Delivering convenience

Convenience used to mean ready meals, but now it includes a vast array of options including ‘food-to-go’ items that all demand packaging lines that can be changed over efficiently.

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COVID-19 issues are being answered by the engineering talent deployed by members of the PPMA with work on ventilators and PPE along with new remote services.

NEW MACHINERY
FreshPack is the name of the patented packaging solution from Alpma that is described as a reinvention of how to wrap butter more effectively.

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INSTALLATIONS
Aldi, Germany has a new pack for fresh mince that saves plastics use.

PLUS
The latest equipment for warehousing, logistics and e-Commerce is covered in a special feature this issue. It starts on page 44.
Technology inspired by human talent

Cama Group is a leading supplier of advanced technology secondary packaging systems, continuously investing in innovative solutions.

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May/June

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Given the COVID-19 situation that we now find ourselves, it’s befitting that the theme of this edition is about convenience foods and logistics, as well as many news stories about how the packaging and processing industry has been responding to customer needs.

Before I continue, though, I am sure you will join me to thank NHS workers and those on the frontline whose support has been unwavering during this national crisis. The global pandemic has resulted in unprecedented financial and logistical issues for the manufacturing community; not since the 1940s have so many been waylaid and inconvenienced for so long.

Despite the upheaval, I have been speaking to many manufacturers who have been flat out trying to fulfil their orders. If the supermarkets report an upsurge, it’s no surprise that the supply chain is going to experience the same demand.

One of the things that I am sure will come out of this virus are new ways of working for everyone. For example, in this issue we report on machinery manufacturers that are not only maintaining and fixing equipment remotely through AI, but are also commissioning new equipment this way because of the current travel restrictions. It would be remiss of me to make a sweeping statement to say that things will change, but inevitably there will be a shift in how companies go about their daily business once we return to ‘the new normal’. And this will surely include keeping spare machines and parts that engineers can access at short notice.

Ultimately, all roads lead to the consumer; whether in terms of choice, availability and price. Convenience foods certainly have played their part during the current crisis; as has shopping on-line which our warehousing and e-Commerce feature highlights. And it is interesting just how quickly the narrative has changed at a time of need in terms of single use plastics. During this pandemic, where would we be without plastics packaging which not only helps to preserve foodstuffs by extending shelf life, and therefore cutting trips to the supermarket, but it also helps to reduce food waste?

There is of course a balance to be had, and it’s important not to lose sight of what we need to achieve now and how we can work together to influence the future for the better.
A rapid deployment solution has been designed and delivered by Southgate to enable factories, logistics supply chains and e-commerce companies to test staff for fevers before they enter the workplace. Southgate has worked quickly with its product development teams to design and deliver a new Pacplan Employee Welfare Testing Station. These stations are already being rolled out and deployed across the logistics and supply chain sectors and to many warehouses where large numbers of staff arrive every morning. It is described as a perfect way for staff that want to be able to safely take their temperature on arrival with safe distancing and a screen protection in place, ensuring no one enters the building that could be suffering from a fever.

The stations are very quick and simple to deploy and are also portable. They are designed to be used in conjunction with infrared forehead thermometers which are illustrated in the image on the right.

This is described as a very simple welfare provision to enable companies who are continuing to operate as key workers to take a precautionary step every day, in taking the temperatures of their staff before they start their shifts.

An employee welfare testing station can be used in factories and logistics supply chains

Issues caused by COVID-19 are being answered by the engineering talent deployed by the membership of the PPMA (Processing & Machinery Association). Whether it be supporting customers by fixing or commissioning machines remotely through AI or supplying much needed spares, or switching skills to make ventilators, PPE or hand sanitisers, or donating products or cash to healthcare providers, the membership has stepped up.

Optima, for instance has been carrying out the most complex virtual machine acceptance in the company’s history involving five cameras tracking the acceptance of a filling system for cosmetics; Uhlmann’s digital expertise allowed a complete blister line to be accepted in China despite current travel restrictions and Minebea has set up a video camera in its showroom and is continuing to offer a full 24/7 on-site support service.

PPM understands that many FMCG factories are having to increase output as a result of the crisis, placing extra strain on their packaging machinery. As a result, it has amassed large quantities of stock and has implemented rapid turnaround times for stock new machinery orders, spare parts and servicing.

Jenton International was one of the first PPMA member companies to respond to the Government’s pledge to manufacture ventilators to support COVID-19 NHS patients. The Hampshire-based company responded to the ventilator challenge in mid-March after reviewing the specification from the Department for Business, Energy and Industrial Strategy (BEIS). The information was for a simple system, using a BVM (bag-valve mask) ventilation aid and a gas-powered pneumatic piston to squeeze it.

And in a multi-company collaboration with student design office FF Maschinen GmbH, Stober has supplied its synchronous servo motor in combination with a drive controller for use in the production of manually operated mobile ventilators, while Yaskawa Motoman has supplied a robotic welding system to increase the production of NHS products.

At the same time, Hazel 4D is assisting fashion giant Burberry to deliver PPE to the NHS, while supporting customers from the food and healthcare sectors to deliver vital products and Millitec Food Systems has turned its hand to supplying PPE for the healthcare sector, diversifying its skillset to develop face visors.

Adelphi Manufacturing has supplied a second benchtop filler in quick time to help an animal feeds company to switch to producing hand sanitisers, while Sidel has transformed its development centre into a production unit to make bottles for hydro-alcoholic gel.

Finally, the ISPE UK affiliate has launched its database of technical expertise to help projects in the healthcare environment which can be accessed at: ispe.org/uk-affiliate/Covid.

News

PPMA membership responds to pandemic with engineering skill

An employee welfare testing station can be used in factories and logistics supply chains

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The portable testing stations are used with infrared forehead thermometers
Technology Presentation Hub delivers information on vision

The UK Industrial Vision Association (UKIVA) launched the new Technology Presentation Hub on 14 May 2020 and the presentation material remains available on-line.

Born out of the unforeseen postponement of this year’s UKIVA Machine Vision Conference & Exhibition (MVC) until Spring 2021, the UKIVA Hub will provide 2020 event registrants with free access to this year’s speaker programme from the comfort of their home PC, tablet or smartphone.

The Conference has always been designed to be educational and appeal to visitors new to machine vision as well as seasoned professionals, so the Association’s latest initiative will ensure that registrants can still access a variety of technical content, online.

In keeping with the themes from this year’s MVC, the Technology Presentation Hub houses a multitude of audible 20-minute presentations that span virtually the entire industrial vision spectrum. These comprise: Deep Learning & Embedded Vision, Vision In Robotics, Understanding Vision Technology, Systems & Applications, 3D Vision, Camera Technology, Optics & Illumination and Vision Innovation. Users can view all or cherry-pick the relevant presentations.

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Mask-making equipment is imported from Far East

Hampshire based machine distributor Intamac Packaging Systems is importing new mask-making equipment from the Far East.

The IPS-KZ-N95 and IPS-KZ-1-2 mask-making machines were designed by its Chinese manufacturing partner when it was unable to source enough masks for its workforce during the coronavirus crisis. The machine, that was launched to the UK market in March, has received unprecedented interest from businesses looking to adapt and help the fight against COVID-19 in the UK.

Intamac Packaging Systems usually supplies packaging equipment for the food, drink, pharma and cosmetics industries but realised that there was an urgent need for mask-making equipment in the UK during the pandemic. “Our partners realised the quickest way to keep their business going, and their workers safe, was to buy some machine for 3-ply protective and medical masks,” explains Tom Poston, Intamac’s division manager. “Initially they were inundated with orders from the Chinese government and are now able to sell it to the rest of the world.”

There are two machines available: the IPS-KZ-N95, which can make the N95 surgical respirator face masks, at a speed of 2400 pieces per hour, and the IPS-KZ-1-2 automatic mask making machine for 3-ply protective and medical masks. These are suitable for daily use and the unit runs at speeds of up to 6000 pieces per hour.

Intamac is also able to sell the N95 and surgical masks directly to customers who need the masks in their own facilities. Iain Buckham, CEO of Intamac, has been distributing the masks to local healthcare providers in Alton.

Machine supplier has also been supplying masks to local health providers.
EU MDR: countdown to compliance is reset

Volker Watzke
EU MEDICAL DEVICE SECTOR MANAGER AT DOMINO PRINTING SCIENCES

COVID-19 has delayed the deadline for complying with the European Union’s Medical Device Regulations (EU MDR) but here’s some advice on how to become compliant before it comes into effect...

