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Over a period of 10 years, the number of recalls used to average around 60 per year; however, this has been on the rise, with 76 reported in 2014 increasing to 81 in 2015. Recalls can either fall under the mandatory category in which undeclared allergens often cause a problem, or voluntary in which the company wants to amend the taste or weight of a product to protect their brand reputation.

The survey, which received 46 responses, found that two-thirds of organisations have not had to implement their recall plan. Those that have did so voluntarily, with about 90% of recalls initiated by the company. This means that the majority of organisations have not experienced first-hand a recall that has escalated into a crisis, and therefore they are unprepared to handle this situation.

“The results of the survey highlight the need for industry to better prepare themselves for a crisis situation. We have seen time and time again that a poorly managed recall has the potential to turn quickly into a crisis, affecting a company’s reputation and bottom line. This is especially relevant with the advent of social media, where issues are rapidly amplified,” explained Director of Victual Recall Director and report co-author Peter McGee.

Ultimately, this comes down to training employees, having dedicated staff for these situations and purchasing insurance. Most businesses train their staff for recall implementation, but of the 85% of businesses that have a nominated spokesperson, only a quarter of these have trained that spokesperson for the activation stage of a product recall.

“An essential component of protecting an organisation’s balance sheet is to transfer the risk of a product recall escalating into a crisis through the purchase of specialist recall insurance. Added to this is the need for access to specialist resources to guide the recall process,” said McGee.

Research suggests that the average global cost of a recall is US$10 million, but 63% of respondents said they purchase insurance that covers less than this amount. With an array of costs facing companies in a recall situation — such as legal fees, logistics and third-party expenses — it is surprising that 19% of organisations fail to purchase any form of product recall insurance.

“An insurance policy is complex, but it is a critical contract that needs to be understood so that it responds in the way you expect it to,” said David Goodall, also a Director of Victual Recall and report co-author. “Specialised recall insurance, combined with carefully executed preparedness planning, could be the difference between the end of a business and its ongoing viability.”

Overall, the results highlight the importance of being fully prepared for recall or crisis through planning, specialist resources, regular testing and insurance; many organisations in the food and beverage industry have not yet achieved this and therefore continue to be at risk.
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What’s in a name?

Lot’s if it involves trademark infringement.

Mr Lemonade, a Polish soft drink manufacturer that distributes its drinks to bars and restaurants across Europe and the UK, has changed its lemonade’s name from John Lemon to On Lemon following legal action instigated by Yoko Ono Lennon.

It was not only the name that led Yoko Ono to instigate the legal proceedings. While the two names, John Lemon and John Lennon, are similar, Mr Lemonade went further in using the legacy of Lennon to market its drink — a Facebook post by John Lemon Ireland showed a large wall mural of Lennon holding lemons with the brand’s logo underneath and other advertising depicted a pair of round glasses, closely linked with the famous Beatle, next to the words “Let It Be”.

Mr Lemonade registered its John Lemon trademark in 2014, while the John Lennon brand was not registered until 2016. However, as a start-up Mr Lemonade professed not to have the funds to fight the lawsuit, which was claiming damages in the range of 5000 euros a day and 500 euros for every bottle sold.

So when you name a product and choose a marketing strategy, you should be conscious that trademark infringement could land you on the wrong side of the law.

Health risks of natural origin

It’s natural so it must be good — right? Actually — no!

Consumers are naturally cautious about contaminants in their food. In Germany the risks posed by mercury in fish and dioxin in eggs and milk are the most well-known contaminants, but consumers are quite uninformed about naturally occurring contaminants such as pyrrolizidine alkaloids (PAs) in honey or tea.

And, even if they are aware of the ‘natural’ potential contaminants like PAs, only one-third believe they pose a significant risk.

The German Federal Institute for Risk Assessment (BfR) interviewed 1001 people about contaminants in food and found:

• 78% were aware of mercury in fish.
• 70% were aware of dioxin in milk or eggs.
• 26% were aware of arsenic in rice and rice products, only 36% of these people thought the arsenic posed a significant health risk.
• 13% were aware of pyrrolizidine alkaloids in tea or honey, 57% of these people thought the PAs posed a significant health risk.

Understanding the health risks posed by contaminants was not evenly spread across the population with men and those under 29 less likely to be cognisant with the risks.

Assuming these trends are not limited to Germany, it is beholden to industry stakeholders to raise awareness and understanding of the risks posed by natural contaminants.

The full BfR article can be read in the journal Bundesgesundheitsblatt - Gesundheitsforschung - Gesundheitsschutz (doi:10.1007/s00103-017-2557-2 - in German with English abstract).

3M acquires Elution Technologies

Food and beverage processors face the continuous challenge of ensuring their products do not contain any potentially harmful allergens. With the number of allergic reactions to food substances rapidly increasing, food safety is of greater concern than ever.

3M has recently expanded its focus on food safety by acquiring Elution Technologies, a manufacturer of test kits that help ensure products are free from potentially harmful allergens such as peanuts, soy and milk.

Founded in 2012 by Bia Diagnostics and Immunology Consultants Laboratory, Elution Technologies has developed a wide range of allergen tests.

While 3M Food Safety currently has pathogen and hygiene monitoring solutions, such as Petrifilm Plates, its acquisition of Elution Technologies adds more than 30 allergen-specific lateral-flow and enzyme-linked immunosorbent assay test kits to its existing total protein tests.

“We are pleased to add this technology to our broader food safety offering, and extend these important solutions to food processing companies across the globe,” 3M Food Safety General Manager Polly Foss said.
72% of Australians prefer locally sourced products

With safety concerns over food and drink becoming more prevalent, brand trust has become important in influencing consumer choices. According to research from Mintel, 28% of urban Australian consumers prefer to buy food and drink products that have the Australian Made/Grown logo as it assures them of health and safety.

The research found that 72% of metro Australians make the effort to buy food or drink with an Australian Made/Grown logo, and 17% always do so. When looking at the motivation behind these choices, Mintel found that three in 10 suggest the logo instills trust, while one in four believe that it builds the authenticity of a product.

Six in 10 urban Australians also suggest that the new percentage bar on the logo has furthered their trust in the product. The changes to the logo was deemed to have a positive impact on consumers due to the fact that it clearly demonstrates the proportion of ingredients that are either local or imported.

However, there are generational differences when it comes to homegrown products. Mintel’s research found that Australia’s iGeneration (post-millennial) consumers are less likely to buy a product purely due to its origins. Only 19% of urban Australian consumers aged 18–24 are influenced to purchase locally made or grown products compared to older generations; 39% of consumers aged 45–54 and 56% aged 55 and above are more inclined to feel strongly about local products or services.

Alternatively, Australia’s iGens are more influenced by products or services that provide convenience (40%) or are from their favourite brand (34%). “Deteriorating faith in institutions of government, businesses, non-governmental organisations and the media has created doubt and confusion among many, weakening consumer trust worldwide. On top of that, the sheer number of safety scares that have been reported is enough to spur people to put more thought and care into what they are consuming. “Our research indicates that local products or services that come with the Australian Made/Grown logo are likely to resonate well with Australian consumers, especially those featuring the newly revamped logo, which now provides an overall heightened understanding of the provenance of a product. What’s more, older generations are more likely to purchase locally made or grown products or services than their younger counterparts — consumers who are generally more attuned to the digital world, more aware and open-minded, and perhaps have higher levels of distrust for official bodies,” Mintel Trend & Innovation Consultant, ANZ Shelley McMillan said.

The research suggested that companies can win the trust of younger consumers by pursuing progressive policies such as gender equality, and being transparent with their mistakes. “With nowhere to hide, it’s best that a brand holds its hands up and approach the situation head on in times of crisis,” Mintel Head of Insights, South Asia Pacific Jane Barnett explained. “Essentially, it’s important for brands to be honest, be human and be positive, all to build that level of ‘friendship’ and trust with consumers.”

Purchasing locally sourced food and drink has been growing in popularity over the last few years, and the knowledge of a product’s origins is one crucial way of building trust with Australian consumers.

Marel is getting further into pork and beef

Marel’s strategy to be a full-line supplier to the poultry, meat and fish industries globally is closer to fruition with the company’s acquisition of Sulmaq.

Sulmaq, based in Rio Grande do Sul in southern Brazil, employs around 400 employees and has an annual revenue of around €25 million. The company’s main solutions include hog slaughtering lines, cattle slaughtering lines, cutting and deboning, viscera processing and food logistics. It has a large installed base throughout Central and South America and strong customer relationships. Sulmaq also develops and manufactures precision investment castings for various market segments.

At the forefront of providing primary processing solutions to the pork and beef industries in Central and South America, Sulmaq will strengthen Marel’s position in both these territories. Brazil is the second largest producer of beef and the third largest producer of poultry meat in the world.

Over the years, Marel has grown organically through the acquisition of internationally renowned brands like MPS, Stork and Scanvaegt. Sulmaq can now be added to this list.

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Do you want access to world-class food industry professionals as employees?

The food industry often has trouble finding staff competent in food packaging processes and design, including new product design. It’s time the industry takes some responsibility for this issue and invests in the training of staff. If future employees finish their education well prepared to enter the workforce the whole industry will benefit.

And now there is a simple way your company can contribute to this.

The University of Melbourne and the Australian Institute of Packaging are looking for companies willing to engage students from the Master of Food and Packaging Innovation (MFPI) for industry internships in 2018.

The MFPI is a unique postgraduate degree that encompasses food science, food safety, packaging materials and processes, packaging design, consumer behaviour, product innovation, entrepreneurship, business management and marketing.

MFPI interns are highly motivated and ready to tackle whatever tasks given to them. This internship provides a great opportunity for companies to receive some extra help with research or projects that they are having difficulty finding the time or resources to complete. In addition, the interns bring with them a fresh pair of eyes that can inspire new ideas and help to problem solve.

Not only that, taking an MFPI intern provides an ideal opportunity to assess potential future employees.

MFPI students are required to undertake 120–200 hours of work as part of their internship. These hours can be taken over weeks or months, depending on the needs of the company.

If you are interested in taking an intern in 2018 or would like more information, email info@aipack.com.au.

NT Farmers rejoins AUSVEG

The Northern Territory Farmers Association (NT Farmers) has resumed its membership with AUSVEG, the national industry representative body for vegetable growers.

One of the territory’s leading mango, tomato and cucumber growers, Michael Quach, was nominated as the NT representative for the AUSVEG board to ensure the Northern Territory’s vegetable industry is well represented on issues of national importance.

AUSVEG Chair Geoff Moar welcomed the move, highlighting the region’s growing importance to the national agriculture industry.

“AUSVEG has enjoyed a longstanding relationship with NT Farmers, in particular with its board and with newly appointed CEO Greg Owens, who is a popular figure in the vegetable industry and a longtime, influential contributor on many vegetable industry advisory panels,” said Moar.

“This decision by NT Farmers will ensure the Northern Territory’s vegetable industry is well represented on issues of national importance and I am looking forward to working with NT Farmers President Simon Smith, CEO Greg Owens and newly appointed AUSVEG Director Michael Quach to ensure their growers’ thoughts and concerns receive strong national representation, on top of the excellent work performed on their behalf by NT Farmers.”

NT Farmers President Simon Smith agreed that the decision to renew the membership comes at a time when the horticulture industry has a huge potential for growth.

“Horticultural production in our region is booming, with the Northern Territory’s proximity to Asia and the increasing demand from its emerging middle classes for high-quality produce also providing a potentially lucrative market for our growers beyond our shores.

“We recently had the AUSVEG chair, deputy chair and CEO visit some of our leading producers to understand the difficulties that growers from the Northern Territory are facing. It became clear that our growers face significant challenges due to the extreme climate and isolation, but that there are many similarities to those facing growers all around the country,” said Smith.

He concluded by praising AUSVEG’s long-term success in representing Australian vegetable and potato growers, and NT Farmers look forward to being a part of this national representation.
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New APAC leadership for DSM Nutritional Products

To increase growth in Asia Pacific, Royal DSM has appointed new Asia Pacific leadership for its nutritional products. Its nutrition business has been growing steadily in recent years, spanning multiple industries, and the science-based company is focusing on employing effective leaders to further drive the success of DSM Nutritional Products.

Coming into effect on 1 September 2017, Pieter Nuboer will retain his current position as Asia Pacific President of DSM Nutritional Products and take on the role of Asia Pacific Vice President of Animal Nutrition & Health. André Rhoen will also be appointed Asia Pacific Vice President of Human Nutrition & Health.

Initially joining the company in 2009, Nuboer was tasked with leading human nutrition and health activities, and his new role will see a shift in focus to the animal industry. He will be succeeding Karim Kurmaly, who is moving on to a joint venture with Evonik, looking at producing omega-3 fatty acids from natural marine algae.

Nuboer will report to David Blakemore, Global President of Animal Nutrition & Health, who commented on Nuboer’s suitability for the role.

“The high-growth economies in the Asia Pacific region are a key part of our global corporate strategy. Pieter brings a deep understanding of our customers’ businesses in this region over the last decade, commercialising new products in Asia for Asia.”

Rhoen has held a variety of different roles within the Global Strategy & Acquisitions department since joining DSM in 2001. In his new position, he will be reporting to Jeremy Xu, Global President of Human Nutrition & Health.

“People, economies and markets in Asia Pacific are being affected by fundamental societal trends predominantly driven by demographic changes as populations grow. We’re seeing increasing pressure on resources and the food chain, along with new patterns of consumption impacting the environment, prompting heightened attention to health and wellbeing.” Xu said.

Both Nuboer and Rhoen will be based in DSM’s Asia Pacific headquarters in Singapore, which was expanded to include the $8.8 million Nutrition Innovation Centre in 2015.

Spray dryer designed to recover 95% of particles

Researchers from the ARC Training Centre for the Australian Food Processing Industry in the 21st Century at the University of Sydney have developed a new pilot-scale spray dryer that is designed to recover 95% of particles. The technology could improve efficiencies, cost savings and product quality for food and medicine businesses.

Spray dryers use hot gas to convert liquid to powders and are therefore crucial for the development of products such as powdered milk, instant coffee and cereal in the food industry, and pharmaceutical products such as antibiotics.

“We have only tested the new spray dryer with salt so far, but all foods and pharmaceuticals will potentially benefit from this new design. Many waste products will also be treatable in ways that current designs cannot do,” said Professor Timothy Langrish, who is leading the research with his PhD candidate Harry Huang.

However, a disadvantage of spray dryers is the fact that sediment and particles often settle onto the inner surface of the dryer. The new spray dryer aims to combat this problem by using a stable air flow.

“The new design features of this spray dryer have created a stable air flow, which reduces the likelihood of particles colliding with the wall, thereby reducing the amount of deposition and improving product recovery,” Langrish stated.

While standard dryers have over 30% wall deposition, the new system reduced this number to only 5% of solid materials remaining in the drying chamber.

“This outcome means almost all of the dried particles can be recovered from the system without being exposed to high temperatures for a long period of time,” said Huang.

The spray drying system is therefore particularly useful for products such as foods, pharmaceuticals and bioactives as it reduces the degradation of heat-sensitive compounds.

Langrish suggested they plan to further develop the system in order to dry materials at a higher capacity, and the design feature which reduces pressure fluctuations is also currently being patented.
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Coca-Cola Andina chooses a process-synchronised cooling solution

Cooling has a very large impact on a beverage business — everything from processing to bottling, productivity, running costs and environmental sustainability is affected by traditional ‘central’ cooling systems.

Now a new Coca-Cola Andina Group plant in Brazil has opted away from the traditional central cooling system to go with Frigel’s Ecodry system — a ‘process-synchronised cooling solution’.

Phase 1: 400,000,000 L/year
With 11 plants in Chile, Brazil, Argentina and Paraguay, Coca-Cola Andina Group is one of the most important soft drink processors in Latin America. Its branch (Coca-Cola Andina Brasil) is building a state-of-the-art facility in Rio de Janeiro that will support the increasing demand for carbonated soft drinks (CSD) and mineral water in the region.

