

PPMA SHOW REPORT

SEPTEMBER'S PPMA SHOW PROVIDED A HOST OF MACHINERY TO BE SEEN FOR THE FIRST TIME.
THIS REPORT REVIEWS A SELECTION.

TURPINS PACKAGING SYSTEMS

Neck tag applicator can be moved from line to line

A neck tag application system that can be taken from filling line to filling line to apply special promotions at speeds up to 320 a minute was announced by Turpins, which has just concluded an import agreement with the Australian manufacturer Reeltek Systems.

The Protag tag – which can be a folded leaflet with a number of pages of information – is cut from a reel and placed over the neck of the container, with a lock flap holding it firm against the closure.



Special promotions: Protag neck tag system from Australia

A small dab of hot melt can also be applied to secure the base of the tag to the container if required.

The machine will straddle an existing conveyor and can be supplied with two application heads, allowing continuous running as reels of tags are renewed.

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DOMINO UK

Mobile phone-cameras can check product authenticity



Checking authenticity: The bar code is scanned and sent to the database for checking. The user then receives the verdict

Visitors to the this year's PPMA Show witnessed the first public demonstration of a new anti-counterfeiting system that allows mobile phone-cameras to verify a product's unique serialised barcode and so confirm its authenticity, or point to possible fraud.

The solution, shown by Domino's integrated solutions group, effectively transforms a mobile phone into a hand-held scanner that can operate in real-time anywhere in the world using low-cost, high-speed data transfer. There is no need for separate scanners, laptops or other computing equipment.

"The combination of the camera-mobile phone, which most people now carry, and easy-to-use software offers enormous benefits across a multitude of applications and environments, from basic product identification to authenticating the 'pedigree' of pharmaceuticals, where counterfeiting and substitution can have disastrous consequences," says Simon King, director of

Domino's integrated solutions group.

A range of camera-phones programmed with specially-adapted decoding software can scan serialised barcodes ranging from linear to 2D DataMatrix and also handle RFID codes. The software analyses the image of the code captured by the camera-phone, identifies the code and translates it into its unique alphanumeric serial number and streams the data to a secure database for checking against pre-set identification criteria.

Depending on the application, the process may only entail checking and verifying the code content, but by linking the camera-phone to a secure database additional levels of authentication can be added by effectively 'texting' the data to the database via a secure SMS or mobile link.

Providing the camera or the user, or both, has the correct level of security clearance, the phone can access the secure database via an automatic link to check if the

unique number can be matched. Data is then returned to the mobile phone in whatever format is required – via SMS, as photographic evidence or mobile message – to confirm that the product is genuine or alert the end-user to defects or possible counterfeiting.

The system can be configured to administer additional levels of identification and layers of security. For example, a 'first level' product check might simply confirm that the product is as it should be, while 'second level' verification might interrogate the database to confirm additional information such as size, quantity, date, brand, and so forth.

"The software can incorporate all sorts of checks, depending on clients' needs: for example, the ID number of the product, a name or short description, details of the product logistics, customs and excise data and payments, and so on," explains Simon King.

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AUTOMAC UK

MAP system uses stretch film for simplicity and lower cost

A modified atmosphere wrapping system for trays of fresh meat and produce using high barrier stretch film was launched on the UK market by Automac UK, the British arm of Italian film and machinery manufacturer Gruppo Fabbri.

The Atmopack system employs a relatively simple machine to produce a stretch-wrapped tray similar in appearance to a flow-wrap but with the 45 micron film elongated by up to 100 per cent.

As a result of the relatively low cost of the machinery, and economy in the use of film, the machine is said to be capable of giving a payback in less than one year as well as occupying a much smaller footprint than other systems.

In operation, trays entering the machine are elevated into a simple pusher mechanism that sends the tray through a forming box over

which film, already sealed at the base, is stretched.

Gassing then takes place and cross seals are made while the film is held secure, giving a pack that is leak proof and said to be capable of withstanding a pressure of 4 bar.

The Atmopack runs at speeds up to 40 trays a minute in MAP mode and, says Automac, can be changed over from one tray size to the next in 4-5 minutes. It has a built-in diagnostics system and measures just 3.2 metres long including infeed and outfeed.