The deadline for complying with the EU MDR has been delayed by one year. Policy makers submitted a proposal to remain with the current system and postpone the implementation deadline of 26 May 2020 to allow the industry to focus on the essential and urgent work of tackling COVID-19, relieving pressure on national authorities as a result. Questions about whether device companies and notified bodies would be ready by late May have lingered since at least last year, particularly on whether notified bodies would have enough capacity to fulfil the regulations.

On 26 May 2021, a year later than initially planned, the new EU MDR will come into force and replace the EU’s current Medical Device Directive (93/42/EEC) and Directive on Active Implantable Medical Devices (90/385/EEC).

Failure to comply with these procedures may mean that devices are withdrawn from sale, with device manufacturers no longer able to supply their products to other EU member states.

TRACEABILITY FEATURES
These new, stricter regulations are aimed at improving the traceability features and safety management of medical devices for sale within the EU.

As part of the new regulations, manufacturers of medical devices for sale within the EU must adhere to strict guidelines to ensure their products are safe to use. The regulations will be assigned a unique device identification (UDI) code on all medical devices sold in the EU.

The introduction of the EU MDR obliges medical device manufacturers to invest in technology to enable the fast only share this information if requested.

STAYING UP TO DATE
Currently, medical device manufacturers should keep abreast of current developments and speak to authorities for some advice and support, advises Watzke. Manufacturers should ensure that they have the right partners who can support them through the process. To ensure that their medical devices and drugs, with further discussions currently in progress in Australia, Brazil, Canada, China, Colombia, Japan, New Zealand, Russia, Saudi Arabia, Singapore and Turkey.

All manufacturers that wish to sell their product in the EU need to ensure that they satisfy the EU MDR requirements, or they may see their products removed from sale. Equally, manufacturers who are registered according to the EU MDR should focus future attention on ensuring compliance in different parts of the world where additional legislation may be a factor.

Even with a year to go, the technology to ensure compliance should be investigated right now

With the deadline for ensuring compliance with the EU MDR getting closer, the time to act is now. Domino is on hand to help you ensure that products are compliant with the upcoming EU MDR. The company can provide validation packages to help manufacturers authenticate their products and prepare for EU MDR accreditation.

“Our range of coding and marking solutions offers manufacturers of medical devices the most suitable technology in order to achieve UDI compliance,” Watzke tells Machinery Update.

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New butter wrap gives easy to open freshness

FreshPack is the name of the patented packaging solution that Alpma was due to launch at interpack – it is a reinvention of how to wrap butter more effectively.

The conventional, envelope-like folding wrap that has traditionally been used for butter is a classic but with weaknesses of not being sealed or being tamper proof that FreshPack has been designed to overcome.

“We have heard time and again from our customers that they are looking for alternative packaging, to solve these old problems and to give a new pack style and fresh experience,” says Franz Glas, division manager for cutting and packaging technology at Alpma.

In contrast to the classic butter wrap, FreshPack is designed to offer perfect product protection. Its all-round sealing guarantees protection against tampering – and creates confidence in the product for the consumer.

The seal also protects the butter from oxygen exchange.

“As a result,” says Glas, “the aroma is retained in the product much better. When you open the packaging, you can smell and taste that the butter is fresher,” he explains.

FreshPack allows the butter to develop its full flavour, and at the same time, it fulfils the promise of freshness that the packaging makes as soon as it is opened.

The practical easy-open tabs also make it possible to peel open the butter quickly and easily so that greasy fingers are a thing of the past.

European patent is granted for a cost effective valve bag

Jenton International has been granted a European patent for its method of manufacturing a new type of valve bag. The heat sealed film bag has been specially designed for packaging small items including hardware, small parts and especially foods such as soft fruits, cherries or snacks such as nuts and raisins, with some liquids also possible.

A ‘ONE WAY VALVE’

Jenton’s valve bag creates a ‘one way valve’ at the top from the folded and sealed material of the bag. The advantages of a valve bag include product containment without the need for any form of bag sealing and secure food packing which still qualifies as ‘packed open’.

“Users can, for example, take a cherry from the bag and then turn the bag upside down and none of the others will fall out,” explains Richard Little, md at Jenton.

The patent primarily relates to how Jenton’s LDPE valve bag can be manufactured in small sizes on side-weld or pouch making machines without the converter having to make modifications.

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A new Tip-Tite drum tipper from Flexicon (Europe) transfers hazardous bulk material from small and large drums into downstream processing equipment or storage vessels automatically and also dust-free to maximise worker safety.

The unit accommodates drums up to 200 litres measuring up to 880 mm in height, with an outside diameter up to 610 mm and weighing up to 325 kg. A discharge cone adapter allows dumping of smaller drums measuring 400 mm in height and 300 mm in diameter.

Flexicon's latest tipper is launched

The tipper is mounted on an elevated base frame to accommodate an integral powered roller conveyor matched to the elevation of plant roller conveyors. It features dual hydraulic cylinders that work in tandem to raise and seat the container rim against the discharge cone, and then tip the container to an angle of 45, 60 or 90 degrees with a motion-dampening feature.

At full rotation, the discharge cone seals against the inlet of the receiving vessel, creating a dust-tight connection.
A contour measurement system is offering a new intralogistics option

Leuze electronic is billing its new CMS 700i contour measurement system as a world’s first for volume measurements: a complete solution for the fault-free storage of goods that can be autonomously commissioned and maintained by users via WebConfig.

With the CMS 700i, Leuze electronic says it is bringing a new 3D contour measurement system to market. It is based on the CML 730i measuring light curtains and can be adapted to specific customer requirements.

The complete system includes all components, the switch cabinet, fastening elements and connection technology all under one part number. The CMS 700i meters the contour and position of passing objects regardless of their shape and surface structure. Even flat objects such as polybags can be precisely and economically detected without any complicated camera installation.

The object information can, for example, be used to optimise the load on a pallet or to optimise the incoming goods. At the same time, deformations or protrusions of the object that might cause problems or downtime with automatic warehouse systems are reliably detected.

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New blister packing line offers high speed in a compact space

The new Romaco Noack Unity 600 blister packaging line is a monobloc transfer solution that was specifically designed for blister formats arranged crosswise to the running direction and is now available from Pharma Machinery to customers in the UK.

With a maximum output of 600 blisters and 400 cartons per minute, the Unity 600 is a high speed machine for medium to large batch sizes. It is an ultra-compact line that delivers a very small footprint, which is especially beneficial in the cleanroom for primary packaging operations.

The modular system concept consists of a blister machine with rotary sealing and a continuous motion cartoner. If required, the new machine can be combined with different cartoners, track & trace systems and final packaging solutions from Romaco.

**DELIVERING FLEXIBILITY**
The Premium line of the Noack 950 product family can be configured with various feeding units and has been designed with flexibility in mind. Reproducible parameters, lightweight format parts and simple settings speed up format and product changes. Excellent OEE values, low running costs and a wide range of applications are further benefits, says Romaco.

This easy-to-operate machine also ships with RFID-assisted user identification.

Maintenance and calibration planning for the blister packaging line are simplified by a service display in the HMI which provides an automatic reminder of the next recommended inspection. Furthermore, Romaco’s Remote Assist service package ensures support in real time regardless of the physical distance from the machine. Faults and error messages are thus dealt with as quickly as possible, whether with Call 4 Service, smart glasses or the status app.

The Unity 600 can also be supplied in a carbon-neutral version on request. All CO2 emissions occurring during the production of the blister packaging line, including all components, are determined for this purpose. Romaco offsets the calculated emission values by sponsoring a climate protection project. And Gold Standard certified Unity 600 machines are entitled to bear the ‘Carbon Neutral’ label.

A carbon neutral version of the Unity 600 blister line can be supplied and Gold Standard certified machines can bear a special ‘Carbon Neutral’ label.
Robotic handling systems live longer with less costs

Piab has upgraded its piCOMPACT vacuum pump series to support Industry 4.0 functionality. Enabling connectivity between devices through IO-Link and adding sensors to collect valuable process information through integrated intelligence makes vacuum handling not just smarter but safer at the same time, says Piab. This development also facilitates predictive maintenance which in turn increases machine operation and lifespan, speeds up the maintenance process and reduces costs.

Piab’s R&D team decided to equip the piCOMPACT23 SMART directly with several diagnostic sensors that support predictive maintenance: measuring system temperature, system voltage, acceleration, cycle counter and system self-check features. Changes in these can indicate that something else is broken in the robot cell or plant. Hence, the piCOMPACT23 SMART helps to monitor the whole automation system and, in addition, also gives an increased understanding of how the pump itself is operating.

Users can set trigger points so that when the data deviates from normal parameters it is an indication that maintenance will be needed soon. This allows for better maintenance planning, resulting in faster, specific part replacement (if required) which avoids unforeseen breakdowns and reduces costs.