The implementation of this high-tech plant is planned in three phases, with the installation of six, latest generation, high-throughput bottling lines supplied by Krones.

The first phase of the project (2017) will start with three lines delivering an expected production of 400 million litres of beverages/year. This will include the world’s largest single bottling line, which is able to fill 78,000 litres/h.

The project has been developed with all the latest technologies available today for CSD processing and designed with a modular concept in which each processing line is a separate ‘production/cost unit’ to be operated and managed separately. This innovative approach will give the new facility higher productivity, total production flexibility, much better cost control and easy future expandability.

Keeping it cool
Coca-Cola Andina Group opted for a new Ecodry System — a ‘process-synchronised cooling solution’ by Frigel.

Instead of the traditional central cooling system, with this ammonia-free, plug-and-play, modular concept, each bottling line will have its own Multiple-Cascade Refrigeration Unit (MultiStage) specifically designed for the application. Super compact, inverter driven, factory built and pretested, each cooling unit will be installed close to the processing line and digitally synchronised with it, providing the optimum cooling performance required at any given time according to actual product carbonation needs.

For this first phase of the project, Coca-Cola Andina is installing three MultiStage units rated for 450, 1100 and 2200 kW cooling capacities, connected to each of the three bottling lines rated for 33,000 L/h, 48,000 L/h and 78,000 L/h respectively. Each one may operate at a different coolant temperature: from 20°C for carbonated water to 12°C for Coca Cola in 3 L one-way PET bottles. Additionally, each cooling unit is also a heat pump, so heat extracted from the beverage before carbonation is recovered, producing hot water up to 50°C to heat up the bottled product through warmer tunnels, thus avoiding condensation in the tropical ambient conditions of Rio de Janeiro.

To complete the system, the excess heat generated will be rejected to ambient with a central Ecodry Adiabatic Cooling
System (instead of evaporative cooling tower), which provides the MultiStage unit condensers with maintenance-free, close circuit water with almost no water or chemical consumption.

The adiabatic cooling system, which will provide a cooling capacity of 1500 kW (with two coolers with 20 fans each) is being installed outdoors in the utilities area. One simple set of non-insulated piping mains and drops will connect it to each water-cooled MultiStage cooling unit installed indoors and close to each processing line.

Why Frigel?
Coca-Cola Andina, after a deep technical and financial analysis, chose Frigel’s turnkey solution, based on the following major advantages compared to a traditional central cooling system:

• **Increased productivity:** ‘Process-Synchronized Cooling’ gives total flexibility of coolant temperature control supplied to each line, assuring with high precision the ideal product carbonation temperature according to the actual type of product and bottle format. Constant flow rate is delivered to each carbo-mixer, ensuring perfect stability and avoiding flow interference from other lines (typical of conventional central cooling systems), while the bottling line runs steadily at the highest speed.

• **Reduced operating costs:** Thanks to the unbeatable multi-cascade refrigeration unit performance (EER/COP) per line, the 100% natural gas savings obtained by heat recovery for operation of the warmers and the 95% water savings for heat rejection, Coca-Cola Andina has estimated an overall operating cost savings of 30% when compared to the traditional central cooling system option.

• **Total modularity:** This new plug-and-play concept is easily expandable at any time, which will allow Coca-Cola Andina to install only the precise capacity needed at every stage of the plant growth.

• **Lower environmental impact:** With 90% less glycol usage, almost no water footprint, no ammonia and a 40% carbon footprint reduction compared to traditional central cooling systems, this new Coca-Cola facility will achieve revolutionary standards for overall sustainability.

Frigel manufactures and markets intelligent, integrated cooling systems, made of a variety of components, such as the Ecodry adiabatic liquid cooler, Microgel, Heavygel and Multistage chillers and chiller/temperature control units, as well as a full array of pumping and filtration equipment, all designed and engineered to fit specific applications, such as beverage processing. The company develops and customises internally all microprocessor and PLC-based controls for all its products and solutions.

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Explosion-proof conveying power for grain mill

Gone are the days when mills depended on a strong stream of water or steady wind to power their wheels. In today’s mills, electric drives carry out various tasks, ensuring efficient and reliable performance. A special challenge lies in the fact that grinding is bound to create dust atmospheres that call for safe, explosion-proof drive configurations.

Based in Wal len in Austria, Arnreiter Mühle processes grain, malt and oilseeds mostly for the baking and food industry. The family-owned mill has a history of nearly 200 years. Since the early 20th century, it has been continuously modernised and expanded. 2009 saw the most recent exhaustive modernisation. A high-capacity mill with separate, state-of-the-art grinding technology and refining facilities was erected. The new building accommodates a wide range of processes that are carried out with a high degree of automation.

Grist shape and characteristics are modified by means of steaming, flaking, crushing, grinding, extruding, roasting, cooling, drying and husking. Thereby, shelf life, digestibility and baking properties are improved and bitter constituents are reduced.

Parallel and integrated processes
The Arnreiter mill has a 1400 kW connected load. Up to 80 tons of grain can be ground daily. In addition, the refining facilities have a capacity of up to 20 tons per day. All processes, from raw produce storage to bagging and loading, are automated. There is control level access to all applications via Profibus.

“We need highly flexible facilities,” said Walter Arnreiter, managing director of the mill. “First of all, they must enable variable and parallel processes with separate product flows and additives that can be released from one source into different lines. And we must also ensure product flow with minimal residues.”

The main raw materials are temporarily stored in silos located in the upper storeys.

Geared motors from NORD Drivesystems drive the belt and bucket elevators that transport the materials from there. Consecutively, the major part of all product transport takes place in the extensive pipe system that has a total length of 2500 m. Free-flowing and non-flowing products are volumetrically dispensed by means of a great number of rotary dischargers, all of which need reliable geared motors. “NORD systems carry out many different tasks in our machines,” said Arnreiter.

Explosion protection is prerequisite
Mill operators must implement a proven, absolutely reliable explosion protection regime since the dust atmospheres prevalent in many areas pose a high risk. NORD Drivesystems can supply explosion-proof versions of all drive components, geared motors as well as mechatronic units and cabinet inverters.

Clean application
The machines used in the Arnreiter mill are mostly systems made by Swiss process engineering specialist Bühler, which has been working with NORD for many years. Separators and aspirators from Bühler are used to clean and classify granular products such as wheat, rye, barley, oat and maize. Air-recycling aspirators remove dust and husks etc. A radial fan creates an air current to lift the medium and blow the low-density particles into a special separator from where they are discharged by a screw conveyer driven by a NORD helical geared motor. The clean heavy product is discharged from the machine through finger valves.

Sustainable management
“Food safety, product quality and ecological as well as economical sustainability are all crucial and equally important for us,”
said Arreiter. “All processing steps are subject to strict controls and are continuously being documented. We buy most of the raw materials from regional producers or suppliers and process them in a resource-conserving fashion. Part of the energy for our production facilities is generated in our own water mill. We furthermore recycle a lot of the waste heat by means of a rotation heat exchanger and re-use it for heating. Since we carry out various processes in-house, further processing elsewhere is hardly ever necessary, which helps reduce road transportation.”

Production is compliant with food and environmental standards. Ingredient traceability according to HACCP is ensured for all batches. “All raw material shipments are strictly quality controlled,” said Arreiter. Naturally, the technology partners are expected to demonstrate a similar commitment to sustainability. “We rely on low-maintenance drives from NORD which we employ in continuous operation mode. They perform reliably. If we eventually do need to repair or replace a product, we can simply call our NORD contacts directly, and they will promptly get the job done,” said Martin Rachbauer, maintenance manager at Arreiter.

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Walkie reach stacker

The Toyota SWE120XR walkie reach stacker with retraction of mast combines the compact size of a stacker with the flexibility of a reach truck. Featuring a tight turning radius, power steering as standard and mast tilt, it is a flexible space-saving solution that is suitable for use in narrow aisles and cold storage applications.

Key features of the stacker include mast position sensor, controlled reach speeds and soft start/stop function.

The mast tilt range of 1.2° forwards and 1.8° backwards makes it easier to manoeuvre loads in narrow aisles and access goods in hard-to-reach racking. All driver controls are located on the tiller arm to enable smooth and precise control.

Toyota’s Optimised Truck Performance (OTP) technology controls acceleration, braking and steering depending on speed while the Click-2-Creep function enables the driver to operate the walkie stacker with the arm in an upright position at very low speeds, improving drivability in confined areas.

Toyota Material Handling Australia Pty Ltd
www.toyotamaterialhandling.com.au

Bung cap system for PE drums

Schutz’s Automatic Lock is a bung cap system for PE drums that consists of a plug and a tamper-proof sealing cap, either in red or white. The system cannot be opened without breaking the seal cap, as the inner seal ring is firmly incorporated in the ring. The filling product is fully protected against unwanted discharge or contamination. The seal cap is available for a variety of different bung sizes.

It can be fitted automatically or manually. First, the seal cap is placed on the bung; it centres itself automatically due to the position of the snap latches. Light pressure on the positioned seal cap makes the locking ring snap into place behind the snap latches in the bung. The rigid construction ensures the lock remains securely in place once fitted. The plastic tab connectors on the cap and the inner seal ring tear when the cap is opened. The ring is perforated, making it easy to lift the cap. The cap is opened and lifted off in a single movement by pulling on the seal cap ring pull, allowing the bung to be unscrewed and the contents to be removed.

The seal cap is held by the plug and not by the bung. The broken seal cannot be repaired, and any tampering is instantly visible.

The sealing system is user-friendly: the integrated ring pull does not require an extra tool for opening, as is the case with steel sealing caps.

Schuetz Australia
www.schuetz.net
Energy supply system for manual control of cranes

The igus guidewatch control e-chainsystem is an energy supply system that can also power a manual control on the indoor crane. Quick and easy to assemble, the guidewatch control needs only a small installation space and can be adapted to the most varied conditions, thanks to the largest selection of cables for motion.

The advantages of e-chainsystems compared to pure trailing cables are: the e-chain protects the cables inside them, they are not compressed and are thus safely guided when in motion. This is also the case for the manual control of the indoor crane, where the chain system safely transmits signals via control cable. A trough guides the energy chain and cables as well as the moving end arm, even with a short-term high tensile load. The guidewatch control can also be installed quickly and easily. In operation, the moving end arm can be easily moved and positioned by the control device along the entire crane girder, regardless of the position of the lifting gear thanks to the lubrication-free and maintenance-free xiro polymer ball bearings.

The system is independent of the crane manufacturer and therefore can be used with any crane construction or operating device both indoors and outdoors. When selecting the cables, the user can choose from 1244 chainflex catalogue cables that have been specifically designed for movement in energy chains. The new high-end cables with outer jackets are made of halogen-free TPE. The company guarantees a life of 36 months on all cables.

Treotham Automation Pty Ltd
www.treotham.com.au
Automatic editing system

Tavil’s MaxPalet system is a touch system to edit palletising mosaics. The automatic editing system selects the most appropriate mosaic in accordance with box quantity, stability, cadence and other parameters.

It can be customised to suit the user’s application. The system also has a palletising capacity of up to four pallets simultaneously with a single robot.

The gripping ability works with glued boxes, shrink-wrap, trays, bases, lids and crates.

Select Equip
www.selectequip.com.au

Enclosed bulk bag discharger

Flexicon’s BULK-OUT Model BFC Bulk Bag Discharger features an enclosure to contain errant dust escaping through the seams or fabric of bulk bags when working with unlined bags.

Clear panels on four hinged access doors allow monitoring of the discharging process. A port on the rear panel allows venting of the enclosure to a centralised dust collection system.

Intended for applications in which trace amounts of dust cannot be tolerated or when dusty materials leak through the bag itself, the enclosure works in concert with the discharger’s dust-tight bag spout interface and expands the ability of the discharger to contain dust from all areas of the bag.

To maintain dust control at the bag spout, a manual SPOUT-LOCK clamp ring positioned atop a pneumatically actuated TELE-TUBE telescoping tube enables an operator to make a quick, dust-tight connection between the bag spout and hopper, and to automatically elongate the bag as it empties to promote flow and evacuation.

The telescoping tube raises the clamp ring assembly that seals the clean side of the bag spout to the clean side of the telescoping tube, then lowers until the bag spout is pulled taut. Once the spout is untied, the telescoping assembly exerts continual downward tension on the spout, elongating the bag as it empties. The high-integrity, dust-tight seal between the bag spout and clamp ring allows full-open discharge from the bag without dusting.

A POWER-CINCHER pneumatically actuated flow control valve cinches the bag spout concentrically with no leakage of material, allowing gradual opening of the bag spout as well as retying of partially empty bags.

The discharger is also equipped with FLOW-FLEXER bag activators that raise and lower opposite bottom edges of the bag at timed intervals, loosening compacted materials and promoting material flow into the bag discharge spout. As the bag lightens, the stroke of the bag activators increases, raising the bag into a steep ‘V’ shape, eliminating dead spots for total evacuation of material with no manual intervention.

Flexicon Corporation (Aust) Pty Ltd
www.flexicon.com.au
Vibrators

Many food processing machines use vibrators as part of their design. Since a lot of these machines are imported, finding the right vibrator can sometimes be a problem.

As the Australian distributor for both Nettler Vibration in Germany and Martin Engineering in the USA, Vibrations Systems & Solutions is able to give advice on the most appropriate vibrator for individual needs and to supply many of the vibrators used with equipment in the food industry.

The company’s range includes electric, pneumatic and, to a lesser extent in the food industry, hydraulic models, with a large stockholding in Perth.

Vibrators not in stock can usually be into store from the factory in 7–10 days. The electrical units are manufactured to ATEX 2D while full 2GD models (both electric and pneumatic) are available for potentially explosive atmospheres such as flour applications.

Stainless steel versions are also available.

Vibration Systems & Solutions (Australia) Pty Ltd
www.vibrationsystems.com.au

Lubricant-free conveyor rollers

Under the brand name xiros, igus has developed maintenance-free, lubricant-free polymer ball bearings. For the food and packaging industry, this reduces the risk of contamination. The range includes a ready harnessed system solution consisting of a blue PVC tube as well as two flange ball bearings made of xirodur B180 with stainless steel balls. All components used in these new guide rollers are FDA compliant. The solution comes in two installation sizes with outer diameters of 50 and 63 mm, and lengths of 100 to 1000 mm.

Compared to stainless steel tubes, the food-grade plastic tube weighs only about one-third as much, which in turn has an effect on the required drive energy when the rollers themselves are moved, e.g., in film storage. Also, the dry-operating xiros polymer ball bearings achieve less friction than lubricated ball bearings made of metal, since the balls do not have to overcome the resistance of the lubricant.

Treotham Automation Pty Ltd
www.treotham.com.au

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Infrared light for germ reduction

KREYENBORG Plant Technology, in partnership with PS Perfect Solution, has developed the FoodSafety-IRD, a technology for germ reduction, drying, protective treatment of stocks, and roasting and toasting of foodstuffs.

It can treat bulk foods such as tea, spices, dried herbs or vegetables, nuts, kernels and seeds with infrared light so that germs are drastically reduced and numerous harmful substances dissolved and volatilised.

Frequently, not only bacteria, yeasts and moulds, but also pathogens can be found in raw materials. Pathogenic germs must be safely destroyed, and microbiological contamination reduced to a minimum. In over 5000 fully documented disinfection analyses of well over 100 dried products (eg, spices, nuts, teas, flowers etc), germ reduction using the infrared light was significantly above 10 log 5 and is thus suitable for germ reduction of heavily contaminated goods. Sensory damage could scarcely be detected — in contrast to cases using traditional procedures. Essential oils were only marginally affected.

The product is a thermal method in which heat is fed to the raw materials by means of infrared light. The light can be precisely controlled in all zones throughout the drum. A special sensor ensures that the product reaches but doesn’t exceed a preset temperature. The raw material is heated within minutes from the inside out. By rotating the drum, the raw material is constantly transported and thereby thoroughly blended. The formation of nests is thus avoided and a uniform light input is assured.