The film used, PeBar, is also



Stretchwrap MAP: Atmopack wraps 40 trays a minute

made by Gruppo Fabbri and is a five layer pe-evoh co-extrusion with a permeability of less than 50cc/m² x 24 hours. Film width is 420-750mm.

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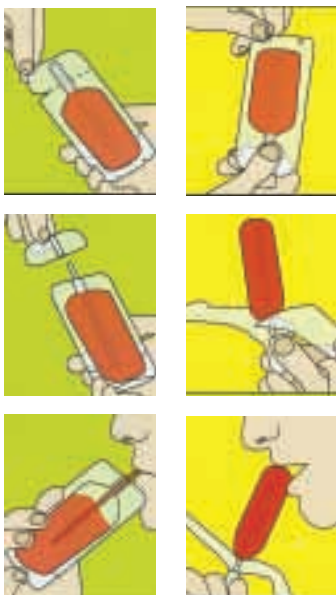
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INTEGRAPAK

Drinks sachet has enclosed drinking straw for hygiene

A method of creating drinks sachets with a completely enclosed and hence sterile drinking straw – and also making ice lollipops – was announced by Integrapak, UK representative of the Spanish horizontal sachet machine manufacturer Volpak.

The Duo is a contoured stand-up pouch into which a polypropylene straw is secured and then sealed into the top flange of the pack. Easy tear notches allow the top of the flange to be removed for the straw to be used.



Sealed-in straw or stick: Duo system for drinks or lollipops

If the contents are to be frozen as a lollipop, then notches can be provided at the base of the pack to allow it to be torn open lengthwise.

The packaging concept runs on a Volpak Series SP machine at speeds up to 40 a minute, or 80 in duplex mode. Volumes up to 330ml can be handled.

There is also the option of a contoured cut at the top of the pack for promotions and tokens.

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T FREEMANTLE

Integrated autoloader for cartoner keeps costs down

Freemantle launched its latest cartoner, an automatic end-load machine equipped with an integral slimline autoloader that is just 100mm or so wider than the 250mm maximum product length handled by the machine.

As a result of the integration, with no separate controls or power source required for the autoloader, Freemantle says it is able to supply a complete system for little more than the cost of just a cartoner of equivalent performance.

The reduced width of the autoloader contrasts with traditional barrel loaders which, to accommodate the product length and give sufficient stroke to load the carton are usually more than twice as wide as maximum product length.

Instead of using pushers operated by a traditional cam system, the Freemantle machine employs pushers connected to the flights of the autoloader by sliders. These act against a cam track set at approximately 45deg across their path, creating the end-load movement virtually almost inside



End loading: Pies are fed into the pushers of the Freemantle cartoner

the length of the product.

Incoming product is accepted by the system at random, held against a gate and transferred onto timing belts that create the correct pitch for the flights.

A standard, rather than bespoke system, the product transfer arrangement is said to give the benefits of a more simplified mechanical and control system, smaller footprint, lower build cost

and also greater efficiency.

The system also incorporates an element of accumulation to accommodate a short stoppage by the cartoner.

Capable of speeds up to 200 a minute, the Freemantle machine is able to handle containers from 110 x 50 x 20mm up to 250 x 225 x 80mm.

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AUTOMATED PACKAGING SYSTEMS

Bag-on-roll system is aimed at mail order fulfilment

A bagging system to overprint and present large pre-made bags for loading was introduced by Automated Packaging Systems to suit applications such as mail order fulfilment and short-run operations.

The new Autobag 255 OneStep can handle bags 100-400mm wide by 130-680mm long and employs



Larger bags: Autobag 255 OneStep prints and seals at 20 a minute

a thermal transfer printer installed on the top of the machine so that

bags are printed and indexed to the loading point in a single step.

This eliminates queuing and risk of the wrong product or numbers of products being inserted. An optional monitor screen can be fitted to remind the operator what should be in the bag.

The machine is able to run at speeds up to 20 bags a minute and can be changed over from one bag size to the next in less than 2 minutes, says Automated Packaging Systems.