New sanitary range is for safe keeping

The latest components from Elesa can help to focus on the hygiene of hand-operated equipment in medical/bio-chemical and laboratory environments, including food processing and pharmaceutical plus catering. In these situations, Elesa offers an effective aid to hygiene through its recently expanded high-performing SAN (sanitary) range of handles, knobs, levers, clamping handles and similar. The range expansion includes new cylindrical handles for operating handwheels, knurled grip knobs.

Silver has long been recognised for its efficiency in this role by damaging microbial cell walls – and even now – recent research has revealed a mechanism whereby the silver ions have been shown to inhibit operation of microbial flagella.

The Elesa manufacturing team has developed a sophisticated injection-moulding material with this silver inclusion, and with stainless steel inserts, suitable for use in sterilisation cycles up to 130deg C. SAN line components are available in white or black with a SAN logo laser engraved for clear identification.

The Elesa range is hygienic

New laser profile sensors offer performance and improved software integration features

Precision sensor manufacturer Micro-Epsilon has extended its scanCONTROL range of laser profile sensors (laser scanners) with two new versions that offer even better performance and improved software integration capabilities to meet the growing demands of automation, robotics, quality control, production and process monitoring.

The scanCONTROL 30xx sensor is billed as one of the highest performing laser scanners in terms of its size, accuracy and measuring rate. The sensor has a compact housing with integrated controller, allowing fast integration into confined spaces. Available with either red or blue laser technology and with measuring ranges of 25 mm and 50 mm, the sensor provides calibrated 2D profile data with up to 5.5 million points per second.

A maximum profile frequency of 10kHz and special exposure control enable precise profile measurements in high speed, dynamic processes. A high resolution sensor matrix offers a resolution of 2,048 points per profile with an ultimate point distance spacing of just 12µm, allowing measurements of extremely fine surface/ geometrical details.

Also new to the range is the scanCONTROL 25xx, which is designed for high volume OEM industrial measurement applications.
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Joint development has reduced the setting time for gelatin gummies

Equipment manufacturer Baker Perkins and gelatin supplier Rousselot have worked together to reduce setting times for gelatin gummies to as little as 15 minutes. The starch-free process brings cost, quality, regulatory compliance and innovation advantages to the burgeoning healthcare confectionery market.

Starch-free depositing is replacing the starch mogul as the process of choice for gummy and jelly production, particularly in the vitamin supplement and nutraceutical markets, explains Baker Perkins. Gummies and jellies are increasingly used to deliver a variety of functional ingredients including vitamins, minerals, fibre, CBD, protein, Omega-3, probiotics and energy supplements.

A big problem for producers of healthcare gummies and jellies is that the starch mogul process brings with it the risk of cross-contamination of the active ingredients. Starch-free depositing overcomes this, while Baker Perkins’ and Rousselot’s development work to reduce setting times also reduces capital and operating costs significantly. This has been achieved through a combination of Rousselot’s new SiMoGel gelatin, especially formulated for starch-free depositing, and Baker Perkins’ ServoForm depositors and cooking systems.

The development has focussed on being able to remove the products from the moulds in the shortest possible time. And several factors contribute to this, particularly that the syrup is deposited as final solids. This not only promotes rapid setting of Rousselot’s special SiMoGel formulation but also reduces the need for energy-intensive stoving or drying associated with the starch process, further strengthening the economic case for starch-free processing.

Setting times for gelatin gummies with additives have been reduced to as low as 15 minutes, although this can vary with the specific recipe, additives and final product characteristics required. To allow products to achieve final texture and moisture, some additional resting and/or drying time may be necessary but is still significantly less than a mogul line.

This is not an ‘off the shelf’ process. Every product is unique, especially in the healthcare industry, and trials are essential. A full range of test equipment along with expert process support is available in the Baker Perkins Innovation Centre.

The company supplies systems with outputs from 30 kg an hour up to 1,000 kg an hour.

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Industrial scale makes weighing expertise affordably easy to use

With the introduction of the new industrial scale Puro series, Minebea Intec says its leading technologies are now available in an affordable range to suit a variety of applications.

During its development, the primary focus was on making the product easy for customers to operate which is directly reflected in many features of the new range. For instance, large displays on the front and back with LCD backlight guarantee optimal readability; stabilisation in a matter of seconds provides immediate weighing results, and the tactile buttons ensure intuitive operation.

Depending on the customer requirement profile, there are models offering features such as a rear display enabling users to read from both sides, a traffic light LED for check weighing, and non-slip feet for use in challenging environments. The user interface is universally compatible, making handling easier for the user, regardless which model they are using.

A fully portable scale, with rechargeable lithium-ion battery, gives the product up to 500 hours of service life, thereby delivering precise measurement results in the process.

The Puro series has been launched

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Powdered milk products are handled sustainably

Bulk materials handling company Spiroflow has developed its Cone Table Elite (CTE) bulk bag filler as a solution to poor densification of dried milk and dairy products that powder aeration typically delivers during bulk bag filling which creates instability of bags in storage.

Unlike other fillers, the CTE bulk bag filler features the company’s patented cone table densification system which densifies material in the bag, increases bag stability and bulk bag filling throughput to a rate of 30-40+ bags an hour. By increasing the amount of product in a bag, both storage and shipping costs can be substantially reduced.

The hang-weighing CTE system, which delivers weighing accuracy of +/- 1-2 lbs, consists of a truncated pyramid welded on a frame with two integral electro-mechanical vibrators. The moveable carriage assembly raises and lowers, placing the bottom of the bulk bag into contact with the cone table, which forces ingredients into the bottom corners of the bulk bag during filling.

When the bulk bag is properly stretched and the material is deaerated with a flattened angle of repose, the result is a very safe and stable bag that can be safely double, or triple stacked within the filler itself. This allows end users to maximise operator productivity and minimise storage and warehousing costs. The CTE bulk bag filler can fill lined or unlined bags, with or without an outlet spout, and can be filled with or without pallets.

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Batch feeding for screws is now a standardised option

A standardised feeding system for the furniture industry that is a low cost option with reduced delivery times has been launched as a standard option by RNA Automation.

The new ‘screw automat’ is suitable for the standardised feeding of screws, and RNA has developed a basic configuration that can be adjusted depending on the type of screws being handled. An output of up to 60 cycles per minute – which varies depending on the screw type – is delivered.

The accumulation line for the screws runs radially on the outside of the bowl which as well as reducing costs, also delivers the compact design that is 100% repeatable.

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Benchtop filler delivered quickly for hand sanitiser

Connolly’s Red Mills, a leading name in the animal feeds, agri-services and equine healthcare products industries, demanded quick delivery for a second benchtop filler purchased from Adelphi Manufacturing. This was to help the company in its switch to producing hand sanitisers to play its part in the fight against coronavirus.

After meeting Adelphi Manufacturing’s sales director Dean Willis at the PPMA Show in September 2018, Connolly’s Red Mills’ operations director John Walsh completed the purchase of a Response benchtop filler last year (through Adelphi Manufacturing’s Irish agent Obeeco). The filler is versatile, hygienic and easy to use, and a single head is suitable for filling liquids, pastes and solids-in-suspension into all types of container.

Thanks to three standard sizes of honed pump sets, fill volumes can range from 10 ml up to 1 litre in a single shot, and all with a filling accuracy of ± 0.25%.

After taking the decision to mobilise its resources to produce badly needed hand sanitisers, Walsh says that the confidence instilled by his first purchase meant that he was immediately comfortable purchasing a second filler to meet the new production demands. “It’s a simple machine that does what it says it will,” he says.

The Response can be configured to be suitable for use in ATEX Zone 1 Category IIIB 2G c T5 (100C), and when fitted with EPDM seals, it can fill high ethanol content gels, including hand sanitisers.

This Response ATEX filler is now being used to fill 250 ml, 500 ml and 5 litre containers of hand sanitiser. It was delivered in five working days after the order was placed and, says Walsh, “it arrived mostly assembled and so was up and running within a couple of hours of delivery”.

When the current situation returns to relative normality, the new machine will fill the company’s other liquid-based products including oils, and its range of equine healthcare products.
Meat packs slash plastics and CO2

Aldi, Germany has introduced new packaging for its range of fresh meat which will save more than half of the plastics and CO2 it currently uses.

The new packaging infrastructure, which was implemented by Aldi’s supplier and German meat giant Tönnies, uses 70% less plastics than traditional tray packaging, cuts 80% of transport costs and saves 60% on CO2 emissions.