The product is automatically treated for stock protection. If desired, drying, roasting or toasting can be done using the same machine.

Applied Machinery Australia Pty Ltd
www.appliedmachinery.com.au

Automated palletising system

Andrew Donald Design Engineering (ADDE) has developed the Zero Footprint Palletiser, which is the first end-of-line automated palletising system for Australian standard pallets. It incorporates the UR10 robot to create a collaborative and flexible palletiser.

With most packing operations still finishing with an operator loading a carton onto a pallet manually, the company saw an industry need to find a solution that could automate one of the most physically demanding and back injury-prone tasks on the production line.

The palletiser takes no more space than a pallet on the floor and an operator and allows manufacturers to generate greater efficiency and safety across operations, while also enabling employees to work closely in collaboration with the palletiser.

To create the palletiser, the company started with a UR10 robot, which can work without safety caging or barriers (subject to a risk assessment) and then added the hardware and software needed to achieve an affordable, easy-to-deploy product with minimal footprint that can reach an Australian standard pallet.

It can place up to six cases/min onto a pallet and carry boxes weighing up to 8 kg. The palletiser can also be configured for single pallets for minimum footprint or in a double-pallet configuration for automatic pallet changing.

Andrew Donald Design Engineering
www.adde.com.au
From design to manufacture, every KAESER dry running rotary screw compressor has been developed for optimum efficiency, reliability and ease of maintenance. The result; more compressed air and more savings! It really is that simple.

Whether your compressed air requirement is large or small, KAESER Compressors has the expertise and technical know-how to deliver a reliable, energy efficient and cost effective solution to meet your needs - all backed up with 24/7 and nationwide service support.

Time for your lightbulb moment?
1800 640 611
www.kaeser.com.au

Energy-efficient freezer fan

tna has introduced an energy-efficient fan design for its Ferguson ener-freeze 3 aimed at reducing energy consumption by more than 30%, providing French fry manufacturers with a more cost-effective and sustainable freezing solution. Featuring the latest airflow technology, the cooling and freezing tunnel is able to evenly freeze a variety of potato products in different shapes, including sticks, cubes and wedges. The energy-efficient freezer fan is designed to reduce operating costs and increase production cycles while ensuring a high-quality and uniformly frozen product.

The freezer features centrifugal fans with curved blades to optimise the air flow underneath the belt, resulting in even air velocity over the product for a high heat transfer rate and even fluidisation across the entire width of the belt. As the air speed is near the product’s fluidisation velocity, the appearance of clusters is eliminated and each French fry is frozen individually and quickly.

The specific impeller construction of the product ensures that the fan curve has almost 100% spare static pressure to minimise the effects of production fluctuations and ensure a more stable fan curve over an increased period of time.

tna solutions Pty Ltd
www.tnasolutions.com

Hygienic crates and pallets

IB Plaspal 281 and IB Plaspal 204 hygienic pallets, and Enduro and Honeycomb vented crates, are particularly suited to the food industry. Many companies are now refusing to accept food products on anything except hygienic plastic pallets.

The plastic pallets and crates have no nooks or crannies, so cleaning is easy. Unlike wooden pallets, there is no risk of splintering.

The pallets and crates can be used over and over again. They are available in a range of sizes to meet preferred specifications.

IB Pallets
www.ibpallets.com

More air. More savings. It’s that simple.

From design to manufacture, every KAESER dry running rotary screw compressor has been developed for optimum efficiency, reliability and ease of maintenance. The result; more compressed air and more savings! It really is that simple.

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Time for your lightbulb moment?
1800 640 611
www.kaeser.com.au
**Spiral freezer**

GEA has announced two options for its A-Tec spiral freezer that provide hygiene and practical benefits to its food processing customers while maintaining all the performance features of the range.

The company’s designers have located the fan and gearbox outside the freezer taking them out of the food area, reducing the number of component surfaces within the unit and improving hygiene. Their external location also provides free access to these key components making cleaning and maintenance much easier, especially as the inside of the freezer is running at -30°C.

Engineers have turned their attention to the overall height of the spiral freezer, which is important for some users where headroom is restricted. The standard freezer rises to around 9 m overall height; however, the low profile top drive (LPTD) option reduces that height by around 1.6 m. The LPTD is located on the top of the freezer but is driven by a gearbox positioned externally on the side of the freezer. This alternative configuration also allows easy access for cleaning and maintenance, maintains all the key features of the product and reduces the overall height of the unit for applications where this is critical.

**GEA Australia**

www.gea.com

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**Multiformat box forming machine**

The automatic changeover makes the Tavil multiformat box forming machine ready to work in less than 4 s with different box designs and/or different box sizes pre-loaded into the system.

The multiformat system memorises up to 99 different boxes and is able to work simultaneously from one to four different boxes. It can work as a modular system with up to four case formers of differing sizes to feed several production lines.

The machine forms boxes from cardboard blanks using hot glue, and can produce up to 1200 boxes/h depending on box design and size.

**Select Equip**

www.selectequip.com.au

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**Real-time technology monitoring cargo**

Honeywell’s Connected Freight technology gives shippers and logistics companies the ability to monitor shipments of high-value and perishable goods, helping prevent costly damage and loss.

The product provides real-time information about the location and condition of critical freight while in transit. Real-time shipment information is critical, for example, when shipping perishables and goods that require uninterrupted refrigeration, such as pharmaceuticals, or high-value equipment that is sensitive to vibration or shock.

The technology consists of sensor tags that sense a range of environmental conditions, such as temperature or vibration. The tags can be affixed to pallets or individual packages. The sensor data is captured by a mobile gateway placed inside a truck or shipping container and then transmitted via cellular networks to a cloud-based command-and-control platform.

Users can establish alerts based on temperature, shock, tilt, humidity, pressure and intrusion detection. The product can alert manufacturers of high-value, highly sensitive technology if equipment has been damaged while being loaded or unloaded, or if it may have been stolen. The cloud can also store data for compliance and audit needs, and provide predictive and reactive analysis, such as which routes to avoid.

**Honeywell Safety Products Australia Pty Ltd**

www.honeywellsafety.com
In the UK, Welcome Food Ingredients required a more efficient system to re-bag granular sugar used to manufacture its sauces, pastes, dressings and dips for food industry customers.

Food hygiene procedures require sugar and other granular ingredients to be decanted into food quality plastic bags weighing 10 kg, but previous methods proved complex and time consuming.

The company now accomplishes the task in one-third less time with less labour while meeting ATEX requirements using an automated bulk bag weigh batching system with integral flexible screw conveyor from Flexicon Europe.

**Re-bagging was labour intensive**

“With the old process, we received sugar on 1-tonne pallets, comprised of forty 25 kg bags,” said Tony Swann, Welcome Food Ingredients Safety, Health & Environment Manager. “We used a combination of vacu-lifters and manual handling in an eight-stage process to transfer the sugar into appropriately sized plastic bags before they could be loaded into the cookers. The new transfer system has reduced re-bagging to just three stages.”

**Bulk bag discharger simplifies operation**

One-tonne bulk bags are positioned alongside a Flexicon Bulk-Out BFC-S-X stainless steel bulk bag discharger, which has an integral cantilevered I-beam with an electric hoist and trolley. The bag straps attach to a cross-shaped lifting frame, and the hoist lifts the bag into position on the discharger frame. An ATEX-rated earth clamp is then attached to the bag.

The operator attaches the clean side of the bag spout to the clean side of the discharger by means of a Spout-Lock clamp ring, which is mounted atop a Tele-Tube telescoping tube that maintains constant downward tension on the bag as it empties and elongates, promoting material flow into the 110 L hopper.

**Flexible screw conveyor transports sugar to weigh hopper**

From the hopper a flexible screw conveyor that is 3.0 m long and 115 mm in diameter transports sugar to a 40 L capacity conical stainless steel weigh hopper resting on three load cells.

A gain-in-weight control system meters sugar into the weigh hopper at maximum feed rate. The load cells transmit weight gain information to the controller, which steps down the feed rate to a trickle and stops the conveyor immediately before reaching the target weight to compensate for material in flight.

Weighments of sugar are discharged dust-free through a slide gate and downsput into a 10 kg capacity blue plastic bag that is clamped beneath the weigh hopper. Once filled, the bag is manually tied off and placed in a plastic storage stillage. The weighing and filling cycle is repeated for subsequent bags.

**Discharger, filler improve operating efficiency**

“The bulk bag discharger and filling system has simplified and improved what was a complex, multistage handling process,” explained Swann. “Each week we typically re-bag around 30 tonnes of sugar, sometimes operating for 20 hours per day. With our old method, we were handling the equivalent of 100 tonnes of sugar per week.”

He said, “Our staff disliked having to manually handle 25 kg bags and are now more comfortable with packing 10 kg bags using the new equipment. It also offers benefits for the future as it can be extended if required. Additional items of equipment like sieves can be incorporated if our customers request their use.

“The fact that Flexicon could supply an ATEX-rated food quality handling system with all stainless steel components was of great importance to Welcome Food Ingredients. We’re pleased with the operating improvements it has allowed us to achieve.”

Flexicon Corporation (Aust) Pty Ltd
www.flexicon.com.au
**Low-speed conveyor for delicate goods**

Using vacuum technology to convey the delicacies of the food industry, Piab’s piFLOW t conveyor is dedicated to the gentle handling of delicate ingredients and products.

The product uses a controlled low-speed, guided entry into the conveyor and eliminates all sharp edges, ensuring that products are handled with great care in the conveyors.

Suitable for transporting up to 4 million items/h, the conveyor can be used to transport any fragile goods within a processing plant. For the food industry this enables the safe handling of, for instance, coated sweets, lollies, roasted coffee beans, whole nuts and nutraceutical tablets.

Eliminating the use of inadequate standard equipment and alternative, often backbreaking, manual procedures, the conveyor will safely transfer ingredients and products between the various processing units, such as tablet presses, coating drums and packaging lines, avoiding risks of damage.

At the core of the product is the piGENTLE, a technology that maintains a gentle flow by regulating the feed pressure of the pump, ensuring that fragile ingredients or products are handled as delicately as possible.

*Pneumatic Products*
www.pneumatics.com.au

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**Precision miniature load cells**

The Bestech Australia 8431 and 8432 precision miniature load cells are designed for precise tension and compression force measurements in limited spaces.

They feature a special connection cable, convenient load application via threaded pins with external winding and small dimensions. This makes the load cells especially suitable for machine or tool manufacturing, handling gear and laboratory applications. The miniature load cells also adopt features found typically on larger load cells, such as hermatically sealed construction, overload protection and boring for pressure compensation when applied under vacuum.

Features include small dimensions for tension and compression forces; temperature compensation starting at -55°C and up to 200°C; minimum lateral sensitivity due to supporting membranes; measurement accuracy from 0.2% F.S; measurement ranges from 0...2.5 N to 0...100 kN; and overload protection for directions tension and compression.

*Bestech Australia Pty Ltd*
www.bestech.com.au

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**Load-strapping tool**

With little strain and impact on the body, the ProLauncher is intended to make strapping loads easier.

To use, simply roll the strap inside the launcher, adjust the ProPole to the height of the load and use a flick of the wrist to pitch the launch over the width of the load. The product will launch itself across the body of the load.

*Safequip*
www.safequip.com.au

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**Planetary gearbox range**

Bonfiglioli’s 300M range of planetary gearboxes achieve greater torque without increasing the size of the gearbox to produce greater performance, efficiency, and cost saving.

The series has eight sizes from 310M to 318M, all of which have an improvement in torque over their preceding models. Depending on the size, torque has been improved by up to 45%.

The planetary gearbox range uses a customised roller design with an inner race on the pin and an outer race on the planet gear. This creates a bigger roller diameter, with a higher load capacity and greater torque.

It is interchangeable with the existing 300 series gearboxes, with no machine modification required when upgrading to the latest units.

Applications include: food and beverage; mining; materials handling; cranes and winches; and water and wastewater.

*Bonfiglioli Transmission Pty Ltd*
www.bonfiglioli.com.au
Bulk material blending system

The National Bulk Equipment (NBE) Bulk Material Blending System is designed to aid in process GMP validation; provide precise, automated performance; and improve operator safety.

The fully automated, self-contained, bulk material mixing system blends a combination of five, highly caustic, free-flowing powdered additives with a sluggish flowing, high dusting base ingredient. The base ingredient is automatically introduced into the system from a single, 64 cubic-foot (1.8 m³) surge hopper that feeds either of two horizontal screw conveyors, depending on the blend recipe and the material requirements of downstream packaging operations.

The caustic, free-flowing additives, previously manually added to the process, are input to the system using five, NBE Lift-and-Seal drum dumper units. Each drum dumper unit has an automatic centring system to ensure a precise seal of the drum to the dumper unit’s custom-designed discharge hood. A 340 kg-capacity, hydraulic carriage lifts the drum up 4 m to the discharge point and rotates the drum 180° for a dust-free seal of the 304-2b stainless steel discharge hood to the receiving surge hopper.

A pneumatically actuated slide gate valve controls material discharge from the drum into the hopper to ensure uninterrupted supply to the volumetric feeder. Automated controlling of the volumetric feeder’s variable frequency drive gearmotor and pneumatically actuated diverter valve ensures properly blended material is supplied at the correct volume to the specified downstream packaging operation.

Mercer Stainless Ltd
www.mercers.co.nz
Australian Food Cold Chain Council formed in Queensland

A new cold chain advocacy group has been established in Queensland to improve compliance and standards in the handling of food at all levels of the cold chain.

With mounting pressure about the costs and environmental damage of food waste, the Australian Food Cold Chain Council (AFCCC) — which consists of leaders in manufacturing, food transport, refrigeration and cold chain services — aims to address these issues and encourage innovation and compliance across the food cold chain in Australia.

The interim directors of the AFCCC include:
• Stephen Elford, General Manager Australia New Zealand, Carrier Transicold
• Mark Mitchell, Managing Director, SuperCool Australia Pacific Pty Ltd
• Peter Lawrence, Technical Director ANZ, Thermo King
• Kyle Hawker, Transport Manager, Simplot Australia
• Adam Wade, National Transport Leader, Lion
• Kevin Manfield, General Manager Products & Markets, MaxiTRANS Australia Pty Ltd

Interim Chair Mark Mitchell specified that the group aim to improve the existing industry, as opposed to promoting it.

“One of our priorities will be to apply whatever pressure is needed in industry and in government to make sure the existing Australian standards for cold chain food handling are properly followed.”

Every year, Australians waste an average of 860 kg of food per person, which consequently affects all inputs into food production. The water, soil and energy are also wasted and there is less food available to feed the hungry.

Food wastage is responsible for about 5% of Australia’s greenhouse gas emissions, and the AFCCC believes that Australian industry has the tools, technologies and workforce that can reduce food waste by improving the cold food chain.

They aim to contribute to the development of the National Food Waste Strategy and become part of the cooperative research centres designed to address food waste and fraud.

Dematic distributes smart glasses

Automated technology supplier Dematic has announced it will distribute Vuzix Smart Glasses in Australia and New Zealand.

The Vuzix Smart Glasses allow hands-free mobile computing that can be used within the warehouse for inventory management tasks such as picking orders, inventory replenishment and inventory cycle counting. The Android-based device combines the features of a barcode scanner, a voice picking system and a vision picking system.

The glasses feature an nHD monocular display, an Intel processor, large internal storage and wireless connectivity capabilities. They also have a 10 MP, 1080p camera that records, stores and plays back still pictures and video, designed for maintenance and remote support functions in industrial settings.

Brian Lang, Dematic’s director of real time logistics, said the glasses will help supply chain customers achieve “operational excellence”.

“Including the Vuzix Smart Glasses in the Dematic portfolio of solutions creates more choices for customers and can optimise their order fulfilment,” Lang said.

Flexibility and versatility are also benefits of the smart glasses, which are resistant to water, dust and dirt, allowing the user to use the glasses in almost any working environment. They also include multiple mounting options and enhanced battery packs, with a battery life of around 8 h, for long or high-intensity users.

