

MACHINERY *update*

The machinery only journal for processing and packaging

MACHINERY UPDATE - ISSUE 1, VOLUME XX, JANUARY/FEBRUARY 2009

DRINKS • ENVIRONMENT SPECIAL



Drinks - automation tops the agenda

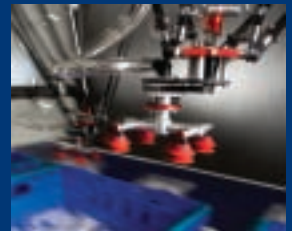
Environment special

inside



News

Credit Crunch
Some good news but trouble ahead



New Machinery

Software and robotics to the fore



Environment Special

Machinery sector supports the green agenda

Plus:

Pro2Pac and Anuga Foodtec previews

Installations

Regulations

Coding, Marking, Labelling

Components

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contents

7 news



Shows buck the economic trend; exports up but future looks less rosy; CAMA unveils its development strategy; Anuga Foodtec - crossing global boundaries

13 new machinery



Software efficiencies for food; robots make it "EZ"y; energy saving shrink tunnels

17 machinery extra



Gerhard Schubert -
Mr Innovator's love affair with robots

21 installations



Jaffa Cakes get high-speed treatment; Vietnamese confectionery processor looks to Baker Perkins; Bags of potential at Rakusen

24 pro2pac preview

27 special feature - drinks



It may be difficult times but automation is set to come into its own reducing costs and increasing flexibility for both large and small producers

34 environment special



How machinery systems' manufacturers and users can help support the 'green agenda'

regular features

37 regulations

Getting in a fix about fixing!

38 coding, marking & labelling

Tamper evidence, automation, print configuration

39 components

Let's get logical, building intelligence

40 who what where

People, events, and diary dates

41 classified

Machinery and services

42 buyers' guides:

- 42 Ancillary equipment
- 43 Processing equipment
- 44 Packaging machinery

Front cover image courtesy of Anuga FoodTec / Koelnmesse GmbH

Proportionality please!



A Happy New Year to all of our readers and welcome to the first edition of Machinery Update for 2009! I trust it is still sufficiently early in the year for us to remain committed to those wishful New Year Resolutions.

One of mine was to avoid letting the steady flow of Government regulation take me to the point of despair. But then I read of the latest plans for the so-called 'family friendly' policies that now threaten to cripple so many UK SMEs.

Some of us still hanker after employment policy based upon what is good for the country and the economy, not votes! It is quite clear that most of the civil servants who develop employment policies have never had to try and run a small business when a number of key staff are absent for prolonged periods of parental leave.

In the current economic climate, machinery suppliers cannot carry any more additional burdens. We are already struggling with shortages of skilled staff, competition from low overhead economies, an ever increasing tax burden and an avalanche of EU directives, not to mention the disproportionate health and safety regulations.

Advocates of the forthcoming changes often cite Sweden and Norway as working examples of family friendly cultures to which we should aspire. Actually - this is not my experience. I find myself wondering how many of these policy makers have actually talked to the Scandinavians? Many are not happy at all!

Their family friendly policies are so expensive that they have the highest tax rates in the civilised world and the cost of living is horrendous. It is the accepted norm that both parents have to work - not out of choice - but because they cannot afford to do otherwise!

Over Christmas I asked some Norwegian friends how any small business can function with such high staff absence from lengthy parental leave. Their resigned response was simply that they struggle and often can't detach themselves from work when they are on leave. Consequently they have serious stress problems trying to balance work and parenthood!

Don't misunderstand me, I believe that it is every person's right to become a parent. But one of the Government's primary tenants in its better regulation agenda is 'Proportionality'. From my observations and discussions with PPMA members I am concerned that the current employment policies have fallen seriously short of this criterion.

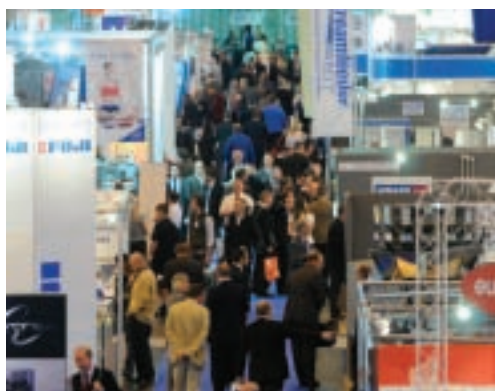
The good news is that the Government has at least deferred its planned increases in national insurance until after the next election. But was this to help industry or to avoid vote damaging press before any poll?

Have a proportionately good 2009.

Chief Executive, PPMA

Bucking the trend in an economic crisis

Recessionary influences seemed not to affect the show world during 2008. In the autumn the PPMA Show 2008 was a rip-roaring success with an audited registered visitor attendance up by almost 3,500 on the 2006 event*. Some 9,775, which includes 3,580 visitors who crossed over from interplas, attended the



Pack Expo International held in November 2008 also fared well with attendance down by only 3 per cent to 44,115.

Charles D. Yuska, president and CEO of PMMI, the show's organiser, said: "In today's economic conditions, having a slightly lower attendance than the 2006 show is the

show giving rise to real optimism and says the organiser was a tremendous achievement given the global economic crisis.

The complete figures showed a total visitor attendance of 11,607 including the press, exhibitors and organisers.

Chris Buxton, CEO, PPMA, said: "We are very pleased with the success of the show and the positive reports on PPMA 2008. Equally important is that this adds weight to the fact that while the economic downturn is challenging it is not as bad as the 'gloom-mongers' in the popular press insist on reporting.

"Unlike the softer financial sector, our industry is used to navigating turbulent waters - we

have been operating in a challenging market for years. The British machinery suppliers will come through this phase with the same grit, innovation and determination that they have on all of the other occasions."

"The excellent attendance is clear evidence that even in difficult economic times exhibitions have a valuable role to play. When it comes to large investment decisions, people like to buy from people and nowhere was that clearer than at the PPMA Show 2008," said show director Liz Finlay.

Bookings for the 2009 show are reported to be well ahead of the same time last year.

Across the pond in Chicago

reality. The good news is that the leads data clearly indicates that attendees came with specific projects in mind and focused their time and attention on finding suppliers that can address their immediate packaging concerns."

Both events show that visitors came with projects in mind and money in their back pockets.

**There was no show during 2007 when the PPMA event was combined with Total Processing & Packaging.*

PPMA Show 2009 will take place from 29 September - 1 October 2009, NEC Birmingham.

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BUSINESS BRIEFS

GEA Group has acquired the International Cooling Group (ICG), of Fareham. ICG manufactures evaporators and condensers for the industrial refrigeration market under the brand names Searle, Raffel and Dawmec in the United Kingdom, France and Germany.

GEA has also acquired Deichmann Umwelttechnik a manufacturer and supplier of industrial particle-removal filtering systems

GEA Niro division of GEA Process Engineering in the UK has relocated to a newly expanded facility in Warrington, following the closure of its Abingdon office.

www.geagroup.com

Marchesini Group, a supplier of complete packaging lines and machines to the pharmaceutical and cosmetics industries, has acquired 100 per cent of Neri, an Italian self-adhesive labelling machinery manufacturer.

The acquisition has excellent synergies with the rest of the group, says Marchesini, and will bring annual turnover of the Italian group of companies to about €200m.

www.marchesini.com

Riggs Autopack, a UK manufacturer of depositing and filling machines, is extending its Nelson-facilities by 300m² to accommodate the increase in its product portfolio.

The company hopes to gain extra production efficiency as well as providing a training area for engineering apprentices.

Riggs Autopack has also appointed Neil Doran as design engineer. His brief is to expand the company's product range by developing innovative equipment to attract new customers, while continuing to develop existing machinery.

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UKTI doubles your money?

UKTI, the Government organisation responsible for delivering help and support to SMEs for overseas trade and investment, has announced it will double the amount of TAP (Trade Access Programme) grants a company can claim from three to six in its lifetime.

The TAP scheme allows companies to apply for grants between £1,000 and £1,800 to exhibit at 400 eligible overseas

trade fairs each year. Making the announcement Gareth Thomas, the Minister for Trade and Investment, said: "In difficult business times businesses need to be flexible and innovative and seek out opportunities where they exist... UKTI is backing SMEs by allowing them to explore more markets abroad."

The Sponsors' Alliance, which represents a large number of associations and industry

bodies which run TAP schemes said: "This does nothing to address the fundamental faults within UKTI. More than 75 per cent of its £295m budget is spent on admin and overheads.

The TAP scheme has had its budget slashed from £19.5m in 2004/5 to just £8.5m last year. It is time for an urgent overhaul of UKTI services to provide more direct support to our exporters." www.uktradeinvest.gov.uk

Strong export sales but future prospects are set to amber



Mark Prisk

Creating Confidence

Supporting technical developments across the packaging supply chain in the face of an economic downturn will be given a thorough airing at the Starpack Summit 2009.*

Mark Prisk, shadow minister for trade and investment, will propound Tory Party thinking on investment in innovation, manufacturing and training. "Finding the right marriage between encouraging entrepreneurship and stimulating business will ultimately benefit the national economy," states Prisk.

Expect to hear more about the Tory's nationwide survey on how government can help exporters.

The role of machinery will be examined by Bosch Packaging Technology's Jacob van Kogelenberg, Product Manager - secondary packaging, who will look at the technical interface between machines and packaging and how advances in machine technologies and automation can make a real difference to sustainability, particularly in secondary packaging operations.

Speakers include: Procter & Gamble; IGD; Tesco; Flexible Packaging Europe; WRAP; and The Futures Company. *May 21 2009, IOM³ Offices, 1 Carlton House Terrace, London SW1.

To register visit: www.iom3.org/events/summit09
E: rachel.brooks@iom3.org
Organised by MAJIC on behalf of IOP: The Packaging Society.

Sales of UK packaging and weighing machines to overseas markets continued to show strong growth in the year to September, according to figures from the PPMA.

However, the recessionary influences are not likely to show until the first quarter of 2009. Deliveries topped £201m, 33 per cent ahead of the same period in 2007 (£150.3m) with weighing machines sales making up £35.1m of the total (2007: £28.5m), but process machinery exports dipped by 11 per cent to £108.5m (£120.4m).

Purchases of overseas equipment by UK companies also held up well, although the decline in the value of Sterling will have had an impact. Imports of packaging and weighing machines reached £254.5m (2007: £252.2m) while processing machine deliveries were £104m (£93.2m).

The USA continued to be the strongest market for British machinery, although sales were

only slightly ahead of 2007. Sales to the Republic of Ireland were also strong, up from £8.1m to £14.6m.

The strong performance in Europe evident from the June half year figures continued with France the Netherlands and, particularly, Germany well ahead of 2007. India also purchased more UK equipment valued at £4.2m (£2.0m) and China re-entered the 'Top 20' with purchases of £3.2m. Poland more than doubled its orders of UK machines to £8.4m (£3.2m).

Overseas sales of processing equipment were down to the USA at £15.8m (£17.3m), but up to Ireland, France and Turkey.

Both the packaging and processing machine import lists were dominated, as usual, by Germany. Deliveries to the UK were £97.4m (£92.5m) and £21.7m (£21.3m) respectively.

In the packaging list Italy also performed well, as did Sweden

and Switzerland. But Japanese equipment sales dropped dramatically by almost 50 per cent to £5.6m (£10.1m).

China also improved its performance to £4.3m (£2.8m) as did Switzerland at £3.5m (£1.4m). Purchases from France, the Netherlands and Denmark were steady.

Commenting PPMA's CEO Chris Buxton said, "It is good to see UK manufacturers still performing well. It also proves capital investment is continuing in the UK. However any effects from the economic slowdown may not be apparent until at least the first quarter of 2009."

CBI warns of capital spending cuts

Richard Lambert, CBI Director-General, has called on the Bank of England to restore credit flows across the economy as a matter of urgency.

"The Bank of England's latest Credit Conditions Survey paints a bleak picture of the impact of the credit crunch on businesses and families. The availability and the cost of credit have both deteriorated in the final quarter of 2008, and are expected to get worse in the next three



months," states Lambert.

"Moreover, the shortage of trade finance is affecting output across a broad swath of industry, and led a number of firms to extend their period of shutdown over the Christmas/New Year season. Inventories are being cut back, and the Bank of England's survey indicates a marked cutback in capital spending programmes over the past three months."

Cama shapes new ideas

Cama Group opened its doors recently to show off several new machines under construction for blue chip clients, many of them in the UK, and to demonstrate its strategy for the development of its machine ranges for the future. Cama's subsidiary in the UK is Cama 3, based in Swindon.