“The flow wrap packaging is nothing less than a packaging revolution for the meat world,” says Clemens Tönnies, managing partner at the company. “Although the changeover to this new system is costly, we are prepared to invest tens of millions of euro.”

MINCED MEAT IS FIRST
Tönnies has started with minced meat as the first stage of its sustainability strategy and commitment to reduce the amount of plastics packaging use on its products. Tackling other products such as pork steaks, bratwurst and goulash is next on the list.

The Fuji Alpha 8 flow wrapping system now being used saves up to 70% plastics per packaging unit. In addition, the new packaging consists of 100% recyclable film with a weight estimated at 4.6 g for a 500 g pack of meat.

The fully stainless steel flow wrapper, with its automated infeed, accepts the minced meat directly from the outfeed of the mincer, and with no operator intervention, produces hermetically-sealed packs. Thanks to the use of MAP, the packs are stable, stackable and according to Tönnies, can be used for its entire range.

NEW RETAIL DEMANDS
The company is also in talks with other customers.

“When the demand from retailers is there, we will convert further lines, making a contribution to solving sustainability issues,” Tönnies says.

Meanwhile, leading Fuji partner Paramount Packaging Systems has been instrumental in implementing these types of sustainable packaging solutions in the UK.

“We expect to see more businesses, particularly in the UK, move towards these more sustainable options,” says Aaron Bessell, sales director at Paramount.

Using flow wrapped MAP packs for its meat, Aldi is using 70% less plastics...
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Trays are convenient for sector

Convenience foods manufacturers need to develop new ranges with new ingredients and formats to keep consumers interested.

You only have to look at the range of convenience food groups produced by the Greencore Group – some of which are highlighted on our front cover – to show just how diverse the sector has become. Convenience used to mean ready meals, but it also now includes a vast array of options including ‘food-to-go’ items, much of which has been temporarily hit by the coronavirus pandemic.

And tray sealing equipment is used to handle many, but by no means all, of the products produced in this diverse sector.

Multivac’s range of TX tray sealing packaging machines cover a wide spectrum of food packaging applications yet despite this, the new range of tray sealers has had a significant impact when incorporated into high-speed ready meals lines by reaching speeds up to 25 cycles per minute.

FREQUENT PRODUCT CHANGES

The frequent changes of products, films and dies which are usually typical for tray sealing packaging machines can be performed on a TX tray sealer in less than 5 minutes resulting in minimal interruption to production. And with the ability to store the replacing die set at operating temperature, maximum output is always assured.

“Thanks to the mechanical construction of the range, which is both robust and space-saving, and its machine control, a TX tray sealer is capable of packing with maximum flexibility and consistent reliability, even at a high output,” says Ian Weatherstone, tray sealing product manager at the company.

Multivac serves the market with a range of technologies which has included supplying a RS505 vacuum filler and RS117.2 depositing head from its processing partner, Risco, to Birtwistle’s Catering Butchers. The machine is designed to deliver the best quality appearance and texture, thanks to Risco’s patented non-compression meat pump.

Meanwhile, an integrated weighing and tray sealing solution from Ishida Europe has enabled one of Spain’s leading fish processors to double throughput on its langoustine product lines.

The recently installed line at Gambastar includes a 16-head Ishida CCW-RVE waterproof multthead weigher, a QX-1100 automatic twin lane tray sealer and DACS-G checkweigher, which is weighing and packing fresh langoustines into several different-sized trays.

A particular benefit of the QX-1100 tray sealer is the single tool that is required for the three different tray sizes ranging from 200 g to 1 kg.

Kellermann AG is meeting the Swiss nation’s love of their ‘shakers’ which are fresh salads in numerous variations, packaged in a practical ‘to-go’ cup that includes a dressing and a fork. These are produced in various sizes on two fully automated Sealpac A6 tray sealers, the food manufacturers main product in terms of volumes.

There are also two semi-automatic tray sealers, which are used to package semi-finished products for the catering and food retail industry. The compact, fully automated, servo-driven...
lines start with a Sealpac AS-LS 1200 denester and Walking Beam in-feed. This allows the trays, despite their challenging shape, to be safely transported on a repeatedly moving linear beam instead of a conveyor belt. At the same time, Proseal has launched a seal quality testing system that enables food manufacturers to determine the ideal seal and peel strength for individual products. The new ProRest solution allows users to create the best seal each time, combining effective protection of the contents with the right level of ‘peelability’ to ensure maximum consumer confidence, says the company.

Also new to the market is a high speed in line pack turning system developed by Jenton Ariana. Designed for orientating trays used in top sealing applications, this equipment is set to increase production capacity by up to some 150%, allowing more trays to fit within a single cycle of the top sealer. Jenton Ariana’s new fully automatic pack turning system is capable of rotating trays from narrow edge leading to long edge leading at speeds up to 85 per minute. It can be easily adjusted for a range of pack sizes, is fully automatic and has no change parts. It can handle trays up to 600 mm in length and a straight through option is also available.

Meanwhile, Partners in Packaging is reporting a major shift away from plastics trays to card trays in the ready meals sector. "Of the last twelve A Series tray denester placers we have made in the last few months, 80% have been specified to handle either just card trays, or both card and plastics trays," explains joint company md Duncan Macintyre.

ENORMOUS ENERGY SAVINGS
Enormous energy savings for its packaging process are being enjoyed by Gartenfrisch Jung GmbH, producer of fresh and ready-to-eat salads, vegetable dishes, herbs, and freshly cut fruit, following the installation of a central vacuum system by Busch Vacuum Solutions. The ready-to-eat salad dishes are packaged on twelve tray sealer lines which used to be equipped with one rotary vane vacuum pump each, though one machine had two vacuum pumps. Centralising the vacuum supply enabled the total installed motor rating to be reduced from 50.2 to 16 kW.

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Given the rapid product and packaging-concept turnover in the ready meals sector, food manufacturers must exploit new-found levels of flexibility in their automation and machinery solutions to ensure their return on investment is not impacted too harshly by the regular format changes, says secondary packaging specialist Cama.

The challenges don’t just lie with the packaging design though, the secondary packaging machinery must be up to the task as well. “The primary challenge we face as machine designers is to boost speed and throughput,” Alessandro Rocca, sales engineering director at Cama Group tells Machinery Update. “Changes to product orientation and carton counts are compounded by the need to deliver gentle handling, too.

**FLEXIBILITY FOR CO-PACKERS**

“For single batch lines this can be achieved relatively easily, but co-packers, who handle a much wider array of products, demand all these capabilities along with the flexibility to cater for each individual batch order.

A good example of our flexibility, in terms of machine operation and machine range, was for a very big player in US ready meals market, with a big presence in Japan too,” says Rocca. The application was for the packaging of noodles in overwrapped trays made from compostable materials. These noodle trays had to be top loaded in shelf ready cartons.

Two machines have been deployed, both of which do the same thing, but in different ways due to the space constraints within the factory. The first machine had to fit a space with limited height, so a Cama BTG machine was adapted to incorporate more robots. The second machine was less restricted, and so a different robot solution was used.

Both machines offer comparable performance but are both suited to the individual confines of their immediate environment.

Another good example, which was a repeat order to meet increased demand, was a machine for packaging a microwaveable pasta cup in the US. The process involves filling the cups with pasta and seasoning sachets before they are sealed and then passed to a secondary case packaging machine. In the secondary process, the new machine offers extra flexibility, in that it can package the cups in counts of eight or 12 into cases or in counts of 4 (interleaved rotated pairs) in sleeves.

**LESS SHELF SPACE NEEDED**

“The challenge here was to address the fact that there would be less space available on supermarket shelves,” Rocca continues. “The interleaved four-in-a-sleeve packaging design saves about 12 mm, which may not sound like a lot, but on a shelf could feasibly make room for another complete pack.

“In this application we were able to deliver a flexible packaging solution, but we were also able to take the customer forward in terms of speed and packaging formats,” he explains.
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To address the special food safety requirements posed by the protein and dairy sectors, Sparc Systems designed a pipeline x-ray solution to detect contaminants in vacuum filled and pumped products. This hygienic Iris inspection system is designed to combine accuracy and reliability.

Utilising x-ray technology, the Iris Pipeline inspection system can identify a variety of different physical hazards including bones, teeth, metal, glass, ceramics, and high-density plastics in muscle meats, slurries, semi solids, and fluids. The high resolution of the 0.4 mm x-ray sensor allows it to detect foreign materials with excellent sensitivity levels. Depending on the application, the machine can detect metal down to 0.4 mm.

Any product shown to contain contaminant on the user-friendly display screen is immediately rejected from the system before it is transferred downstream. A fully integrated, servo actuated rotary reject valve provides accurate and repeatable reject performance. “This makes it fast and precise,” says Charlie Graham, European sales manager at Sparc. “Even though the Iris x-ray matches the speed of the pump, only a small amount of contaminated product is ever rejected.”