Vuzix President and CEO Paul Travers said: “Vuzix is excited to partner with market-leading integrator Dematic to deliver our innovative M300 Smart Glasses to supply chain operators across Australia and New Zealand.

“The smart glasses are proven to deliver productivity and accuracy gains, while reducing training time in supply chain operations. Dematic is the perfect partner to integrate this industry-winning technology into their client’s complex and demanding logistic operations.”
Stainless steel reels

Hannay’s largest range of custom stainless steel reels is suitable for food, beverages and pharmaceutical industries and is available from Reel Tech. The stainless steel reels come in a range of series.

The SSN700 are spring rewind, stainless steel reels that offer a narrow frame for compact mounting.

The SSN800 and SS800 are single hose, spring rewind, stainless steel reels and are available in two frame configurations. The standard N series has a narrow frame and compact mounting base. The square tubing frame for heavy-duty applications is available in the SS800 series.

The SS1500, SS1800 and SS4000 series are stainless steel, manual rewind reels. They are designed for long lengths of hose and are compact and versatile.

The SS1000 are stainless steel, manual rewind reels. They are lightweight reels that are industry designed to fit compact spaces. The stainless steel reels are suitable for mobile steam cleaning and pressure wash units as well as permanent installations.

The SS1000 are stainless steel, manual rewind reels for long lengths of hose and are suitable for washdown, marine and fire protection applications.

The reel series is also suitable for: potable water or food processing; pharmaceutical and cosmetics; and dairy operations and bottling plants.

Reel Tech has multiple bolt-on ergonomic and safety features for these reels designed to improve safety and reduce handling and operating time. Easily retrofittable to existing reels, the technology helps reduce injuries, downtime, hose wear and equipment damage.

The Ezy-Deploy auto hose declutching system has a fully automatic ‘drag-free’ payout with the lowest resistance. It offers smooth reel operation to minimise operator strain injuries and reduce excessive force that can prematurely damage equipment. Indispensable for longer hose lengths and larger 1, 1.5 and 2” hoses.

The FlatWinder is an automatic hose layering technology which can be readily adapted to any Hannay reel for efficient easy layering of hose during storage.

Reel-In-Control is a long-range wireless remote control that can cut response times and increase safety with frequency hopping technology. This feature allows for safer single user operation and increased productivity.

The Safe-R-Reel is a brake cassette that ensures a controlled speed during rewind.

The Follow Me Hose Guide is a swivelling hose guide for FlatWinder systems. It cuts response times, increases safety with frequency hopping technology and allows safer single user operation and increased productivity.

Reel Tech
www.reeltec.com.au
Cabinet coolers

With no moving parts to wear out, EXAIR Cabinet Coolers are virtually impervious to hostile environments and well suited to use in food processing, wastewater treatment, chemical processing, paper manufacturing, steel mills and power generation.

EXAIR’s complete line of low-cost Cabinet Coolers are UL Listed and CE Compliant. They mount in minutes through an ordinary electrical knockout and feature thermostat control to minimise compressed air usage.

Type 316 Stainless Steel Cabinet Coolers for NEMA 4X (IP66) applications are available for heat loads up to 5600 Btu/h. They resist harsh environments and are suitable for food and chemical processing, pharmaceutical, foundries, heat treating and other corrosive environments.

NEMA 12 (IP54) Cabinet Coolers for large heat loads up to 5600 Btu/h are suitable for PLCs, line control cabinets, CCTV cameras and modular control centres. They mount top, side or bottom and the enclosure remains dust-tight and oil-tight.

NEMA 4 and 4X (IP66) Cabinet Coolers for large heat loads up to 5600 Btu/h are suitable for PLCs and modular controls. The enclosure remains dust-tight, oil-tight and splash resistant. They are suitable for indoor or outdoor service and in wet locations where coolant spray or hosedown can occur.

The Mini NEMA 12, 4 and 4X Cabinet Coolers for small heat loads up to 550 Btu/h are suitable for control panels, relay boxes, laser housings and electronic scales. They measure 127 mm high and mount top, side or bottom. The enclosure remains dust-tight and oil-tight (NEMA 12) and splash resistant (NEMA 4 and 4X).

High Temperature Cabinet Coolers for NEMA 12, 4 and 4X applications are available for heat loads up to 5600 Btu/h. They are suitable for ambients up to 93°C and can be mounted near ovens, furnaces and other hot locations.

NHP Cabinet Coolers keep a slight positive pressure on the enclosure to keep dirt from entering through small holes or conduits. They use only 1 SCFM in purge mode and are suitable for heat loads up to 5600 Btu/h (NEMA 12, 4 and 4X).

Compressed Air Australia Pty Ltd
www.caasafety.com.au

Compact variable speed drive

ABB’s ACS480 compact all-compatible variable speed drive has been designed to optimise pump, fan and compressor operations easily as well as take advantage of energy efficiency. The series shares the same user interface, tools and options from its previous drives to ensure seamless scalability between them.

All essential functions have been built in to optimise common variable-torque applications via numerous integrated and preprogrammed features such as PID (proportional integral derivative), pump and fan macros and timers. Its in-built EMC C2 filter secures compliance with the latest European and international standards, allowing the drive to be used in industrial and commercial environments.

The Bluetooth connectivity ensures easy configuration of the drive and monitoring of parameters with mobile devices for people on the go. To protect both people and machinery, the drive comes with key safety functions such as a TÜV-certified safe-torque-off as standard.

The product provides easy direct access to critical energy efficiency information, thanks to its built-in energy optimiser. The user has full control to reduce the amount of energy used in their processes to save on energy bills.

It is designed to provide the user with the ability to gain exact functionality to effortlessly and intuitively control many standard applications for energy-efficient control of light industries, including food and beverage, logistics and warehousing, water and wastewater.

Control Logic Pty Ltd
www.control-logic.com.au
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Chobani is a fast-growing, dynamic yoghurt company that was founded in the United States, with the belief that people have great taste but need great options. With a mission to make high-quality, great-tasting yoghurt available to more people, Chobani decided to spread its wings to Australia.

Since purchasing a local Victorian dairy company in 2011, Chobani has also invested in a new greenfield facility to manufacture its yoghurt locally alongside the existing manufacturing plant.

With a strong focus on automation, Chobani called on Metromotion Controls, a systems integrator specialising in control and automation systems, to facilitate the design, management and implementation of the new $30 million facility.

In addition to the new manufacturing plant, Metromotion was also commissioned to implement Chobani standards to automate the existing site. The task at hand was to use the latest technologies from Rockwell Automation to automate both new and existing processes at the plants.

Metromotion Controls has enjoyed a longstanding relationship with Rockwell Automation and NHP Electrical Engineering Products (NHP) and had no hesitation in calling on them to provide the control and automation technologies required at the plant.

When building its new $30 million plant, yoghurt maker Chobani wanted to partner with automation and electrical experts who could respond to a production process based on a ‘through process’ as opposed to a ‘batching process’.

Yoghurt production made easy
With increasing demand for Chobani yoghurt around the world, meeting global supply agreements was a key priority for the company, as failure to do so would result in significant penalties being enforced. As such, Metromotion Controls was required to meet strict project timelines so the plant could be up and running quickly and effectively.

Chobani has a strong focus on automation and at the time of building the factory required ‘on the ground’ automation and electrical resources from Metromotion Controls. This work involved facilitating the site power upgrade; building services and process power distribution; factory-wide automation integration, including process, packaging and site services; and commissioning and ongoing support both on-site and remotely.

Metromotion Controls has enjoyed a longstanding relationship with Rockwell Automation and NHP Electrical Engineering Products (NHP) and had no hesitation in calling on them to provide the control and automation technologies required at the plant.
According to Andrew Sprigg, control systems engineer at Metromotion Controls, “Rockwell Automation is the automation vendor of choice for Chobani, so by having one brand for standardisation, maintenance, service and support is streamlined for the plant.

“The cooperation between Rockwell Automation, NHP, Metromotion and Chobani has worked really well and this good working relationship has helped everything to flow smoothly,” he said.

**Driving production efficiencies**

The yoghurt production process is fully automated using the latest control and automation technologies from Rockwell Automation. Ethernet/IP is used as the communications protocol, with all devices connected via the one network.

The architecture at the plant has been designed so that five independent ControlLogix controllers are used for a specific process role such as raw milk processing, pasteurising, cleaning in place (CIP), fermentation and filling. Each part of the process is further broken down into modular skids. A control panel with FLEX I/O communicates the process information back to the ControlLogix controller over Ethernet. This provides the capability for remote access diagnostics of equipment easily over the Ethernet network. The motor control meanwhile utilises PowerFlex drives from Rockwell Automation that are located in a centralised motor control centre and communicate over the Ethernet network.

“These control and automation technologies provide access to remote diagnostics and simplified programming. Another feature of the Rockwell Automation solution is that it is very easy to upgrade the existing system using the same architecture and stock that is readily available in Australia,” explained Sprigg.

The new manufacturing plant meets all of Chobani’s manufacturing requirements and is achieving operational efficiencies.

As the company’s product range grows, Metromotion Controls has been instrumental in providing automation and process control solutions to meet these changing requirements.

“Chobani is undergoing new product development work which needs new controls and new processes, which has been a key focus for us as well as maintaining the plant,” said Sprigg.

**Online tools reduce engineering time**

As Chobani continues to automate both new and existing processes at the plant, reducing engineering time is imperative. The Rockwell Automation products and services help to make commissioning straightforward and in most cases seamless.

Minimising downtime is also of critical importance to Chobani, as yoghurt manufacturing is a continuous process. If that process was to be affected by unplanned downtime, the whole production process would halt and the plant would need to be cleaned and then restarted.

The Rockwell Automation solution provides a web interface with diagnostics, which allows operators remote access to the system. This makes it easy to find diagnostic information and identify things that may need attention.

“The biggest help to Chobani to reduce downtime during the infancy of the plant was the ability for us to quickly gain remote access to any device and find detailed information fast, which in turn allowed us to reduce downtime,” said Sprigg.

**Spares, service and support at hand**

To help keep yoghurt production flowing, Chobani has a comprehensive services agreement in place with Rockwell Automation and NHP that is designed to minimise downtime and maximise reliability through effective asset management.

In addition to this assurance agreement, Chobani also has a parts management agreement which provides spare parts on-site so that the plant can be up and running again in the event of unscheduled downtime.

**Chobani crafts real yoghurt**

In the words of Hamdi Ulukaya, founder and CEO of Chobani, “When it’s authentic, when it’s real, you don’t have to say too much about it.” The worldwide demand for Chobani yoghurt speaks for itself and, thanks to the new state-of-the-art manufacturing plant, the company can now meet its mission to make high-quality, great-tasting yoghurt available to the masses in Australia and around the world.

“We have developed a relationship with both Rockwell Automation and NHP based on the in-depth understanding of the needs of the plant, our plant primarily being a facility that uses a ‘through process’ as opposed to a ‘batching process’ and this presents some challenges in relation to response time when issues arise that could potentially shut down a production line,” said Roger Forster, reliability manager, Chobani.
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Dytran Instruments has released the model 3543A — a high-temperature, 100 mV/g, internally electrically isolated triaxial accelerometer. It is the first 100 mV/g isolated triaxial sensor from Dytran able to withstand temperatures up to 160°C for continuous use.

The isolated sensors can be placed in the hot sections under the hood and are suitable for the general measurement of vibration in all types of hot test conditions. With IEPE power and standard cables, the product eliminates the need for a charge mode sensor, which results in a more straightforward set-up.

Featuring a 10-32 stud mount and a 1/4-28 4-pin connector, the device is offered in an acceleration range of 50 g. Applications include modal and structural analysis, NVH, squeak and rattle, and general-purpose high-temperature triaxial vibration measurements.

Metromatics Pty Ltd
www.metromatics.com.au

Stainless steel HMI panel PC

The ViTAM-921 21” Stainless Steel HMI Panel PC is fully sealed to IP66/IP69K standards. To achieve this, it uses M12 sealed connectors for all I/O connections. The result is a panel PC that can withstand high-pressure hosedown cleaning.

The PC is based on an Intel i3 4010U 1.7 GHz processor with 4 GB of DDR3L 1600 MHz memory to provide a high-performance industrial control solution. If even more processing power is required it can be upgraded to an Intel i5 4310U 2 GHz processor and 8 GB of RAM. Standard I/O connections include USB 2.0, LAN, RS232/422/485 and 9~36 VDC power. An internal 2.5” HDD/SSD drive bay and SD slot are provided for storage. A Mini-PCIe slot is provided for Wi-Fi/BT cards and an RFID front panel module is also available. The 21”, 1920 x 1080, 300 nits flat panel LCD screen touch panel options include resistive touch, projected capacitive touch or a no-touch glass front bezel. If required the display brightness can be upgraded to 1000 nits for sunlight-readable applications.

Housed in a grade 304 or optional grade 316 stainless steel enclosure, the ViTAM-921 will not corrode and is easy to clean. To assist the cleaning of the display the PC includes a touch on/off button that allows the touch screen to be temporarily disabled during the cleaning process.

VESA 75 mm mounting holes allow ViTAM Series Displays to be arm or wall mounted. Optional ergonomic yoke mounting is also available.

Interworld Electronics and Computer Industries
www.ieci.com.au
Stainless steel enclosures
The Kraus & Naimer 6S Series of stainless steel enclosures provide protection for vital switchgear with the same footprint as plastic versions.

Suitable for food and beverage industries, the enclosures can withstand aggressive environments such as marine, sewerage treatment plants, mining, material handling and conveyor systems.

The enclosures are Australian manufactured, constructed from 1.6 mm 316 stainless steel and are rated to IP66. The enclosures have bottom threaded entries and four screw cover fixings with or without external mounting feet.

Many standard sizes are available or custom designs can also be produced.

Kraus & Naimer Pty Ltd
www.krausnaimer.com.au

Pressure transmitter
Bestech Australia has introduced a Flush Diaphragm Piezo-resistive Pressure Transmitter for the food and beverage industry to monitor pressure and level in pipes, tanks and filters. These transmitters have been IECEx approved, meaning they are safe to come into contact with foodstuffs. The robust stainless steel build ensures high performance for demanding long-term applications, while the flush diaphragm design allows for easy and thorough cleaning.

Specifications include: an accuracy of 0.25% FS; measurement range -1 to 350 bar; output signal 4–20 mA, 0–5 VDC, 0–10 VDC, etc.; operating temp range of -30 to 80°C; protection level IP67, IP68 with cable connection; long-term stability of <0.2% FS/year; and low static and thermal errors.

For more information, click here.

Bestech Australia Pty Ltd
www.bestech.com.au
Modular liquid analysers

The S80-T80 range of modular liquid analysers from Electro-Chemical Devices (ECD) is covered by international certifications for CSA, FM, IECEx and ATEX, with various hazardous location type design approvals available.

ECD’s S80 sensors measure pH, ORP, pION, dissolved oxygen, turbidity, conductivity or resistivity in liquid processes. They are suitable for applications in many industries, including food and beverage, pharmaceuticals, chemical, biotech, power generation, semiconductors, water disinfection and wastewater treatment.

S80 sensors feature two universal sensor designs: insertion/submersion or valve retractable with a flared end to prevent blowout. The sensors are manufactured with a rugged 1.9 cm OD 316 stainless steel body and come with varying cable lengths or an optional waterproof detachable cable assembly.

The design of the sensors recognises the universal T80 transmitter for automatic configuration set-up. They can be combined into a complete plug-and-play analyser system for any of the available measurement parameters.

The T80 universal transmitter is a single-channel device designed for the continuous measurement of multiple parameters. It communicates with any precalibrated S80 sensor and automatically configures the transmitter’s menus and display screens to the measured parameter.

The universal transmitter offers membrane switch navigation and a menu structure with soft key menu choices. It is available with 4–20 mA output with Modbus RTU on 24 VDC and 110/220 VAC instruments. The T80 can be configured with optional HART 7 communications and an optional three-alarm relay.