Automation, particularly in the area of robotics, is high on the agenda and the company has worked closely with Bosch Rexroth to come up with new architecture for its delta robots to standardise each unit for its carton and case packing machines. Initially the company focused on larger, two axis high speed robots, but, over time, explained Daniele Bellante, who runs the company with his sister Annalisa, smaller, less complex units have been developed. These he says are more suited to dairy applications.

Currently Cama is producing about 60 robots/year and is intent on continuing its robot development because of the specific requirements and functionality of the packaging sector. "We wish to take the principles and add our own technology, not hybrids," added Daniele.

The company has invested heavily in R&D and increased



Chris Rayner

its technical development department from 11 to more than 30 staff. It used its acquired expertise in robotics to develop an integrated control and vision system for the Delta Triaflex and the success of technology developments in this area has led to 20 orders for robotic systems since interpack.

A number of projects require bespoke design, an area in which Cama specialise, said Chris Rayner, Cama's UK operations director. A recent order required a wraparound case for a Retail Ready solution and to remain efficient the machine had to be made more robust to cope with speeds up to 30-35 packs/minute rather than the normal 18-20 a standard machine produces.

Flexibility of the equipment is paramount and another project

required a machine able to handle both cartonboard and corrugated board. The machine is able to end load cartons with a flow wrapped pet product at 170 packs/minute but can also pack the cartons into corrugated cases ready for palletising at 50 cartons/minute.

Other innovations include a special opening system for a hexagonal carton for a coffee pod product, fitted to a standard cartoning machine.

As well as working with Bosch Rexroth the company has developed partnerships with other suppliers, notably PFM, which offers weighing and flow wrapping expertise and enables the company to offer complete lines.

Daniele Bellante has the final word, "Our philosophy is to innovate and shape our ideas to customers' needs. The best designers in a market do not force ideas on customers."

Chris Rayner has been appointed operations director of Cama 3 in the UK, a fully owned subsidiary of CAMA Group. Along with this new operational responsibility Chris will continue to develop Cama Group's packaging equipment and systems sales in the UK.

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IN BRIEF

Climate change success

The Food and Drink Federation reports that the UK food and drink industry has reduced its CO₂ emissions by 17 per cent since 1990.

It makes the claim in a new report entitled 2008 Five-Fold Environmental Ambition Progress Report.

The publication says the reduction is equivalent to an average of 58,000 tonnes less carbon dioxide produced annually and is equivalent to taking 22,000 cars off the road.

Food and drink is the UK's largest manufacturing sector and, says the FDF, is on target to meet its commitment to reducing CO₂ emissions by 20 per cent by 2010.

See our *Environmental Special* pages 34-36
www.fdf.org.uk

Barr & Paatz has been appointed as a systems integrator for Festo's electrical drives business.

Festo, a global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, is aiming to expand its presence in the electrical drives and controls in markets including food, processing and packaging.

The Barr & Paatz appointment is one of only four agreements in the UK.

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E: info_gb@festo.com

Pilz GmbH & Co has officially opened the Peter Pilz Technology Centre Ostfildern, Germany as part of its 60th anniversary celebrations. The new facility houses the research and development department. The company says the centre will help it secure international competitiveness.

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Quality by design for pharma

Delivering business benefits through Quality by Design and applying tools and techniques such as risk assessment to manufacturing processes, was the message from the International Society of Pharmaceutical Engineers' (ISPE), UK annual conference.

Lindsay Wylie, Director of Design for GSK, focused on delivering business benefits

through QbD, (Quality by Design) claiming that by applying tools and techniques such as process analytics and risk assessment, companies will be better able to focus development activities, ensure robust manufacturing processes are developed and enable lifecycle management.

George Craig and Andy Przybylko from Mettler Toledo's

process analytics division said the biggest challenge was how to make measurements inline once statistical requirements and process controls had been determined. It was important to select the correct sensors, engineer the sensors into the process and examine the need for on going diagnostics and maintenance of the system.
www.ispe.org

anuga foodtec preview



Data capture

A high-speed tray packing line, an automatic weigher for fresh, sticky products, the latest X-ray inspection system and a new software programme that can link up to 100 checkweighers to provide valuable production data, are the major features on the **Ishida Europe** stand.

The new Data Capture System (IDCS), which can link up to 100 of the company's DACS checkweighers, is a user-friendly, secure software programme that offers an extensive range of reporting options. It enables production managers to employ state-of-the-art monitoring for legislative compliance while also identifying cost saving opportunities, minimising product giveaway and improving production efficiencies, says Ishida.

Data can be analysed by batch, shift, operator, product or machine.

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Dairy filler

Grunwald will demonstrate its one lane bucket filler, the Flexliner XL which, it says, is ideal for dairy processors. The machine can fill 1kg to 20kg buckets and then seal them with reel fed film, before applying a snap-on lid. Changeover times, depending on the product and set up, can be as short as 10 minutes.

The filler is equipped with a laminar flow cabinet, CIP-cleanable filling heads, an in line checkweigher and a leak detection station

The new SEMIDOS BA dosing unit for liquids and pastes will also be displayed.

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Route across technical and cultural boundaries

Organisers of Anuga FoodTec 2009, Koelnmesse, rolled into London late in 2008 to launch what they describe as "the only show of its kind to cross all sector and technical boundaries as well as cultural boundaries in order to present the entire spectrum of food processing".

Sabine Loos, vice president of Technology & Environment for Koelnmesse is confident that more than 1,200 companies from 40 countries will exhibit, similar to 2006 when 34 UK companies participated.

The global market for food processing and food packaging machines grew by 39 per cent between 2003 and 2007 and accounted for €27bn of exports in 2007, according to Koelnmesse figures.

Germany continues to dominate the manufacturing market. But China is increasingly using domestically produced machines, said Loos.

A congress running alongside Anuga FoodTec will focus on sustainable food packaging solutions. Other features at the

show will include the 12th PETnology conference, the InnoBev Soft Drinks Congress and a special focus on robotics.

Dr Herbert Buckenhuskes, head of Food Technology at the German Agricultural Society (DLG) said the aim was to show how the food value chain can benefit from adopting a more holistic approach to business concepts and activities.

Anuga FoodTec takes place in Cologne from March 10-13 2009

www.koelnmesse.co.uk

Weigher solves sticky problems

A fully automatic weighing solution for very sticky products such as marinated meat will be shown by **Multipond**.

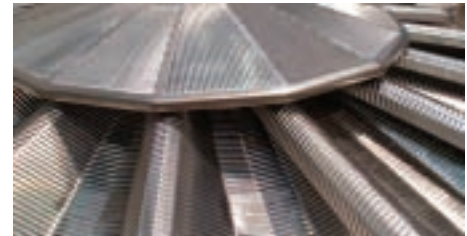
The unit is based on a special feed tray surface profile and central distribution cone, which, says the company, allows for greatly improved and more controlled product feeding.

The stepped profile minimises the contact surface between the product, the cone and the feed tray surface, leading to lower product adhesion it is claimed.

This 'simple' solution means additional equipment, such as screw conveyors, are not needed to control the feeding process and the product is not exposed to

unnecessary mechanical processes other than normal vibration from the feed trays.

The company will also show the latest version of its high precision MP 14-1000/400-H



weighing system, which is a 14 head machine for portions up to 1,600g. Applications include confectionery.

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Filling and cooking expertise

Waldner will be exhibiting part of its DOSOMAT cup filling equipment range. The DOSOMAT 2 will be shown with three lanes, servo technology, and downstream carton erector and case packer.

The DOSOMAT 20 high performance in line machine will feature eight lanes, for filling and closing pre-fabricated plastic cups, including sealing closure

from foil roll stock and cup head space gassing. The cups are then autoclaved. DOSOMAT machines can handle between 1,000 and 100,000 cups/hour.

Its process systems division is exhibiting a new pilot cooking system which can be used for the development of processes in a test plant. It is suitable for cooking, thawing and gentle mixing processes and can make

various food preparations. The single-stage pilot plant is equipped with a complete heating and cooling system, and a complete batch can be run on the unit. Results can be scaled up to replicate full production and used to develop processing methods or to improve existing technologies.

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Gemini software adds efficiencies for food

Pick-and-place operations for fresh and frozen food can be improved with the launch of a new robot and software package from Bosch Packaging Technology company Demarex.

The IP65 rated Paloma D2 delta robot is available with up to three arms and, depending on the model and product, can pick-and-place between 50 and 240 products/minute. The addition of corresponding end-effectors mean a fourth movement axis can be added to rotate the product before placing or where several products need to be placed into tight trays and packages.

The Gemini 3.0 software allows simulation of new production processes on a virtual machine, claims Bosch, so that products are not required for trials. This allows shorter



installation times and increased efficiency, it says. A 3D view enables operators to adjust and optimise patterns and other settings and these can be saved and recalled as required.

The new robot with its tool-free changeable form sets and software can reduce downtime and changeover times to less

than five minutes, says the company.

The vision system ensures even misaligned products are picked and placed accurately, with no need for an additional intermediate infeed process.

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Pick-and-place performer

Ishida Europe has introduced a system capable of faster and more efficient packing of trays into cases or Eurocrates.

The Ishida IPS moves individual trays rather than collations at speeds up to 150 trays/minute, says the company. The IPS robot's moving parts have a very small inertia which mean it is able to accelerate or decelerate rapidly. During the operation the system optically tracks each tray which is picked and the cases or crates filled while in motion.

Picking individual trays simplifies the infeeding into the machine and enhances



accuracy and consistency, says Ishida. The IPS also offers flexibility of case layout, as each

layer can be arranged in a different collation pattern for greater stability when multi-layering. The machine is also able to include incomplete layers for cases filled to a specific weight or to include 'bonus' packs.

The Ishida IPS is designed for a wide range of products and applications, which include ready meals, meat, poultry, seafood, salads, fresh fruit and confectionery. Re-set programmes and easy change pick heads allow changeovers from one tray to another in less than two minutes. It is rated to

IP65 standard.
T: +44 (0) 121 607 7700
E: info@ishidaeurope.com

PPMA SEMINARS

Don't miss out!

FEBRUARY 26 2009

New Machinery Directive

Make sure you are ready for the changeovers and requirements of the new Machinery Directive. This one day seminar will cover: partially compete machines, application to modified machinery; changes to Health & Safety and ISO and European standards; new conformity procedures; Technical files; declarations of Conformity and Incorporation .
Marriott Hotel, Manchester Airport.

MARCH 19 2009

New Machinery Safety Concepts for Machinery Users

Make sure you are up to speed with the latest changes to machinery safety legislation and standards. This one day seminar will provide an overview of recent changes and cover: Implications of the new Machinery Directive; the increasing importance of risk assessment; changes to key ISO and European Standards; new ideas on functional safety; strategies for checking new equipment; the importance of keeping purchase documents up to day.

Marriott Hotel, Northampton

Watch out for future seminars on New Developments to Improve Total Line Packaging Efficiency; Machinery Risk Assessment; and an update on the New Machinery Directive...

Cost: £395 + VAT, subsequent delegates £350 + VAT

For full programme and booking form contact:

T: +44 (0) 20 8773 8111
E: administration@ppma.co.uk

new machinery



Making the flow go

K-Tron Process Group has introduced ActiFlow, an alternative to other forms of mechanical hopper agitation used in loss-in-weight (gravimetric) feeding applications.

ActiFlow prevents bridging and rat-holing of cohesive bulk materials in stainless steel hoppers. It is a non-contact device, consisting of a patent-pending drive system and intelligent control unit. For difficult flowing materials it eliminates mechanical agitators with secondary motors and gearboxes, as well as the need for flexible side wall agitation devices or aeration pads.

ActiFlow helps to simplify the cleaning process during material change over and reduces headroom requirements, says K-Tron. The device is bolted to the outside of the extension hopper, above the feed screws.

Together with the control unit, it continuously activates the material inside the hopper with optimised frequencies and amplitudes. Working in concert with K-Tron's patented Smart Force Transducer advanced filtering algorithms ensure an accurate weight signal even with the ActiFlow running.

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Six axis robot is 'EZ'y to use

Toshiba Machine's first six axis robot, the TV800 EZcell, has been launched by TM Robotics (Europe).

It has a total arm length of 800mm, a reach of 892mm and a composite maximum speed of 8.06 metres/second. It has been developed for use primarily in food and pharmaceutical packaging markets.