HYGIENE STANDARDS ARE HIGH

Maintaining the highest standard of hygiene is high on the agenda for any food manufacturer, particularly when handling meat and poultry products used in convenience foods. No more so than now given the current COVID-19 pandemic.

Although there is currently no evidence that the novel coronavirus can be transmitted via food, transmission via surfaces recently contaminated with viruses is, nonetheless, possible through smear infections. Consumers are naturally concerned and seek further assurance that good hygiene practices are being adhered to, and manufacturers can help to allay these fears by taking steps to mitigate all cross contamination and physical risks. Graham explains that ease of cleaning is an integral aspect of the system’s design. “Pipelines can be inherently difficult to sanitise, but the Iris x-ray has a magnetic centre piece which operatives can literally pull out, clean and re-insert,” he says.

Special to the Iris is its three-way electric valve that allows test pieces to be inserted into the product flow to provide a true performance reading. And, with zero boxed sections, fewer welded joints and drop through conveyors, the accumulation of product residue and water droplets on the units’ underside are significantly reduced.

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Pizza is switched to fresh new look

Finnish company Saarioinen has reduced plastics use in its Pizza Lovers range by 93% with new packs

Saarioinen has reduced its plastics packaging of its Pizza Lovers range by 93% following its adoption of the Cryovac BDF flow-wrap system. The company produces twelve million pizzas a year and began its partnership with Sealed Air back in the 1960s. Saarioinen is well known for its economically priced pizza products but this new project was all about strengthening its position in the high quality pizza segment by investigating modern packaging solutions which use less plastics and deliver a fresh look with excellent presentation. Its existing packaging for the half-cooked premium pizzas was a rigid PET modified atmosphere packaging (MAP) tray with a plastics film lid. Last year, Saarioinen approached Sealed Air for a solution to its challenge and the Cryovac brand BDF flow-wrap system was recommended as the ideal packaging solution. Sealed Air then worked closely with machinery partner Ulma and recommended an Ulma FM 300C horizontal form, fill and seal (HFFS) machine combined with a Cryovac CJ63 hot air shrink tunnel. In operation, the pizza is placed on a recyclable card tray and the BDF film is used to wrap around the product which is then sealed in the shrink tunnel. By switching to this new packaging, Saarioinen has reduced the amount of plastics in its pizza packaging from...
75 g to just 5 g – a reduction of 93%. Indeed, the same amount of plastics now packs 15 times more pizzas.

FORMAT ADVANTAGES
Advantages of the new packaging format over the original include:

- Ultra-thin (21 micron), shrink barrier film which is antifog and suitable for MAP
- Less plastics used but with no compromise on the performance
- Flexible system – can be used with/without trays, on a wide range of tray shapes, sizes and materials
- Traditional store-wrapped pizza look.

The CJ63 hot air shrink tunnel is purpose-designed for in-line use with BDF qualified HFFS machines. It is designed to provide optimum shrink presentation for modified atmosphere packages, over-wrapped with BDF barrier shrink film and for tray-supported products with consumer sized pieces of cheese or pizza. Suitable for a wide variety of products, the tunnel comprises three independent blowing stations (vaults) in which the air temperature can be separately adapted from ambient to 220deg C. The combination of hot air flow at each blowing station plus the variable conveyor speed, result in a sequential and precise shrinking process to produce the desired merchandising appeal.

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Delivering ready meals

The simplicity of ready meals belies the complexity behind the processes used for their manufacture and packaging, here are some new examples.

The ready meal has come along way since the TV dinner of the 50s, with the huge range of ambient, chilled and frozen versions being joined by more exotic ingredients and healthier meal ideas to satisfy diversifying palates. But even the simplest serving solution requires highly flexible packaging technology to deliver the flavour profile in a cost-efficient pack.

Depositor manufacturer Riggs Autopack says the pressure on machine manufacturers in this sector is to supply equipment that is reliable, hygienic, versatile and capable of damage free product handling. And this was the case for Pegoty Hedge when it was looking for ways to improve production efficiency without compromising the hand preparation and finished aesthetics of its artisan meals.

Riggs supplied a demonstration depositor for the Pegoty Hedge kitchen and supported it with change-parts and training. When this no obligation trial was complete, the company was happy to purchase a semi-automatic depositor.

For the more difficult products, a range of purpose-designed nozzles to handle products including those with 5 mm square cheese pieces, for example, are also available. These pumps and nozzles are in extensive use within the food industry, where dosing ready meals components as close as possible to the target weight is a prime requirement for optimum production economy.

“Performance results with free-flowing, air free, liquids to within a couple of microlitres is normally expected of Hibar pumps and for thicker products including Dead-Sea Mud, honey and cook-in sauces with particulates, the results are similarly impressive, given the additional variables,” Havord tells Machinery Update.

Winkworth says that food manufacturers are looking for cooking vessels to help them achieve the flavours they require and to provide flexibility between recipes and smaller batch runs – the challenge being to retain the unique selling approach of chef cooked foods while increasing productivity.

In response, the company conceived the design of a pressure cooker along the lines of a classic processing vessel (PV). Operating under pressure and with the normal characteristic of a PV, the cooking time would be accelerated while increasing the flavour intensity of the meat being cooked.

The design was presented to food...
Delivering ready meals technologists, hygiene and industrial engineers, and importantly chefs. Being the first of its kind, the design was met with broad approval and has since been manufactured as a shallow dish process vessel cooker with a high integrity dished lid, with automatic clamping to allow pressure cooking as and when required, complete with anchor stirrer and side wall scrapers.

The anchor stirrer, scrapers and lid, lift hydraulically out of the way, allowing for ergonomic chef intervention and importantly, flavour tasting.

Baker Perkins has developed twin-screw extrusion technology to produce fibrated TVP (texturised vegetable protein) using a high moisture extrusion cooking (HMEC) process that offers a much improved fibrous consistency and texture to replicate the natural structure, texture and mouth-feel of meat. This, in turn, makes high moisture fibrated TVP a better option as an ingredient for ready meals.

Mince, chunks or strips may be used in stews, casseroles, curries, pies, pasta dishes and salads.

Manufacturer of secondary packaging equipment ixapack Global has recently supplied a complete line that includes a top load cartoner, a case packer and a palletising islet to a blue chip manufacturer of prepared pastas.

The line was designed to load the ready meals into a carton at high speed (70 prepared meals per minute) but also to place a range of additional elements such as cheese bags and plastic forks into the same cardboard container.

To achieve this, the top load cartoner was specially adapted and saw the addition of a second lane within the machine as well as motorised conveyors to deliver the forks and cheese bags into the machine for insertion.

Each item is picked by a tripod robot which has a vision/detection system to ensure the element to be placed is firstly the correct item and secondly, that it is in an optimal position to be picked quickly.

Once all the elements are placed in the carton, it is closed by the top load cartoner before being processed by the iCP case packer and then the palletising islet.

Winkworth is bringing gains The line was designed to load the ready meals into a carton at high speed (70 prepared meals per minute) but also to place a range of additional elements such as cheese bags and plastic forks into the same cardboard container.

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Steam cooking brings benefits

A third static retort supplied by Holmach has helped Scotbeef to produce its new street food.

Following in-depth technical consultations and the installation of a third static retort from Holmach, Scotbeef has developed a new wave of meat products in pouches.

In response to market trends in the street food category and the ongoing success of its recipes including beef ribs, lamb shoulder and brisket in authentic sauces, Scotbeef was looking to develop further pulled meat ranges for premium retailers. To do this, Holmach supplied its technical expertise in thermal food processing in combination with its range of technologies to support Scotbeef in developing the production capabilities at its East Kilbride factory.

The project has seen the installation of a third Lagarde static retort from Holmach for the steam cooking of ‘slow cooked’ meat products in pouches. Other ‘slow-cook’ style foods are also in the pipeline.

To ensure the quality of the process before finalising the order, Scotbeef and Holmach carried out extensive trials at Lagarde’s research facility in the southern Rhone valley, France. This was to compare Lagarde’s retort with traditional technologies such as water bath and steam ovens.

Using the Lagarde retort allows Scotbeef to optimise cooking processes to give repeatable quality without high energy usage. An autoclave uses about 40% of the steam required in a traditional steam oven process, for instance while PC software results in very accurate pressure and temperature control. This, in turn, allows the handling of delicate film and foil laminates without damage.

Fully automatic cooling of the product is also provided by the Lagarde retorts and accuracy to within 0.5deg C is part of a retort’s design requirement across the entire process.