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Thermal transfer for hard, irregular and porous surfaces

A coding system that combines the programmable, variable data capability of thermal transfer with the ability of hot foil or tampon printing to mark hard, irregular or porous surfaces was introduced by Overprint, UK representative of the Italian manufacturer Eidos.

Typical applications include electrical and electronic components, plastic identification straps, closures, motor parts and carton blanks, particularly those produced in short runs or packed and identified on a just-in-time basis.

Instead of making a direct transfer from the inked ribbon onto the substrate, the Eidos Coditherm first prints the image onto a plain carrier ribbon, which is then advanced to the marking area. Here the image is transferred to the pack or component by a roller or pad, using heat and pressure.

Variations include a roller system to rotate cylindrical items in front of the coding head and a



Double transfer: Coditherm is able to handle difficult substrates

system to transfer images into recesses.

The Coditherm operates at a resolution of 300 or 600dpi, and gives a maximum image area of 260mm long x 100mm wide, allowing a number of items to be placed in jigs or other transport systems and coded simultaneously.

Various forms of inked and carrier ribbons are available, to suit the porosity and surface finish of the material to be coded, and there is also a choice of ink ribbon colours.

Programming is via a choice of methods, including USB memory stick, network or wireless.

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Diverter with vision system checks quality and sets route

Raque showed a four lane Schreyer diverter-converger equipped with a vision system to demonstrate the concept of monitoring different products arriving at random for outer pack and bar code quality, and then diverting them to the appropriate outfeed lane for the next stage of production. One lane is left free to handle rejects.

The diverter-converger is able to operate at speeds up to 300 a minute and, to illustrate its capabilities, was shown reading a

single line of 12-point type on trays of three different products, which were then directed to the appropriate outfeed.

However, the vision system itself is capable of making 12 reads a second and can be set up to monitor virtually all elements of an outer pack, including presence of additional promotional labels or missing print, and also reject any rogue packaging.

Applications so far include a sorting system that makes optimum use of downstream packaging equipment by sending ten lanes of product to 13 lanes in a programmed pattern.

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MECAPLASTIC

Pack venting system gives food extra shelf life

The Valvo-Pack venting system for food packaging introduced by Mecaplastic is said to differ from other valve systems by continuing to function – opening and closing – during the entire life of the pack, from initial in-pack cooking through to reheating by the consumer, typically in a domestic microwave.

As a result, says Mecaplastic, tray-packed chilled food products with a typical shelf life of 4-5 days can have their life extended to 45 days without using modified atmosphere, and also retain colour and texture.

The Mecaplastic dispenser cuts a 4-5mm hole in the lidding film over which the one-way valve is sealed. The valve opens at 70deg C to allow the release of gas during in-pack pasteurisation and seals at the same temperature, so ensuring the pack is properly sealed under positive pressure.

During reheating by the consumer the valve again operates only when 70deg C has been reached, helping to maintain pressure and steam within the pack and so prevent overcooking or drying out.

● A fast change tooling system for tray sealing machinery was also demonstrated for the first time in the UK by Mecaplastic, which showed how its new Partial Tooling arrangement could reduce changeovers from typically 15 to less than 5 minutes.

A trolley system is used to bring the new tooling to the machine and receive the previous tools while a tooling pre-heating system is available to reduce start-up time.
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SPRINGVALE EQUIPMENT

Quick-change stick-packers give variety of pack sizes

Two new fast size change stickpack machines were announced by Springvale Equipment, UK representative for the Italian manufacturer Boato Pack.

On both the six lane Tornado S6 and the four lane Tornado S4 size changeover is achieved simply by exchanging the forming tubes, loading a new reel of appropriate width material and resetting the pitch of the slitter knives to create six or four webs to suit the new pack width.

Length is set from the control panel by adjusting the servo motor driving the drawdown mechanism while dosing is via a tangential flow volumetric doser or separately controlled augers for powders and servo driven pump for liquids.

The Boato Pack Tornado S6 is able to produce stickpacks from 17 to 50mm flat stick width and is aimed in particular at contract packers being able, typically, to make 22mm diameter sticks of coffee powder, 35mm diameter sticks of cappuccino powder and also 50mm sticks of drinking chocolate.



Fast changeover: Boato Pack Tornado S6 stick-packing machine

Maximum stick length is 200mm and speed is up to 60 packs a minute per lane.