AMS Instrumentation & Calibration Pty Ltd
www.ams-ic.com.au

Protein swab

Protein is present in many types of foods, and is therefore a useful residue to indicate whether a food processing surface has been cleaned effectively or not. By using a rapid swab for protein, users are able to check if a surface is okay, and if necessary to perform re-cleaning, which can help prevent contamination of product.

Clean Do, from Corona Giken in Japan, and available in Australia from AMSL Scientific, is a self-contained swab that provides a colour change reaction in the presence of protein. No additional reagents or incubation conditions are required, and the results are able to be read visually in just minutes.

Clean Do swabs do not require any instrumentation and are cost effective. This means that rapid hygiene testing is available to all size food processors on any budget. Clean Do is also suitable for use by restaurants and caterers, or as an educational tool for food handlers.

Australasian Medical & Scientific Ltd
www.amsl.com.au

Back-purging filter

Back purging poses a challenge to quality inspectors: fine-grained foods make the validation of the protective gas atmosphere more difficult, because tiny particles clog the filters on the gas analysers. Witt Gas’s back-purging filter extends the service life of these devices.

The device is built into the suction pipe, where it does its job automatically. Whether milk powder, coffee or flour dust, the device registers the accumulation of particles on the filter, from the resultant line pressure increase. If the filter gets clogged, it is blown clean from behind. It is also possible to run this filter flushing manually. No changes to the gas analyser are required and the filters remain untouched.

The device’s stainless steel housing measures 172 x 242 x 343 mm (HxWxD) and it uses a 230 V power supply. Pressure control switches and pressure gauges are located on the front panel.

Niche Gas Products
www.nichegas.com.au
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Gas That Works For You™
Clean-cutting dicer
The Affinity Integra Dicer is the newest machine in the Affinity line by Urschel and has been designed for challenging, difficult-to-cut applications such as cheese or soft meats, meats with high fat content, cold temperature products, sticky bakery ingredients or products like brined pickles.

In addition to prevailing over challenging throughputs, the clean-cutting action achieves high yields of precise, targeted cut sizes well within customer parameters. This new dicer incorporates design elements from the longstanding Model RA series, the Affinity and the Sprint with the ability to replace existing inline Model RA series machines.

The Affinity Integra offers greater design efficiencies and will enhance the user’s production capabilities with a dicer that accepts a larger infeed product size combined with a larger impeller case that equates to potentially a 20% increase in yield; when compared to the standard RA-A, it equates to potentially a 50% yield increase.

The Integra accepts in-feed products up to approximately 114 mm, with the food zone completely separate from the mechanical zone to ensure sanitation. The machine features a slice adjustment knob, allowing dial-in and lock-in of a specific slice size to ensure precise tolerances hold true throughout production runs.

An optional cost-saving, replaceable insert slicing knife may be used as an alternative to the standard slicing knife set-up. Hinged panels provide full access to facilitate and expedite cleaning and maintenance procedures. A round tube frame limits microbial surface area and promotes self-draining.

With four processing speeds available, the Integra is designed for continuous operation with uninterrupted production.

Heat and Control Pty Ltd
www.heatandcontrol.com

Incremental shaft encoder
The 25SF Incremental shaft encoder from CL Encoder provides flexibility for the user, offering full programmable options for pulse frequencies and up to 32 different waveforms and electrical output types. Resolutions are available from 1 to 65,536 CPR.

Specifically designed for the challenges of an industrial environment, the product features a rugged industrial housing with dual bearing rated 80 lbs axial or radial as standard. Features include a wide temperature rating from -40 to over 100°C, a number of physical and mechanical couplings options and sealing up to IP67.

Control Logic Pty Ltd
www.control-logic.com.au

Earth resistance clamp-on testers
The Hioki FT6380 and Hioki FT6381 are precision earth resistance measurement clamp-on testers. Precise voltage is injected and, by means of current measurement, earth resistance is computed and displayed. The Hioki FT6381 is the Bluetooth-compatible version providing automatic report generation via an Android smartphone including date, time, measurement value and GPS location.

Up to 2000 data points can be stored internally for later downloading. The dual slim jaws clamp up to 32 mm-diameter conductors. Maximum rated voltage is 600 V to earth and the instrument meets EN 61010 safety standards. Magnetic interference is 10 mA or less in an external magnetic field of 400 A/m at 50/60 Hz.

Power Parameters Pty Ltd
www.parameters.com.au
Automating production line tasks

Stacking, spinning or integrating packs on the production line is a labour-intensive process that is inefficient and has the potential to cause RSI for line workers.

Converging Solutions offers a range of systems designed for specific tasks on the production line, including collation, integration, stacking and pack reorientation.

Designed and built for food environments, the systems can be seamlessly integrated into an existing production line and are easy to program to deal with multiple pack formats, minimising downtime.

The Pack Integrator 3 is suitable for handling high-speed, high-number pack formats and can cope with speeds of up to 200 packs/min.

The Integrator Synchroniser can receive between 2 and 6 multiple lanes of unsynchronised product and reduce them down to single file.

The Integrator Orientator is a fully automatic inline converging system, which automatically turns packs through 90 degrees prior to them being collated into a single-lane out feed.

The Pack Stacker can be configured to suit virtually any preformed packs and can be programmed to receive and stack a variety of different pack stack heights on the same line with minimal changeover time.

Inspection Systems Pty Ltd
www.inspectionsystems.com.au
Industrial-grade GPU computer

Neousys Technology’s Nuvo-6108GC is an industrial-grade GPU computing platform supporting high-end graphics cards. It is designed to fuel emerging GPU-accelerated applications, such as artificial intelligence, virtual reality, autonomous driving and CUDA computing by accommodating NVIDIA GTX 1080 or TITAN X GPU.

The product supports Xeon E3 v5 and 6th-Gen Core i7/i5 CPU with up to 32 GB ECC/non-ECC DDR4 memory. It incorporates standard computer I/Os such as Gigabit Ethernet, USB 3.0 and serial ports. It provides two x8 PCIe slots allowing for additional devices for information collection and communication.

The computer is equipped to handle heavy power consumption and power transients of a 250 W GPU. The product has a tuned cold air intake to effectively dissipate the heat generated by GPU. According to the company, this design guarantees operation at 60°C with 100% GPU loading, which makes it suitable for demanding field usage.

Backplane Systems Technology Pty Ltd
www.backplane.com.au

In-line portioner

The compact Marel MasterLink produces a wide variety of fresh sausages with a constant length and weight without a twist. It produces a continuous stream of fresh sausage and cuts it into a preset fixed length. The product can work with natural, alginate or collagen casings. During production sausage length can be adjusted, from small to very long sausages, making it a flexible machine.

The high-volume machine ensures an attractive, natural, round shape at the end of each sausage, with good savings on casings. The machine can be used in traditional sausage production, but can also be linked up to a co-extrusion system, thus being a key element of the highly automated Universal Fresh Sausage Line.

Marel
www.marel.com
**System for traceable packing data**

The Marco CheckMaster is a highly accurate system that virtually eradicates product overpack, reduces waste and improves productivity while allowing the user to measure, control and improve the packing process. Each operator has their own ID logon or RFID tag, ensuring that productivity data is individually logged.

A simple-to-operate but technically sophisticated traffic light system guides them as they work, ensuring target weights and technical standards are consistently achieved.

The Trac-IT YCM generates traceable packing data including: the number of packs completed over time/per operator; the total quantity of produce allocated to each line; the actual amount of saleable product packed at each workstation; and the total amount of waste generated at each workstation. It also produces pack weight trends by operator/team/line/factory and yield/mass balance data by batch run/total production.

**DC motor controller for harsh environments**

Excessive humidity, condensation and airborne pollution can cause corrosion, reduce surface resistance and trigger metal migration. maxon motor’s ESCON 50/8 DC servo motor controller is not affected by these conditions, due to the polymer-coated circuit board. Even silicon or lubricant oils do not stick.

The controller withstands ambient temperatures from -40 to +92°C. The vibration and shock endurance comply with the high requirements of the Environmental Engineering Considerations and Laboratory Tests (MIL-STD 810F). This results in its suitability for a wide range of applications in fields like defence, marine, aerospace and scientific research, and for oil refineries and automotive systems.

The DC motor controller is designed for both brushed and brushless (with Hall sensors) DC motors up to 400 W of continuous power and 750 W of peak power. The servo amplifier has configurable digital and analog inputs along with current limits and speed ramp settings.

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Egg-free, gluten-free, fat-free: „free-from” is a global food trend people follow for health or ethical reasons. With CAVAMAX® W6 alpha-dextrin, WACKER offers a texturizer for egg-free baked goods, heat stable oil-based icings and frostings as well as whipping without fat or protein. It also acts as a stabilizer in oil-in-water emulsions such as mayonnaise type sauces.

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Researchers have discovered a new method to design stable foams — their findings could make beer froth and ice-cream last longer (and even revolutionise construction materials such as concrete).

Quality and freshness in a beer can be anticipated if the beer has a good head of foam about 1.5 cm deep and containing 1,500,000 bubbles. But this foam is not stable — large bubbles become larger and smaller ones shrink and eventually disappear. This destabilisation process, known as ‘Ostwald ripening’, is particularly difficult to stop.

Surface-active components, such as certain proteins in beer foams, can typically prevent or at least slow down ripening by lowering surface tension, at least in the short term. But these components cannot ensure the long-term stability of the foams, as they only slow down the ripening process but cannot stop it once it has begun.

Jan Vermant, Professor for Soft Materials at ETH Zurich, and his group have taken a new approach to this foam stability problem and succeeded in quantitatively controlling the dissolution arrest of foam bubbles and formulating novel, yet universally valid strategies. These will help the food and materials industries to develop controlled and more effective stabilisers in order to prevent or stop Ostwald ripening.

The researchers found that particular particles act as a stabiliser and protect small bubbles against shrinkage by forming an irregular network structure at the bubble interface.

They were able to coat individual bubbles with a controlled amount of the particle stabiliser and then expose them gradually to changing pressure conditions in a mini pressure chamber, thus simulating Ostwald ripening.

Their experimental design allowed them to vary the number and nature of particles coating the bubble. Thus, they could relate the number of particles to the surface rheological properties. A surface yield stress was identified as the prime parameter that needs to be controlled. They found that even partially covered bubbles can be as stable as those completely covered with particles. As a result, the required quantity of stabiliser can be predicted accurately.

Furthermore, the researchers found that a coated bubble can withstand a much higher pressure than an uncoated one.

Although the researchers’ findings are general, they are also of specific benefit to the food industry. The scientists can now search for edible stabilisers to make foamy foods, such as ice-cream or even bread dough, last longer.

“We provide the food industry and other companies with development guidelines and quantification tools that they can use to develop new products,” said Vermant. And indeed, ice-cream helped to initiate this research, which was co-financed by Nestlé.

Stable foams are not only desirable for beer foam and ice-cream, they also play a part in concrete. Incorporating small, stable bubbles in concrete makes it better resist thaw-freeze cycles and makes it lighter.

Pipeline metal detectors

Mettler-Toledo Safeline has developed a range of HDS Pipeline Detectors based on its Signature platform. This pipeline metal detection solution was originally developed specifically for use on vacuum filling lines where it delivers detection sensitivity and stability, as well as user-friendly operation in potentially harsh or extreme working environments.

Designed for easy integration with all leading vacuum fillers and other processing equipment, the metal detection system offers consistent and reliable performance. Featuring a full stainless steel construction and sealed to IP69K, the systems are capable of withstanding extreme conditions and stringent washdown regimes required in meat and food processing plants, according to the company.

The detection coil technology and Signature software platform deliver high sensitivity to all metal types. In addition, the product is capable of detecting non-spherical contaminants such as metal clips, wire, swarf and slivers of metal introduced during grinding processes, which have traditionally proved difficult to locate due to a phenomenon known as the ‘orientation effect’.

The short overall length of the throughput tube and utilisation of the zero metal-free zone (ZMFZ) technology minimises product ‘creaming’ (uneven distribution of fats towards the outside of the product). This also enables metal fittings and other process equipment to be positioned in close proximity to the detection head without compromising detector performance.

The product’s slim design and compact footprint allow it to fit into the tightest of environments alongside leading vacuum fillers. Four robust castors offer 360° rotation, facilitating easy withdrawal from the process for cleaning and relocation to other lines if required. Furthermore, flexible height adjustment allows the detection head to be raised or lowered via a gas-strut to link up with the vacuum filler outlet.

All of the company’s systems incorporate ‘stop-on-detect’ functionality. This means that if metal is detected, a signal will be generated to control vacuum filler operation, enabling contaminated product to be purged from the pipeline.

The product can be connected to a wide range of factory data management solutions via Ethernet technology to support compliance with leading food industry standards, regulations and legislation. Manufacturers can also use this connectivity to record performance data and to confirm test routines have been completed for complete product traceability and proof of due diligence.

Mettler-Toledo Ltd
www.mt.com
The food industry places hygiene, cleanliness and cleaning demands on its systems that go far beyond the standard in classic mechanical engineering. And there can be no compromising when it comes to hygienic design and how well a system can be cleaned. Product safety is the top priority.

In the beverage industry, be it alcohol-free refreshment beverages, fruit juices or near-water beverages, as soon as sugar, fruit aromas or vitamins are added, the susceptibility to microorganisms and the risk of contamination increases. To protect the integrity of the beverages, sterile and hygienic process management is essential.

Dr Jürgen Hofmann, engineer and chairman of the German Section of the European Hygienic Engineering & Design Group (EHEDG), well understands the requirements for cleanliness in the production of food. For him the starting point of each strategy for avoiding contamination is the design aspect of the systems — in other words the hygienic design.

This is based on the philosophy that each production line is only as good to clean as its weakest link. All components, pipes, connections and seals as part of the overall hygienic concept have to be as simple and residue-free to clean as possible. An important aspect is the material itself. All components that come into contact with the foodstuff have to be made out of corrosion-resistant stainless steel along with food-safe, regulation-conforming plastics and elastomers.

**Pumps with hygiene certificates**

Whether the valves, pressure sensors or flow meters — each component must be easy to clean when installed. Take pumps for instance.

Without pumps the beverage industry could not operate as they are responsible for almost all tasks involved in the transport and movement of liquid and viscous foodstuffs. The diverse range of pumps available means that even soft and sensitive solids, such as fruit pulp or whole fruits, can be transported without being damaged.

Many centrifugal and displacement pumps are EHEDG certified, which indicates that they are easy to clean. However, this is not sufficient to ensure the pumps are suitable for use in hygiene environments. The installation is also critical.

Pumps have to be installed so that they can be completely emptied. “In the case of multi-stage power units only the vertical execution normally guarantees a complete emptying via the suction pieces,” Jürgen Hofmann asserts.

**Clean right into the last corner**

One of the biggest challenges for food and beverage manufacturers is coordinating their batch-mode production lines with their cleaning processes. An automatic cleaning (CIP, cleaning in place) with a subsequent sterilisation (SIP, sterilisation in place) is necessary in between the individual batches. This involves automated processes, during which acids, alkalis, disinfectants and saturated steam circulate in a cycle.

Pumps are essential here too, ensuring that fresh cleaning agents are led to the surfaces to be cleaned in regular intervals and that impurities are transported away. Pumps that fulfil all the demands of hygienic design are not only free of dead space and thus CIP cleanable, but can also be used as CIP feed pumps.

Electropolished, high-quality stainless steels also contribute towards good CIP abilities. Cr-Ni-Mo austenitics are molybdenum bearing austenitic stainless steels with very good corrosion resistance in many aggressive environments. The molybdenum addition ensures more resistance to pitting and crevice corrosion in chloride containing media and chemical environments such as sulfuric acid compounds, phosphoric and acetic acids. 1.4404 or 1.4435 (316L) stainless steels are considered to be state of the art.