As well as pouches of meat, joints can be cooked to a specified core temperature and then cooled if necessary, to chill temperatures without the need for operator intervention. Added to this is a capability to pasteurise recipe dish products and doypacks of stocks and sauces as required. All processes are automatically recorded for evaluation and validation.

Two doors ensure a ‘through the wall’ operation, separating high and low care environments and the machines are entirely constructed from stainless steel which is ideal for use where brined meats or fish are being processed.

“We are very happy with the performance of our Lagarde retorts and from the technical advice, service and training we have received from Holmach,” says Robbie Galloway, CEO of Scotbeef.

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Everyone is a snack lover

Snack processing and packaging lines look set to stay busy fuelled by consumer’s ‘snackification’ demands

With more than 60% of European’s adding snacks into their weekly grocery baskets, 30% buying on-demand and 66% trying healthier alternatives, snack processing and packaging lines look set to get busier as many firms add additional ingredient innovations.

Fortress Technology says its top selling Vertex metal detector, equipped with Halo automatic testing, is catering to this market rise. Designed specifically to inspect free-falling snacks and ingredients, more than 700 new Vertex metal detection units were installed by snack manufacturers globally in 2019. Buyers ranged from some of the largest international food brands to fast-expanding niche snack factories.

Protecting valuable snack, pretzel, nuts, popcorn, cereal and corn and potato crisp brands by supporting fast product changeovers, the Vertex unit when fitted with Halo reduces the time food factories dedicate to performing frequent routine verification checks. As many snack manufacturers have discovered, they swiftly realise major labour cost savings, says Fortress.

Fitting into restricted production spaces where other detectors can’t, the inline system is designed to integrate with vertical form fill seal (VFFS) pouch-packing solutions.

“This only known food metal detector of its kind that incorporates an advanced automatic testing programme, the compact throat unit also increases production capacity and addresses staff shortages,” says Phil Brown, European md at Fortress.

Vertex with the addition of Halo is pretty much an off-the-shelf metal detector, enabling snack manufacturers to rapidly introduce new lines and speed up their total time to market.

Meanwhile, a complete packing line solution from Ishida Europe has enabled an entrepreneurial French company to

New potato seasoning is ‘in the bag’

With a special bag construction and carefully selected microwavable mini potatoes, seasoned in the bag, delicious potatoes can now be prepared in one step. This Schur Star Zip-Pop bag is not only good for potatoes and other fresh produce, but also presents an opportunity to offer ready meals solutions with seafood, poultry, or vegetarian ingredients.

In this instance, the potatoes and butter pat seasoning are stored separately in a dual chamber bag. “The steam strip in the bag along with the specially formulated material provides extended shelf life and is at the same time the feature that makes the bag unlike anything else on the market,” says Hans Schur, ceo at Schur Star Systems.

The product simplifies cooking because everything is in the bag, there is no need to punch holes in the bag or stop midway through and stir. Instead, herbs and spices are released at the optimum time during cooking to ensure perfect seasoning. And this is achieved in just one step.

The bag opening measures the full bag width which makes filling easy

The bag opening measures the full bag width which makes filling easy

Fortress says snack manufacturers are saving an estimated 250 euros a day using its testing equipment

“tna is working with Future Foods”

tna is working with Future Foods
automate and bring in-house the packing of its dehydrated fruit and vegetable snacks, with the ability to increase throughput six-fold.

Il Était Un Fruit, based in Montpellier, was founded in 2014 by Laure Vidal, who wanted to ensure her children were able to eat the required five portions of fruit and vegetables each day. She devised a means of drying seasonal fruits from the region, such as apples, pears, strawberries and apricots and last year, diversified with the introduction of dried sliced vegetables, including a special Apéritif range.

With the many different fruit and vegetable varieties and pack sizes, the company has about 40 different product lines, all requiring a fast and flexible weighing and bagging solution. The Ishida designed line comprises a 14 head CCW-RV multihed weigher mounted directly over an Astro 103S vertical bagmaker, which provides a compact and space-efficient combination, together with a DACS-GN SE-012 checkweigher with integrated CEIA metal detector.

To cater for the expansion of production at Kolak Foods, UPM Conveyors has designed a system that provides an efficient product flow from production to despatch, while in Egypt, Future Foods has recently opted for tna’s on-machine seasoning system, the intelli-flav OMS5, to achieve a high quality, evenly seasoned new pretzels product.

“With the new system, our powder consumption never exceeds 5% and the breakage level from seasoning to packaging is less than 0.5%,” says George Soussou of Future Foods.
Crust freezing reduces waste

Finding ways to reduce food waste has never been more important says Neil Hansford of Air Products

Although slicing is one of the final stages in the food production process, it can result in substantial waste. If cutting is not done cleanly, food can tear, reducing the product quality and in some cases making it unsaleable. However, crust freezing offers a solution that ensures product consistency and reduces waste by enabling accurate, clean cutting. The process of crust freezing uses the extremely low temperature of liquid nitrogen (LIN), which reaches -196deg, to very quickly freeze just the outer three or four millimetres of a product.

This enables food manufacturers to cut thinner slices of meat more accurately, using a faster blade speed, resulting in consistent, perfectly formed slices. The extreme cold from LIN freezes the moisture in the product far quicker than any mechanical freezing process. This leads to much smaller ice crystals, causing less damage to cell membranes in the meat, and reduces moisture loss, maintaining the texture and quality of the meat slices, says Hansford.

And the freezer technology associated with the use of LIN can be added to existing production lines without the need for major changes. Continuous cryogenic freezers can be used in conjunction with high speed cutting, MAP and packaging machines to form one continuous production line making the whole process seamless and more efficient. Smaller processors, who may not have the throughput or floor space to warrant investing in a continuous, in-line tunnel can also benefit from crust freezing by using a cryogenic batch freezer.

From a commercial point of view, the speed of cryogenic crust freezing makes it more energy efficient than traditional mechanical freezing, and enables producers to slice more product, more quickly. Cryogenic freezers can also be turned on and off easily and at short notice, which means production lines can easily be scaled up or down to meet customer demand. This is critical for producers who need to be ‘retail ready’ and able to react quickly to new or increased orders.

As well as cutting, crust freezing can be used to facilitate accurate product scoring.

With all food manufacturers driving towards optimised yields and reduced waste, Hansford believes crust freezing can deliver significant efficiencies that will help meet these goals.

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New ownership brings a range of new equipment

The buy-out of Premier Labellers is complete, with Tracie White now the proud owner after a two year process to purchase the labelling equipment manufacturer and contract packaging company.

“Working for Premier Labellers for over 23 years and curating my perfect team, I am now ecstatic to be able to control and direct the company towards an exciting era of new machinery and contract packaging services,” says White.

Founded in 1994 at a small farm in Harwich, the company has grown significantly and now resides at its Bathside Bay site where it manufactures over 120 machines per year, and contract packs millions of products for customers.

White believes that with the control of the company, it can now develop quicker and respond more effectively to changing market needs. With growth in mind, new machinery options will be available this year.

“As we move into the new decade, we want our machines to move with us too,” she says. “With our new ‘Twenty20’ range we aim to bring our machines to the future and compete on a global scale with our fantastic machinery,” says operations director Damian McGloin.

“We look forward to working effectively with our current customers and enticing new customers to work with us for the foreseeable future,” says White. “It is our goal to grow and thrive in our industry while providing solutions for our customers to do so too.”

Tel: 01255 553822
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Clearmark Solutions has become a registered re-seller for Zebra Technologies, creating an opportunity to deliver a greater range of options to tackle customer challenges with a growing range of zero downtime labelling solutions.

The new venture means Clearmark can supply both Zebra’s off-line printers alongside its own ICE on-line coding range for greater choice, flexibility and Clearmark’s customer service, reliability and technical support.

Offering a networked Zebra off-line coder alongside an ICE Vulcan print & apply labeller ensures that a line never needs to stop during maintenance or consumable changeover.

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Consumables and spare parts are now available from on-line portal

The new e-Commerce portal makes it quicker and simpler for manufacturers using Markem-Imaje equipment to order consumables and spare parts, while providing greater transparency into the service and warranty status of installed printers and coders. It also makes remote oversight and management of these areas easier for suppliers personnel and plant managers seeking to minimise the staff needed to be physically present at factories.

With all the convenience and features of major e-Commerce platforms, the new customer portal is designed to improve manufacturer efficiency in managing coding consumables and equipment management.

Options include:
- Selecting the right consumables and spares based on a users installed printers,
- Repeating past orders with a single click,
- Seeing all their information, ordering and contracts history in one place.