In the liquid version the machine can be used for products such as sweet and savoury sauces, alcohol or yoghurt with 50ml of product typically running at 35-40 sticks a minute per lane and smaller volumes up to 60 a minute per lane.

The S4 machine offers stick widths of 30-100mm and can produce a pack up to 200mm long. Depending on the dosing arrangements, cycle speed can be

up to 60 a minute producing packs of products such as washing powder or prepared sauces at speeds up to 240 a minute.

Good seal quality is said to be achieved by the use of separate jaws, each individually adjustable for temperature and pressure.

Most important, points out Springvale, both Tornado models offer particularly high output from machines measuring just 1900 x 2000 x 1850mm.

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ALLIED PHARMA MACHINERY

Faster image processing improves vial inspection

Pharmaceutical container inspection specialist Brevetti CEA, Italy, announced a newly uprated system for vials, ampoules and syringes, with faster image capture and processing said to give considerably higher reliability at speeds up to 36,000 items an hour.

Like its predecessors, the new Brevetti system is aimed at finding

foreign bodies in liquid as well as detecting surface flaws in the container itself.

It operates in just the same way as earlier machines by spinning the vials or ampoules in front of cameras, stopping the rotation, and using any movement then detected within the container to indicate a foreign body.

Cracks are detected by looking for changes in colour and shade as the container is spinning slowly in front of the camera.

Now, however, the use of a new parallel processor has trebled the

power of the machine, allowing 24 images around the circumference of a container to be acquired and analysed in the same time previously taken to handle eight.

This means that smaller defects and foreign bodies can be distinguished from background noise and that higher efficiency in detecting defects such as hairline cracks allows rejection thresholds to be set lower, reducing risk of false rejects.

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SUNALA

Ink jet printer provides label rolls or singles in 600dpi colour

The VP2020 ink jet label printer newly available in the UK from Sunala prints full colour roll-fed labels and tags at 600dpi resolution and speeds up to 50 a minute. Users can print labels one at a time or generate entire rolls with variable content including bar codes and serial numbers.

This flexibility makes the printer well suited for the changing requirements of industrial and retail supply chains, as Sunala's managing director Sue Brocklehurst explains.

"The emergence of mass



Short runs: VP2020 colour ink jet label printer for singles or rolls

customisation, one-to-one marketing and e-fulfilment has presented new challenges to manufacturers and logistics managers, with package labels requiring an ever-increasing amount of printed information in ever-decreasing print runs," she points out.

"In reality, this means nearly every label has to be customised in some way, so the need for fast and accurate label printing is paramount."

Sunala claims that inclusion of colour on a label can reduce search time and errors in looking for a product by up to 80 per cent.

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SANDIACRE ROSE FORGROVE

Bagger gives better access and takes up less space

Sandiacre's new Novus 350 high speed vertical form fill-seal machine is the result of an industrial design exercise that, amongst other things, has seen access to the machine substantially improved and allows the controls to be interchangeable between left and right.

The footprint of the machine, built in stainless steel, has also been reduced compared with the previous TG350-RC model.

In place of the traditional electrical box, to the right or left of the machine, all electrics and electronics are now carried in integral cabinets accessible from the side, while all forming parts are accessible over a full 180 degrees via L-shaped guards that swing back to give an unrestricted view.

Mounting ports are provided on both sides of the machine for the control pod, allowing the machine



New design: Sandiacre Novus 350 bagging machine offers improved access

to be readily re-handed to suit any future changes in factory layout.

The Novus is controlled with four servo drives for the film feed and the horizontal and vertical drives of the sealing jaws and the back seal, giving speeds up to 200 bags a minute in continuous motion.

Alternatively, when larger heavy bags are being produced, the machine can be set to run in intermittent mode. Bag width range is 60 to 350mm while length is infinitely variable from 60mm upwards.

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PACKAGING AUTOMATION

Rotary pot filler will handle a variety of products

Shown for the first time, the new Fastfill 100 rotary pot filler and sealer from Packaging Automation is a twin lane machine capable of handling up to 100 pots a minute. It can be equipped to fill liquids such as sauces and yoghurt, dry products such as cereals or nuts and semi-viscous products with particulates.

