch follows the announcement in January of a partnership between Wise Robotics and VisionNav. The new collaboration will help UK operators boost order fulfilment and reduce the ongoing costs associated with running warehouse facilities.

Head of robotics at Wise Robotics Joe Daft believes adding the new model is another important step as the organisation extends the automated capabilities it can offer to warehouse and logistics operators.

“The VisionNav VNP15 is an extremely sophisticated autonomous forklift,” he says. “This isn’t a forklift that’s retrospectively been automated, it’s vision-based, which makes it especially adaptable to current warehouse layouts,” he says.
New Machinery

Collaborative robot range expands to meet all needs

Fanuc has introduced the new CRX-5iA, CRX-20iA/L and CRX-25iA collaborative robots, the latest additions to its existing CRX series that includes the CRX-10iA and CRX-10iA/L collaborative robots.

“We see a lot of demand for collaborative robots in the European market and want to offer fitting solutions for a broad range of applications,” explains Shinichi Tanzawa, president & ceo of Fanuc Europe Corporation.

“Our cobots are designed to support every type of manufacturer – small or large – to expand their capabilities with the highest reliability.”

The latest CRX cobots complement the existing line of CR and CRX cobots that now total eleven cobot model variations to handle products from 4 to 35 kg.

This rollout of the new CRX-5iA, CRX-20iA/L and CRX-25iA cobots, which provide a 5 kg, 20 kg, and 25 kg payload as well as a maximum reach of 994 mm, 1418 mm and 1889 mm respectively, follows the CRX-10iA and CRX-10iA/L cobot models. These both feature a 10 kg payload and a reach of 1249 mm and 1418 mm respectively.

The five CRX models combined with Fanuc’s CR series of green cobots extends the company’s ability to help more companies looking to automate with cobots.

These CRX cobots are safe, easy-to-use, reliable and a versatile solution for a wide range of applications, including inspection, machine load/unload, packing, palletising, sanding, welding, and more. The IP67 protection level dustproof and waterproof performance is standard for all five CRX models, so they can be used in harsh environment areas of the factory. The CRX-25iA and CRX-5iA will be available from this June.

A new mini elevator is launched

A vibrating hopper and mini elevator

RNA Automation has expanded the BVL P series of vibrating hoppers for its FlexCube vibration platforms with the addition of a 4 litre capacity version.

The BVL-4 P vibratory hopper offers the user even more 'distance' to optimally feed component parts to the subsequent FlexCube. The BVL-4 P is also driven by a linear drive SLL400 and enables the user to design the feeding process in such a way that the stored workpieces run faster on the outlet side.

By mounting the base elements available as accessories, the workpieces can also be evenly distributed over the entire surface.

Meanwhile, a mini elevator of the STF series has been developed, which is suitable when component parts need to be stored in the smallest of spaces or when parts ejected from the sorting stations are to be returned to the feeding process. These elevators are designed for direct assembly on the machine table.

Larger self-contained robots are extending benefits across wider range of applications

Compact, self-contained robot welding stations which are easy to install, easy to operate and can be moved around to suit production changes are helping users to exploit the benefits of using robotic systems across a wider range of manufacturing applications. This includes the range of self-contained robotic systems from Yaskawa which has recently been extended following the introduction of the ArcWorld CS cell, a larger model added to the existing and smaller HS Micro and RS Mini systems.

Based on a platform, the ArcWorld CS robotic welding station is designed with a host of user-friendly features which help to deliver performance, on the smallest possible space featuring a separate working area for the robot and operator, respectively. The design means the robot, positioner, controller and power supply are all mounted on a self-contained common platform.

Yaskawa’s ArcWorld CS cell in use

New models join the existing range and take the total to eleven variations

New capacity version is available

Compact, self-contained robot welding stations which are easy to install, easy to operate and can be moved around to suit production changes are helping users to exploit the benefits of using robotic systems across a wider range of manufacturing applications. This includes the range of self-contained robotic systems from Yaskawa which has recently been extended following the introduction of the ArcWorld CS cell, a larger model added to the existing and smaller HS Micro and RS Mini systems.

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End-of-line solutions for foodstuffs shown

Six solutions dedicated to the end-of-line for the food industry by Robopac Machinery were seen at Italian exhibition SIGEP in March.

The Robot S7, the latest generation of self-propelled packaging machines from the company, was demonstrated on the stand. This model offers power pre-stretch of 500% and is designed as an alternative to the S6 model that achieved 400%. The new unit is easy to use and can hold 12 wrap style parameters which are accessed via the control panel.

Representing the range that has been designed for low to medium production was the PACK 5040 A model: a machine for shrink film with an hourly capacity of up to 900 products an hour. Meanwhile, the rotary table series on show included the Masterplat Plus LP for packaging products with vertical stretch film. Together with the PGS pre-stretch carriage with fixed ratios (250%), a special ramp for loading operations and a base of only 30 mm, the Masterplat Plus LP is designed to offer ease of loading, maximum flexibility and operator safety.

The manual stretch wrapper with friction roller carriage and manual film tension adjustment called Wrapman was also exhibited. Easy to use, lightweight and robust, this portable winder works with any type of film and has an integrated cutting system.

Completing the display was ROBOTAPE 50 TBDE, a top and bottom drive-taping machine for closing fixed format boxes. This portable technology can handle boxes with a maximum weight of 50 kg but can adapt to many different formats.

The Robot S7 was on show in Italy

The manual Wrapman was on show

Augmented reality App helps with Sine pump maintenance

Watson-Marlow Fluid Technology Group (WMFTG) has launched the first in a series of augmented reality (AR) Apps. Developed to enhance the customer experience and post-sales support for its products, the first App has been built for its Certa Sine pump.

Designed for ease of use, the Certa AR App allows customers to easily identify the tools required for Certa Sine pump maintenance tasks while providing information and clear step-by-step visual guidance. By laying AR visual instructions over a customer’s own pump, the App aids customer understanding of a task and saves time previously spent consulting written product manuals.

Liquid filler for sterile products

Romaco Macofar’s Oftalmica has been specially developed for aseptic filling of sterile eye drops, nasal sprays and injectables. Meeting all of the GMP requirements for safe processing of highly viscous, oily and foaming liquids, the machine also offers fast format changes and short cleaning times.

The Oftalmica is Romaco Macofar’s answer to the growing demand for ophthalmic products with no added preservatives and is available in the UK from Pharma Machinery. Stricter GMP regulations apply when these pharmaceutical formulations have to be filled under sterile conditions, and Romaco says the Oftalmica fulfills them all – especially where the sterility assurance level is concerned. The machine is therefore fitted with an oRABS barrier system (either passive or active) and can also be supplied with integrated laminar flow technology if required.

At the same time, the Oftalmica is also designed to handle bio-decontamination with vaporised hydrogen peroxide (VHP). Glove ports provide full access to all critical components without having to open the doors of the liquid filling machine, meaning the permissible SAL values for cleanroom class A are maintained inside the Romaco machine.

This facilitates process validation and production can be resumed more quickly. The Oftalmica is used to fill all kinds of liquids, including highly viscous, oily or foaming fluids. To achieve this, the machine can be equipped with up to eight separately driven rotary piston pumps made of ceramic or stainless steel, which can be individually controlled on the HMI. The dosing station also enables a two-phase filling process to achieve a constant, high filling capacity while at the same time reducing the load on the pumps.

Thanks to the two-phase filling technology, the new machine has a maximum output of up to 12,000 bottles per hour – regardless of the specifications of the liquids being filled or the dimensions of the containers.

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Smaller extruder delivers increased output for users

Baker Perkins has developed a new range of high-power twin-screw extruders that deliver superior outputs on powder coating and specialist chemical applications from a smaller barrel, with reduced cost of ownership and machine downtime.

Increased power and speed are the key attributes of the new HPX45 extruder, achieved by full utilisation of an 83kW motor through torque stability provided by the patented MAX³ feed system, and increased thrust capacity of the solid-shaft drive train.

The HPX45 provides an average output of 750 kg an hour, rising to 1,200 kg an hour on specific applications – typically 20% higher than an MPX50 machine. A full range of HPX extruders is being developed; the MPX series will be retained for powder coating applications requiring through shaft cooling.

The HPX45 extruder handles a full range of powder coatings and toners including the most intensive formulations; it is aimed at the small to medium batch market producing 300-800 kg an hr of product, ideally suiting 100 kg to 1,500 kg batches.

The HPX retains all the latest features of the MPX range. The MAX³ feed system incorporates a fundamental re-design of the intake feed port and screws. It improves the flow of material into the extruder barrel and air out of it to eliminate material build up in the extruder infed that leads to restricted output and torque surges.

The system brings proven 40 to 100% throughput benefits; top feeding creates improvements in operation that significantly reduce cost of ownership.

The system brings proven throughput benefits; top feeding creates improvements in operation that significantly reduce cost of ownership. In addition to the extruder, a complete process line comprises ingredient weighing and feeding before, and cooling, flaking and grinding after the extruder.

New palletiser offers simple installation and configuration to boost palletising efficiency and speed and help workers

The new Robotiq PE Series palletiser from RARUK Automation has been designed to automate the process for lower throughput applications with frequent changes of box and pallet sizes. With its emphasis on simple installation and configuration, it is designed to empower workers to boost palletising efficiency and speed, enabling them to be deployed to higher value and more rewarding tasks at a business.