The robot incorporates the latest components, making it slightly faster than equivalent machines with the same footprint. It has maximum cycle time of 0.4 to 0.5 seconds, position repeatability of ± 0.02 mm, and a maximum payload of six kilograms as well

as an increase in memory size, standard USB port and Ethernet connections.

The EZcell is easy to use and it takes less than half a day to train an engineer, says TM Robotics. The software, which integrates with CAD data, makes operations, set-up and changes easy to complete via its intuitive screens and menus, and can be used either on or off line without having knowledge of the robot language.

Simple programming makes the robot very versatile resulting in very little downtime, the company claims.

The company has also launched a portable robotics



The TV800 EZcell six axis robot



The TS180 Starter Pack

system, the TH180 Starter Pack, which it believes recognizes a gap in the market for a system that will assist product/sales demonstrations, in-house staff training, and help boost robotics interest in schools and universities.

The system contains a TH180 mini SCARA robot along with a TS1000 controller (which offers four axis simultaneous control). The robot comes in a safety cube which has been specially designed to fit inside two carry cases.

The self-contained unit can be set-up in 15 minutes without the need for air, and through a series of commands has been designed to showcase the various capabilities of a robot including: palletising, counting and cycle times.

Users can also complete on the spot-programming in SCOL (a language similar to BASIC), using free software downloadable from the company website to create specific mock-ups or demonstrations.

www.tmrobotics.co.uk

Top end labelling systems

Espera Scales is hoping its new ES1000 series of labelling systems will lead it to new markets outside the food industry.

The range is aimed at top end markets and is constructed of stainless steel and corrosion resistant machined aluminium.

Flexibility is a key feature of the ES1000 systems, says Espera and includes labelling

heads mounted on H stands for overhead mounting on conveyors, integrated conveyor systems with multiple heads as well as wrap around bottle labelling. Consistent accuracy is achieved by electronically synchronising labelling head speeds to conveyor speeds.

A single touch screen can control a number of labelling heads and from the screen the

operator is able to position the label on the pack and control belt speeds.

Accessories for the range include end of label warning and press down after rollers. A variety of thermal and hot foil coders can be integrated with the new system says the company.

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Energy savings with new shrink tunnel

Sealed Air unveiled its latest energy saving shrink tunnel, the GT-71 at its demonstration facility, Packforum®, near Paris.

The new tunnel achieves higher speeds than previous models thanks to the introduction of independent fan motors on top and bottom which can be fine tuned to regulate the temperature to suit individual product configurations, says Sealed Air.

The energy saving is achieved thanks to better insulation of the tunnel housing, which also features an insulated window for inspection purposes.

The GT-71, which is made by Sealed Air's Shanklin® division, has a smaller footprint than

conventional tunnels on high speed lines. Operating in tandem with Shanklin's® Omni™ sealer, speeds of more than 100 packs/minute can be achieved, it claims.

Pack presentation and quality is maintained, even at high speed, as the tunnel conveyor incorporates a riser bar to improve the airflow on the bottom of the pack, which tilts as it goes through the tunnel. The GT-71 can 'slot in' to any line, thanks to both right-to-left and left-to-right operation, says Sealed Air.

It also confirmed it is focusing on 'source reduction' with its range of films rather than the development of biodegradable

and other environmentally based products. "We have had many successful projects with customers where micron gauges have been reduced from the standard 19 microns to 11 microns without loss of machine performance or pack quality and integrity," said Helios Ruiz, Sealed Air's marketing director for Europe.

"We have worked on a corn-based film but are not sure if this is the correct route to take. 'Make food not film' is a strong argument. Success in micron reduction can have as big, if not more of an environmental impact," he explained.

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E: mick.gillard@sealedair.com

MACHINERY BITES

Walsall Engineering Group

has reached an agreement with Verinox of Italy to act as its sales and engineering partner in the UK and Irish markets offering a wide range of heat treatment, chilling and food processing equipment featuring sophisticated process control technology.

T: +44 (0)1922 405355
E: sales@weg2001.co.uk

Sewtec Automation has

devised a special machine to apply tamper-evident labels to both single and multipack cartons for pharmaceutical products.

The system can also be adapted for case trace applications using 2D codes, says the company.

The new Sewtec LX5194 labelling system can handle a variety of pack sizes up to 67 x 85mm with a throughput of 3,200 singles and 800 multipacks/hour.

Camera vision systems ensure the correct and accurate placement of labels on both the top and base of the packs. An advanced control unit, with preset memory functions, allows the call-up of individual settings for the different pack sizes and changeovers and can be carried out in less than five minutes.

T: +44 (0) 1924 494047
E: sales@sewtec.co.uk

The OPTIMA WF X series

weigh/filler has been designed for the precise handling of both liquid and granulated products, says the company.

With a maximum output of 320 containers/minute the filler's accuracy helps to reduce waste and is particularly suitable for high value products, according to OPTIMA.

T: +44 (0) 5602 588242
E: info@optima-gb.com

Sandwiching takes the biscuit

Two new features added to the largest of Baker Perkins' biscuit cream sandwiching machines reduce downtime and waste in high output operations.

The six-lane high-speed sandwiching system operates at up to 4,800 sandwiches/minute on some products. The features address the difficulty of accurately positioning at speed the cream deposit on the bottom of the biscuit and reliably placing the second biscuit on top.

The bottom biscuit is located exactly in the middle of the lane via accurately aligned pusher pins which are connected through a solid plastic block in which both pins are carried. The chain drive shaft and sprockets are machined from a solid billet, and the addition of the new feature makes pin misalignment virtually impossible.

An additional stability feature



on the six-lane creamer involves replacing a solid platform under the magazine holding the top biscuits, with a forked platform that sits outside the pins to give much broader and more stable support.

Baker Perkins high-speed cream sandwiching machines

are available in two, three, four, five and six lane versions.

They are a key module in complete systems that can accept biscuits from the oven, and feed to the wrapping machine.

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Mr Innovator

Think robots and Gerhard Schubert will probably be the first company to spring to mind.

The brain child of Gerhard Schubert, the company was formed in 1966 on the shoe string budget of 3,000 Deutschmarks. And the birth of this innovative German robotic specialist is thanks, at least in part, to the refusal of a well-known packaging machinery builder to give a pay rise to a young man with a family!

Today the company that bears his name has a 30 per cent share of the global market for Top Loading Machines (TLM) which is equivalent to £120m; while it also takes a sizeable chunk of the markets with its other systems.

Entrepreneurial innovators are not so thick on the ground these days - companies are too conservative and risk-averse, tending to fear creativity rather than pursue it. In fact many simply copy the achievements of others rather than taking a stab at innovations of their own. Still as the saying goes "imitation is the sincerest form of flattery".

Gerhard Schubert is more imitated than most. The idea of a modular system for packaging machines was first mooted by Gerhard in 1959 and despite the scepticism that surrounded what was then a revolutionary idea he launched his first mechanical modules in 1966, and designed and produced the world's first packaging robots in 1984. Today Schubert is the only packaging machine manufacturer to have developed its own packaging machine control (VMS).

Schubert's first customer was Weiss which bought a carton erector for gingerbread in 1966 which remained in operation until 1991, when Gerhard Schubert bought the machine back to celebrate its 25th Anniversary. And, of course,

Weiss updated with the very latest model ... good business and a great advertisement for the Schubert Group.

However looking forward rather than harking back is more Gerhard's style and this innovative group continues to blaze an innovative trail in robotics technology; and widened its net still further in 1972 to provide turnkey packaging systems through its subsidiary IPS (International Packaging Systems).

Turning first to robotic systems and innovations from the Schubert stable, Schubert's modus operandi is to create machines for both today's and tomorrow's markets founded on the need for increasing flexibility (modularity), safety in operation and more and more reliability. Based on its TLM machine system first introduced in 2002, Schubert is continuing its drive to create automatic size change. Something which Gerhard firmly believes will be coming out of the Schubert stable before too long.

Software is key

End of line operations remain the largest part of Schubert's market but "slowly but surely primary applications are now coming on board". Growth will be fuelled by software developments which form a major part of its research and development programme.

Electrical systems, electronics and software are the key. "Packaging machines are a synthesis of mechanical systems, a control system and software," explains Gerhard.

The premise of building all its robotic systems utilising its "home grown" software is simple: "Software works for ever, mechanical parts wear



Gerhard Schubert – changing the world of packaging

out!" In essence all mechanical and electronics are brought together in its internally developed control systems. "Less functions means less malfunctions," states Gerhard.

Quick change tooling is essential to meet the ever increasing call for flexibility and yet more flexibility and Schubert's advanced programming systems installed during assembly means that it is necessary only to enter product or customer-specific parameters.

Making "plugging in a thing of the past", Schubert recently unveiled a new automated method of coupling tools for its TLM robots. This, Schubert says, is a revolutionary breakthrough in automatic tool changing that reduces setting and resetting times by as much as eight minutes and eliminates the risk of control failures caused

continued on page 18

Inside track

Gerhard Schubert has invested €200m in its new facilities in the Packaging Valley at Crailsheim. Completed in the summer of 2008, the 12,200m² development includes an assembly area of 6,000m²; a shipping hall - 1,800m²; and offices. And with an eye to the environment the new offices use geo-thermal heating.

Training is an integral part of group's philosophy. The Schubert/IPS training centre in Crailsheim is open to all customers. Additionally a project management team of 45 at IPS means that each order has its own project manager.

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machinery extra

continued from page 17

by loose contacts. Manual plugging and unplugging is now extinct at Schubert. And the programmed pre-set code development means the robot can check the tool matches the correct application.

"The next move will be to further develop the coupler to create automatic tool change and this is not too far distant," said Gerhard.

"Transfer tooling will change the world of packaging and remains a prime focus of the group's R& D spend, which currently stands at eight per cent of turnover.

"Within a year or so customers will see the next generation of machines on the market which will be capable of automatic size change - we are dedicated to the task," said an enthusiastic Gerhard.

The way forward

Schubert's charge into all things electronic started way back in 1991 when it created its own control system, the VMS (Verpackung - Maschine - Steuerung(control)).

Based on the need for modularity, the idea was to have individual computers for each machine to ensure they were configurable for individual assemblies and interconnected via an optical bus. The success of the venture can be measured by the fact that today the VMS control has a Mean Time between Failures (MTBF) of 45 years!

Another real bonus of Schubert's robotic systems is the hidden storage of the electrics and control systems which are housed within the upper section of the machine frames and hidden above the working robotic systems. Each set of electrics runs seamlessly from one frame to the other and there is no need for the cumbersome cabinets often seen with robotic systems.

Unveiled at interpack 08 was



Learning from the British – PepsiCo company Smith's Snackfood Company in Australia has installed 10 automated packaging stations from IPS

another major development, the Schubert TLM-PK machine that ably demonstrates the company's strategy of integrating components from partners (indeed PK is the German abbreviation for 'Partner Component') into TLM machines in the future. A Fuji form fill and seal machine has been integrated into a TLM line for packaging chocolate bars as part of a Schubert packaging line. And there is also the TLM-T400 thermoformer (a fill and seal machine featuring an ultrasound sealing and punching station) that has been equipped with a new power-controlled press drive system.

This complete ready-to-use FFS machine system features an ultrasound sealing station with seal validation capability, self-cleaning seal edges and easy-unpeel seal with integrated form punching, coupled with long tool service life.

If there is one word that differentiates Schubert from its competitors says Gerhard it is "flexibility". "This provides the biggest advantage to customers and allows them to change to meet market conditions immediately and brings real meaning to 'lean manufacturing'."

And for Gerhard's next trick, he will not be walking on water but promises one of his next projects will be to pick up liquids.

Given that it is Gerhard Schubert don't bet against it!

Special specialist

At Schubert's IPS subsidiary, Gerald Schubert takes the reins of this growing specialist company in individual turnkey packaging systems for markets from pharma and cosmetics through to snacks, food and confectionery.

But Gerald believes that it is the autonomy of IPS that makes it stand out from the crowd. "We are totally independent from any supplier we use; we just look at who is the best for a particular application." Another point of differentiation is that, as the only contract partner, customers have just one point of contact. This gives "real transparency".

Schubert's TLM packaging machines frequently provide the heart of IPS packaging systems providing flexibility, ease of operation and speed.

A mammoth installation at Smith's Snackfood Company in



Gerald Schubert

Australia is a good example of IPS expertise. Part of a multi-million pound investment by PepsiCo, the multipack concept is based on installations at three Walkers' factories in the UK. The Smith's line comprises 10 automated packing stations, each with a pair of robot arms equipped with a vacuum gripper tool for picking & placing packs into shipping cartons at 1,600 bags/minute.