Customers can simulate the overall value based on the quantities selected and get the shipment date to check it meets their production schedule. Once placed, the order status can be tracked directly from the portal, while experts, documents and alerts are also available at the click of a button.

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Keeping urgent supply chains on the move

As businesses come under increasing pressure to reduce their environmental impact, many are discarding plastics in favour of paper-based packaging solutions. But recent work with large manufacturing companies has seen the team at Antalis’ Smart Packaging Centre develop a number of ‘returnable/reusable’ packaging solutions using a combination of foam and plastics that not only provide better protection, but also help to tackle packaging waste and improve efficiency in ways that can contribute to a reduction in a company’s carbon footprint.

“While we’re all familiar with returnable packaging in an online retail context, returnable and reusable packaging for use within manufacturing has the potential to significantly reduce carbon footprint,” says John Garner, head of business development – packaging at Antalis.

A

At its Smart Packaging Centre, Antalis keeps an open mind on correct packaging material choices

Reusing packs is good option

Could plastics actually hold the key to reducing your carbon footprint in terms of transit packs?

As businesses come under increasing pressure to reduce their environmental impact, many are discarding plastics in favour of paper-based packaging solutions. But recent work with large manufacturing companies has seen the team at Antalis’ Smart Packaging Centre develop a number of ‘returnable/reusable’ packaging solutions using a combination of foam and plastics that not only provide better protection, but also help to tackle packaging waste and improve efficiency in ways that can contribute to a reduction in a company’s carbon footprint.

Transporting components, such as car parts, from one manufacturer to another was a recent success story for the company. Because the client was regularly shipping sets of components that are used together on an assembly line, Antalis’ packaging technologists devised a robust plastics outer within which machine-cut foam, with allocated spaces for a set of components, could sit. Not only does this design simplify the packing of parts ready for shipping, but also help to tackle packaging waste and improve efficiency in ways that can contribute to a reduction in a company’s carbon footprint.

And, because there’s no loose packaging involved, it also helps to keep things neat and tidy.

Once all the components have been used, the pack can be returned for replenishment; no waste. It’s a process that can be repeated using the same pack.

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Handling can meet demand

New technology is delivering reliability and economic advantages for users across several industry sectors

“Our unique, mechanical drive concept enables us to process an increasing number and variety of goods according to demand – with the highest reliability and economic advantages.”

Meanwhile, LAC Conveyors has reported an extraordinary response from the logistics industry for its mobile line shaft conveyor with major carriers such as Hermes, DPD and DHL placing orders to bolster their increased business.

The build and set up time for a mobile line shaft conveyor is quick and can be ready to operate within several hours. They can be integrated within existing systems and equipment such as x-ray scanners, barcode readers, data capture cameras, and box strapping machines.

A mobile line shaft conveyor can be used in various layouts to match the needs of the volume of parcels coming through the client’s site.

Due to the flexibility of a mobile conveyor system, the roller conveyor systems can be used in various layouts to match the needs of the volume of parcels coming through the client’s site.

The mobile conveyor systems consist of short (up to six metre) sections, or modules, which fasten together to form a complete materials handling system. While each module has its own drive unit, the power
and emergency circuits are fully linked, offering the benefits of a fixed conveyor system with the added advantages of being a mobile conveyor system. Large intralogistics projects for parcel centres, high-bay warehouses or other warehouse logistics facilities must reconcile several competing requirements. With the LogiDrive concept for drive technology, Nord Drivesystems says it takes a comprehensive total cost of ownership (TCO) approach that combines energy efficiency and the reduction of variants with optimal system solutions for intralogistics.

The LogiDrive intralogistics solution from Nord is designed with a specific reduction of variants using modern synchronous motors. In comparison with conventional asynchronous technology, these have an improved energy consumption performance in the partial load and partial speed ranges. Therefore, they are more energy efficient in these operating points and keep efficiencies at a high level, even in case of overdimensioning through a reduction of variants.

This results in a low TCO. Nord frequency inverters can control the output speed via a frequency range of 25 to 100 Hz. Thanks to their high overload capacity, modern synchronous motors have a single motor type that can be used instead of different motor sizes. For instance, in a recent project for baggage transport at an airport, which had 700 drive units, the number of variants could be reduced by about 80%.

Eight variants of the 11 used drive configurations related to a standard system solution, the Nord LogiDrive.

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A range of technology needs to combine to deliver best efficiency

For warehouse, logistics and e-Commerce operations to run at their most efficient, it is vital that businesses integrate a range of technologies to deliver gains throughout the operation.

For instance, order picking has long proved a bane for production managers across industry, and with this thought in mind, EffiMat Storage Technology set about creating the EffiMat vertical lift module (VLM). Offering a compact footprint, EffiMat houses a Cartesian unit which brings boxes containing parts into position for picking, just like conventional systems. The principal differentiator with this system, however, is the use of EffiMat’s patented ‘Box Mover Technology’, which brings any five boxes into position simultaneously. Even though the cycle time for EffiMat is slightly longer at about 80 seconds, efficiency is still many times greater due to presentation of five boxes per cycle. “In fact, up to 250 boxes/picks per hour can be achieved and because boxes can also be sub-divided, even greater efficiency is introduced,” says Andrew Mason, automation sales manager at RARUK Automation, the new UK agent for the Danish company.

Understanding the technology blend is key

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SYSTEM IS SUITABLE FOR SMES

Cost can be minimised as EffiMat is offered in many different configurations, from a basic system of just 80 boxes – making it suitable for SME users – up to models exceeding 20 metres in height. RARUK has already secured an order from an R&D company for a basic EffiMat system, thus supporting the notion of financial viability for smaller companies.

Wise Software UK has worked on several projects recently, all demonstrating how crucial software proves in warehousing, logistics and e-Commerce. For instance, at one of the UK’s fastest growing operators in the gifts

OrderWise software delivers stock control and other benefits across industrial and retail sectors

Technology blend is key

and gadgets industry Gift Universe; a company that carries out around three million transactions per year across 60 retail stores in the UK.

A new solution to replace the five disjointed systems it was previously using to manage its operation was required, and so its modular software called OrderWise worked as a replacement to all five systems with a package encompassing warehouse management, stock control, mPOS technology and more. After implementation, accuracy levels for unit picking and discrepancies in the warehouse improved from 86% to 99.7%.

“On the replenishment side, it’s been life changing,” says Nick Tulloch, merchandising manager at Gift Universe.

It was the same for manufacturer of hinges, ironmongery, chain and threaded bars A. Perry.

“We wanted one system that would be able to go from taking orders all the way through to integrating with our warehouse, manufacturing and reordering systems and we found OrderWise to be the most complete as a package,” explains Patrick Corcoran, internal sales and customer manager at the company.

And the software supplied for its new stock control system saw L&S Engineers moving to a fully barcoded operation which delivered a 50% reduction in mispicks and return rates of only 1%.

New technology for product handling comes in the form of the reel clamp attachment – with rotation and extended reach from Packline. This bespoke solution is designed for the lifting, rotation and handling of reels and was designed in response to a customer requirement to lift and transport reels from the vertical position, and then to rotate the reel for insertion onto a mandrel in a packaging line.

A longer reach was required in order to access the mandrel within the packaging machinery. The clamping attachment was designed with extended

New offer from Packline
dispatch packaging automation. “As a Platinum Partner, we hope the benefits of this continued close working relationship will further enhance our offerings in automation,” says Tom Whatling, technical sales manager at WestRock.

Meanwhile, Beumer says its ‘tailor-made solutions’ offers intralogistics technology that can be adapted to customers needs across all sectors.

WestRock Automated Packaging Systems UK, specialists in factory and warehouse packing automation, has delivered a significant increase in the number of Kuka robots that it has integrated into its industrial operation systems over the last year and has therefore been newly recognised as one of Kuka’s Platinum System Partners.

WestRock (formerly Linkx) designs and manufactures machinery for transit, shelf ready and retail-ready packaging applications ranging from single order systems to fully integrated warehouse systems to fully integrated warehouse.
Catering for e-Commerce

Yorkshire Packaging Systems (YPS) has developed its existing ‘E’ range to include a trio of new machines; a collection of high-tech, high speed wrappers dedicated specifically to e-Commerce applications.

In conjunction with German packaging automation company Hugo Beck and labelling specialists Logopak, YPS has released the Flexo E-COM and the Flexo E-SENSE, both designed to combine bagging with print and apply labelling solutions in one seamless unit. Both units provide faultless data security and 100% GDPR compliance by handling only one piece of data at any one time. Each individual product is scanned, the corresponding address record is retrieved, and a dedicated label is printed. The product is then securely bagged by the shrink wrapper and the printed label applied before the data is destroyed.