This new palletiser is a ready-to-use solution for picking a wide range of box and pallet dimensions. It has a pick rate of up to 13 boxes per minute and, dependant on the chosen gripper, has the potential to pick multiple boxes at once to boost productivity.

A Robotiq gripper is supplied but others are compatible

It is supplied with all essential elements connected and integrated, eliminating the need for the user to design or program the connection between the robot control and hardware. The system’s small footprint allows it to fit easily into an existing floor plan and there is no need to re-organise the layout around a central robot in a factory.

In three simple steps, programs are easily created within as little as five minutes.

A range of filling solutions were shown at Anuga FoodTec

Syntegon presented a range of filling solutions designed for all product requirements at Anuga FoodTec in April.

Syntegon company Ampack highlighted its recently expanded portfolio of bottle and cup filling machines for liquid to highly viscous foods. In addition to the proven Ampack FCL, the linear filling machine LFS now complements the product range, offering solutions for all required hygiene levels from clean to aseptic and is designed for lower output customer requirements.

According to the company, the new SmartFill dosing concept provides more flexibility and is suitable for different viscosity ranges. It can precisely fill dairy products, dips, sauces and foods such as delicatessen products as well as plant-based ranges. It can precisely fill dairy products, dips, sauces and foods such as delicatessen products as well as plant-based ranges. It can precisely fill dairy products, dips, sauces and foods such as delicatessen products as well as plant-based ranges. It can precisely fill dairy products, dips, sauces and foods such as delicatessen products as well as plant-based ranges. It can precisely fill dairy products, dips, sauces and foods such as delicatessen products as well as plant-based ranges. It can precisely fill dairy products, dips, sauces and foods such as delicatessen products as well as plant-based ranges. It can precisely fill dairy products, dips, sauces and foods such as delicatessen products as well as plant-based ranges. It can precisely fill dairy products, dips, sauces and foods such as delicatessen products as well as plant-based ranges.

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New 6-axis robot provides range of industry benefits

Comau is expanding its product portfolio with the new N-220-2.7 (N-220), a 220 kg payload robot featuring a modular set up, direct kinematics, and enhanced algorithms. These characteristics are designed to deliver ease of use, straightforward integration, and faster post-installation maintenance while also ensuring precision, flexibility, repeatability, and minimum backlash.

“This new generation robot, which strengthens our product portfolio, generates clear customer advantages thanks to its innovative design and state-of-the-art advanced robotics technology; therefore allowing us to better target new, high-growth industry segments beyond traditional manufacturing, with the aim of enhancing cost-effective automation for businesses of all sizes,” explains Nicole Clement, chief marketing officer at the company.

The new N-220 industrial robot features a special architectural approach based on progressive modularity, component reduction, advanced motors and APC drivers. With its wide working area and Performance Level D cartesian safety features, the high payload (220 kg) robot is designed for a vast range of industries including automotive, food & beverage, fulfilment and logistics.

It has a hollow forearm and an integrated application dressing.

“This robot also benefits from its use of direct kinematics, absolute calibration and evolved motion algorithms,” says Clement. “All of which features combine to deliver best-in-class repeatability and precision.”

Furthermore, the robot comes fitted with integrated forklift adapters and optional high-torque washers for automatic anchoring base fixing, easier relocation and faster installation.

The first of a new generation of 6-axis articulated robots, Comau says the N-220 addresses the specific market need for cost-effective and easy to integrate robotics that also deliver high-speed industrial performance. Comau’s e-Motion software algorithm improves cycle time, motion quality and path control.

Improvements to chamber interchangeability, data capture and ease of cleaning have been made to laboratory mixers

Industrial mixer manufacturer Winkworth has further developed its laboratory LZ mixer range with the re-design of its laboratory Z Blade Kneaders to improve chamber interchangeability, ease of cleaning and data capture.

Aimed at R&D departments, the laboratory LZ range offers a standard mixing platform with the option of interchangeable chambers, thereby allowing users the opportunity to undertake mixing performance contrasts and comparisons in their own facilities. This provides reductions in time and cost, process and commercial risk benefits.

The mixer platform itself is robust, heavy duty and easy to dismantle for cleaning away tough or sticky residues. Providing a modular design and able to accommodate different chamber sizes from 0.25 litre to 3.0 litre capacity, the mixer can operate at variable speeds and is reversible, as well as supporting data capture.

In addition to the popular Z Blade mixing chambers, other chambers can be retrofitted. “We are confident that the LZ laboratory Z Blade Kneader will continue to be well received by those looking for essential research, development and pre-production options and lead on to production line improvements from our larger Z Blade mixer,” says Winkworth’s sales director Tim Simpson.

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Making advances with ‘out of the box’ vision

In a presentation covering ‘out of the box’ vision systems, Neil Sandhu, product manager for imaging, measurement and systems at Sick UK, emphasised that today, you no longer need to be a machine vision expert to get the best out of machine vision.

Vision sensors, he said, are not only configurable, but also easy to use.

Today, advances in digitalisation have brought greater accessibility of machine vision through the availability of ‘off the shelf’ solutions for common tasks. Vision systems such as quality inspection of a printed code or label, or robot picking from a conveyor belt or bin, can be sourced by end users as plug and play systems which can be configured without specialist support.

In the past, vision systems always had to be created from the ground up and custom designed and engineered for every application. It took time and money to turn the raw data streamed by a sophisticated camera into a finished application. Specialist skills were always needed to develop the required software and to enable communication and integration with machine and robot controls; wiring could be complex and costly.

However, vision sensors have now become intelligent, with processing power onboard so they can be programmed to run applications on the device, or through more localised, edge integrations. For common inspection, robot guidance or mobile vehicle tasks, sensor manufacturers can go a step further and supply ready-made ‘plug and play’ systems for their specific needs that arrive in a box, possibly with other hardware where required, ready to be powered up in a minimum number of steps.

“Technology has moved on and it is certainly more deployable,” said Sandhu.

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Bright, shadow-free illumination on offer from LED light strips

With the new range of flexible LED light strips from ifm electronic, it’s now easy to provide bright shadow-free illumination in even the most inaccessible corners of machinery and plant. In addition, these versatile light strips can be used as signalling devices, displaying various colours to indicate machine status or an alarm condition.

The light strips incorporate red, green, blue and white LEDs. When used primarily for illumination, they provide pure white light, but digital inputs are provided that allow this to be changed to red, yellow, green, blue, cyan or purple light. An almost unlimited range of intermediate colours can also be generated by using pulse width modulation control.

Available in five different lengths from 62.5 to 1000 mm, ifm’s new LED light strips feature robust construction and can be installed either straight or bent to suit the requirements of the individual application.

Bespoke AI technique on show is designed to elevate fresh produce packs to new levels

Visitors to Scorpion Vision’s stand saw how its advanced stereo vision and neural network solution, the Scorpion 3D neural camera, is designed to elevate the presentation of retail packaged fresh produce to what it says are new levels.

Demonstrations on harvested vegetables showed how the company is applying AI to machine vision in an automation context. By guaranteeing that processes such as sprout, carrot and leek trimming are consistently completed within the tightest visual tolerances, Scorpion’s bespoke AI approach enables food processors to achieve ideal presentation to meet the approval of shoppers.

“Improve AI into an automation system that works 100% of the time requires a deep understanding of the build challenges,” says Paul Wilson, md of Scorpion Vision. This is why the company builds AI vision systems from scratch, to deliver robust and reliable application-specific solutions to food processing problems.
TPL Vision's new collimated backlight was launched at MVC and brings high intensity illumination in a small package for projects requiring precise silhouetting. Due to its slim profile of 21 mm thickness and narrow 5 mm borders, the CSBACK makes it possible to achieve high-contrast images even in challenging applications working in confined spaces or with small objects which are difficult to inspect.

“The CSBACK was designed to facilitate machine vision projects with a focus on the pharmaceutical, food & beverage, automotive and manufacturing industries,” explains product manager at TPL Jack McKinley. “Our goal with the product is to help users eliminate poor quality images which can lead to inaccurate measurements or a loss of productivity.”

Key application areas include the imaging of clear parts and objects with rounded edges, which are notoriously hard to inspect with improper lighting due to the lack of contrast. This is a common concern especially for pharmaceutical, food and beverage applications, where traditional backlights can ‘wash out’ the edges and features of parts being inspected. Using the collimation effect solves this issue by preventing the diffuse light from spreading around the edges of parts, thereby increasing contrast and measurement accuracy.

It can be used with regular C-mount lenses as well as telecentric lenses, providing uniform illumination in various sizes.

The GTX smart camera was demonstrated at MVC.

At MVC, TPL Vision launched its new CSBACK. 

Clearview Imaging demonstrated a range of technologies including Matrox Iris GTR and GTX smart cameras; the first demonstrating pick and place functionality, the second showing quality inspection.

With the Matrox Iris GTR/GTX range of smart cameras, powerful pick and place solutions can be implemented for robot arms. “Here, we have the possibility of eliminating the need for a PC while running cutting-edge software applications with Matrox Design Assistant X,” explains digital marketer at the company William Spurgeon.