The aim was to develop a space-efficient multipack, improve pack presentation and shelf-ready packaging and produce clear differentiation.

The number of inners has been reduced from up to 30 to 10, 15 or 20 per multipack. The project has also delivered an environment-friendly benefit by the switch to recycled cartons giving a saving of 350 tonnes of plastic wrap.

"We investigated what our peers around the world were doing and were impressed by a similar multipack concept at our UK sister company, Walkers," explained Steve Reilly, Smith's national project engineering manager.

Walkers is using seven Schubert systems at its plants in Leicester, Peterlee and Coventry placing three varieties of crisp packs into a series of horizontal flow wrappers. (MU Mar/Apr 2008 p51)

Jaffa Cakes get the high speed Sewtec treatment

Sewtec Automation's recently launched high speed robotic case loading system has been selected by United Biscuits to pack its McVitie's Jaffa Cakes into outer cases. The system is able to handle packs in single, double and triple formats at up to 240 packs/minute, into a variety of case sizes.

Production runs at more than three million Jaffa Cakes a day in McVitie's Manchester facility and the company needed to upgrade an existing line to cope with higher throughput and a growing number of different sized cases, including a move

to retail ready versions.

The case loading system features the latest Sewtec LX5036 top load robot, filling four cases simultaneously, enabling the system to handle high throughput with gentle and accurate placement of the packs into cases, says the company.

A key requirement was flexibility to deal with different case sizes, including fast changeovers. The Sewtec machine features a twin servo axis robot with interchangeable, quick release vacuum pads.

There are no electrical connections to remove and

replace during size changes, and the major tooling remains on the machine. This means that the only change part that has to be handled manually is the lightweight vacuum pad. The replacement heads are stored inside the machine for easy access.

Single, twin or triple packs of product are fed into the machine on a belt conveyor and collated into the required format for top loading into cases. Pre-erected cases are fed into the machine on a servo axis collation system and all size adjustments for this and the flap guidance system are also automatic via pre-set recipes.

An integral carton detection system ensures that all four collations are in place and these are then lifted into the cases. The case flap and pack guidance system incorporates pneumatically operated flap spreading plates to ensure the case flaps do not interfere with the loading operation and to help guide the packs into the cases.

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Detect and separate: Crumbs!

S+S Inspection has supplied several of its GF-4000 metal detector/separators to Gebrüder Leimer, of Bavaria, one of Europe's major producers of breadcrumbs, croutons and flour-based soup ingredients.

The company's fully automated high-speed production lines supply carton and bag filling and sealing machines connected by continuous vacuum tube conveyors. The detector/separators are installed in the

vacuum conveyors to ensure that any magnetic or non-magnetic contamination is removed before the product is packed.

To minimise disruption to the layout of the vacuum conveyor tubes, the metal detectors are mounted vertically. Detected contamination is removed from the conveyor by a Quick Flap system to minimise the loss of good product. The system is controlled by the S+S Genius multi-frequency digital signal

processor mounted some five metres from the detector/separator.

The combination of the integrated HACCP quality management system, full traceability from raw material to finished product, BIO certification and accurate metal detection/separation equipment means Gebrüder Leimer has been awarded high level IFS certification.

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E: info@sesotec.co.uk

SIDELINES

Mecaplastic has installed a S3000 automatic sealing machine at Glens of Antrim for a potato product helping the company gain orders from Tesco, Sainsbury, Asda and Dunnes Stores.

The product, a combination of crushed potatoes, spring onions and roast garlic, is supplied in a sealed CPET tray with printed card sleeve. It is part of the Rankin Selection, which is endorsed by Irish celebrity chef Paul Rankin.

The S3000 comes with a new 'partial tooling' equipment system that simplifies format changes and reduces tooling costs. It can process up to 34 items/minute on full capacity based on a two pocket die.

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Cama and Rockwell

Automation have teamed up to provide a robotic loading and wrap-around packaging line with a dedicated feeding system in order to double the capacity of Nestlé's Nespresso coffee portion packing line in Switzerland.

The line consists of a robotic loading system, side-loading cartoner and wrap-around machine to pack coffee capsules in sleeves up to 10 items per sleeve before packing 20 sleeves in cases.

The loading system is a two-axis robot with picking heads designed specifically for Nestlé.

Cama used Rockwell Automation's ControlLogix and CompactLogix controllers, Kinetix for motor control and Allen-Bradley servos and drives as well as RSView and PanelView Hmi solutions.

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E: cama3@camagroup.com

installation news

SIDELINES

Cleaning up

Shrinkwrap Machinery Company has recently completed the installation of a shrinkwrapper at Premier Linen Services in Dublin.

The compact 900mm automatic sleeve wrapping machine has a moving head seal gantry, allowing packs to be sealed while on the move; wrapping speeds are in excess of 960 packs/hour.

The machine manages the input of randomly formatted light and unstable laundry packs and has touch screen controls allowing straightforward operation, production information and fault finding. Motors are inverter driven and the shrink tunnel is well insulated to increase energy efficiency.

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Vial success

Slovakian pharmaceutical contract packer Medicproduct says it has been able to double production of its infusion solutions since installing a complete filling, capping and packing line from **Marchesini Group**.

The line is designed to fill freeze-dried and liquid solutions into 50, 100 and 250ml glass vials, before packing ready for transit.

A Neri LAC2 rotary washer is linked to a ML646 filling and capping machine.

The filled vials are then transferred to a MA100 cartoner via another Neri combination of its SPF1 inspection system and SL200 labeller.

Finally the cartons are packed into cases on a PackService PS300 machine.

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Vietnam sweet on candy

Bibica, a major Vietnamese sweet and candy manufacturer, is expanding its product range by installing a Baker Perkins confectionery cooking and depositing plant. Based in Ho Chi Minh City, it can now make new ranges of high-quality one and two-colour milk, striped and centre-filled hard candy.

Depositing was chosen for this latest phase of expansion because of its superior product quality and lower production costs compared with traditional methods such as die forming. Enhanced appearance, high

Pictured above: From left, Baker Perkins project manager Bob Collin; Bibica: Hoang Lien Son, asst product manager; Nguyen Mau Lam, manager candy workshop; Baker Perkins managing director John Cowx; Huynh Minh Chanh, Bibica technical director; Yun Fen Huang, Johs Rieckermann; and Bui Xuan Tung, head Rieckermann technical, Vietnam.

clarity, and rapid flavour release with a 'smooth-mouth feel' are benefits of deposited candy.

Baker Perkins and its Asian agents, Johs Rieckermann,

collaborated to produce a plant to match Bibica's product and output needs.

The cooking & depositing system includes a Microfilm cooker for high boiled, butterscotch and milk, and cream candies, linked to a ServoForm depositor to make multi-coloured and multi-component hard and soft candies, in up to four colours, in stripes, layers and random patterns.

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E: keith.graham@bakerperkinsgroup.com



No bones about it!

Rose Poultry in Denmark, has fully automated the previously manual process of checking chicken fillets for bones with the purchase of two Ishida x-ray inspection machines.

The new Ishida IX-GA-2475 X-ray machines carry out the same operation automatically, detecting the smallest pieces of bone, at speeds of up to 160 fillets/minute.

The IX-GA X-ray system uses a self-learning Genetic Algorithm to ensure maximum

detection sensitivity and reliability.

The machine can detect impurities down to 0.3mm in size and spot missing items or damaged products.

In addition, the place of contamination can be accurately pinpointed.

Once checked any rejected fillets are transferred to a separate conveyor and taken off for inspection and repacking.

T: +44 (0) 121 607 7700
E: info@ishidaeuropa.com

Tablex for Aspar

Aspar Pharmaceuticals has taken delivery of two more Tablex metal detectors supplied by Safeline, part of Mettler Toledo. The equipment is running on two new production lines for solid dose products such as paracetamol, aspirin and saccharin.

The detectors are capable of finding minute pieces of metal as small as 0.39mm at inspection rates above 10,000 tablets/minute, says Safeline.

One fail safe feature, a bi-stable solenoid design, enables the machine to move the divert valve to the reject position should a power failure occur. Each unit also incorporates automatic balance control and a high frequency coil system which, claims Safeline, provides sensitivity to all types of metal.

T: +44 (0) 161 848 8636
E: safeline.info@mt.com

Bagger puts kosher baker on the rails



Rakusen's, a Leeds-based kosher bakery products manufacturer has bought a custom built PFM bagging machine that moves on rails between an auger filler and a multihead weigher to handle existing powdered products and a new snack size bag of crackers.

"We originally looked at a bagger and multihead weigher combination purely for our new 40g snack size bags of Matzo crackers but realised that, in the initial stages, it might be under-utilised," explains Rakusen's operations director Graham Knapton.

"PFM suggested the rail mounting and the auger filler to improve our powder filling operation at the same time, making maximum use of the bagger's capacity.

"We are now able to use a better film without increasing overall material cost," Knapton explained.

The installation consists of a rail-mounted PFM Zenith vertical form-fill-seal machine running at speeds up to 35 bags/minute, a PFM C2 14-head weigher and a PFM auger filler.

The auger is suspended and fed from a mezzanine floor, where powders are stored in bulk, while the crackers are conveyed to the gantry-mounted multihead weigher straight from the baking ovens.

Using the new machinery, Rakusen's has upgraded the presentation of its 375g bags of Matzo meal breadcrumb and 500g bags of potato starch from a simple plain film pillow pack, supplied in a carton, to block bottom stand-up bags in printed film.

These are packed in retail ready trays for on-shelf display.

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pro2pac preview

Keep it in the bag

Interfood Technology will show its new EZ P 600 clip closing system for secure bag and net packaging with plastic rather than conventional metal clips. The system will close poultry bags, bakery products as well as fruit and vegetables.

The EZ P 600 is manufactured by Polyclip System of Germany and can be used on any bagged product which does not require oven heating. It can be used in a micro-wave and is suitable for



boiling or freezing and therefore ideal for sealing ready meals, says the company.

The plastic clip system does not interfere with metal detection scanning. The clips are also bacteria resistant according to Interfood.

Stand D24

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interfoodtechnology.com

Eco credentials

IWM will show off the environmental credentials of its range of industrial washing and sanitisation systems, all of which incorporate recirculating systems. The Edi13 ALTA utensil washer, which has become the first machine of its type to appear on the Government's Water Technology List, automatically qualifies for the ECA (Enhanced Capital Allowances) scheme, allowing 100 per cent of capital cost to be offset against corporation tax in the first year.

Stand B29

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All round perspective

Pro2Pac 2009's strategic positioning alongside IFE, the major international food and drink exhibition, offers a '360 degree perspective' of the sector "bringing together visitors from retail, manufacturing, food service, wholesale and distribution," says Reed Exhibitions.

Next generation processing machinery, storage equipment, hi-tech packaging and material developments will be on display.



Reed Exhibitions said these will reflect how high sustainability is on the agenda when researching and developing new packaging and processing methods.

Packaging Innovation@Pro2Pac is a series of free seminars, which have been sponsored and organised by WRAP (Waste & Resources Action Programme) to highlight and discuss 'hot

topics' relating to global packaging trends, particularly in the areas of sustainability, cost efficiency and rising commodity prices.

The show website hosts an interactive show planner and search facility to help potential visitors to plan their attendance, and there is free access to IFE.

Pro2Pac takes place at ExCel, London, March 15-18 2009.

www.pro2pac.co.uk

It's a gas with OXYBABY!

Witt, the gas safety, control, mixing and analysis equipment supplier will be exhibiting a range of new and existing leak detection, gas mixers and analysis equipment for the food packaging industry.

The latest OXYBABY® hand held gas analyser is designed for packaging line, warehouse and laboratory food packaging analysis.

It is available in two versions to measure either the O₂ or the

CO₂ content in the smallest food packages, such as salami and cheese slices plus poultry and salads.

It has a number of new features including information storage for over 500 different data measurements, an easier to read display with more 'at a glance' information, simple to operate function keys and menu structure with a single USB port for data transfer and battery charging, says the company.

Other products on show will include a KM100 gas mixer with integrated gas analyser and LEAK-MASTER® MAPMAX, a fully automatic in-line detection system to detect leaks for food and pharmaceutical packers. This system now has five different chamber sizes including two for the testing of complete crates/trays.

Stand F3

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Meeting food labelling demands

During Pro2Pac **Xact** is exhibiting a range of coding & marking equipment specifically tailored to meet the high demands of product identification and tracking requirements for the food industry.