**Experience hygienic design live**

Hygienic equipment including pumps, measuring instruments, separators, heat exchangers and fittings which can be integrated CIP processes will all be on display at Anuga FoodTec 2018. This exhibition will be held in Cologne, Germany, from 20–23 March next year.

Hygienic design will not only be on display on the exhibitor stands, but will also be addressed in detail in the event’s supporting program where lectures focusing on hygienic design and individualising the beverage industry will be among the highlights.
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Flume washing process

With the GEWA 3800V PLUS washing machine by KRONEN, salads and vegetables are thoroughly and gently washed in a continuous flume washing process without mechanical submergence.

It improves productivity and ensures a constant quality of the processed products under the highest hygienic standards.

By means of the central control system all functions of the washing machine and the feeding belt can be flexibly controlled via touch screen. Thirty freely programmable memory locations can be allocated with individual compositions that can be called up at any time.

The integrated infeed elevator with a 17° rising angle is equipped with a mesh belt and offers technical refinements including: speed control via touch screen, crate support, height limitation for product (40–100 mm), additional spraying device with adjustable spray nozzles and transfer hopper as splash guard to the wash tank.

The product also has a lateral fines removal drum with integrated container for small parts, and a water management system.

There is a vibration outfeed with integrated transfer hopper to the basket carousel. The washing machine has a mobile trolley for removable parts.

KRONEN Gmbh
www.kronen.eu

Global large fly elimination program

The Large Fly Program is a comprehensive global program from Ecolab’s Pest Elimination that uses an outside-in approach and technology to help reduce the food safety risks associated with large flies.

The program offers a multifaceted approach that addresses fly activity through ongoing inspections and recommendations, exterior and interior treatments, and the use of technology and science both inside and outside the facility.

The program includes use of the patent-pending STEALTH LED Fly Light, which matches efficacy with safety and sustainability to reduce the risks associated with large flies in a facility. The company claims it uses up to 60% less energy than comparable models, and it is suited for use in both the front and back of house in restaurants and food-service facilities. The program can also be customised to meet the specific needs of lodging and long-term care properties, food and beverage plants and other facilities.

The LED fly light was developed through extensive testing of fly behaviour and evaluation of environmental characteristics to understand how flies respond to light. By studying flies under field conditions and in controlled environments, they gained a new understanding of fly exploration behaviour and used these findings to develop the fly light. Used in combination with other products as part of the company’s outside-in approach, the light is the last line of defence against large flies that do manage to enter a customer’s facility.

Ecolab Pty Ltd
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A solution for all budgets
A multihead weigher from Ishida Europe has enabled Spanish manufacturer Congalsa to introduce tuna pasties to the market.

When Congalsa, a manufacturer of high-quality, pre-cooked, frozen seafood dishes, decided to enter the commercial market in tuna pasties with an authentic, home-made taste, it involved adopting a different packing concept: using the speed, hygiene and labour-saving potential of multihead weighing to bag the pasties before boxing.

A Gentle Slope Ishida model was the solution to overcome the fragility problem of multihead weighing and the high breakage rate taking place largely in the weigher or at the weigher/bagmaker interface, where the damage could only be evaluated by inspecting already sealed bags and removing broken pasties by hand.

The 14-head weigher is configured so that radial feeder angles are shallower than usual. Drop distances between feeders and pool hoppers and between pool hoppers and weigh hoppers are kept to a minimum. A ring shutter halves the distance that the product must fall from weigh hoppers to bagmaker. The weigher also features recent Ishida technological advantages such as the ability to make many more combination calculations per second (which enhances speed and accuracy) and a self-tuning vibratory system.

The many damage-reducing features of the Ishida weigher and the Congalsa production team’s work in integrating it into the line have enabled high packaging speeds to be achieved.

Heat and Control Pty Ltd
www.heatandcontrol.com

Sealing material
Trelleborg Sealing Solutions’ Isolast perfluoroe lastomer sealing material has two specialised formulations for sealing in beverage filling systems: J9516 and J9538.

Specifically developed for food and beverage applications, both sealing materials are FDA (Food and Drug Administration), USP (United States Pharmacopeia) Class VI and 3-A Sanitary Standards approved. Suitable for filling and packaging equipment, these compounds provide resistance to concentrated flavouring additives, which can cause excess swelling in conventional elastomers.

In addition, they withstand frequent harsh CIP (cleaning in place) and SIP (sterilisation in place) regimes, ensuring extended seal life.

The sealing material is suitable for seals and moulded parts that are exposed to extreme chemical and thermal conditions. Being almost chemically inert, it is resistant and durable in contact with media including solvents, acids, alkalis or steam and has operating temperatures between -40 and +325°C.

The product is suitable for use in foodstuff technology, such as in beverage and milk industry filling systems, where seals in contact with foodstuffs must remain neutral while withstanding cleaning processes that involve hot steam or aggressive media.

Trelleborg Sealing Solutions
www.trelleborg.com

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Trelleborg Sealing Solutions
www.trelleborg.com

Weighing in pastry packaging

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Heat and Control Pty Ltd
www.heatandcontrol.com
Panel-mounted multifunctional speaker
The QMPS series from Qlight is a panel-mounted multifunctional speaker and can prevent cross-talk of different voice environments by selecting an audio signal fit for the specific environmental conditions. The product offers both binary and bit input mode options. The binary input mode has 30 built-in messages that can be played, with switches for sound selection.

The maximum sound volume is 98 dB at 1 m, with the volume adjustment and sound selection switches located inside the unit.

The bit (binary digits) input mode is organised into six groups of five sound tones for a total of 30 sound tone options. The 30 prerecorded sounds offered are: Group 1 (five warning sounds, five special warning sounds); Group 2, (five melodies, five alarms, five special warning sounds); and Group 3 (five special warning sounds).

It is a multifunctional product that can use an SD card for MP3 playback. The option to use an SD card allows users to play MP3 voice messages and to select and change the sound message after recording it.

The housing of the product is made from ABS plastic, which is strong and durable even at low temperatures (the ambient operating temperature range is between -25 and +50°C). It offers good resistance to heat and chemicals (IP54 protection rating).

Leuze electronic Pty Ltd
www.leuze.com.au

Live monitoring software
The Industrial Scientific iNet Now live monitoring software enables real-time monitoring of worker location, environment and status.

Should a worker encounter a gas hazard, be immobilised or have the need to escalate a condition through a panic alarm, text and email alerts — including a map of the area — are sent to designated contacts. By using the product, workers can have peace of mind that potentially dangerous conditions or situations will be escalated to someone able to take action.

The product has live map displays of the status and location of workers, eliminating the time it takes to complete manual check-in processes.

Automated alerts are activated when emergency situations occur, triggering responders and equipping them with a detailed understanding of the situation.

The product is also compatible with all LENS Wireless devices, including the Ventis Pro Series and Radius BZ1. This makes it easier to see the state of both wearable gas detectors and area monitors as they are deployed across work teams.

Industrial Scientific Corporation
www.indsci.com

Stainless steel cabinet cooler system
The EXAIR small 316 stainless steel cabinet cooler systems with electronic temperature control keep electrical enclosures cool with -7°C air, while maintaining the NEMA 4X rating of the enclosure and resisting the heat that could adversely affect the internal components.

The wear, corrosion and oxidation resistance of Type 316 stainless steel assures long life and maintenance-free operation. Cooling capacities up to 550 Btu/h are suitable for small enclosures and heat loads. Models with higher cooling capacities up to 5600 Btu/h for NEMA 12, 4 and 4X enclosures are also available.

The product is designed to accurately maintain a constant temperature in the electrical enclosure that is slightly under the maximum rating of the electronics. It permits just enough cooling for the electronics without going so cold as to waste compressed air. A digital LED readout displays the temperature of the electrical enclosure (°C or °F), then displays the user temperature setting when pressing the ‘push to set’ button. When that setting is exceeded, the cabinet cooler system is activated.

The product includes an automatic drain filter separator to ensure no moisture passes to the inside of the electrical enclosure.

It is available with cooling capacities of 275 and 550 Btu/h and is UL listed and CE compliant. There are no moving parts to wear out. Applications include cooling control panels used in food processing, pharmaceutical, foundries, chemical processing and other corrosive locations.

Compressed Air Australia Pty Ltd
www.caasafety.com.au
Climate control for enclosures

Rittal’s Hygienic Design air/water heat exchangers for enclosures have been designed to meet the hygienic requirements of the food and beverage industry.

Liquid cooling of enclosures offers a number of benefits: because water has a higher thermal capacity than air, liquid cooling can dissipate even large quantities of heat. What is more, industrial environments often already have a central cooling water supply available that can be used for enclosure cooling.

All that is left to do is to mount suitable air/water heat exchangers on the enclosure. With hygienic design, it is particularly important that no air exchange takes place between the enclosure and the environment.

Two variants of the wall-mounted, hygienic design air/water heat exchangers are available — supplying cooling outputs of either 0.65 or 1.2 kW.

The units are made from stainless steel with a brushed grain size of 400, producing a surface roughness Ra of less than 0.8 µm. The smooth surface finish is easy to clean and disinfect. There are no hard-to-clean gaps where contamination could collect.

The silicone seal between the enclosure and the case prevents the transfer of colourants, flavourings and unwanted odours. The seal eliminates gaps between the air/water heat exchanger and the enclosure which would be difficult to clean.

The air/water heat exchangers have C-UR and CSA approval, making them suitable for international use. The hygienic design was tested by the DGUV Food department testing and certification agency in accordance with GS-NV 6 (test principles for hygiene). The devices comply with standard DIN EN ISO 14159:2008 and are suitable for use in the food sector in conformity with DIN EN 1672-2:2009.

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Detecting dormant pathogens

Salmonella and Shiga toxigenic E. coli (STEC) are two pathogens that can go into a dormant state where they remain virulent but can’t be detected through traditional culturing methods.

This dormancy state is known as ‘viable but non-culturable’ or VBNC.

Canadian researchers are now looking for a quick, easy-to-use and economical test to detect VBNC on fresh and processed produce that can be performed in the field and doesn’t need cumbersome equipment.

“VBNC is a relatively new concept to the fresh produce industry,” explained Dr Xiaonan Lu, an associate professor of food science at the University of British Columbia.

Following the research, growers and processors may need to rethink the types and levels of antimicrobials they use to treat water to account for VBNC pathogens, Lu said.

The two-year project — Detection, validation and assessment of risks implied by the viable but non-culturable state of enteric bacterial pathogens in fresh produce — has three pillars.

First, the researchers plan to develop a new molecular detection method for VBNC that is user friendly. “The current detection methods for VBNC bacteria have some limitations,” Lu said. “During the past six months, after some optimisation and after a lot of hard work, we’ve already finished proof of concept that the new detection method is working.” The researchers still have a few parameters of the new assay to fine-tune, but Lu said they expect to have the work completed by this fall.

During the second part, the researchers plan to test the new detection method in lettuce fields at the Summerland Station. They also plan to spike lettuce, tomatoes and spinach with the VBNC pathogens to ensure the assay works with plants. Their earlier work was done in vitro in the laboratory.

“We want to know how robust the test is,” Lu said. Known technically as an isothermal PCR, it uses a warm water bath to keep the bacteria at 63°C as the population is amplified for better detection.

“This means we don’t need a special machine, such as a thermal cycler for the convectional PCR, so this method is very suitable for in-field studies. You don’t need to carry a very heavy thermal cycler to go to the field,” he said. The entire test can be completed in less than an hour, speeding decision-making for growers and processors. “The easier the technique and the quicker the technique, the better,” Lu said.

In addition, the researchers plan to survey lettuce fields to determine the survival of VBNC both in the field and during simulated processing. “We’re trying to do the simulated processing and prepare the fresh produce on different cutting boards and solid surfaces so we can see the (VBNC) survival,” he said.

The third pillar will be the development of a risk assessment of VBNC using data from the field trials and simulated processing.
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www.3M.com.au/foodsafety
Faster foodborne pathogen detection system wins Gold Edison Award

3M has received a Gold Edison Award in the Diagnostic Tools category of the 2017 Edison Awards for its Molecular Detection Assay 2.

More than 3000 senior business executives and academics in the fields of product development, design, engineering, science and medicine judged the awards, with winners chosen for their excellence in concept, value, delivery and impact.

3M’s Molecular Detection Assay 2 platform makes molecular detection of foodborne pathogens simpler and faster, providing food manufacturers never-before-available speed and ease in identifying Salmonella, Listeria, Listeria monocytogenes, E. coli O157 (including H7) in food or environment-collected samples and Cronobacter for powdered infant formula.

The platform is based on isothermal DNA amplification and bioluminescence detection and uses a single assay protocol for all pathogens, enabling batch processing of up to 96 different samples at once and improving efficiency in the laboratory. Enhanced with proprietary 3M nanotechnology, the test gives processors a streamlined workflow that simplifies their pathogen detection, enabling same- or next-day results and faster, more confident food safety decisions.

Aim for better service drives Arrow Scientific and Key Diagnostic merger

Arrow Scientific and Key Diagnostics are merging with the combined business commencing operation on 1 October.

The Arrow team will be relocating to Key Diagnostics premises in Gymea and will continue to focus on offering the best food safety products, quality tests and equipment. It is anticipated that the merger will create synergies and the expanded team will provide even better levels of service and support to its clients.

From 1 October contact details for the merged company will be:

• Purchase Orders: orders@keydiagnostics.com.au
• Account enquiries: accounts@keydiagnostics.com.au
• Technical support: sales@keydiagnostics.com.au
• General enquiries: info@keydiagnostics.com.au
• Mail: PO Box 1038, Gymea NSW 2229
• Telephone: 02 8212 4074
Ultra-microcomparator

METTLER TOLEDO’s XPR6U ultra-microcomparator balance comes with MC Link mass calibration software to deliver secure mass calibration. The product offers readability of 0.1 µg, coupled with fast stabilisation time and improved repeatability. This is due to the increased stability provided by the Active Temperature Control technology, which draws heat away from the weighing cell.

The MC Link software guides users through the calibration process all the way to the printed certificate in just a few clicks, all the while ensuring fully traceable and secure data for weights, weight sets, uncertainty analyses and users.

Once activated, the GWP Approved function built into the comparator monitors its status regarding tests, adjustments, levelling and settings, so users know that everything is in order before starting calibration. It also ensures that mass comparison takes place within the safe weighing range of the comparator and helps ensure valid results every time.

The enhanced weighing pan improves weight handling while the hook weighing pan simplifies the handling of wire weights, either individually or in combination. The two-terminal concept allows the main touch screen to be placed wherever it is more ergonomic and convenient, while the smaller SmartView terminal is right where users need it. It includes all of the basic functions users need to carry out weighing tasks.

The product enables mass calibration laboratories to achieve efficient calibration of the smallest reference standards.

Mettler-Toledo Ltd
www.mt.com

Single-column force tester

Bestech’s CS Series single-column force tester allows simple force testing up to 5 kN. It is suitable for testing packaging, electronics, plastics, medical devices, textiles and rubber. It provides users with an easy-to-use method for tensile testing (pull), compression testing (push), shear testing, flexural testing or advanced multistage testing.

The set-ups include limit testing (load, distance and time), break testing, cyclic and loop testing, multistage/user-defined testing and height measurement. Its compact footprint allows placement on a bench or tabletop in a lab with minimum encumbrance. The choice of test fixturing and grips makes it a suitable choice for a wide range of low-force test requirements.

The tester has 100 kHz data sampling, multilingual and multiunit display options, and can export data directly to Excel or OLE2 formats.

Bestech Australia Pty Ltd
www.bestech.com.au

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**Raw meat adulteration and contamination test kits**

Bio-Check (UK), a specialist test kit developer, has just launched its Raw Meat FlowThrough range in Australia. The kits are claimed to make testing raw meats much easier. The tests detect cow, horse, pig, poultry and sheep species at contamination levels below 1%. This can even assist meat processors to distinguish adventitious contamination from adulteration in only 12 minutes.