In operation, the Matrox Iris GTR has constant video feed of the backlit machinery pieces below and using the Geometric Model Finder function in Matrox Design Assistant, shapes can be identified from any angle. This information is then fed to the robot arm, which has been programmed to pick up each object from a particular angle. “This system exemplifies the possibilities of using vision systems at the edge to automate robotic solutions,” explains Spurgeon.

Meanwhile, the Iris GTX smart camera and software combination can be implemented on production lines as a highly accurate indicator of poorly assembled parts, ensuring that faulty parts are rejected.

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Space constraints were met by bespoke system

When Hillfarm added two new container sizes to its range of cold-pressed rapeseed oil variants, it approached Karmelle for bottling equipment to handle them. The new system needed to automatically fill, cap and label 2 litre and 5 litre PET bottles, however size and layout were key concerns as the line was going to be housed in a 40-foot cube container on Hill Farm.

After discussing Hillfarm’s requirements, Karmelle offered a bespoke solution; a complete filling, capping and labelling line comprising a four head flowmeter filling machine, an EK40 capping machine, and a front, back and cross dispense labeller. The outfeed would also be automated with a rotary collection table.

To accommodate Hillfarm’s unique production challenges, Karmelle opted to design a new model of flowmeter filling machine. With a servo motor, fewer moving parts and a reduced footprint, this hygienic filler was ideal for the production space available. In operation, wide nozzles allowed the viscous products to flow freely while the unit was built on a four head frame, so that extra heads could be added as production increased.

Equipment was subsequently manufactured, assembled and tested onsite at Karmelle, before being delivered to Hillfarm and installed by Karmelle engineers in the specially adapted container. Hillfarm business manager Lawrence Frohn acknowledges that the project presented a challenge as the company needed an end-to-end solution that would fit into the production space. “Karmelle were able to meet the brief, designing a bespoke system that can be adjusted as production increases,” he explains.

Vertical machining centre proves perfect for bike part maker

With an expanding product and customer portfolio to address, push bike parts manufacturer Works Components required new machinery to keep pace with the growing demand.

Owing to its high capacity yet small footprint, the company decided to invest in a Fanuc Robodrill α-D21LiB5 vertical machining centre, with a 24,000rpm spindle and Fanuc DDIIB fourth-axis rotary table. “We identified the Robodrill as being a machine that could be fitted into our fairly tight space, all the while delivering the performance levels we needed,” explains owner Rick Hughes.

Since installation, the company is now able to produce parts at twice the speed of its previous machine system.

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Fast response delivered latest PET bottle formats remotely

Bickford’s in Australia reached out to Sidel to launch two new PET formats for its premium syrup and juice brands, to complement previously designed and commissioned 1 litre formats. Sidel engineers conducted the line conversion with its latest remote solutions, in just two days for each new format. In addition, Sidel carried out the maintenance of its Aseptic Combi Predis remotely, while optimising line efficiency.

Bickford’s flexible complete PET line was tuned-up for introducing smaller format variations of two 1 litre PET bottles originally designed by Sidel in 2019 – adding a 500 ml option for Bickford’s premium syrups & flavoured milks and a 250 ml format for its premium juice brand.

Taking advantage of real-time video assistance, the engineers empowered the Bickford’s team to implement the best line configurations, with regards to products dependent parts and moulds.

Remote Access to the customer’s blow moulder, filler and labeller was also leveraged by the Sidel team to optimise recipe process parameters. Clean in Place cycle maintenance was also carried out remotely.

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Blister line delivers increase in patient and operator protection

When the Orion Group was selecting a new blister line for its plant in Turku, Finland, it faced a number of challenges: new regulations aimed at greater patient safety; the protection of operators from an active agent; strict travel restrictions and increasing demand. A new BEC 300 blister line from Uhlmann Pac-Systeme met all of these requirements.

As the Finnish market leader in human and veterinary medicine, Orion Group develops, produces and markets active pharmaceutical ingredients. It is for this reason, EMA regulation EMA/587673/2019, which is set to come into force in late 2023, impacts the company.

In order to achieve greater patient protection, its cancer drug Methotrexate Orion is to be offered to users not only in bottles of 100 tablets, but also in child-resistant blisters containing four, ten or twelve tablets. In addition to the regulatory requirements, Orion also needed increased capacity in terms of Pharma packaging to cope with the increasing demand for this successful drug.

In its search for a suitable partner, Orion focused on its strategic priorities. “For us, high quality, product safety and compliance are paramount,” explains Orion project manager, Juha-Pekka Koskela. “To be able to meet these demands, we need partner companies that operate at the same high level of efficiency, reliability and excellence as we do – and which can supply the appropriate equipment,” he continues.

“With Uhlmann, we have found such a partner.”

The BEC 300 is a compact combination of a blister and cartoning module. Its strength lies in its quick changeover times from one product to the next of less than 30 minutes which makes it possible to pack small and medium batches economically on a single line. With the BEC 300 at its core, Uhlmann implemented a complete line concept from blister machine to palletiser. The entire line is operated via uniform HMI control unit touch screens. Together with Orion, Uhlmann also designed a containment filling line with negative pressure to protect the operators from the active ingredient. Added to this was the integration of the ‘track & trace’ system used at Orion, as well as a cover foil printer which, due to its size, had to be placed next to the line rather than on it.

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The latest vertical FFS machine delivery is firm’s fiftieth unit supplied to handle salad

GIC has been designing and manufacturing vertical form, fill and seal packaging machines (VFFS) since 1993 and this month delivered a GIC4100 to Natures Way Foods in Chichester.

As well as being the fiftieth machine to be sold into the salad industry, the latest delivery is the 26th GIC machine to be purchased by Natures Way; the first being installed in 2009.

Several of Natures Way Foods’ GIC machines feature the company’s special Leaf Salad Assisted Drop (LSAD) functionality. Developed in 2018, this feature prevents leaves from becoming trapped in the seal, which can cause contamination. By creating an area of low pressure in the product chute, which draws salad leaves down into the bag in one single slug, LSAD eliminates upstream choking. Without this feature, the product mass often elongates into clumps of salad leaf, which increases the chances of it being captured in the bag seal.

“As well as preventing contamination, incorporating LSAD functionality increases packing efficiency and allows food companies to reduce film waste,” explains Andy Beal, md of GIC. “Natures Way Foods has grown significantly in the time we have been working with them, and we are grateful for its loyalty.”

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Natures Way has 26 GIC machines
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Tray sealer meets fresh and also environmental needs of petfoods

Proseal tray sealing technology has enabled natural dog food specialist Naturaw to automate its packing process so it can meet strong demand for its products while maintaining the company’s commitment to eco-friendly options.

With fast growing sales, the company needed to replace the hand packing operation that placed rigid lids onto the trays with a much faster automated solution. In particular, the use of the rigid lids could not consistently achieve the necessary hermetic seal to afford its fresh products maximum protection and extended shelf life.

Sustainability is a vital part of brand

The Proseal GTos MAX inline tray seal machine is now able to seal trays at up to 60 packs per minute. In particular, the special E-seal technology provides an energy-efficient seal system that delivers a massive increase in seal force to ensure excellent seal reliability for the petfood.

Equally important, Naturaw was able to use Proseal’s Test Kitchen facilities to confirm full compatibility of its trays with the new sealing process.

“Sustainability is a vital part of our offering, so it was especially vital that our new automated system could still handle our carefully-chosen eco-friendly packaging,” says Tom Johnson of Naturaw.

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Flow wrapper brings gains to sandwich making client

A Sheffield-based sandwich chain has streamlined its preparation process by investing in a new flow wrapping machine to supply freshly sliced bread to its stores across the city every day.

With 14 shops in the Sheffield area, Beres Pork Shop is celebrating its 60th anniversary and has firmly established itself as a lunchtime favourite of the Steel City. However, with over a million sliced bread rolls required every year, preparing its high-quality sandwiches is a logistical challenge that previously required laborious manual handling.

Owner Richard Beres says the new FR100 flow wrapper from Ulma Packaging will help centralise and simplify a previously time-consuming aspect of the sandwich-making process. “We would previously have had to consider health and safety – cutting bread with sharp implements in a busy shop could be dangerous, so we wanted to ensure our staff were protected too. “With these concerns in mind, it became increasingly clear that we needed to invest in packaging machinery.”

Following a thorough consultation process, Ulma recommended the company opt for an FR100 flow wrapper to handle its bread rolls; an entry-level option for companies looking to adopt new packaging technologies. And the installation has gone well. “It wouldn’t be an understatement to say the FR100 is already essential to our business and will become even more so as we grow in the future,” explains Beres.

Macsa ID UK’s compact and affordable Nano D-6006 Duo V2 DPSS laser coder is being used to apply information and graphics on to feminine hygiene product packaging successfully.

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### Communicating benefits has improved efficiency

When general toiletries, hair and skincare products and fragrances manufacturer Mayfield Laboratories wanted to increase production efficiencies while also improving the overall flow of its UK site, it approached Adelphi Manufacturing for its technical advice.

At his initial consultation visit last year, Adelphi’s Dean Willis encouraged production manager Kate Reeley to increase the filling speed at which the team were running its Adelphi Manufacturing Response benchtop fillers, to counteract the unsightly air pockets which were appearing in a body lotion. This also had the benefit of improving the consistency of filling weights and increasing throughput from 16 bottles to 25 bottles per minute which equates to over 500 additional bottles per hour.