On display will be product identification systems ranging from primary date coding, secondary case identification coding and supply chain management labelling solutions.

The C84 is a high end continuous inkjet product coder, printing at up to 320m/minute with an economical ink system and user-friendly interface. The



KN380 two line continuous inkjet product coding system is a simple system for applying variable information.

The IP7000 for high resolution text, graphics, logos and bar

codes for outer packaging is said to have exceptional levels of readability combined with low ink consumption.

Xact say that the SX printer range is a simple cost effective printer for outer packaging, which can be installed straight from the box within minutes and can be mounted horizontally or vertically.

Xact will also show HM Labelling Systems, product labelling to pallet labelling solutions.

Stand C26

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trends in automation

Sparkling opportunities

Whether it is the high volume producers of drinks products or the micro and medium level manufacturers, all are finding that automation in different parts of the production process help to improve productivity and reduce costs, as well as meet sustainability goals.

'Drinks' is not just about carbonated soft drinks, wines, beers and spirits. The market for mineral waters, soft drinks, juices and smoothies are thriving. For beer in particular these are difficult times and while the growth in the popularity of alcopops, cider and some of the more 'funky' spirits has added some impetus, more traditional products are under pressure.

Taking costs out of production and improving efficiency are key areas of focus when volumes and margins are squeezed. Automation in all areas, but particularly in processing functions and at the tertiary packaging stage, is a necessity.

The reduced costs of robotics can now make automated packaging and handling available to smaller producers, as is demonstrated on the round-up pages which follow.

Many larger producers have invested millions in highly sophisticated handling and palletizing systems. These have the benefits of not only reducing labour costs and improving safety, they are also designed for greater flexibility, to handle different sizes and variable pallet formats quickly and without major adjustments. Additional benefits include sophisticated print and apply labelling systems for better product identification as well as tracking and dating orders.

Green credentials

The traditional battle between case packing and shrink wrapping has also been rejoined, nowhere more keenly than in drinks markets. Having been viewed as a pariah by the environmental lobby for so long shrink wrapping's green credentials are now coming to the fore.

Machines are more energy efficient and less wasteful thanks to better thermal insulation (see p15). And wrapping uses less material and saves costs compared with the equivalent corrugated packs, say its advocates. However, the cartonboard sector point to the ease of recycling and the benefits of Retail

Ready options plus the convenience of its carry home packs.

But it is not only at the end-of-line operations that automation is providing better solutions. The cost and time of processing are also under scrutiny, particularly in relation to energy and water usage issues - see Kronos' investment on page 31.

For the brewers many of the same rules apply. As a more holistic approach to the production process gains ground the total cost of production has to be audited. So disposal of waste water, or its re-use are important, as is the use of heat or cold generated in processing to do a job elsewhere in the production cycle.

Aseptic fillers

Using new automation technologies to reduce complexity is also gathering pace. One example is aseptic filling. It has the advantage of eliminating the need for pasteurization of some products. While they are still expensive to purchase, the initial capital outlay can be offset by the need for less plant in the longer term, so reducing replacement and maintenance costs, as well as simplifying the manufacturing process overall. Aseptic fillers can also facilitate the introduction of new lines or pack shapes (*MU Sep/Oct 08 pp52-53*).

Versatility, even for traditional, high speed or volume fillers, is also becoming evident. One example is a new head for existing KHS machines, enabling them to fill carry home containers, as well as the casks for pubs and bars.

Overall the trend towards the 'carry home' market for wines, beers and spirits seems set to continue. Supermarket shelves are now populated with both the big brands and more specialised products, some sourced locally. As volumes for the latter increase the benefits of automating will become more affordable.

Investing in automation when markets are declining or where current production volumes are relatively modest can be a difficult decision. But the evidence seems to point to real benefits.



MARKET FACT

- The key findings of Innovation in Beverage Packaging 2008 show that pressure on margins coupled with highly volatile energy and materials costs, and increasing environmental pressures, have shifted the focus of packaging design more towards cost-driven factors. These include weight saving, material reduction, production line efficiency, cost-effectiveness and environmental performance plus functionality and retained quality. www.canadean.com



special feature

MARKET GROWTH

- Energy drinks consumption is set to grow by eight per cent in Western Europe over the next five years, according to beverage and food sector consultants Zenith International.

In 2007 sales topped €3.7bn, with the UK, Germany and Spain accounting for more than 55 per cent of the total.

France is now the fastest growing market thanks to the ban on products containing taurine, a major ingredient of most energy drinks, being lifted.

Largest consumption per head went to Ireland at 7.7 litres annually. The Red Bull brand continues to dominate the market with 60 per cent of sales, although competition is becoming stronger with the introduction of, for example, Relentless from Coca Cola.

- Zenith also says that Western Europeans are turning increasingly to smoothies, juices and nectars to get some of their recommended 'five a day' fruit intake.

Sales of these products were up by 1.6 per cent in 2007 to reach €23bn. Consumption should reach 11 billion litres by 2012.

Premium products are leading the way, with squeezed fruit juices recording sales up by 9.4 per cent in the period.

Orange-based products continue to be the favourites among consumers.

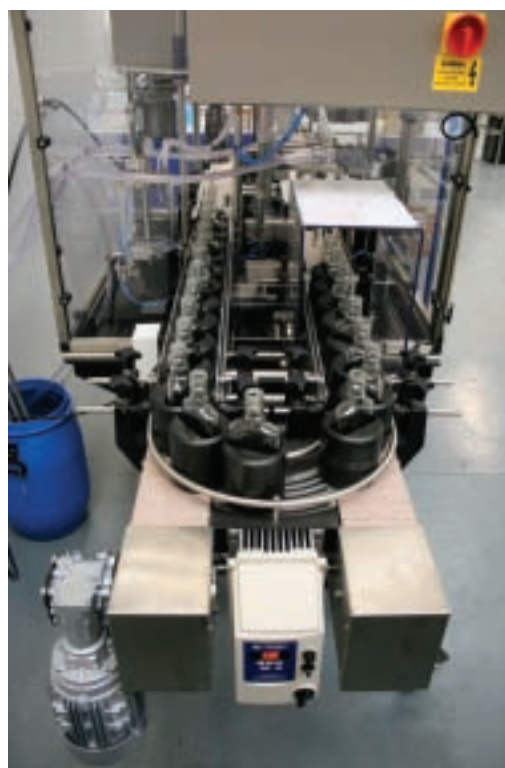
Sixty seven per cent of all these products are sold in cartons. But Zenith noted an increase in popularity for PET bottles.

www.zenithinternational.com

drinks - round-up

Four head functional filler for the Friary

Such has been the success of Frome-based Friary Vintners' range of liqueurs that the company needed to increase its filling capacity without taking on extra staff. The company asked Universal Filling Machine Company to design a



system which could be operated by one person, but undertake all the functions required.

Ernie Jeffery of Friary Vintners explains, "We needed a packaging line which could fill four different sizes and shapes of bottle with the ability to cap with three different types of ROPP and, for good measure, with only one person to operate the entire process, including changeovers."

Universal's answer was to configure a four head POSIVAC filling machine combined with a single head ROPP capper. The company designed a compact racetrack system consisting of two parallel conveyors with the filling machine on the outfeed section and the capper on the infeed section.

Space was provided for automatic placement of caps which means a single operator standing in position can load empty bottles ready for filling and unload the filled and closed bottles. The system is now successfully handling containers between 50cl and 750cl.

Jeffery commented, "The packaging line has now revolutionised the production capacity of this small family business. The most practical aspect of this equipment is the ability to do very short runs and change over to another size of bottle and cap very quickly. The team has now got this process down to 10 minutes and are still improving!"

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Sensing out temperature change

The new suite of inductive and optical sensors from SICK UK, aimed at the beverage and food sectors, meet the demands of wide temperature changes and harsh cleaning regimes.

The SICK V18V photoelectric switches, MH15V photoelectric sensors and IMF inductive sensors are protected from the processing environment and washdown to IP67K rating. They feature food and drink compliant stainless steel housings with FDA certified plastic watertight plug cap and cabling. Additional protection from corrosion is provided by gold plated connections.

The V18V features the company's patented Touch-Teach sensitivity adjustment which allows fine tuning of each sensor in situ without

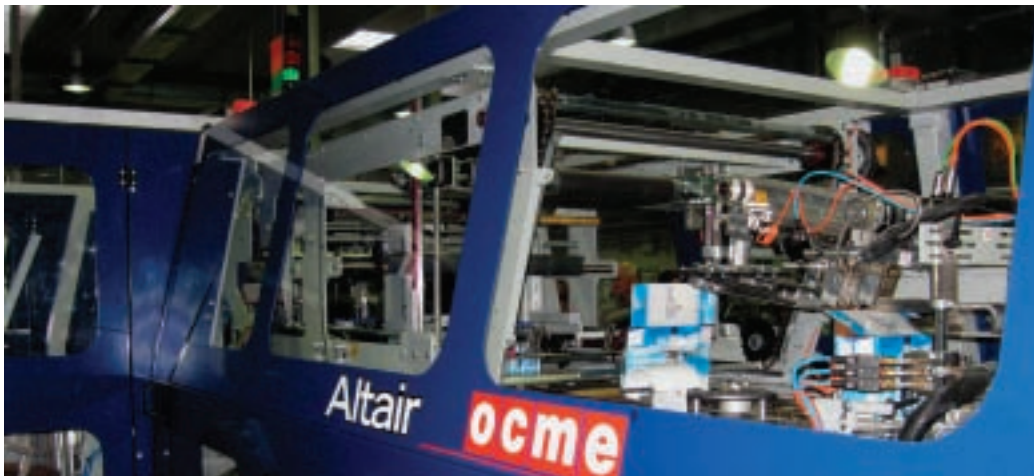
mechanical intervention. It can withstand temperatures between -40°C and +85°C and has a new capability to detect glass or transparent objects, according to SICK.

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drinks - round-up



OCME re-design will wrap bottles faster

OCME has made improvements to its Altair N70 wrap-around case packer to enable it to achieve speeds of up to 100 cases/minute.

The first change is to double the blank feeding unit, so decreasing the relative speed of blank introduction. This helps to reduce the risk of blanks mis-feeding causing jamming or falling bottles, as the machine is able to stop its cycle within two or three steps. Next a retractable plate has been added where the bottles and cartonboard blanks combine. The plate reduces the shock or jolt during this process to ensure a smooth operation.

Finally two sets of electronically controlled fingers are used for bottle selection, the first set working counter to the second set to ensure top

speed for the machine is reached gradually, which again helps reduce falling bottles and is particularly useful when handling unstable containers. An optional pick and place unit can be added to replace the standard blank feeder to further improve capacity.

A recent installation of the Altair N70 at Icelandic Water Holdings is achieving speeds up to 70 cases/minute handling square PET bottles of mineral water.

OCME also supplied a VEGA S50 shrinkwrapper to the company, Iceland's leading bottler of mineral water, to provide a complete end of line solution.

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Black Sheep goes automatic

The Black Sheep Brewery in North Yorkshire has successfully automated its entire cask handling operations using robots, according to CenFRA, the centre for new automation and robotics opened recently in Doncaster (*MU Jul/Aug 08 p7*).

The company's traditional brewing and processing methods have been combined with automated cask handling, filling, re-bunging, weighing and re-stacking tasks. This has greatly improved the factory floor environment and reduced the risks of repetitive strain injuries caused by manual handling, says CenFRA.

The centre is targeting the brewing and soft

drinks sectors as it believes there is enormous potential for automation of drinks production in these areas. The organisation will undertake free audits at production plants and offer help and guidance on the benefits of innovative automation solutions, it says.

As part of the package it will be running special seminars and training days for the beverage industry, as well as providing information about the latest technologies, production processes and methods related to automation available to drinks' manufacturers.

www.cenfra.co.uk

DRINK FACTS

■ The soft drinks industry is losing confidence in its future prospects according to a report from Canadean. Reporting on 3rd quarter results for 2008, it finds that two major European markets, France and the UK, have slipped into decline.

The French soft drinks market shrank by 1 per cent while the UK saw sales drop by 2 per cent. Denmark was the first market to officially go into recession at -6 per cent.

Across much of Western Europe, Canadean's consultant feedback points to a surge in hard discounter footfall, rising private label share and half empty bars and restaurants.

In neighbouring Eastern Europe there is more optimism. Bulgaria, Serbia and Slovenia report a mild improvement in confidence levels.