A combination of layered dry and liquid, or liquid and particulate product, can also be produced with no loss in performance, says the company.

Pots up to 130mm in diameter and up to 140mm deep can be accommodated in 90deg quad-



Twin lane: Fastfill 100 machine handles up to 100 pots a minute

rant tooling sections that simply lift in and out of place. Pot closure is by pre-cut lidding media or from a reel while a clip-on overcap can also be added.

Filling systems for both liquids and solids can be installed around the carousel while the liquid product hoppers can be fitted with both agitators to ensure particu-

lates remain in suspension as well as wall scrapers to handle products that are filled hot, such as cheese dips.

The Fastfill 100 can also be equipped for gas flushing to handle avocado based dips and other oxygen sensitive products.

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SELO-BOLLANS

Stainless steel bagger sets price-performance challenge

A stainless steel bagging machine and multihead weigher combination said to offer a particularly competitive price-performance ratio was demonstrated for the first time by Selo-Bollans, recently appointed UK representative for the Italian manufacturer Sabalpack.

The Lion is Sabalpack's top-of-range bagging machine and is able to produce bags up to 360mm wide and run at speeds up to 70 a minute for a wide range of products such as pasta, pet food, cereals, dried fruit, confectionery and bakery. In addition it is able to create multipacks from smaller bags, offering a maximum capacity of 15 litres.

Mechanically driven, the Lion is said to provide an economic unit with an intrinsic simplicity that ensures reliability. Typical is the powered film unwind, which is surface driven for ease of control.

At PPMA the machine was demonstrated with a Sabalpack Arrow ten-head combination weigher equipped with product



'Competitively priced': Stainless steel Lion bagging machine from Sabalpack

contact parts that unclip for off-machine cleaning. Maximum capacity is 3 litres and running speed is up to 60 drops a minute.

Software supplied with the machine is able to provide production statistics such as number of packs produced in a period, speed and average weight.

At the same time the software is said also to help increase accuracy and efficiency by monitoring and managing the product flow through the linear vibratory feeders to the weigher's top tier of hoppers.

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ISHIDA EUROPE

X-ray machine operates with self-learning facility

An X-ray inspection system able to detect foreign bodies and impurities down to 0.3mm as a result of a "self-learning genetic algorithm" was launched in the UK by Ishida, having been proven on the market in Japan, where it is made.

The self teaching element of the new Ishida IX-GA operates by first learning the product

characteristics from a number of good packs passed through the machine. The size and density of potential contaminants is then entered and the machine electrically imposes the image of the contaminant on the product image to assess its capability for differentiation.

This process is dynamic, with the machine running through the image processing algorithms available to it and selecting the formula or formulae that distinguish the contaminants most clearly.

The IX-GA machine is also able

to spot missing items or damaged products and can be readily set up to distinguish between 'legitimate' metal, such as clips on the ends of sausages or aluminium tins, while still monitoring and identifying unwanted items.

It features a Windows XP operating system while an auto-set function enables the X-ray output and sensitivity level to be set up automatically for each product. Conveyors and belts are manufactured to IP66 and the main body to IP65.

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COBALT IS

Software sets coders and checks primary packaging

A new automated packaging control and line set up system was demonstrated by Cobalt as the latest application of its Sentinel code verification process. Access to the single point control is via biometric authentication or password.

At the start of a batch an authorised supervisor selects the product to be packed by scanning the barcode on the production schedule or works order, or from the product database.

The Cobalt Sentinel then distributes the product set-up data to the ink jet coding, primary pack validation and print-apply labellers on the line, eliminating risk of human error.

During packaging every pack is checked against the expected value for the batch with any incorrect product rejected and counted. When repeated incorrect packaging is detected, alarms are initiated, and the line brought to a stop.

Best before and use-by dates are passed to coding equipment during batch set-up, allowing for offset calculation and incorporating day and date change practices for each product. All changes to settings are recorded, with user name, date and time.

Secondary case labelling is also controlled from the Cobalt Sentinel, with label design and variable data being selected to correspond with the product being packed.

To ensure accuracy in reading outer case coding, the system checks the label as it is printed, and then checks that the label has been properly applied.

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