General manager Lucy Poole praises the improvements made by the hopper adaptation which fill the hopper, for operators

- Hygiene: avoids double-handling of the product when feeding the filling machine
- Efficiency: improved use of time, can leave an operator free to assist production elsewhere.

Adelphi has also helped the company to iron-out an issue with a silica-based anti-frizz hair serum, which had been dripping in between fills, and wasting product. Although the sticky product caused some initial challenges, the correct solution was found, and all parties have been pleased with the resolution. “It’s made a huge difference,” says industry professional Peter Drake, “and there’s been a real step forward since Willis came in and helped. Throughput is so much better since the training and adjustments – around 25% more productive overall,” he says.

### Packaging test convinced pacifier company of the features of the Schur StarLight units

Swedish company Esska is now packing its pacifiers into practicable reclosable bags on a Schur StarLight machine following an initial demo at its own site.

As part of the Schur European road tour, companies can request a demonstration of this compact packaging machine to test out its suitability for their product ranges. “It was actually the packing test that convinced us how splendid the small packaging machine is for our business,” explains Fredrik Sischerström of Esska. “It is compact, ready for use, it can be moved, run and cleaned by one person,” he says.

“IT’s a perfect solution for a company like ours as we don’t need to pack products 24 hours a day,” he continues. “And when in operation, the machine can easily be switched over to other bag types and other products.”

### Combo units streamline poultry lines

Poultry products producer Forrester’s has invested in eight IQ4 metal detection combination solutions from Loma Systems.

The company produces roasted, steamed, marinated and sliced chicken portions for 12B different SKUs. Amounting to 60 tonnes of chicken daily, its customers are retailers, including Lidl, Aldi, Iceland and Morrisons, plus some food service companies.

Operating 15 production lines, Forrester needed an inspection solution that would allow it to achieve fast switching between a high throughput of multiple packaged products, while maintaining inspection and weighing accuracy.

The IQ4 was chosen

Following a competitive tender, Forrester’s chose Loma’s IQ4 combination system from one vendor. The company produces multiple packaged products, having previously invested in a giveaway, plus enabling quick and accurate product switches.

Operating 15 production lines, Forrester needed an inspection solution that would allow it to achieve fast switching between a high throughput of multiple packaged products, while maintaining inspection and weighing accuracy.

The aim was to simplify the production line by replacing metal detection equipment and checkweighing systems from different brands with a combination system from one vendor.

### Installation News

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An SME who witnessed a significant increase in sales of its laser engraved gifts during the COVID-19 lockdown, has reported a 40% reduction in packing time following the installation of a case erector and case sealer by Endoline Automation, enabling it to expand the business.

Faced with a substantial rise in demand during the first lockdown, and a reduction in staff due to restrictions, the company was managing 200 orders a day which involved erecting, packing, and sealing cases by hand.

Taking the decision to make its first step into automation, the company contacted Endoline who recommended the installation of its 102 semi-automatic case erector, and its 714 semi-automatic random case sealer.

Since 70% of the company’s business is engraved bottles, Endoline’s 102 case erector was the ideal solution as it can be set at an angled position for ease of packing unstable products into cases. The cases are formed on the machine, packed, and then pushed through to the 714 case sealer which can seal cases of different dimensions in any order with no manual adjustment.

Laser engraved gifts are handled
In December last year, the National Farmers Union led a food coalition in calls to fix the supply chain crisis, discussing the increasing costs being experienced at the time.

Back then, Ash Amirahmadi, managing director at Arla Foods UK, said that pressure on the supply chain would result in price increases: “The UK food and farming sector is experiencing shortages in a range of areas caused by local and global factors that are putting real pressure on the supply chain, increasing costs and, ultimately, prices.

“These strains are not going to go away as we work to become even more sustainable and compete for the best people to come into our industry,” he said. “Collaboration between government, the industry and farmers is the only way to address this for the long term and all of us at Arla are ready to play our part.”

Since then, the costs of fertiliser, fuel and feed have surged again, caused partly by the war in Ukraine, and many dairy farmers in particular are struggling to survive. Likewise, dairy processors/producers are also under intense pressure in terms of rising ingredients and energy costs, supply chain disruption and the continuing labour shortages and skills gap.

You could therefore argue, that investing in efficient, reliable and cost-effective processing and packaging methods have never been more important, and that is borne out in the following 23 pages of this special dairy feature.

There are stories about investments in new equipment that have made a real difference to production efficiencies across dairy products including milk and other drinks, cheese, butters, spreads, yogurts, and desserts.

General manager of sales at Yamato Scale Dataweigh UK Mark James believes that increased product quality can help dairy manufacturers weather the current storm and cope with expanding competition. “As we come out of the global pandemic, quality is crucial with customers focusing on sustainable purchases that meet expectations and that offer exceptional hygiene,” he says.

**GUARANTEEING QUALITY**

However, when addressing new challenges, manufacturers too often focus on following trends and lose sight of quality. He thinks that dairy companies can guarantee quality by improving quality control techniques, using compatible equipment and understanding the processing demands of different product formats.

At the same time, robot process automation is delivering several advantages across the dairy industry, including a first automated robotic cell, called IDS Treat, which is being used to disinfect cow’s teats, post milking, within rotary milking parlours. The cell, which features a KUKA Iontec industrial robot, utilises a 3D vision system that allows for the consistent application of a spray disinfectant to teats, which helps to fight mastitis and improve cow welfare. Importantly in an industry struggling for workers, it also frees up labour hours that can be applied to other tasks.
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Minebea Intec’s Dymond 120 x-ray inspection system has solved a production issue that a major German dairy was experiencing when filling two chamber tubs with yogurt and various cereals. The company was finding unwanted, uncontrollable deposits of sub-standard product residues during the filling process.

Cereals naturally have a low-fat content which results in the cereal dust adhering to the walls of the filling system chamber. This then clumps and can fall into one of the tubs at any time, but as aluminium foil lids are sealed onto these tubs straight after filling, a visual check is not possible. However, by modifying its existing x-ray system from Minebea, the problem has been solved.

The Dymond system doesn’t just detect a wide variety of foreign objects such as glass, stone or metal, it can also recognise deviations in a product’s consistency. The two companies therefore modified the settings to achieve this in practice. Since this time, the system has reliably removed not only contaminated products from the product flow, but also the sub-standard products that were causing the initial quality issue.

“The customer was delighted with the result,” explains Markus Leibold, area sales manager at Minebea Intec. “Through the help of the existing x-ray inspection system Dymond, the customer’s seemingly insurmountable problem that was occurring upstream in the filling system, was reliably solved for the long-term.”

**Product teach-in makes it easier for operators**

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Filler upgrade meets demand

Modifications carried out by Excel Packaging Machinery have met product needs, once more

When Berkeley Farm Dairy needed to double its capacity for its Organic Kefir range produced for Biotiful Dairy it went back to Excel Packaging Machinery, a company it trusted as its automatic EX-Fill machine with lobe pumps had already been running successfully as part of its liquid filling line.

The dairy was already running four filling heads supplied by Excel and wanted to increase this with space to add up to eight additional nozzles to reduce production time further. The challenge was then to re-design and modify the existing set-up within the same location and without increasing its footprint significantly and disrupting production. This would then allow for more consistent and faster filling times.

Changing the nozzle mounting also required modification to both the conveyor and gating, so that more bottles could be filled. Excel therefore designed an adjustable mounting system which would not only accommodate the increased number of heads but would also allow for easy adjustment and changeover to suit two different bottle sizes. A new rotary capping machine was also part of the upgrade.

The new equipment was delivered by Excel in February on time, and the successful installation was carried out in March. The eight filling nozzles on the newly modified line have already delivered the increased filling performance and speed that the company was hoping for.

“The new system is a complete success; we are getting over 50% more filling capacity with the new machine which we are very happy with,” explains Ed Gosling, farm manager at the family-run dairy.
PET bottles are used for milk in Spain

Thanks to Sidel’s end-to-end complete aseptic PET line, UHT liquid dairy products (LDPs) from Spanish milk producer COVAP are now also available in PET bottles. Sidel says this new PET bottle opens the door to meet changing market demand and ensures product integrity and safety.

COVAP, a Spanish cooperative, is one of the major milk producers in Spain. However, it also produces ready-to-drink dairy products for other Spanish retail brands. Although LDPs are dominated by carton packaging, major supermarket players have decided to also sell them in PET bottles, based on market preference. To meet demand, COVAP partnered with Sidel for the first time on a complete aseptic PET line with the Sidel Aseptic Combi Predis at its heart, after visiting various dairy plants that are using Sidel’s equipment in Spain and Italy.

Sidel experts worked closely with COVAP from bottle design to line start-up. The new PET bottles were designed with a sleek shape, providing a similar look and feel to glass bottles. Thanks to the PET barrier properties, the shelf life of milk drinks has been extended by four months. All three bottle formats – 225 ml, 1 litre and 1.5 litre – can be labelled with sleeve or roll-fed labels, depending on the particular brand requirements.

Delivering the magic vacuum

Simmatic supplied its Magic Grippers to ensure a robotic egg cutter unit was reliable for clients

When Sapcote Engineering was experiencing issues with the vacuum system on its new robotic egg cutter, it worked with Simmatic who supplied MC10 Magic Grippers to help solve the problem.