East European third quarter soft drinks sales jumped by nearly 2 per cent and Canadean anticipate end of year results to register around +3 per cent. www.canadean.com

Job cuts

Anheuser-Busch InBev is to close the Mortlake Brewery in 2010 as part of the £690m cost savings programme.

Heineken is closing the Beamish & Crawford brewery in Cork, with the loss of 120 jobs.

Bulmers (part of Scottish & Newcastle) has axed 50 jobs as has Constellation Brands across its UK operations.

And Abbey Well looks set to lose 49 jobs after its recent acquisition by Coca-Cola Enterprises.

special feature

drinks - round-up

Flexible pallet patterns

Manex has introduced parametric programming on its P310 series of palletisers so that customers can create new layers and pallet patterns without the need to order supplementary program formats from the manufacturer. This, says Manex, gives the equipment greater flexibility to accommodate new product ranges.

A high level P310 series machine recently

installed at the Aldaris Brewery in Latvia, is one of several installations in the Baltic states.

The palletiser is part of a complete system for loading beer multipacks and unloading empty bottles from crates. The de-crafter was specially developed to automatically unload bottles, added Manex.

The company has also made further advances in its transfer plate technology to enable it to handle irregular layer formats and allows less stripper plate movement, so reducing the disturbance of the layer formation.

The twin or half plates, a feature of the P310, can be supplied with automatic adjustment to the spacer and pusher plates to create internal gaps in the pallet layer when required.

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Non-stop conveying at Chivas

Excel Automation has now completed the third part of a four stage £3m upgrade to Chivas Brothers palletisation and automatic despatch facility at Kilmalid near Dumbarton.

The latest stage required eight new production line conveying systems to be installed without interrupting production. Excel used the higher speed of the conveyors and high level palletisers to compensate while old equipment was dismantled.

The eight palletisers were designed to accommodate the maximum production of two lines using a combination of hinge belts and diverters. The software automatically prioritises the next available batch. The conveying systems transport different size cases containing a variety of bottle sizes from the existing bottling plant to the new palletising area where they are automatically sorted into pallet profiles. At the higher speeds stability was a major issue so prior to entry into the palletiser cases are secured using a LOCK n' POP system, which sprays

them with cold glue to secure each layer.

When completed the palletising operation should increase output by 50 per cent, says Excel. Phase four, which will be completed by April 2009, will upgrade the despatch area where loads are transferred to customer pallets. The contract entailed the refurbishment of eight, narrow-aisle stacker cranes and the installation of new infeed pallet conveyor systems in addition to the latest production line conveyor project.

www.excel-automation.co.uk



special feature

drinks - round-up



Automating soft drink and juice processing

Krones AG sees changing attitudes towards process technology for non-alcoholic beverages. The company says paramount considerations in all steps of production - such as product quality, cost effectiveness and flexibility of the equipment - is leading to higher levels of automation.

There are several examples of this, says Krones. The mixing technology, where the production step of blending the final syrup immediately prior to filling can now be dispensed with. The company's ContiFlow system can blend the product components, plus any ingredients, such as aromas or acidifiers, inline.

This technique also facilitates the trend towards larger batches of syrup which, it says, helps reduce analytical procedures and improve quality. The mixers can also incorporate the de-gassing and carbonation modules.

Additionally modern flash pasteurisation systems are now usually pre-assembled on a base frame to make installation and commissioning easier. Its own VarioFlash unit can also be fitted with a degassing system which includes an aroma recovery feature to minimise oxidation processes

during heat up. Better control systems enable the pasteuriser to keep the temperature at specified levels, even if the filler speed fluctuates.

Krones has also identified advantages in three stage designs for some pasteurisers, which incorporate a cooling stage. While the initial cost of production is greater the cooling stage enables the water in the system to be maintained at the desired level more efficiently and it can also be used to re-circulate the product if production is interrupted for any reason. Alternatively a hot fill process can be used to render beverages, such as juices, biologically stable.

Despite the fact these systems use more energy for cooling and heating the advantages are that they use considerably less space, require less capital investment than a pasteuriser and the thermal stress on the product is lower.

Finally the company believes the benefits of aseptic filling as an alternative to bottle pasteurisation is now becoming more widely recognised gaining popularity with non-alcoholic beverage producers.

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special feature

drinks - round-up

Gloomy prospects for UK beer sales...

Rob Hayward, chief executive, British Beer and Pub Association, predicts tough times ahead in the UK for beer sales of both the packaged and unpackaged variety.

Recent figures for total sales in the third quarter of 2008 showed a drop of 7 per cent. Pubs bore the brunt of the downturn, equivalent to 160 million fewer pints being sold compared with the same period in 2007.

Retail outlets for packaged beers fared little better with a decline of 6 per cent.

However the UK is not alone in seeing sales of alcohol decline. French sources

report champagne sales flat with a decline of 2.6 per cent while consumption of 'presson' or tap beer has fallen by 12 per cent since January 2008. Factors affecting sales are cited as poor weather conditions and the smoking ban. Germany paints a similar picture.

The one ray of light is in the USA where beer deliveries increased in the year to the end of September, although by a modest 1.6 per cent. Sales of imported beer, however, have fallen.

www.beerandpub.com

This little piggy ... just fell out of the sky

The idea for the Orchard Pig range of apple juices and cider literally fell out of the sky when Andrew Quinlan and Neil MacDonald wanted to find a use for surplus fallen apples from the orchards where they reared their herd of Gloucester Old Spot pigs.

The success of the range over just 18 months has led them to invest in an ES60 manual shrinkwrap sleeving machine from Wraps UK, part of the Marden Edwards Group. The equipment is now wrapping collations of 75 and 25cl bottles of apple juice and 75 and 50cl bottles of cider on trays. The company was previously using cases to pack the products.

Currently the Orchard Pig brand is sold mainly through farm shops and other exclusive outlets. Production is currently at around 100,000 bottles of apple juice and 70,000 bottles of cider/year. Already Fortnum & Mason and Jamie Oliver's restaurant chain stock the Orchard Pig range.

"We switched to the sleeve wrapping option largely to save costs on our packaging," says Andrew Quinlan. "Cost savings per pack are already substantial and can be more than 200 per cent," he explained.

"Another advantage is the film we

use to wrap takes up far less storage than the cases we used previously, which is a big help in a small factory. We are also doing our bit for the environment by using less packaging, for example we no longer need the divider inserts used previously," added Quinlan.

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drinks - round-up

...but Russians tap into draught beer

A Russian supplier of beverage and bottling equipment has tapped into the country's enthusiasm for draught beer by producing a tap dispensing unit which enables small neighbourhood retail outlets to sell the product direct to thirsty Russians for consumption at home.

Novosibirskprodmas introduced a fledgling version of the PEGAS as long ago as 2004. But it has recently introduced a new and improved tap dispenser, the Novotap which, it says, could have global appeal. So it is looking for partners in a number of other countries.

The Novotap has chrome plated components

made from brass and stainless steel and the parts have been re-designed for easy assembly and dismantling for cleaning. The pipes are now also concealed within the shank. The major benefit of the tap is that it produces a foam free fill by using the 'backpress' method, says the manufacturer. This enables much faster filling than with a normal beer tap and almost any sort of container can be used to carry home the liquid.

The retailers are happy too as profits on draught beer are 50 per cent higher than on pre packed products.

www.beerinnovations.com

Why metrics matter

Greater competition, consolidation and consumer demand for variety, plus interest in imports and micro brews is causing the brewing sector to search for new ways to be more competitive and drive out costs, says Rockwell Automation's consultant Raymond Zimmerman.

Breweries are increasingly turning to technology to improve speeds, efficiency and utilisation of manufacturing assets, he says. A quality metrics programme can help monitor and adjust each step of the production process and enable companies to react quickly and link the data, suggests Zimmerman.

A key factor is process control and reliability with most efforts directed towards the technical aspects of production to achieve consistency and

repeatability. But the speed and scope of technology adoption is directly related to the 'maturity level' of a brewery's manufacturing systems, he believes.

A report by MESA International discovered that companies which integrated rigorous metrics through their production saw a greater utilisation of automation and better linked operations.

When choosing a metrics supplier Zimmerman says it must be able to integrate architecture and applications seamlessly with existing systems and apply minimum customisation of code and interfaces. This requires a comprehensive suite of products, including process and advanced control.

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Kosme upgrades drinks labelling

Britvic has turned to Kosme UK to enable it to upgrade labelling performance at its Huddersfield production facility which produces both the Pennine Spring and Drench brands.

The urgent upgrade was needed to cope with increased output targets and, Kosme was able to deliver the new machine in just 10 weeks.

The Top Hot Melt labeller was specially constructed to meet Britvic Works Standard specifications and make it easier to integrate into the existing production lines. It is able to process 28,000 bottles/hour and is equipped with a parallel infeed/outfeed configuration plus servo motorised

adjustment for all the labelling stations. This allows fully automated changeover from one bottle format to another.

Britvic project manager Max Collingwood said the labeller has helped meet the increased production targets, adding: "Due to the urgent need and high profile of the product line we had to be sure that the new machine could be delivered on time. Also the security of having an on-site engineer during the commissioning of the labeller gave us the peace-of-mind we needed during a vital upgrade."

www.kosme.co.uk

DRINK SHORTS

■ **KHS** has designed a filling system, in collaboration with Lightweight Containers BV, to take advantage of the growing variety of large size beverage containers for the take home draught beer and cider market.

KeyKeg® is a non-refillable container using the bag-in-ball concept. KHS's combo-treatment filling head is capable of filling both conventional stainless steel kegs as well as the new disposable container at high speeds, it claims.

The new head can also be retrofitted onto existing lines.

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■ **Krones AG** will fail to meet its overall targets for 2008 according to chief finance officer Hans-Juergen Thaus. The final quarter saw order intake drop in "double digits". Orders to September climbed 12.5 per cent to more than €1.7bn, but the final three months will be well below the €537m achieved last time, he predicted.

■ **Consumption of Sports Drinks** is continuing to grow strongly, according to Zenith International. Growth in 2007 rose by almost 6 per cent to 11.5 billion litres and is expected to be above 12 billion in 2008.

America continues to dominate with 48 per cent by volume, but the most dramatic growth is in Eastern Europe and the Middle East, says the latest report.

Latest innovations include low calorie variants, dairy based products and those made from all natural products, such as coconut water - a natural isotonic. www.zenithinternational.com

Building cradle to cradle solutions

During the recent Pack Expo exhibition in Chicago last November, Rockwell Automation focused on how it can help machinery designers to build more flexible and sustainable machines and provide 'cradle to cradle' solutions for end users.

Mike Wagner of Rockwell's specialist packaging segment said, "End users want to have the ability to expand their product offerings and do more with their existing packaging machinery. But they also want to lower the expense that often accompanies machinery design. OEMs can facilitate this process by incorporating industry standards and future sustainability into designs."

Rockwell believes integrated control and information systems, such as its Allen Bradley CompactLogix L23 programmable automation controller, can help even small machine-level applications through simple configuration and functionality.

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Best practice for frozen foods

The British Frozen Food Federation (BFFF) wants to cut the minimum storage temperature for quick frozen products from the current -18° C required by EU regulations to -15° C.

The BFFF says there is no scientific reason for the current storage level. The Federation is working with the UK Carbon Trust to produce a set of guidelines for best practice in this area for frozen food companies. A seminar is planned for early in 2009. www.bfff.co.uk

Can machinery

Until recently whether the processing or packaging machine itself was environmentally friendly was of secondary importance to its ability to handle a range of green materials.

Recycled cartonboard, lightweighted containers, thinner plastics film (or those that stretch further), backless labels and more have all been taken in their stride by machinery manufacturers. And thanks to PLCs and servo motors much greater control of production has led to greatly reduced waste of both product and material.

But what of the machine itself? Generally it's a chunk of metal with drives, chains and conveyors plus jaws, heads, folders, mixers and so forth, depending upon the function. It needs power, often heating or cooling, and the ability to withstand rigorous cleaning. While some machines use a lot of energy, for example shrink tunnels or autoclaves and cookers; many are quite moderate consumers of power compared with other industrial processes. Shorter changeovers and less downtime also help.

So is there any scope or desire to produce more

sustainable machinery? The short answer is YES.

Companies are now taking a much more holistic approach to their manufacturing processes and machinery has to play its part. Also, while the Energy Using Products Directive (EUP) has not yet placed its tentacles around all types of production machinery, it is likely to be only a matter of time.