All the components for performing the tests are included in the single test packs. Colour coding is used to differentiate one species specific test from another. The integrated Control not only verifies the functionality of the test but also that reagents have been used correctly, making the tests suitable for use by non-technical staff.

The tests are easy to read and validated using Reference Materials. These unique tests improve manufacturers’ traceability thus underpinning the robustness of their quality systems and evidence-base for third-party accreditation. Bio-Check products are available in Australia through AMSL Scientific.

**Australasian Medical & Scientific Ltd**

www.amsl.com.au

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**Analyser system**

The Electro-Chemical Devices T80-S80 analyser system is a modular plug-and-play system that simplifies operations and lowers total operating costs in aquaculture.

The analyser system can be seamlessly integrated with popular control system communication protocols to provide a closed-loop water monitoring and treatment system that maintains water quality for optimum fish-growing conditions.

The product’s intelligent digital protocol simplifies installation set-up and process measurements. The single- and two-channel models offer membrane switch navigation, a simple menu structure and soft key menu choices with an easy-to-read 2.75 x 1.5” LCD display.

The product is available in three different power modes: a loop-powered transmitter, a 24 VDC line-powered transmitter or a 110/220 VAC line-powered transmitter. The line-powered instruments have one or two 4–20 mA outputs with MODBUS RTU and optional alarm relays. The product can be configured with the optional HART 7 communication protocol.

The product digitally communicates with any S80 sensor, automatically uploading the sensor’s calibration data and configuring the transmitter’s menus and display screens to the desired parameter.

Sensors feature a choice of two universal sensor designs: insertion/submersion or valve-retractable with a flared end to prevent blow out. They have a rugged ¾” OD 316 stainless steel body with a 3 m cable or an optional waterproof detachable cable assembly.

The DO80 DO sensor features a measurement range from 0–20 ppm (mg/L) over a temperature range from -10° to 60°C. For pH, the S80 features a measurement range from 0–14 pH with a temperature range of -10° to 90°C. The NH3 sensor has a measurement range of 0.1–17,000 ppm over a temperature range from 0° to 40°C.

The auto clean option includes a solenoid actuated spray cleaner using either 30 psi process water or air. An easily adjusted timer controls the period and duration of the cleaning cycle.

The auto clean option reduces time-consuming manual maintenance routines, which frees staff for other more productive activities.

**AMS Instrumentation & Calibration Pty Ltd**

www.ams-ic.com.au
BUILDING A STRONGER, MORE SUSTAINABLE INDUSTRY

The Australian Meat Processor Corporation’s (AMPC) mandate is to provide research, development and extension services that improve the sustainability and efficiency of the red meat processing sector.

Levies are strategically invested in research, development and extension programs aligned to targeted marketing initiatives. With members representing 97% of Australian red meat processors, these programs deliver benefits for both the industry and broader community.

For more information on our research, training and education programs, scholarships and industry news visit ampc.com.au, call 02 8908 5500 or email admin@ampc.com.au
Tests that used to take days now take 24 hours, with a hundredfold improvement in detection for at least one type of Salmonella — called Salmonella Dublin — that is an emerging concern and is difficult to grow in culture, making diagnosis difficult.

The new method, first developed for automated food safety testing and then adapted by Cornell scientists for a wider range of sample types, can detect the bacteria from environmental and clinical samples, including swabs, faeces, milk and blood.

The test improves diagnosis time from as many as five days using current procedures, according to a recent study published in the Journal of Veterinary Diagnostic Investigation.

“Because we have this 24-hour turnaround time with the new test, there are veterinary hospitals and clinics that can test and get results rapidly and make sure they are not exposing other animals to Salmonella,” said Belinda Thompson, assistant clinical professor at the Animal Health Diagnostic Center and a senior author of the paper.

Fast clinical diagnoses also allow veterinarians to quickly quarantine an infected animal.

Salmonella Dublin is “host adapted” in cattle, meaning infected animals can become permanent or long-term carriers, putting herd mates, especially susceptible calves, at risk. This strain can infect people who may be exposed by contact with infected animals, by drinking raw milk or by consuming other contaminated food products. In humans, Salmonella Dublin has higher hospitalisation and fatality rates than other Salmonella types; it causes systemic infection of body tissues, similar to typhoid.

“Salmonella biosurveillance in veterinary facilities is critical because animals can shed the bacteria without showing clinical disease signs,” said Laura Goodman, a senior research associate in the Department of Population Medicine and Diagnostic Sciences and lead author of the study. Goodman added that the method described in the study is now available as an environmental testing program through the Animal Health Diagnostic Center.

The test was funded and developed in collaboration with the Food and Drug Administration (FDA) Veterinary Laboratory Investigation and Response Network. Cornell works closely with FDA scientists to evaluate and perform new methods that the government agency can share with other veterinary labs.

The study describes an important innovation: choosing a type of broth culture that selectively provides the right nutrients to grow certain bacteria. The researchers chose a broth that would cover a wide range of Salmonella types, including Salmonella Dublin and others relevant to animal health. They then applied an advanced molecular detection system to screen the broth for small amounts of Salmonella DNA. Bacteria can be further characterised with whole genome sequencing.

“Salmonellosis can be a serious and costly disease of animals and people, and anything we can do to enhance diagnostic procedures to help control the pathogen is a good thing,” Thompson said.
Robots to research into AMR in livestock

The Australian Government is supporting research into the use of robots in antimicrobial resistance (AMR) on pig and chicken farms.

With the Australian chicken meat industry achieving an export value of $47 million and the pig meat industry $128 million for the 2015–2016 financial year, Australia aims to position itself as a world leader in the fight against superbugs. The Coalition government has proven this by providing financial backing of $1.3 million to Australian Pork Limited under Round 3 of the Rural Research and Development (R&D) for Profit program.

AMR is a “major health issue worldwide” according to Barnaby Joyce, Deputy Prime Minister and Minister for Agriculture and Water Resources, and the World Health Organisation has described it as a looming crisis in which treatable infections are becoming life-threatening. A more thorough testing of livestock is therefore necessary to prevent superbugs and raise awareness of those that are resistant to antibiotics.

“Using laboratory robots that can work quickly, precisely and cost-effectively, the project will develop an industry-wide approach to gather information to help farmers demonstrate their low AMR risk status, giving them a competitive advantage in the international marketplace,” Joyce explained. “Specialised robots will be used to isolate, count and characterise large numbers of bacteria from animal faeces.”

She suggested this aims to boost Australia’s trade reputation by demonstrating that Australian farm produce has a low antimicrobial resistance status.

“The robots will be used to identify and grow thousands of individual bacteria to determine the presence and distribution of antimicrobial resistance at both the herd and national level.

“The project will help monitor on-farm control measures to reduce the presence of antimicrobial-resistant organisms across pork and chicken meat industries, with the potential for the project to be used as a model in other animal sectors and for ongoing surveillance,” said Joyce.

Australian Pork Limited CEO Andrew Spencer welcomed the Australian Government’s support for this project. The $180.5 million R&D for Profit program delivers on the Coalition government’s commitment to increase R&D funding for practical projects to increase farmgate returns and capture global market opportunities.

While there is limited overlap in antimicrobials between human and animal products, the focus on AMR in livestock ensures there is no potential harm to humans or animals.

“The outcome of this project will enable industry to provide hard evidence to back claims and to show leadership credentials, which in an AMR aversive world will be an important point of differentiation,” Joyce said.

Burger former

The Mainca HA-2200 is a high-speed automatic forming machine capable of forming anything from meat and vegetable mixes to cookie dough into all sorts of shapes and sizes.

The automatic forming machine can create forms up to 120 mm in diameter and up to 24 mm thick (optional: up to 34 mm). Custom drums are available, allowing the formation of a variety of shapes and sizes within the limits outlined above.

Featuring variable speed control, the HA-2200 can process up to 2200 forms/h. Double- and triple-form drums are also available (for forms below 55 mm and 35 mm diameter, respectively) to double or triple the potential throughput. The machine features fully automatic operation in addition to manual operation controlled via the foot pedal.

This unit is compactly designed (taking up only 60 x 70 cm of bench space) and features a single-phase motor, rendering it small and convenient enough for installation into most small production facilities.

The HA-2200 is supplied standard with a 330 mm conveyor belt (optional: 750 mm) and a 25 L hopper (optional: 45 L). An automatic pneumatic wire cleaner is also an available option, keeping the outfeed clean and the product smoothly formed.

Barnco Sales Pty Ltd
www.barncosales.com.au
Guardian Bandsaw and SMC collaborate on meat processing technology

Founded by kanDO Innovation in 2015 in order to address the need for improved safety and detection systems in the meat processing sector, Guardian Bandsaw has now developed a new bandsaw.

Replacing traditional bandsaws, this product provides customers with a range of high-tech features including: real-time feedback; higher speed of vision and braking systems; no damage to the blade during braking; video capturing of trip events and E-stops for review; and email alerts when trips occur.

It also focuses on safety by providing an automatic safety check prior to operation and a unique 3D vision system which includes a protection zone around the blade.

After working with SMC in the past, Guardian Bandsaw Director Keith Blenkinsopp collaborated with SMC to further advance their product and ensure the efficient control of their technology.

“In listening to Keith’s requirements, the brief was to offer a compact tidy and efficient system to control the pneumatic requirements of the machine, thus we recommended SMC’s EX260 Ethernet module mounted on our SY3000 series Valve Manifold,” said SMC Branch Manager for New Zealand Peter Wilson.

SMC’s SY series of all-purpose valve manifold offers flexibility, improved space savings of 29%, increased flow rates of up to 1500 L and greater cost savings.

Designed to match with the company’s EX fieldbus system, it offers an array of compatible protocols, reduced wiring time, an IP67 rating and a self-diagnosis function. The units are set with rubber and metal seals that are designed to last for decades and therefore further safety requirements.

“It speaks volumes when you are confident enough to offer a perfectly matched solution on trial and know that it will 100% deliver. Rather than offering a sales pitch, SMC allows our products to speak for themselves,” said Wilson.
As a New Zealand first, Ingham’s Te Aroha primary processing plant has achieved certification from the international Alliance for Water Stewardship (AWS). The plant is the seventh site in the world to be certified.

The Te Aroha plant was recognised for the management of its water life cycle from collection at source to treatment of wastewater. The plant’s certification is the second for Ingham’s with its Somerville processing plant in Australia certified in 2015.

The Alliance for Water Stewardship (AWS) is a global membership-based organisation for sustainable water use. Its standard provides a global framework for major water users to understand their water use and impacts, and to work collaboratively and transparently towards achieving sustainable water management within local communities.

The managing director of Ingham’s New Zealand, Adrian Revell, said: “Our company is continuously listening to our customers and consumers who want us to be completely authentic in all that we do.

“For the past 10 years, we have implemented best practice management of our water life cycle, which includes our impact on the local catchment area and how our wastewater is treated.

“We are very proud to have achieved this recognition from AWS and thank our local community for engaging with us and for the constructive feedback they have provided us along our journey.”

Ingham’s utilised the Alliance for Water Stewardship’s stringent standards as the framework to engage and work with the wider community to look after the local water catchment area.
Fruit fly farming start-up to harvest clean, high-protein ingredient

Israeli start-up Flying SpArk is farming Mediterranean fruit flies to harvest a high-protein, odourless, nearly cholesterol-free ingredient for human consumption. Rich in calcium, iron and potassium, the ingredient is sustainably produced — and Flying SpArk hopes it can be used to address shortages in global nutrition.

Between 2011 and 2015 global consumption of edible insects grew more than 58% (admittedly from a small base), according to Innova Market Insights. Crickets and cricket flour were the most common insect ingredients. Requiring minimal water and almost no land, the fruit flies harvest themselves with no human intervention, which allows for clean farming.

The high demand for sustainable protein, combined with innovative technology, has driven strong support for Flying SpArk. The company has raised $1 million with the help of the Israel Innovation Authority and The Kitchen, a food-tech incubator sponsored by the Strauss Group (one of the largest food conglomerates in Israel).

Over the last 12 months, Flying SpArk has made significant inroads toward building the infrastructure and technologies integral to developing its products.

Now the company has been selected to join nine other start-ups at the IKEA product development centre in Älmhult, Sweden.

At the IKEA Bootcamp, start-up accelerator IKEA will mentor and work with the Flying SpArk team to develop a product and hopefully launch it at IKEA’s restaurants.

The idea behind IKEA’s collaborative boot camp effort is what the company calls ‘Co-creating a better everyday life’. The mission is to encourage start-ups that are working to solve some of the world’s most pressing problems.
Fish portion cutter
The I-Cut 130 PortionCutter by Marel is designed specifically to meet the processing needs of larger companies. It is suitable for cutting fresh, boneless fish into portions of fixed weight and/or fixed length.

The processing software provides programming flexibility and a variety of specialised cutting patterns. It is designed for accuracy and optimum usage of raw materials, resulting in high-quality products with maximum return on investment.

The portion cutter can be integrated with other equipment from the company for optimised cutting and batching processes. It has been designed for easy and thorough cleaning to comply with food safety regulations, and has an intuitive touchscreen and user interface to make daily operation and programming easy.

The portion cutter’s computer uses proven servo motor technology to help ensure a long lifetime. It has a high cutting speed of up to 1000 cuts/min and its laser vision system with the latest camera technology for accuracy.

The portion cutter’s computer uses proven servo motor technology to help ensure a long lifetime. It has a high cutting speed of up to 1000 cuts/min and its laser vision system with the latest camera technology for accuracy.

The product offers cutting patterns and programming flexibility. It ensures intelligent spacing between portions for easier packing downstream and its belt speed adjusts automatically for higher throughput.

Marel
www.marel.com

Mobile temperature data logger
Tracking the temperature of sensitive and perishable products during transport is a real industry challenge.

OCEASOFT developed its mobile temperature data logger, the Cobalt ML3, to meet challenges in the transport industry. The connected data logger takes care of temperature traceability during product logistics phases, leveraging specialised long-range wireless technology.

The temperature data logger automatically collects temperature data recorded by the product’s modules and transfers the information to a secure cloud platform via a network of receivers using the LoRaWan protocol. No human intervention is needed to ensure continuous temperature monitoring across the entire logistics chain.

The product can also use the public network to upload geolocation information about a container or vehicle.

Set-up is fast and intuitive, with configuration and data access simplified by the CobaltView companion web application PC, tablet and smartphone.

Temperature readings are stored in the module’s internal memory as well as on the company’s secure cloud platform, OCEACloud. A cloud application development interface (API) is also available, enabling data to be integrated with third-party information systems. In case of anomalies, such as out-of-bounds temperatures, alerts can be sent 24/7 by email, SMS or voice message via the OCEAlert platform.

The temperature data logger is designed to keep up-front investment and maintenance costs down, using low energy consumption technologies enabling battery life up to one year. Battery operation further helps make installation fast and easy. An external, waterproof, protective casing can be used for logistics and transport applications requiring additional robustness.

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Bindaree Beef Group sells 51% share to Archstone Investment

The Bindaree Beef Group (BBG) announced last week that it has entered into a "strategic joint venture" with the Hui family and their investment firm, Archstone Investment. This has seen Australian property billionaire Hui Wing Mau’s company take 51% share in BBG for an undisclosed sum believed to be in the region of $100 million to 150 million.

Approved by the Foreign Investment Review Board, the founder of BBG, JR McDonald, suggested the capital provided by the partnership with Archstone Investment would allow the company to expand its operations in global and domestic markets.

“After lengthy discussions, we are delighted to have the right partner in place. Our joint vision for BBG is to create a more competitive company that can cater for both local and international markets. We will rapidly expand our reach while also upgrading our facilities, supply chain and distribution,” stated McDonald.

This comes after their deal to sell a 45% stake in BBG to Chinese-listed meat company Shandong Delisi Food Company fell through in June last year.

Archstone Investment directors commented that they were attracted to Bindaree’s established supply chain and the opportunity to further develop the family enterprise.