The robotic egg cutting machine tumbled eggs into single file and presented them individually to six pairs of spinning vacuum cups on a rotary indexing head. Loading the eggs onto the indexing head required the vacuum cups to come in synchronised onto both ends of the egg. As the egg is indexed onto the next station, it is spun about its axis while a laser guided cutting wheel advances and splits the egg into two halves. The vacuum retains the eggshells while the contents are deposited onto a robotic arm with a series of cups collecting the white and yolk of the egg.

The initial problem was with the distribution of the vacuum which meant egg liquid was finding its way into the system. But when Simmatic offered a solution that could generate vacuum individually for each cup, with low pressure that could easily be distributed using the existing rotary joints and slewing rings, the partnership began.

Also, the Magic Gripper was small enough to fit into the space available with individual control.

Trials revealed that the low running pressure, air consumption and physical size of the Magic Gripper MC10 lent itself perfectly to the application. The machine’s rotary vacuum circuit was adapted to work with compressed air, and the improvement in vacuum on each egg was tenfold. Filters were also fitted to cope with the applications fine shell dust and liquid nature.

Once Sapcote had finalised the design, it placed orders for 12 pieces of MC10A type Magic Grippers per machine and was able to adapt the existing vacuum cup and filter design to the Magic Gripper MC10A body, which reduced the issues with liquid entering the vacuum generators.

Positive consumer reaction to the PET bottles
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**Grunwald** supplies handling and also training benefits

Grunwald’s development of its rotary cup filling and sealing machinery has led to a partnership with BV Dairy which has seen a new Grunwald Hittpac AKH029 machine installed and commissioned as part of an extension to the customer’s site. This project included the installation of the new equipment, which was carried out over a couple of months, as well as special training being delivered during the first months of this year.

Key features of the machine include a fruit mixing system which in operation, means the customer only has to supply the yogurt base and fruit to the machine where the mixing process is fully automated to the correct ratio and blend quality. This benefited the customer, as it didn’t have to invest in separate mixing equipment while also minimising wastage.

As well as being able to produce these mixed yogurts, the machine can be quickly changed over to also run a layered product. “This gives huge flexibility in operation, which is ideal for a company like BV, who has various products to produce for different customers daily,” explains James Causebrook, managing director at Grunwald.

The machine is also the first Hittpac AKH029 unit to be delivered into the UK and it can operate at a rate of 5,000 containers per hour.

**A Hittpac AKH029 is bringing many benefits to BV Dairy for its yogurt processing operations**

At only 1.7sq m, the machine needs only one operator, it can be size changed to different containers in 10 minutes, but still contains the space for multiple filling systems, sealing stations, date coding and lid application. It is also capable of running round, square and rectangular shaped packaging.

As well as these features, the project management and partnership between the two businesses meant an on-time project delivery with a solution tailored to the customer. “BV Dairy sent key stakeholders to our site at the end of the project to test and develop the running capabilities,” explains Causebrook. “This led to a piece of rapid R&D work on improving the way that data was delivered back to the operator.”

Clear communication between the customer and Grunwald’s programming department meant this machine development was installed in test within the first week of production.

Training operators has been an area that Grunwald has been looking to develop and this project was the first to have its new ‘Train the trainer scheme’ carried out. This scheme sees on-site engineers/operators being supported by Grunwald UK’s staff who visit the site, free of charge, up to four times a year (a benchmark for all customers).

Grunwald’s ‘Train the trainer scheme’ has been carried out for the first time
Debuting this year in the UK, BW Flexible Systems’ new ISB (intelligent sanitary bagger) aims to provide best-in-class sanitary design, modern industrial machine intelligence and intuitive operation for vertical form, fill and seal (VFFS) packaging.

To develop the ISB, BW Flexible Systems conducted voice of customer interviews in target markets, including cheese, asking about pain points and preferred features.

“What we heard in those conversations was a need for an unparalleled hygienic design that was easy to change over, flexible and intuitive to operate,” says Ian Bickerdike, BW Flexible Systems’ commercial director, EMEA.

The ISB is already a hit in the cheese industry due to its strong hygienic performance, operational efficiency, and reliability. A recent installation for a major cheese producer demonstrates why.

“The robustness of this new design and the sanitary features of this machine have been paramount,” says Bickerdike.

“Thanks to its modern machine interface (human machine interface) and task lighting have proven to be fantastic ease of use features, too.

“We’ve invested in the future of hygienic and intuitive performance by advancing the tried-and-true technologies that built the legacy and trust of our last generation of machines,” he tells Machinery Update.

The ISB has earned an IP66 weatherproofing rating and a NEMA 4X rating for enclosures. The entire machine is high-pressure washdown capable, including its HMI, which would typically require protection due to its sensitive components. Its frame, an open-channel design with sloped surfaces, has no more than one square-inch of surface-to-surface contact between components and eliminates the need for secondary hardware like washers.

Even vacuum belts—a potential source for contamination and pathogen growth—were eliminated in favour of friction belts.

Speaking of the new ISB bagger, Bickerdike sums the machine up: “The ISB delivers a powerful sanitary design and modern intelligent systems, made possible by our customer-centred approach and deep flexible-packaging knowledge from decades of experience.”
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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.

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Cheese Slicers Operate Gently

Multivac says its range of slicers along with its interleaving spray system deliver cheese gains

Multivac has installed a number of its high-speed slicers to UK-based cheese producers to help achieve optimum yields and minimised giveaway and it puts the success down to the special slicing system and blade design itself.

Both the S 800 and S 1600 slicers from the company allow cheese producers to slice their products within a larger temperature range, all while maintaining a precise cut and slicing quality, therefore reducing operating costs.

The ‘gentle cut’ of a Multivac slicer ensures the product is sliced smoothly and in a controlled way right up to the cutting plate with minimal pressure, which is achieved thanks to the upper and lower servo-driven guide belts, while the product itself retains the same appearance, taste and consistency.

Meanwhile, the company’s liquid interleaving spray system is designed to offer greater efficiency, lower costs, less use of plastics and still the same taste and convenience to cheese producers.

The versatile spray system can be easily integrated for the packing of sticky sliced products, including cheese, to ensure the individual slices are presented well in the pack while not sticking to each other. It also allows for clean removal from a pack by the end-user.

The unit means there is no requirement for any conventional interleaving film between the individual product slices, and the consumption of plastics during packing can therefore be reduced to the minimum.

Operation of the system is simple. The precision nozzles atomise a liquid interleaving medium, which is both odourless and tasteless and can be tailored to the particular properties of the product, for example, fat content.

The medium is applied evenly to the underside of the slices with no impact on the product’s taste, quality or shelf life.

And for those that currently use conventional interleaving film, using the spray system can offer cost-savings of up to 85%.

By replacing interleaving films, the system can offer cost-savings up to 85%.
Dairy companies have been approaching Rotech to find ways to streamline their production lines to make them more efficient and cost-effective. For instance, Payne’s Dairy, a Yorkshire-based producer of milk and cream, had recurring issues with its continuous inkjet (CIJ) coding systems. The printers would frequently breakdown causing costly interruptions on the production line, and with pressure on the industry for Prices per Litre, the company was desperate to find a successful solution.

Rotech’s thermal inkjet technology is improving efficiencies for dairy firms

Rotech’s thermal inkjet technology is improving efficiencies for dairy firms. The solution has been a maintenance-free thermal inkjet (TIJ) printer from Rotech. This TIJ technology has no moving parts and requires very little user intervention. Unlike CIJ, TIJ printers start up and shut down instantaneously and the only requirement is a quick cartridge replacement. “As a result, downtime can be reduced, while also saving costs and improving production efficiency,” says Rotech’s UK sales manager Steve Ryan.

Meanwhile, Greek-style yogurt producer Tim’s Dairy was also struggling with the performance of CIJ printers. Rotech says that TIJ removes the issues that can be caused by MEK-inks used in CIJ and the self-contained cartridges avoid mess and use water or non-hazardous solvent-based ink. Within seconds users can replace a cartridge and get a production line on-line again with up to 400,000 prints available.

Tim’s was shocked by the stark contrast in TIJ technology. “The compact design of a Rotech HP X1 Jet is night and day from the cumbersome CIJ printers,” says Ryan. The space-saving printer now applies codes easily on the yogurt pots using a crisp, high-resolution print.

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In a space-saving product inspection breakthrough, Fortress Technology has custom-engineered a special twin aperture metal detector and dual lane Raptor checkweigher for one of the world’s premium dairy companies, helping to halve waste.

Receiving shredded cheese pouches directly from a dual head bagger, the bold design unlocks substantial space and cost savings for the busy dairy plant.

This customised twin lane conveyor configuration consolidates a single Fortress metal detector divided into two apertures and two independent weight verification Raptor checkweighers for optimised quality control. Each machine and lane has its own air blast reject mechanism to isolate metal contaminants and weight rejects, helping to reduce and minimise good product being wasted by over half.

Measuring just 10 ft in length, Fortress also integrated a radius conveyor into the metal detector infeed.

“With output per hour being such a critical productivity benchmark, this game-changing multi-aperture design facilitates high speed and accurate metal detection and marks a step change for lean manufacturers seeking to reduce factory footprint and improve Total Cost of Ownership (TCO),” explains Jodi Curry, European commercial manager at Fortress.