Several issues are already being addressed by processing and packaging machinery makers. The obvious one is reduced 'footprints' for a host of equipment. While this may be a response to customers' smaller factories it also means the machines need less material to make them.

However the more interesting developments seem to be in the reduction of energy consumption or its re-use for other purposes, such as heating the factory. Ilapak launched its Carrera 4000 eco horizontal FFS machine at interpack 2008 which isolates the heat at the sealing heads (*MU May/June 08 p17*), and Sealed Air has recently showcased its GT-71 energy saving shrink tunnel (*see p15*). These are just two examples of positive

Capturing waste heat

The Government is introducing measures in England and Wales to improve energy efficiency in many types of industrial building. These include the introduction of Energy Performance Certificates (EPC's) designed to provide A-G efficiency ratings. All properties when bought, sold, built or rented now need an EPC.

Commercial and industrial properties currently account for nearly 25 per cent of the UK's carbon emissions. Jet Environmental has developed a system which, says the company, is proven to save hundreds of tonnes of carbon a year. It is specifically designed as a low-carbon solution for heating and cooling large areas like warehouses, distribution centres and large factories.

Robert Simpson, managing director of Jet Environmental says, "The system can significantly reduce the amount of mechanical HVAC (heating, ventilating and air conditioning) systems use in sheds, which can reduce the cost of energy bills by up to 50 per cent. It can be supplemented with



various renewable technologies, for example, ground source and solar, which can further reduce the amount of energy to be paid for."

The JET approach features a series of self-balanced jet nozzles which direct warm or cool air into the space from roof level. These nozzles are connected via ductwork to an air handling unit and selected heating/cooling source. The system will also capture any waste heat generated in the space, from electric lighting or natural solar gains through roof lights, equipment and people. JET systems are designed to provide free cooling in summer by releasing large volumes of fresh air into the building and carrying out a night time purge when external temperatures are lower than the desired internal temperature.

www.jetenvironmental.com

environment

really be green?

actions by the machinery suppliers. Component suppliers are also doing their bit to make machines more environmentally friendly. And there are several advances in the use of machine consumables, such as inks, or chemicals used in cleaning processes, where new technologies have eliminated toxicity from the product or enabled it to be removed from the waste water and recycled. Several CIP systems now use no chemicals and much less water.

Significantly, companies such as Kronos are now making strong public statements about 'eco-compatibility for machinery design'. Volker Kronseder, executive board chairman said recently, "We provide our users with all the prerequisites they need for upgrading the resource-economy of their production processes. Whether it's bottle-to-bottle recycling technologies, processes geared to optimising energy efficiency... or enormous materials savings on packages... with our new 'enviro' brand we are creating a visible symbol of our commitment to

sustainability". He added, "We also continually review all the operations in our own manufacturing process for their sustainability."

But for now the main thrust of 'green machine' developments is still firmly in the arena of reducing waste, using materials better or using more sustainable materials and processes.

Neil Ashton of Packaging Automation, manufacturers of heat sealing machines, expressed a common view of machinery suppliers: "Although we get involved from the start of some projects more often than not the product concept has been developed and pack format provisionally designed. With developments in packaging towards more biodegradable or recycled packs, equipment suppliers need to be able to ensure they can use them as effectively as traditional materials."

With both industry and government intent upon keeping the environment at the top of the agenda, all aspects of production are under scrutiny.

Here we highlight examples of interest to the processing and packaging sector...

Food business told: use water wisely

DEFRA and the Environment Agency have turned the spotlight from domestic users to industrial consumers in their attempts to improve the use of water resources.

Envirowise has focused attention on the food sector particularly in recent months with the publication of a report earlier this year on water



usage by the food supply chain. Currently the industry uses 268 million cubic metres of water annually for its processes, products and cleaning, which, says the Agency, is enough to fill 71,000 Olympic sized swimming pools.

A new initiative has been launched, called Rippleffect, to help companies reduce their annual water bills by one third. The Agency claims that if processors invest in long term water technology, bills could be reduced by up to half.

A food industry spokesman said, "Enormous progress in reducing water consumption in food manufacture has already been made. But we welcome this initiative and recognise it could be a boost to profitability as well as the environment."

Several advances in the area of clean-in place (CIP) technology have been made, which is a major user of water in food production.

(MU Jan/Feb 08 pp29 - 31)

www.envirowise.gov.uk

Chemical free water treatment

So confident is Aquaco of the REDBOX Electro-Coagulation/Flotation (EC) waste water treatment system that it challenges potential users to send them 5 litres of their polluted water to be tested. It will then run trials and send back a sample and report showing just how effective REDBOX can be on water containing COD (Chemical Oxygen Demand), inks, paint or heavy metals.



The system operates by passing a direct current through the waste water which is introduced into the reactor. Intensive oxidation then occurs with the pollutants to form flocs which can then be filtered into cake and removed. Flocs can form in water with a pH value between 5 and 9. If the water is outside this range a pH adjuster can be inserted into the process.

Each REDBOX installation can be adjusted to suit the particular levels of waste water permitted by individual government limits. The purity of the water, which can be lower than 0.5ppm, depends upon the amount of time the water spends in the reactor, so running costs can be optimised for each requirement.

Cost of the REDBOX compares favourably with chemical-based systems. But the environmental advantages of the EC system and low installation and maintenance costs make it a sustainable solution for waste water treatment, says Aquaco. www.aquaco.co.uk

The system is suitable for a large number of applications, including metal surface treatment plants, corrugated cardboard producers, printers, ink and paint manufacturing, or where these materials are in heavy use.

Paul Williams of Aquaco, which sells the REDBOX under licence in the UK, explains, "The system is easy to install and can be tailored to handle from as little as 50 litres an hour for heavily polluted water up to 20 cubic metres per hour. If extra throughput is needed additional REDBOX units can be added to increase capacity."

special feature

Linerless print and apply saves a packet

The introduction of four M500 linerless print and apply systems at cosmetics maker Yves Rocher, France, for its case and pallet applications, is set to reduce the company's label waste by more than 97 per cent, from the current 8,300kg to about 200kg.

The systems eliminate the need for silicon or paper protectors for the label and the label ribbon. The re-design also removes the matrix around the label.

Pierre Bouchet, operations director at Yves Rocher commented, "The paper



backing to conventional self adhesive labels equates to around 10-15 per cent of the cost, so we have already reduced the spend on materials. Also the liners are non-recyclable so further costs incurred for incineration or landfill are avoided."

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environment

Bulk sulphur recovery



Two 'Spirofil' bulk bag fillers, supplied by Spiroflow's US subsidiary, were key to the successful recycling of over 36,000 tons of sulphur, says the company.

Sulphur, a by-product of diesel fuel, can be used as a fertiliser, but until recently the value of sulphur remained depressed. When recovery became profitable for the owners of an oil refinery in Kenai, Alaska, it contacted AIMM Technologies, an oil industry service company to help.

Despite being hazardous and flammable, the contract required the sulphur to be bagged, moved to a storage site, moved again from the storage site by truck to a port and then loaded onto an ocean vessel for delivery to market. The best way to move the material was to use bulk bags with a specific requirement that the bagging facility had

to be easy to dismantle for use at other sulphur recovery sites.

Spiroflow supplied two Model C1-2 weigh fillers which are specially designed for pallet loaded Bulk Bags/Flexible Intermediate Bulk Containers (FIBC) and are suited for FIBCs of 2,000 - 4,000 lbs capacity. The fillers incorporate a 'weights and measures' approved weigh platform and those supplied to AIMM were complete with integral powered rollers for fast and easy removal of filled bags. The FIBCs each held 3,300 lbs/material, were three feet in diameter and custom made from conductive polyester for the safe handling of sulphur. Once filled, the FIBCs were powered onto gravity roller 'queuing' conveyors.

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Recycled heat saves costs

By applying good heat recovery practices chemical, food and dairy processors can reduce heating bills by up to 25 per cent, according to GEA Niro.

The company's own system cuts heating costs by re-using more of the heat generated within a plant that would otherwise be lost to the atmosphere.

Energy can be saved at various points throughout the production process, for example, hot condensate from the evaporator can be cooled in the pre-heater of the spray dryer. Heat exchangers can take advantage of high temperature combustion air from the steam heater, hot oil unit or indirect oil heater to heat the air intake to the spray dryer. Instead of releasing smokestack exhaust, it can be used to heat air in

the pre-heater which enables it to operate at a lower temperature.

At the heart of the heat recovery system is a new type of heat exchanger with a special plate profile designed to reduce bacterial build-up and to aid cleaning in place of the system. Ordinary heat exchangers allow bacterial build-up during operation that can be easily returned to the process during shut down when the airflow of the cooling system is reversed. Avoiding this build-up of bacteria through plate design and frequent CIP cycles helps prevent contamination. This is especially important for sanitary operations.

A detailed analysis of where heat is being lost in the plant is required to streamline the flow of heat for maximum efficiency.

www.niro.com

machinery directive

Getting in a fix over fixed guard fixings



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The most contentious feature of the new Machinery Directive is the requirement that fixings for fixed guards must remain attached either to the guard or the machine when the guard is removed.

Guards that need to be removed on a regular basis for cleaning or maintenance often get separated from their fixings, particularly if the guard is held in place by a large number of fixings. It therefore makes sense for the fixings to be retained.

But what about fixed guards which rarely or never get removed in the lifetime of the machine? Does it really make sense to add cost to the machine by providing captive fixings for these guards? Machine manufacturers argue no, but the European Commission is saying yes: if it's a fixed guard the requirement applies however infrequently the guard is removed.

Clarification

However the European Commission has conceded that if the primary purpose of a "guard" is not safety but is structural or an essential part of the machine, like the casing of a pump, this requirement does not apply and conventional fixings can be used. This clarification has helped some machine manufacturers but there are still some difficult issues to be resolved for suppliers of processing and packaging machinery.

For example what about a bucket elevator? At their largest

bucket elevators can elevate product through six floors in a building, all surfaces being clad in guards secured with hundreds of conventional fixings. These guards prevent access to the moving parts, contain dust and protect the product, and in some instances contribute to the rigidity of the structure. However typically only one of these guards will be removed on a regular basis for cleaning and the other guards will rarely if ever be removed.

Safety case?

The case for attaching the fixings to the guard which is removed regularly is clear, indeed if access is required more than once a week there is an argument for this guard being interlocked, but is there really a safety case for insisting that the other fixings are also made captive?

Similarly on a typical palletiser installation there will be many metres of guarding, all of which is held together with conventional fixings, which are erected when the equipment is installed and only dismantled if a guard is damaged or at the end of the life of the machine. Is there really a safety reason for insisting that fixings are held captive?

Conflict

Manufacturers think not, but if users are willing to pay for the extra cost should they just get on with it and not argue?

One of the roles of standards is to help people interpret Directives and by coincidence

the standard for guards - EN 953 - is currently being reviewed to make sure it is in compliance with the new Machinery Directive.

An attempt has been made in the draft of EN 953, to restrict the need for retained fixings to instances where guards are removed "regularly", but CEN has objected to this word on the grounds that it conflicts with the requirements of the Directive. Is this really the case?

Meanwhile the construction machinery industry has been a little more successful, because the generic standard for construction machinery - EN 474 - includes: "Fixed guards that are to be removed as a part of maintenance procedures, described in the operator's manual, shall be fixed by systems that can be opened or removed only with tools. These guards fixing systems shall remain attached to the guards or to the machinery when the guards are removed."

The way ahead

This clause has been agreed by CEN and may be the way ahead not only for EN 953 but also for other product specific standards like the EN 415-2 on bottling and labelling machines, EN 415-4 on palletisers and depalletisers and EN 1672-1 the generic standard for food processing machines, all of which are currently being revised.

But is there a problem with the Directive? Most of the essential health and safety requirements of the Machinery Directive are

qualified by General Principle 2 which states: "The obligations laid down by the essential health and safety requirements only apply when the corresponding hazard exists for the machinery in question ..."

The hazard here is of fixings for fixed guards being lost and if a guard is removed rarely the risk of this occurring is minimal - doesn't this mean that the requirement can be ignored? Likewise if the "guard" is a vital part of the machine like the end plate of a lobe pump there is a minimal risk of the machine being operated without the fixings in place, no matter how often they are removed because the machine will not work properly unless those fixings are in place and so here too surely the requirement can be disregarded?

The EU Commission guidance document for the new Directive will include a ruling or explanation on this issue and between now and December 29 2009 you can expect there to be a great deal of discussion on what precisely this guidance will say, but if you have strong feelings on the subject either way do let us know.