The system then waits for the next product before beginning the process again. The E-COM is ideally suited to a production line of identical pack sizes where there is a universal bag width, for example in catalogue mailing applications, whereas for those e-retailers handling large volumes of diverse products, the E-SENSE offers an extra degree of flexibility.

Air cushion range is new

Kite Packaging has expanded its range of air cushion systems. The range now includes three options to allow customers to purchase a system that is specifically suited to the size and volumes required.

Shuttles have brilliant drive

Lenze has developed drive technology to speed up an order picking system developed for e-Commerce use

The Intelis PTS shuttle system from Savoye has been specially developed for “goods to person” applications and is currently one of the fastest solutions available for the automated storage of containers, cases and boxes in high-bay warehouses. The drive technology required for this has been developed in close collaboration with Lenze.

The system is built for a faster product-to-person connection that makes order picking easier and more productive, particularly in the e-Commerce sector. “Our system means that logistics personnel no longer have to cover long distances through narrow aisles in order to pick the goods for an order,” says Nicolas Guillot, product and marketing manager at Savoye. The shuttles developed by the French logistics specialist move at 3 metres per second along rails through the aisles between shelves, one shuttle at each level. “The shape of the acceleration and deceleration ramps were among the most challenging issues during development,” explains Guillot. Acceleration and then braking in the right position must be completed with enough care that the load can be transported safely. Excessive acceleration or deceleration could cause goods to fall over, or even fall out of the shuttle altogether.

On the other hand, if the speed is too slow, then this negatively affects productivity – a difficult balancing act to master. Together with Lenze, Savoye has been so successful at tackling this problem that the French manufacturer now boasts of the fastest system on the market.
In a shelving aisle with 22 stock levels, up to 1100 stock cycles per hour are possible. The heart of the application-specific drive and automation solution that has been developed and adapted by Lenze is the Lenze Controller c300. This communicates wirelessly with higher-level logistics computers and receives its picking orders in the form of target information or storage position information. The motion data required is calculated autonomously by the Lenze controller based upon the position of the shuttle.

The subsequent motion control for this third generation of shuttles has been implemented using two Lenze 8400 TopLine frequency inverters. The devices for moving the shuttle and actuating the gripping equipment each deliver 0.55 kW of power in the single-phase 230 volt version. The inverter controls the geared motor consisting of an MF series asynchronous motor (120 Hz) and a g500 series bevel gearbox for horizontal movement. Meanwhile, the second inverter controls the gripper with a precision positioning drive using a type MCS synchronous servo motor with g700 planetary gearbox. Both these complete drive solutions are integrated into the shuttle. Power is supplied autonomously and wirelessly to the latter using a sliding contact on a straight rail. Savoye has subsequently developed a sophisticated picker system used by the third generation shuttle. The unit is driven using Lenze servo technology and is designed to move into up to six different positions within an aisle in order to pick two different products.

Nicolas Guillot, product and marketing manager at Savoye

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New vertical mounting optimises space usage

B&R Automation’s intelligent track system SuperTrak is now available in a vertical-mount variant – a new option that helps to optimise the output per square metre of floor space.

In operation, if products are only transported on the upper side of the SuperTrak, the weight is not supported magnetically and instead, the load is transferred directly to the rollers. The shuttles have a much higher payload capacity. Meanwhile, the SuperTrak power electronics have been repositioned, making them readily accessible from the front, even when mounted vertically for easy installation. The connections between SuperTrak segments have also been reinforced to ensure mechanical rigidity and maximum stability and reliability in the new vertical orientation.

The independently controlled SuperTrak shuttles can be positioned freely to group products of different sizes and create a multi-pack of different beverages or other products.

On a vertically mounted SuperTrak system, this type of solution can be implemented on approximately half the floor space for a significant increase in output per square metre.

“Our SuperTrak enables advanced manufacturing concepts that deliver flexible, efficient production at any batch size,” says Stephen Ratcliffe, marketing manager at B&R Automation.

The track system was designed specifically for 24/7 operation under harsh industrial conditions and is highly reliable and safe. Individual segments and shuttles can easily be replaced without having to disassemble the track.

“Downtime for mechanical changeover can often be eliminated entirely and the impact on overall equipment effectiveness (OEE) is substantial,” says Ratcliffe.

Latest temperature sensor provides added level of assurance

For processes where accurate temperature control is essential and deviations could have costly implications, the new TCC self-checking temperature sensor from ifm electronic provides an added level of assurance.

The sensor continually monitors its own performance and, if an internal failure occurs or excessive drift is detected in measurement accuracy, it gives a visual warning and sends an alert message to the plant control system so that immediate action can then be taken to minimise the impact of the problem.

The TCC temperature sensor maintains an accuracy of ±0.2 K across its whole measuring range of -25 to +160°deg C and offers measuring stability between calibrations. It also uses IO-Link technology to ensure that the measured results are delivered accurately to the control system, even with long connecting leads and in noisy electrical areas.

“These features make the sensor an excellent choice for use in critical applications,” explains ifm’s marketing manager Jon Morris.
“Sensors are the most important components of smart machines.”

Dr. Alexander Ohl
Director of Development,
wenglor sensoric

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What does Brexit do to CE marking?

Lee Ray
 OPERATIONS MANAGER FOR INDUSTRIAL PRODUCTS (UK) AT TÜV SÜD

Until the end of this year, there will be no change to the process currently applied for CE marking conformity, however there will be changes for machinery distributors going forward.

Although the UK has officially left the EU, until the end of 2020 there will be no change to the process we currently apply for CE marking conformity. If UKCA marking does come into force, it will not be retrospectively applied. If the machine was CE marked before the end of 2020, this will still be the case and any further models will require the application of the UKCA marking process.

As EU Directives are transposed into National Law, the UK already has a legal system in place that applies. There will of course be text amendments to reflect UK legislative requirements, including the UKCA mark and removal of references to EU directives and the CE mark. ‘Harmonised standards’ will change to ‘designated standards’, but the actual standards will remain the same as EU harmonised standards, to maintain a single model. This will require the compilation of an approved list of designated standards for UKCA marking.

BRITISH STANDARDS

The British Standards Institute often implements the latest standard at the earliest opportunity. So when conducting CE marking, the Europa.eu website would need to take priority over the UK equivalent, as there may be some latency between the standards and the acceptance between the EU and the UK as a path of presumption of conformity.

In the UK, end-users will start to see a UKCA mark on compliant machines, while those in the EU will still see CE marking. So, whether UK or EU, the same rules apply for designers, manufacturers and importers – everyone must understand their legal duties and responsibilities. In the UK, it is expected that procedures will change very little from the existing structure as all products will still need to comply with the EU entities importing into the UK, although the definition wording may be slightly different. Quite simply, the UK will operate a separate regulatory regime from the EU, just like the rest of the world.

SAME REQUIREMENTS

The same requirements will apply to notified bodies, as they will need to be based in the EU or an EFTA member country to retain this status. So, machinery manufacturers should consider if their existing notified body, based in one of the remaining 27 EU countries, will have the legal capacity to meet future UK certification requirements.

Some UK notified bodies, TÜV SÜD included, will already be prepared for the EU-UK split and will have secured Notified Body Accreditation from an EU-based authority, to ensure that CE marking certification remains seamless for their UK clients after Brexit. This will ensure that UK-based manufacturers can maintain product CE certification and obtain new ones, no matter what occurs with the Brexit situation.

Under the current proposal for the UKCA mark, existing UK-based notified bodies will become UK Approved Bodies. So, their actual function will remain the same but under a different title. Meanwhile, all relevant certificates that have already been issued for EU Directives before Brexit, including the Radio Equipment and Machinery Directives, will remain valid beyond Brexit.

CHANGE IN STATUS

One key thing that it is very important to bear in mind is that if you are a UK distributor for machinery manufactured in the EU, your status will change from distributor to importer and the responsibility for compliance will rest with you to follow the UK's new UKCA requirements.

It is vital that machinery owners understand both their responsibilities and those of their machine's manufacturer.

It is vital that machinery owners understand both their responsibilities and those of their machine’s manufacturer.

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Improved Heavy Duty Stopper Cylinder
Series RS2H

Light weight and space saving with adjustable shock absorber

**Weight**

Reduced by up to **22%**

**Cylinder tube**

Shortened by up to **9 mm**

(RS2H63-30 stroke)

**Stop the workpiece gently with adjustable shock absorber.**

Resistance value can be adjusted by rotating the adjustment dial.

**Easy replacement of shock absorbers**

Replaceable just by loosening the set screw.

For more information contact: 01908 563888 or check-out our website.

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