The equipment is fully integrated with the dairy plants’ upstream and downstream equipment and matches the 120-140 packs per minute output speed of the dual head VFFS bagging system.

Meanwhile, Auto-Pack supplies a wide range of form, fill and seal (FFS) solutions including sachet, stick pack, bag and pouch machines, all of which are used extensively across the dairy industry.

Auto-Pack has secured orders with customers across the UK and Ireland that supply dairy products to both retail and food service.

One of these solutions is an AV-31 machine that is producing crème fraîche at between 20 and 30 packs per minute. This unit was initially purchased as a development machine and has since been integrated into the production line.

Recently, the company has provided an MC-50 capping machine, applying a twist off type closure to a glass jar for yogurts produced to fulfil a major supermarket contract. Running at speeds of up to 120 containers a minute, this MC-50 offers high levels of energy efficiency as it only uses one motor.

Auto-Pack specialises in a variety of machines from VFFS, HFFS, filling, capping, de-palletising, un-scrambling and rinsing systems for handling bottles, jars, tins, and other containers along with the associated conveyors.

PPMA members have been meeting the processing and packaging needs for cheese, crème fraîche and yogurts in its various formats.

For one recent installation, the customer required a 5 kg deli block to be packed in a gas flushed fully sealed shrink pack which, says Paramount, is not the easiest packaging format to produce.

Paramount entered into a development contract with the customer and set up a stock wrapper to prove the process, with the addition of its soft-vacuum system and a hot air curtain. Following successful trials, the machine was delivered and installed with a few final tweaks before going straight into full production. It replaced a manual bag and vacuum process, doubling the throughput of the line.
and removing the manual handling of the blocks of cheese completely.

BV Dairy in Shaftesbury has recently installed a Ytron-Z unit supplied by Ytron Quadro (UK) for the smoothing or ‘stretching’ of its range of yogurts.

In the Ytron-Z, the yogurt coagulum is subject to an extremely short and intensive burst of shearing which smooths the yogurt, while its mechanical action causes stretching of the protein molecules to improve the product’s viscosity.

Advantages delivered by the Ytron-Z include:
- Improvement in gel stability
- Elimination of syneresis and grit or nodule formation to give a smooth product
- Reduction in the protein content in the milk base by about 0.2%.

In operation, the number of rotor/stator sets, slot widths and the speed are selected based on the composition of the yogurt being processed.

Staying with yogurt, the RARUK Automation linear axis system chosen by Yeo Valley to carry inkjet print heads across a conveyor-width of yogurt pots has resulted in consistently high-quality printing of date codes.

Linear motion is one of the IEF Werner automation solutions available from www.machineryupdate.co.uk

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Integration in a yogurt packing unit
Automating with vision

**Alpma** launched a clever camera for cheese makers at Anuga FoodTec

At Anuga FoodTec in April, Alpma demonstrated several new options to help dairy producers to automate their production processes cost effectively and efficiently.

For instance, its brand new inspection system – called Eagle Eye – is designed to deliver effective quality control in fully automated cheese production lines. In operation, it can immediately detect surface contaminants or unwanted mould automatically on unpacked cheese blocks with a level of certainty that, says Alpma, is superior to that of the human eye.

Thanks to the camera technology and an illumination system specially developed by the company, Eagle Eye achieves an accuracy of almost one hundred percent. Defective goods can therefore be sorted out directly and the highest hygiene standards can be maintained along the production line.

When developing the Eagle Eye, Alpma used a camera and lighting system to work with a robot to scan all six sides of the block of cheese at speed and with total repeatability. The lighting system and camera is mounted on the end of the robot arm. Alpma is offering the complete system, which includes the infeed, scanning, the lifting of a block to inspect the underside, a discharge and a reject system.

Prior to its launch, this new system was trialled in the Alpma-owned cutting facility, called Frishpack GmbH, one of the largest cheese cutting factories in Germany. Here, cheese is received from all over the world to be converted into retail portions or sliced or grated products. This allowed the company to see the challenges of having a screening and automatic quality system that can guarantee the quality of every block entering the high care production environment first hand.

“We therefore have a development and trial unit that has been fully field tested in production conditions and developed over this time,” explains Nick Aikenhead, managing director of Alpma GB.

Aikenhead says that as cheese processing lines become increasingly automated, a need for inline inspection has come to the fore. Customers need to check for surface contamination that could be present and occurs in all cheese operations such as the presence of unwanted green, black or white surface mould. These are undesirable for yellow cheese and need to be identified and rejected, sometimes with the ripening bag still on the cheese and sometimes on naked blocks.

“One of our customers also wanted a quality system that can determine the difference between a black mark (grease) or black mould or even a deep crack that can also look black to any comparative camera system,” says Aikenhead. Eagle Eye can determine the difference between white mould (a reject and undesirable) and white calcium lactate crystals (which are acceptable and desirable).

“Only our system can tell the difference between these,” he tells Machinery Update.
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Monitoring with vision

Thermal cameras from Bytronic Vision Automation are helping to reduce farmer’s reliance on antibiotics

Antimicrobial resistance in animals is a growing cause for concern for farmers around the world – but how do you tackle a problem that is itself caused by preventative measures?

For years, it’s been standard practice to inoculate animals against diseases with antibiotics, which is often to stop the spread of disease before it starts. This is done primarily to keep the meat and dairy produce safe for human consumption.

However, like humans, animals build up resistance to antibiotics over time – meaning that one day soon, they may be vulnerable to disease with few, or no drugs left to safeguard their health or that of the public. This has prompted increasing opposition, with a blanket ban on the routine use of preventative antibiotics on farm animals now in force within member states of the EU since January.

While sales of farm antibiotics fell by more than half between 2014 and 2018, numbers have crept back up since 2020, according to the Veterinary Medicines Directorate. Speaking on a recent episode of BBC’s Countryfile, presenter Tom Heap spoke about this persistent and worrying problem.

“Most people accept that farmers should be allowed to...
use some antibiotics to treat the most serious illnesses where there is no practical alternative, but campaigners say that dosing groups of animals with antibiotics before disease has even broken out – what’s called preventative use – must stop,” he told Countryfile viewers.

“How do we know if farmers are doing enough in this global fight against resistant super-bugs?” he asked.

Antibiotic use in the UK is still much higher than in other countries. Use per animal for pig farmers is still currently six times higher than it is in Sweden and two-and-a-half times higher than in the Netherlands, where preventative mass medication is not permitted. But could high-tech alternatives provide a low-cost solution to this pervasive problem?

Dr Jasmeet Kaler, a Professor in Epidemiology and Precision Livestock Informatics at the University of Nottingham, is actively exploring ways that the industry can use new solutions. One such solution is using thermal cameras to spot early indicators of disease – before it even affects any livestock.

Using a laser attached to an artificial teat for feeding cattle, Jasmeet is able to use thermal imaging to non-invasively probe each cow to monitor its internal temperature. When the cow starts to feed and the beam is broken, the cameras begin recording through the eyes to identify thermal hotspots.

“Increased temperature behind the eyes is one of the first indicators of disease in animals,” explains Jasmeet. “With early detection, we can deploy more management strategies, for example, isolation, and use the antibiotics much more responsibly and more appropriately.”

This research is ongoing and is in collaboration with Bytronic Vision Automation.  
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A leading American dairy products company, which supplies retail, food service and co-manufacturing with products including natural, processed and speciality cheeses, all in a variety of formats, recently faced a packaging dilemma due to an underperforming machine.

The company sees its packaging as a natural extension of its brand and as such, the shape, form and function of its multiple packaging styles is tightly controlled. For instance, a recent packaging project, saw Cama Group being asked to create an identical packaging style, but with more control over the final shape and the tightness of the sleeve around the product.

The product involved was a two-section thermoformed tray containing a dairy-based snack. These trays were to be packaged vertically in 1 x 3 and 2 x 3 arrangement, using a sleeve created from a cruciform-shaped blank.

The existing packaging system was simply not performing as expected, primarily due to the fact that the packaging style had changed and the incumbent machine, although capable of fulfilling its role, was neither efficient nor offered acceptable throughput. For this reason, the company approached Cama Group for a higher performing alternative.

“Our challenge was to develop an approach that could apply the sleeve, but not too tightly,” explains Davide Di Lorenzo, sales engineer manager North America at Cama Group. “In order to achieve this – where tightness is normally preferred – we had to look at a completely different way of forming and combining the sleeve with the product.

“In effect, we had to build a solution and a complete machine around an existing sleeve blank.”

Cama Group’s solution took the form of a specially modified Secondary challenges

A machine fits brief to handle existing sleeves efficiently

Cama designed a bespoke machine to ensure the final secondary pack met the client’s exacting demands

IF series top-load carton sleeving system. As opposed to being formed around the trays, in this new Cama machine, the sleeve is formed without glue or the product being present. The products are then collated and oriented into pockets on a racetrack conveyor, and groups of three are picked up by a robot, then rotated and loaded into the pre-formed sleeves.

RIGHT-ANGLED CORNERS

Glue is then applied to the lateral flaps which are closed and then the top flap, which is secured by the sleeve being inverted and pressed. Using this approach, equal pressure is only applied at the end so that the overall package maintains its more-uniform right-angled corners.

Several robots are used in the machine for their speed, repetition, accuracy and flexibility. One robot is used for sleeve erection, a second for product loading, a third for the first flap close and a fourth for the final flap close. When the packaging arrangement is changed, the robots can be instantaneously reprogrammed to handle the new packaging format.