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coding, marking & labelling

IN BRIEF

The recently launched **Sauven 1000** series allows users to connect up to four individual print heads to one controller.

The modular system means one print configuration can be easily converted into another simply by adding more print heads or by interchanging different heads. There is a choice of three different 1000 print heads dependent on the application. Each has its own ink supply to suit applications such as cardboard, PVC and metal, explained Sauven.

The Sauven 1000 printers are suited to printing in a remote location, printing on two sides of a box or printing with multiple heads on a web. T: +44 (0) 1932 355191 E: sales@sauven-marking.co.uk

A low-cost solution for inline printing of pharmaceutical blister foils has been introduced by **Hapa**.

The low-cost EasyFlex has a web width of 260mm and is suitable for small- and mid-sized blister machines, whether intermittent or continuous motion, says Hapa. The printer is claimed to have the lowest cost of ownership on the market. EasyFlex incorporates a format-free print cylinder, which means that a single universal cylinder can be used for every job. T: +44 (0) 1480 414242 E: paul.osborne@hapa.laetus.com

Harland Machine Systems has introduced free line-efficiency audit assessments as part of its hire service to contract packaging customers. T: +44 (0) 161 8484800 E: enquiries@harland-hms.com

Doubling up on tamper evidence

A machine to apply tamper-evident labels to both single and multipack cartons for pharmaceutical products has been introduced by Sewtec Automation.

The Sewtec LX5194 Labelling System, which can be adapted for case trace applications using 2D codes, can handle a variety of pack sizes up to 67 x 85mm with a throughput of 3,200 singles and 800 multipacks/hour.

The ability to handle both single and multipack cartons is achieved by diverting single cartons into a separate lane where they are rotated 90° and gathered into a group of four.

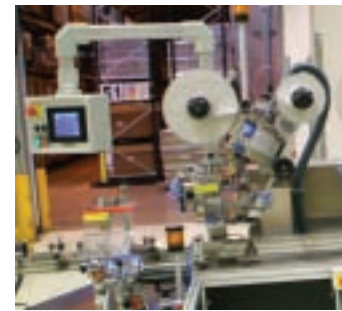
An advanced control unit, with preset memory functions, allows easy call-up of individual settings for different pack sizes. Changeovers take less than five minutes, says Sewtec. Packs

move through a series of stations via indexing conveyors. At the first stage, two cameras check that the packs are correctly orientated. Labels are applied to the top and bottom of the boxes at the next two stations, with a further vision system used to ensure correct placement.

The label is designed to disintegrate on removal so a vacuum system ejects it onto a pad for subsequent placement onto the pack, explains the company. A tamp roller station wipes down the top face of the label to create a wrap around effect across the top and side of both the singles and multipacks.

The packing station receives cartons in two rows simultaneously for faster placement into outer cases for onward despatch. A monitoring system ensures that the packs have cleared the machine in order to maintain full production data as part of validation requirements for pharmaceutical products.

T: 44 (0) 1924 494047 E: sales@sewtec.co.uk



It's a reel solution

A HERMA 400 label applicator has been integrated with an advanced product handling system for Ricoh UK Products.

Commissioned to minimise manual assembly operations and improve efficiencies when applying labels on to the toner caps, the control system is integrated into the motor housing of HERMA UK's 400 label applicator. The compact machines allow five applicators to be installed into a relatively small space eliminating the need for colour changeover.

Working with the Ricoh Design Team the labelling system was integrated and connected with an Omron PLC controlling robot cell to provide automatic colour identification and synchronisation of dispensing and production speeds.

The drive technology of the Herma 400 uses AC servo motor technology to ensure the greatest possible positioning precision with a tolerance of 0.3mm, explained HERMA.

Ricoh UK Products Design Engineer, Richard Minifie, said: "By automating, Ricoh have improved the process quality, reduced manufacturing times and the number of operators involved, resulting in considerable cost savings." T: +44 (0) 1440 763366 E: sales@herma.co.uk

Small is beautiful

Overprint has expanded its range with the S320 Small Character Ink Jet printer. It is capable of printing up to 3 lines of text from 1.8mm - 20mm with a combination of character heights. It is said to be ideal for printing onto plastics, metals, glass, films, paper and flat,

irregular or delicate surfaces. The printhead can be mounted and will operate at any angle. It comes in a stand alone frame that makes it suitable for mounting over existing conveyors or production lines. T: + 44 (0) 1895 824090 E: info@overprint.co.uk

Control and communicate with the new MicroLogix

The MicroLogix 1400 controller, the latest Allen-Bradley controller from Rockwell Automation, is said to provide end users and OEMs with a higher input/output (I/O) count, faster high-speed counter and pulse train output.

Seung Ju Lee, MicroLogix product manager, Rockwell Automation, said, "An embedded Ethernet port and two embedded serial ports with advanced communication protocols will provide the customer a valuable solution in

many applications."

The 1400 builds on the features of the Allen-Bradley MicroLogix 1100 controller - online editing, EtherNet/IP and an embedded LCD - while providing the user with an embedded I/O count of up to 38. It can support up to seven additional I/O modules for a maximum of 144 discrete I/O points.

Other features include up to six embedded 100 kHz high-speed counters and removable terminal blocks. MicroLogix 1400 controllers can support up

to 10,000 programme words and 10,000 words for data, as well as a memory module for program backup and transport, and data log or recipe-storing, says the company.

The MicroLogix 1400 controller is suitable for machines used in food, beverage and pharmaceutical manufacturing, and applications using supervisory control and data acquisition (SCADA).
T: +44 (0) 870 242 5004
E: ukmarketing@ra.rockwell.com

IN BRIEF

Pilz Automation Technology has launched the PSEnSlock device that combines the functions of a safety gate monitoring switch and interlock in a compact, robust unit.

Suitable for mounting directly on 45mm extruded aluminium profiles, the PSEnSlock holds the gate closed by means of a long-life, maintenance-free electromagnet that achieves a holding force of 500N while drawing only 4.8W from a 24V DC supply. Thanks to the non-mechanical locking technology, the switch/lock and actuator can tolerate a maximum horizontal and vertical misalignment of 5mm, says Pilz.

T: +44 (0) 1536 460766
E: sales@pilz.co.uk

Turbopurge at speed

Systech has enhanced the performance of its 8700 oxygen permeation analyser with the Turbopurge™. It says this fast feature means that testing can be done in 3-12 hours to provide greater throughput.

The analyser can test a variety of samples; bottles, packages and films. The improved software allows individual packages to be started, stopped or delayed during testing. The 8700 is ideal for beer bottle manufacturing.

T: + 44 (0) 1844 216838
E: sales@systech.co.uk



Serving up intelligence

Packaging machinery OEMs are set to benefit from ELAU's expanded range of Intelligent Servo Modules.

The iSH-140 models have a compact 140mm frame and feature continuous torque up to 11.5 Nm, enabling users to power larger mechanisms that previously required conventional servos. These include main transport conveyors, carousels and other higher inertia mechanisms. In many cases, this extends the benefits of plug & play cabling, modular flexibility, reduced wiring and electrical cabinet size to the entire machine, says ELAU.

The servo modules from Schneider Electric's ELAU Packaging Solutions cover a continuous torque range of 1.1 to 11.5 Nm, with peak torque extended to 50 Nm. The servo modules are completely compatible with existing systems.

Prior to the introduction of the 140mm frame size of the iSH-140, higher power applications may have required one or two conventional servo motors with cabinet-mounted drives in addition to servo modules, claims ELAU.

T: +44 (0) 1908 628014
E: sales@elau.co.uk

The **Lenze** 9400 servo range has been extended with an up-rated power capacity and curve generation software. For applications with power requirements above 75kW that require a low overload capacity, the continuous power ratings of the 9400 drives have been increased by up to 40 per cent, giving cost and space savings. The ability to generate curved motion paths, as achieved by a mechanical cam, has been increased.

T: +44 (0) 1234 321321
E: sales@lenze.co.uk

Turbo Systems has launched a new generation of pin free depositor outlet nozzles. The nozzles eliminate all small part components, and in some instances reduce the quantity of seals required, claims the company. The range is suitable for food, cosmetic, chemical and pharmaceutical producers.

T: + 44 (0) 1482 325651
E: mmoss@turbo-systems.com

who what where

Yamato raise £3,300 for Children in Need

For the fifth consecutive year, customers, suppliers, staff and friends of Yamato Scale Dataweigh (UK) raised money for Children in Need.

A local indoor soccer pitch was hired so that teams made up of staff from Yamato could play 17 Dodgeball matches. Sponsors were invited to bet on the outcome of the tournament.

The final featured The Fame(ous) Five dressed as characters from the 1980s TV programme Fame and 'Cannon Fodder' dressed as combat



style characters, with the Fame(ous) Five coming out winners with a score of 15-2.

Generous support of food came from the local Ainsleys Bakery and Pizza Hut. The tournament raised £3,300 for Children in Need. Yamato would like to say a big THANK YOU to everyone involved.

Power(ing) to success

PPMA member, Power Panels Electrical Systems, scooped four awards at the 2008 Best Factory Awards. The Walsall-based company was awarded Best Small Company, Best Electronics and Electrical Plant, the Skills Development Award, and the overall title of Barclays Factory of the Year.

The awards are the latest accolade for a business which has grown over the last decade from being a local supplier of control panels to building complete machines for some of the world's leading equipment manufacturers.



Per-Erik Lindquist



Peter Hewson

Who's done what and gone where ...

PIAB

Per-Erik Lindquist has been appointed chief executive officer of PIAB, a global leader in industrial vacuum technology.

Lindquist was group vice president of Scania, a leading truck manufacturer, where he worked for 20 years.

Prior to this he spent four years as an executive vice-president at Alfa-Laval, a world-leading manufacturer of cooling, heating and separation processing equipment.

"I am excited to lead a company with a truly revolutionary technology that helps customers across so many different industries and countries save energy and gain productivity with innovative solutions," said Lindquist.

He takes over from Jacob Tell who has assumed the role of Deputy CEO to focus on managing PIAB's continued growth through mergers and acquisitions and dynamic pursuit of new markets.

RTS Flexible Systems

RTS Flexible Systems, a leading vision-guided robotic automation specialist, has appointed **Peter Hewson** to lead its service and support business in the UK, Ireland and Europe.

The new post marks a drive by RTS to expand its service and support offering to both its existing customer-base and to other users of robotics and automated systems. Hewson was formerly service controller for the Northern Support Centre of FKI Logistics, having spent 10 years in service engineering roles with the company.

tna

Isabel Regalado has been appointed tna Europe's marketing coordinator. Based in Dubai, she has responsibility for the creation and implementation of marketing strategies for tna products and actively building new business relationships in Europe.

Regalado was previously a

member of the marketing team of a leading supply chain technology provider.

Allen Coding Systems

Andy Phillips is the new business development manager for Allen Coding Systems. Phillips previously worked for Videojet Systems International where he was sales director.

He also spent time with Imaje USA where he was a Regional Manager with responsibility for managing the sales and service operations for a ten state region. Prior to joining Allen Coding Systems, he was UK sales manager at Endoline Machinery.

ABB

ABB has appointed **Chris Withey** to lead its robotics division in the UK and Ireland. Chris has a long history of working within ABB's global robot service division, where he has been engaged with its local service teams around the world.

DATES FOR THE DIARY

27 - 30 January
**UPAKOVKA/UPAK
ITALIA 2009**
Krasnay, Moscow, Russia
www.upakovka-upakitalia.de

23 - 26 February
Gulfood 2009
Dubai, UAE
www.gulfood.com

26 February
**New Machinery Directive
PPMA Seminar**
Marriott Hotel, Northampton
www.ppma.co.uk

10 - 13 March
Anuga FoodTec 2009
Cologne, Germany
www.anugafoodtec.com

15 - 18 March
Pro2Pac
ExCel, London
www.pro2pac.co.uk

15 - 18 March
IFE 09
ExCel, London
www.ife.co.uk

11 - 15 March
ACHEMA 2009
Frankfurt, Germany
www.achema.de

19 March
**New Machinery Safety
Concepts for Machinery Users
PPMA Seminar**
Marriott Hotel, Northampton
www.ppma.co.uk

21 May
Starpac Summit 2009
1 Carlton House Terrace,
London SW1
www.starpac.uk.com

4 June
**New Developments to
Improve Total Line
Packaging Efficiency
PPMA Seminar**
Warwick University
www.ppma.co.uk

17 - 20 June
ProPak Asia 2009
Bangkok, Thailand
www.propakasia.com