The project also involved the design and delivery of a case packer, which took the packaged snacks from the IF Series machine. Here, Cama’s packaging design team enhanced the dimension of the case, not only saving materials, but also optimising the eventual pallet-loading configuration.

Cama’s design team developed a flat-blank-based solution, which was not only smaller – saving 43% of materials versus the original RSC design, but it also resulted in an extra row of four in each palleted layer – from 4 x 4 to 5 x 4.

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How do you ensure that labels on wedges of cheese – when no two pieces are the same size – are automatically applied in a uniform manner? You invest in a 3D robot vision system devised by Scorpion Vision. Indeed, the benefits of this system to original customer Long Clawson Dairy have been so conclusive, that it has now invested in a third system that has recently been installed.

This 3D robot vision system was devised in conjunction with Stelram Engineering to solve the big problem the company was experiencing at its factory that makes Stilton cheese. Quite simply, these oddly shaped cheese portions are difficult to label automatically, and this was causing a staggering 80% rework for the site.

Using a mechanical labelling system, labels were applied to cheese wedges of all shapes and sizes. The fact that no two pieces of cheese are the same size is a major headache for a fixed mechanical system and so Scorpion designed a vision system that created a mathematical 3D model of each piece of cheese as it travels under the cameras along a conveyor belt.

As managing director of Scorpion Paul Wilson explains, the company
process up to 129,600 cheese portions over a twelve-hour day (assuming one piece per second is handled on all of the three systems). This, of course, will be particularly useful on the lead up to Christmas, when the factory is under the most supply pressure. “The business benefit to Clawson’s of these systems has been enormous,” Wilson tells Machinery Update.

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Business benefit to Long Clawson Dairy has been huge
This round up of new services and equipment that are now available to the dairy sector answer user needs in terms of temperature, hygiene and safety.

For instance, manufacturers of scraped surface heat exchangers, pin workers, emulsifying systems and batch processing for the dairy spreads, butter, margarine and shortening industry Rono designed a multipurpose pilot plant for its customers to help them develop dairy products which have already proven popular with customers around the world.

The next stage in this development has been to launch Rono’s own in-house Centre of Excellence that includes one of these new pilot plants at its laboratory facilities in Selmsdorf in the north of Germany. Engelmann & Buckham (E&B), its sales agent in the UK and Ireland, can now offer customers access to this R&D facility.

“Dairy manufacturers are continually looking to innovate, to find new formulations and processes so that they can be ahead of their competition,” says Michael Lindsay, md at E&B. “The Rono pilot plant enables them to do this within a continually adaptable environment and on the latest equipment.”

As the demand for new automation increases across the dairy sector, the need to provide an effective labelling solution – particularly in cold storage environments – has grown significantly. ILS’s md Denis Brett has seen enquiries for labelling in cold environments build: “Most recently our FlexWipe pallet labelling system, the first machine of its kind that is capable of operating in sub-zero temperatures down to -28°C as standard without the need for insulation or heating cabinet.”

The FlexWipe enables pallet labelling for dairy products that must be kept in sub-zero conditions. “This is a technical breakthrough that can help dairy companies operate at maximum efficiency in tough working environments,” Brett tells Machinery Update.

Of course, hygiene is a key ingredient in dairy products processing and this feature has certainly been taken into account in equipment offered by Ave, Concetti and Serac. Ave UK, for instance, launched its Unibloc rinser/filler/capper that is designed to handle milk and drinking yogurt last year in response to the dairy industry’s drive for ever-increasing hygiene standards.

To meet global food standards and ensure the highest product quality in food packaging, Concetti has specifically developed the IGF PURA, an automatic filling and closing machine for powders in the 5-50 kg range, operating at speeds of up to 750 bags an hour. The IGF PURA design is based on fundamental hygienic engineering and design principles that Concetti continues to develop as a member of the European Hygienic Engineering & Design Group (EHEDG), a consortium of equipment manufacturers.

PPMA members continue to innovate to provide new services and products devised to meet dairy demands.

ILS’s FlexWipe enables the pallet labelling of any dairy products that must be kept in sub-zero conditions.
manufacturers, food industries, research institutes including public health authorities.

From using specific corrosion-resistant contact materials, internally smooth and crevice free so as to avoid product retention, to the provision of convenient quick-release access covers for cleaning, everything about the IGF PURA is geared towards safeguarding product quality.

The double auger dosing system, fitted with removable access panels, can be supplied with a special automated cleaning-in-place system using an array of air blast nozzles combined with a reversing function to clear residues into a waiting container.

And augers are easily demountable for more thorough cleaning.

Serving the UK and Ireland markets via Evolution BPS, dairy packaging specialist Serac combines PET bottle blowing and pulsed light decontamination in a single machine: the ESL Combox.

By combining the blowing of bottles in a controlled environment just before filling and pulsed light treatment of necks and caps, it is possible to achieve a 3-log decontamination on containers. This level of decontamination can be enough for several applications to significantly extend the shelf life.

For example, the ESL Combox is used for fresh white milk with a 30-day shelf life, or for drinking yogurts with a 60-day shelf life in Asia.

Meanwhile, to combat the on-going problems with lactose and dairy products damaging exposed equipment, Euchner has developed a range of compact encapsulated non-contact safety switches which they say can outlast conventional IP-Rated safety switches in this arduous environment many times over – leading to an increase in productivity through reduced downtime as well as straightforward installation.

**HARSH ENVIRONMENTS**

The CES-C14 switches feature an encapsulated ingress-proof design, comprising a two-part epoxy resin outer shell, extensively tested for material resistance including alkaline and acidic cleaning agents and disinfectants in accordance with ECOLAB specifications.

The Euchner switch is supplied with a 20M specially prepared PUR connection cable and in addition to a very tough outer shell, it offers a high degree of ingress protection including IP67/IP69K for the most arduous of environments including high-pressure chemical washdowns.

Finally, Busch is highlighting the critical role played by the vacuum pump when packaging cheese in a vacuum pack. The company says it is essential to use a vacuum pump that has a sufficiently high pumping speed at low pressures to achieve the desired vacuum level before water evaporates or gases begin to escape from the cheese. The correct dimensioning of the vacuum pump and its integration into the control system requires precise analysis of the entire packaging process, it says.

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Labelling, Coding and Marking

Liner-free label printer is perfect for takeaway food

Epson has released its latest mPOS label printer for the takeaway, click-and-collect and food delivery hospitality market.

The TM-L100 is a compact, liner-free label printer offering full and easy ePOS iOS, Android & Java integration with users’ existing POS systems. The printer includes Bluetooth connectivity with rapid sync and charge functionality, which means users can quickly and conveniently synchronise their devices to their existing workflow systems.

Epson believes devices, such as tablets, will now have a more efficient operation with increased productivity, fewer errors and faster turnaround times when producing labels.

Importantly, the new printer eliminates plastics waste from labels, and the media requires no back-peeling which also saves time in use.

Using a label printer also reduces errors associated with handwritten labels and means information such as customer name, delivery address and food contents are all clearly displayed.

This liner-free printer supports a wide range of plastics-free media including thick highly adhesive semi-permanent labels. Another feature is Epson’s advanced paper reduction function, which significantly produces clear, legible labels and can contain a range of useful information such as customer details and food contents.

And with embedded ePOS solutions, TM-L100 can be integrated very easily,” he tells Machinery Update.

Labelling system that facilitates returns for eCommerce customers was launched

Cobalt Systems launched its NexPlex labelling system for eCommerce returns at IntraLogisteX in March.

NexPlex is a new label and print solution that the company says is transforming the eCommerce returns process. It is a real-time printed, multi-layered dispatch label with order specific detail and returns label, layered together to form just one label document.

“With the continued growth of the online retail market, there is a fierce demand for greater automation and efficiency,” says Chris Hunt, Cobalt’s sales director.

“Price and service online are no longer just the primary drivers for customer retention, the simplicity and cost-efficiency of returning unwanted goods is essential in winning customer loyalty.”

The company also demonstrated its print and apply labelling technology at the event, highlighting an All Electric Nexus20 side apply solution with LPN Manager Onboard. The All Electric setup provides real-time print and apply with no requirement for compressed air. This plug and play system requires no additional software for LPN label printing and guarantees not to replicate an LPN code.

Also on show was the new industrial automation range from Zebra, including machine vision and fixed industrial scanners.

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RFID tech is used in the process

Software for fruit and veg traceability

Macsa ID UK’s new Integra traceability software is ensuring traceability of fruit and vegetable products from field to fork. This latest technology offers automatic calibration using RFID technology which helps reduce food waste by avoiding unnecessary and costly mass recalls, says Macsa ID.

This new software generates the entire traceability tree, starting from the harvesting of fruits and vegetables through to dispatch. It can provide any traceability report that is required so if a problem is detected at origin or in the field, the relevant shipments can be easily identified. Equally, if any incident is suspected in the field, the relevant shipments can be easily identified. Equally, if any incident is suspected in the field, the relevant shipments can be easily identified. Equally, if any incident is suspected in the field, the relevant shipments can be easily identified. Equally, if any incident is suspected in the field, the relevant shipments can be easily identified.

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A range of coloured inks are offered

Inkjet coder is introduced for secondary packaging formats

Markem-Imaje has launched the 5940 G, Touch Dry high-resolution inkjet coder, providing label free and high-resolution coding, branding and text on secondary packaging, including corrugated versions.

Applicable for a broad range of materials, the 5940 G prints grade C or better, GS1-128 compliant codes on corrugated cases and trays of fresh produce, beverages, meats, confectionery and many other foods groups as well as precision printing on polystyrene for frozen foods and shrink-wrap for pallet shipments. In addition, the system prints clean, crisp information and codes on porous surfaces including fabrics and non-wovens for medical personal protective equipment (PPE) masks, gowns, and nappies.

This 5940 G also features Intelli’Flow printhead technology that avoids nozzle blockages due to ink backsplash and dust build-up. Plus, a filtering process that degasses the ink during printing and keeps the jetting mechanism clean and clear, resulting in a higher print quality, greater throughput, reduced maintenance, and less downtime.

A range of coloured inks are offered

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Software update offers new features for users

Users of the all-in-one embedded vision system IDS NXT ocean now have a range of new features at their disposal. These include multi-ROI (Region of Interest) for AI-based object detection and the possibility to use different neural networks for different ROIs in one image via Vision App.

In addition, there are binning, line scan mode and performance and configuration improvements while new customers can also choose whether they want to use the IDS NXT lighthouse training software on AWS – as previously offered by IDS – or now via Microsoft Azure Cloud.

With Microsoft Azure Cloud Services, IDS Imaging Development Systems now supports another host for the AI training software IDS NXT lighthouse in addition to AWS. The offer is aimed at companies that are not allowed to work with AWS due to regulatory requirements.

The scope of functions and services as well as the operation of the training software is the same with both hosts. Instead of setting up their own development environment, users can start training their own neural network right away in IDS NXT lighthouse – even without prior knowledge of Deep Learning or camera programming. This involves just three steps: Upload sample images, label them and then start the fully automatic training.

The resulting network is optimised for use with IDS NXT industrial cameras.

To allow customers to assess how easy and convenient the tool is in practice, IDS is offering all customers to activate a free trial month to test IDS NXT lighthouse. No sales contact is required to activate the full trial licence, only registration with an IDS user account at IDS NXT lighthouse is required, and the licence key is automatically provided.

A free trial month is available

New event logging tool makes optimal use of the Matrox Rapixo CXP frame grabbers

Matrox Imaging has released the Matrox Gecho, its new event-logging tool for Matrox Rapixo CXP frame grabbers.

Matrox Gecho helps developers optimise image capture and ensure proper performance. The utility logs acquisition activity so that users can troubleshoot capture errors, and measure latencies and execution times to identify performance bottlenecks.

This built-in event-logging tool simplifies image-capture debugging and optimisation and is offered with both Matrox Imaging Library (MIL) X and Matrox Design Assistant X vision software to record events generated by the Matrox Rapixo CXP device driver (and saves these to a JSON or CSV file). Running concurrently with the device driver, Matrox Gecho logs acquisition activity, and the trace files can then be loaded into Google Perfetto for viewing on an interactively navigable graphical timeline.

In operation, users benefit from a simple acquisition log that helps them set up and streamline video acquisition, detecting and correcting performance bottlenecks or errors so as not to corrupt or slow down the image-capture process.

“Matrox Gecho is a wonderful tool for making optimal use of Matrox Rapixo CXP frame grabbers,” explains Mitchell Dumont, product manager at Matrox Imaging.

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Collaboration helps to up paper bottle throughput

A collaboration between Festo and PCE Automation has helped recyclable packaging company Frugalpac to achieve the high throughputs and precision assembly necessary to meet increased demand for its paperboard Frugal Bottle.

Frugal Bottle is the world's first paper wine and spirits bottle and is manufactured from two paperboard blanks that are precision cut, glued and then wetted front and back, before being stacked ready for feeding into the bottle forming machine. Achieving the desired throughputs is a major challenge because the glue pathway is complex and must be tailored to the profile of the bottle.

In addition, the correct amount of glue has to be applied to prevent malformation or unsightly glue excess on the finished bottle. Working closely together, PCE Automation and Festo developed a fully automated gluing and wetting line to meet the tight tolerances and complex gluing patterns necessary to deliver throughputs of 630 bottles per hour operation.

“The gluing process was more complex than anything we’d encountered before,” says Ronan Quinn, project manager for PCE. “We would usually undertake the entire design and assembly inhouse, but on this occasion Festo supplied the handling gantries to us fully assembled which added real value in terms of component compatibility and commissioning.”

PCE Automation used the Festo Handling Guide Online (HGO) to design the automation cell. This free online tool dramatically reduces design, assembly and delivery time and enables customers to create a ready-to-install handling system: whether for a single-axis system, a 2D linear and planar surface gantry or a 3D gantry.

With just a few clicks, the HGO delivers the right standard handling system, including CAD model, animation, and complete EPLAN schematic documentation.

Latest Push-Lock connectors enable easier and reliable conductor connection for users

Confined spaces and customised cable lengths are becoming increasingly common when it comes to the cabling of machines and systems. Whether for signal, data, or power transmission, the Phoenix Contact M12 push-lock connectors are designed for assembly and enable easy and reliable conductor connection.

There is no need for a screwdriver or an extra helping hand. Rigid and pre-treated conductors are conveniently wired without tools by means of direct insertion. Connecting litz wires or conductors with a large cross-section is effortless – simply use the levers to open and close the clamping chambers of the connector.

Connected conductors can also be released again in the same way. The colour-coded and numerical identification of the contact holder levers ensures the correct assignment of conductors. Connection errors are therefore prevented.
Pinion delivers compatibility with range of speed reducers

Now available in the UK from RA Rodriguez is the new KHK R series pinion for speed reducers. The new pinion is not only ideal for Nabtesco GH series gearhead reducers but, says the company, also provides superior compatibility with flanged speed reducers from a host of leading OEMs.

A range of different industrial machines and systems require speed reducers, where selecting the optimal pinion often proves challenging. However, this task is now inherently simpler thanks to the KHK R series, which offers perfect harmony with the servos of gearhead reducers. As a result, a wide range of machine building projects can benefit; everything from gantry-style robots through to pipe benders and large machinery used in the print and packaging industry.

Compatibility offered

In particular, the R series is compatible with the GH series gearhead reducers from Nabtesco Precision Europe GmbH – part of the Nabtesco Group – for which RA Rodriguez is also the UK distributor. Users can select the R series for Nabtesco GH7, GH17, GH24, GH40 and GH100 models. Nabtesco cycloidal gearheads enable reduction in ratios from 30:1 to more than 300:1 without any of the additional pre-stages necessary when using standard planetary gears.

The KHK R series pinion is available in Module 3-6 (10-20 circular pitch) and manufactured from S45C carbon steel or SCM440 chrome-molybdenum alloy steel.

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Omron
Fernando Colás has been promoted to chief executive officer of Omron’s Industrial Automation Business in EMEA. He takes over from Seigo Kinugawa who is returning to Japan to head the Global Business Process and IT Innovation HQ at the company. Colás has been with the company for 37 years and since 2015, has led product and industry marketing and technical support as general director of marketing EMEA, in addition to overseeing post-merger integration for the company.

Sidel
Pascal Lefèvre has been named global vice president at Sidel as part of a move to strengthen the company’s commitment to food, home and personal care markets, developing the strategy in this evolving and changing sector.

Watson-Marlow
Abdul Butt has joined Watson-Marlow as operations and supply director, responsible for driving the company’s supply excellence to enable continued growth. In his new role, he becomes part of the executive team and reports directly to the group’s md Andrew Mines.

Paramount Pkg
Aaron Bessell, sales director of Paramount Packaging Systems, is celebrating 20 years with the Fuji Machinery supplier.

Southgate Global
Mark Potter has joined Southgate Global as service manager to run its expanding service and repair team from the company’s Kings Lynn HQ. This growing Southgate team of specialist technicians provide on-site and remote repair service to ensure any customer downtime with equipment is kept to a minimum. Potter brings over 26 years of experience in managing both on-site and remote service centres to this new role.

JenAct
Michael Elrington has been appointed sales manager at JenAct, part of the Jenton Group of companies, to drive sales of its high performance uv disinfection systems. He joined Jenton two years ago as sales engineer and in this time, has helped to develop the company’s ceiling mounted uv air disinfection system called the GRU-V Jet.

Winkworth
Callum Lindsay has joined Winkworth as a design/project engineer and in this new role, will be responsible for progressing projects from inception to the finished product, overseeing design, manufacturing and customer liaison. Kyle Hillman has joined the company as quality controller/health & safety assistant bringing experience gained working on contracts for a number of aerospace manufacturers to the role.

RMGroup
Paul Smith has joined the RMGroup as product manager – mobile robotics and automation in a company move designed to add impetus to the growth of the company’s AMR/AGV offering. He brings nearly 30 years of comparable experience to his new role.

tna solutions
tna solutions is celebrating its fortieth birthday. The company was set up by Nadia and Alf Taylor in 1982, and today has over 500 employees and has installed more than 14,000 processing and packaging systems worldwide. “A lot has changed over the last four decades but one thing that hasn’t is our positive outlook and dedication to serving the needs of our customers,” says Alf Taylor, ceo and md at the company.
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