“The demand for beef in South East Asia and China over the next 15 years is significant and the new joint venture has the combined expertise to leverage this opportunity,” they said.

The Hui family already invests in cattle properties in the Kimberley in Western Australia, and they plan to make further acquisitions in northern NSW closer to BBG’s meatworks.

BBG’s management team, led by McDonald, have suggested they will continue to run all aspects of the company’s operations with the new partners contributing to the setting of strategy.
Jail for horsemeat fraudsters

Three businessmen who passed off horsemeat as beef in a simple grab for profit have been convicted of fraud, with two being given custodial sentences and one a suspended sentence.

Over a 10-month period in 2012 the trio mixed 30,000 kg of horsemeat into 53,000 kg of beef trimmings, repackaged the meat, attached false labels and sold the mixture as Polish-sourced beef. Their crime was discovered after an environmental health officer examined 12 pallets of meat at a plant in Northern Ireland and found that two of the pallets had horsemeat as a major component. Microchips from two Polish horses and one Irish horse were also recovered from within the meat blocks.

An investigation by the City of London Police and the UK Food Standards Agency ensued.

The investigation centred around Denmark-based meat trading company Flexi Foods, owned by Ulrik Nielsen, and Alex Beech, the UK representative of the company. Flexi Foods passed numerous consignments of meat through Andronicos Sideras’s company, Dino’s and Sons, a food supply company and sausage manufacturer.

It seems that during 2012 Nielsen and Beech were buying horsemeat from Ireland and sourcing beef from Poland. This meat was then all delivered to Dino’s and Sons premises, where Sideras would oversee the mixing of these different meat consignments and then apply false paperwork and labels to make it look like all the meat was 100% pure beef. The disguised products would then be sold on as beef without the buyer being aware of any horsemeat having been introduced.

Mixing in cheaper horsemeat to the beef allowed Flexi Foods to increase the profit on each consignment by approximately 40%. The type of meat in question is known as ‘trimming’ and is used in products such as minced meat, sausages, pies and ready meals.

Following a three-week trial at Inner London Crown Court, Sideras has been sentenced to four-and-a-half years for conspiracy to defraud, with a ban from being a company director for 10 years after he was convicted of adding horsemeat into beef destined for the human food chain. Nielsen has been given three-and-a-half years custodial, with a ban from being a director for 10 years, and Beech has been given an 18-month sentence, suspended for 12 months, with a ban from being a director for five years and 120 hours community service.

Detective Constable Stephen Briars, the officer who led the case for the City of London Police’s Fraud Squad, said: “This is a clear case of fraud; the fact that the case revolves around meat and the food chain makes no difference to this crime. A lie is a lie, whatever the circumstances.

“These three men set out to deceive the suppliers, retailers and ultimately the consumer so that they could make more money.

“This case has involved a real team effort with staff from the City of London Police, working closely with our partners from local authorities, the Food Standards Agency and the food industry to gather the evidence necessary to prove this unique and challenging case.”
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INNOVATORS IN PACKAGING AUTOMATION SINCE 1995
Smart labelling system detects fresh food

Perishable foods and their expiry dates are a difficult aspect of food production, as organisations must conform to strict legal regulations to ensure safety.

European regulations are continuously attempting to ensure the estimated expiry date of a product matches its freshness. As part of a European Commission funded SME program, packaging research institute ITENE has developed Freshcode, which is a smart labelling system that provides a visual indicator guaranteeing the freshness of packaged chicken breasts.

The colour indicator suggests the ideal consumption period for filleted and deboned chicken breasts in modified atmosphere packaging (MAP). It achieves this by placing the Freshcode label containing intelligent ink inside the packaging film, which detects the emission of volatile gases released when the chicken begins to spoil. While the label is originally white, the ink colour becomes darker with these gases and eventually becomes black when the product is no longer consumable. The freshness can be evaluated by comparing the label colour to the reference colour.

Unlike previous smart packaging, Freshcode has high technological value that ensures the reliability of the product from both a distribution and consumer perspective. It allows individual food safety controls for distributors, increases demand and sales for poultry product processors and packers, and reduces the risk of food poisoning for consumers.

Sustainable biscuit pack from Brazilian eucalyptus trees

US packaging solutions provider Parkside has worked with ethical food brand Rhythm 108, with the brief to develop a pack made from sustainable sources that is fully compostable at the end of its service life.

The result was the launch of the Ooh-la-la tea biscuits pack, a share bag manufactured with a substrate that used Brazilian eucalyptus trees.

Ooh-la-la tea biscuits, which is available in lemon ginger chia, almond biscotti, coconut cookie and double-chocolate hazelnut varieties, are packaged in a triple-layer structure made up of paper, metalised NatureFlex and biopolymer sealant web. The design provides an excellent moisture and oxygen barrier that extends product shelf life to help both retailers and consumers minimise food waste.

The NatureFlex biofilm is created from wood pulp from sustainably sourced eucalyptus plantations in Brazil, where for every tree used, another is planted.

The compostability of the pack is a further bonus for consumers. Parkside conducted four years of research, development and testing before making a breakthrough in compostable multilayer film barrier laminates. The Rhythm 108 pack attained Vincotte’s OK Compost Home and Seeding certification after achieving a high degree of compostability.

Of course we have plenty of eucalyptus trees in Australia, so perhaps we could use them in sustainable, compostable packaging as well.

Xolution introduces its Relock system

Xolution’s Relock system is not only a resealable can that prevents spillages, but it also ensures the beverage remains carbonated for a longer period of time.

The resealable system also benefits retailers in terms of easy storage and sale as it retains its size and shape. Once the closure is applied, a drop-in-concept provides for a smooth transition from the conventional lid to the XO lid. The XO lid also allows the bottling line to continue with the same filling speed, and the colour of the lid can be adapted for different brands.

This makes it useful for consumers to use on the go, and adaptable and easy to use for retailers and bottlers. Xolution CEO Marc von Rettberg explained the company’s future plans.

“Relock production is already well underway: we’re expecting production of up to 250 million Relock units in 2018, and about 800 million units in 2020. We’re focusing initially on Germany, Europe and the US, but Russia, China and the Middle East are also markets of interest to us,” said von Rettberg.

The resealable can closure can be seen at drinktec from 11–15 September at Messe München.
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Smart labels spot spoilt food

Researchers at Clarkson University, led by Professor Silvana Andreescu, have developed a sensor that can detect food spoilage. Rather than relying on the “best before” date, the “smart label” is a low-cost, portable, paper-based sensor that can determine when food or cosmetics spoil.

The sensors catch and bind the predetermined compounds to distinguish change by using nanostructures. The paper-based device changes colour or electrical charge to display the extent of the product’s contamination.

“If the target is present, the colour or electrical current changes,” said Andreescu, Professor of Chemistry and Biomolecular Science and Egon Matijevic Chair of Chemistry. “These changes indicate if the compound is present and in what quantity, and if there are changes in the initial composition.”

Andreescu and her team have been developing this technology over the past 10 years, with their original focus on detecting antioxidants in tea and wine. So far, they have researched into a portable sensor for searching for natural sources of antioxidants and a sensor to look for fungal toxin.

She suggested that these first-generation sensors could have wide-reaching applications, stating “this platform technology can be applied many different ways”.

Funded by the National Science Foundation, the team is currently working on their second-generation sensors to extend the application range, which includes pesticides, adulterants and markers for freshness or spoilage in various stages of testing.

“We would really like to get this technology into the hands of consumers and continue to expand it to measure other toxins and pathogens,” said Andreescu.

According to the researchers, this technology has the ability to transform the commercial marketplace, informing consumers when they should be disposing of spoiled products and preventing them from eating out-of-date food.
Air nozzles

Fruit and vegetable processors need to ensure that their produce has been thoroughly dried before packaging to avoid damage to the packaging and also to prevent possible food safety concerns. The longer that wet produce remains boxed or bagged before being put on the shelves, the higher the chance for bacteria to grow and affect the safety of the product.

Air nozzles are a suitable choice for drying operations as they are able to convert a low-pressure volume of compressed air into a targeted high-velocity concentrated air stream. The WindJet AA727 air nozzles generate an efficient and controlled flat fan air pattern for uniform spray distribution. The air nozzles are designed to maintain spray pattern integrity, which results in produce being able to be dried quicker and more uniformly.

The air nozzles utilise compressed air and when used in place of open pipes to dry produce, the company says they can reduce air use by 25% to 35%, leading to savings for the operator. In addition, the WindJet AA727 air nozzles reduce noise levels, making them a safer option for workers to be around. Depending on the initial air pressure, perceived noise levels can be reduced by up to 60% it is claimed.

If processors require an air curtain for their operations, the WindJet AA727 air nozzles can be placed side by side. For applications that require a spray bar, it is possible to mount a set of the air nozzles to fit the desired spray bar length.

Spraying Systems Co Pty Ltd
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Why integrate identification and inspection?

Identification and inspection are powerful technologies. They can improve efficiencies and product quality. This Q&A outlines what they can achieve when integrated.

Q. Firstly, who should consider integrating?
A. Manufacturers of all sizes can benefit, particularly those with manual QC quality processes or orphaned equipment, those who want real-time visibility to streamline processes, and those looking to improve productivity and efficiency.

Q. But aren’t they hard to integrate?
A. Not any more! Previously, limited and proprietary communication protocols restricted proper integration opportunities. With vast improvements in technology making each piece of equipment smarter, integration is becoming easier.

Q. So it’s easy to integrate now?
A. Absolutely. Smart software, new languages and interface standards are increasingly powerful ways to standardise packaging-industry communication. That makes integration much easier between the factory floor, machines and supervisory control systems, with no loss of functionality or control; e.g., Matthews’ award-winning, iDSnet software integrates coding, labelling and inspection for truly centralised control. Together, they can provide and capture quality data, and send alerts while the line is running, constantly improving the process and product quality.

Q. Are there any tips?
A. Yes, working with a specialist who knows how to integrate your equipment to meet your business goals and application needs will bring some pretty solid project-management skills. Their unparalleled understanding of equipment and systems will ensure you optimal results.

Q. What are some benefits of integrating identification & inspection?
A. There are many! Firstly, in overcoming the biggest pressure manufacturers face: “improving efficiency” by streamlining processes: eg, integrated inspection systems can guide upstream equipment to deliver better quality, say a checkweigher sending a signal to the filler to adjust levels in the case of repeated overfills or underfills.

Q. Any more?
A. Others include faster product changeovers (from one central point, again, such as iDSnet), better quality (inspecting coding & labelling with other aspects ensures better product quality overall, reducing the chance of recalls), real-time visibility (a major integration benefit is the data insights gained, in real-time) and continuous improvement (long-term value from continuously analysing ID & inspection data, then using the findings to improve production processes and optimise efficiency).

High-speed linerless labeller

Marel’s M360 high-speed labeller employs the latest technology in flexible linerless labeling. Fully automatic, it offers full wraparound labels as well as C-wrap partial wraparound labels and top labels.

The increased surface print area of the labels gives the user plenty of space to communicate essential product information and comply with all food labelling regulations. Setting up and changing labelling programs is quick and easy to do, which makes for increased efficiency and less downtime.

The product delivers labelling of all popular tray sizes and skin packs with a consistent on-shelf format. It is available as a stand-alone unit for fixed-weight packs or can be connected to the company’s weigh price labellers for catch-weight products.

Using linerless labels is good for efficiency, throughput and the environment. There is zero backing paper waste and the company claims the reel is 40% lighter compared to reels for self-adhesive labels. There are more labels on a reel, which means fewer reel changes and less downtime – and the labels can be applied faster. They are also tamper evident for improved security and safety.

Marel
www.marel.com

Tray sealing technology

For food processors, keeping protein-based products — such as meat, seafood and poultry — fresh for as long as possible without using any additives is a huge challenge, but one that is being addressed by G. Mondini’s Darfresh on Tray (D.O.T.) packaging technology.

The company’s Trave Generation Tray Sealing machines pack the fresh food product using Darfresh, a specially developed film. A sheet of this pre-cut film is vacuumed over the protein and then sealed wherever it touches the tray, creating a seal for locking in the product’s moisture.

The tray sealing technology slows down the process of decay, extending the shelf life of the product by up to four times compared to standard vacuum and gas technology. Consequently, consumers have fresh, high-quality products on the retailers’ shelves.

Along with extended shelf life, the benefits of D.O.T. technology include zero film waste and a reduction of packaging costs by up to 40%. It also offers maximum product visibility through the packaging.

Select Equip
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Programming tool

The SICK PGT-12-Pro programming tool is a portable programming tool for sensors with a CANopen interface and is designed for configuring and connecting programmable AHS/AHM36 absolute encoders and inclination sensors in the TMS/TMM61 and TMS/TMM88 product lines with a CANopen interface or an analog output.

New sensor variants with CANopen and new functions for the programming tool can be installed easily via a firmware update. Storing configurations to the device’s SD card is just as easy. When replacing a device, they can be transferred quickly and also cloned for any number of identical applications and configurations. When used as a basis for wire draw encoders and inclination sensors, the CANopen combination of the PGT-12-Pro and the specified absolute encoders is suitable for the areas of commercial vehicles, agricultural and forestry machines, and industrial, municipal and special vehicles.

One of the product families that benefits from the tool is the AHS/AHM36 line of programmable absolute encoders in the 36 mm compact housing. While the AHS36 singleturn version offers a practical 14-bit resolution, the AHM36 batteryless multiturn version with transmission gear provides a full 26-bit resolution.

All relevant parameters can be adjusted in the encoders using the PGT-12-Pro. The node ID — already configured upon delivery — is easy to adjust in the event of conflicting addresses. The encoder’s baud rate can be adjusted to the conditions in the fieldbus, as can the frequency and type of parameter transfer. This allows the data transmission load to be optimised and, with it, the speed of the bus. With variable process data object mapping, the objects to be transmitted can be freely assigned to the encoder using the programming tool.

SICK Pty Ltd
www.sick.com.au
Special Agent Scott Mahloch, weapons of mass destruction coordinator for the Chicago division of the FBI, thinks the food industry is under particular threat due to the fact that an attack would be so unexpected.

In the US, the Federal Anti-Tampering Act makes it a federal crime to tamper with or taint a consumer product; however, this only goes part of the way towards protecting consumers. The food and commercial industries also play an integral part in protecting the nation as everyone is a consumer of their products, and therefore these industries are easy targets for mass contamination. The population is dependent on workers within this industry to protect them and minimise the threat of tampering and contamination. However, this puts employees in a position of power, and it is important to ensure that nobody exploits this power.

Terror attacks are not always a product of premeditated groups, but are often the result of an individual acting on their own. While Mahloch’s warning to the food industry is not sparked by any imminent threats, he believes that the main weakness is the insider threat.

“The insider threat is that person [who] knows the facilities, processes, distribution network and can cause the greatest impact,” he explained.

However, insider threat is very difficult to detect. Disgruntled employees are particularly of interest as they can exploit their position in the company, access the facilities and are motivated to take action.

At the coming Food Safety Consortium, Mahloch will explain preventive measures that companies can take to avoid this threat. Firstly, the motivations of a disgruntled employee can stem from multiple issues, including financial problems, destructive behaviour or personal issues at home. It is in the company’s best interest to monitor their staff carefully and look for any unusual behaviour.

This is the first sign the FBI looks for when trying to identify a potential threat.

“That’s going to be the frontline supervisors, the coworkers that can see somebody’s behaviour that maybe deviates outside anything that they would recognise as being baseline behaviour.”

This behaviour may include photography of processing operations, unscheduled deliveries or unattended packages.

As well as recognising unusual behavior in their employees, organisations should also employ certain precautionary measures, such as: strict security policies, stringent vetting of their employees, standardising delivery and pickup protocol, and implementing consequences for violating any of these policies.

Monitoring facilities and observing any suspicious behaviour are crucial to maintain high security. While Mahloch emphasised multiple signs that organisations should be looking out for, he also suggested it is important to place these situations in context in order to assess the potential risk.

“You’re the first line of defence,” said Mahloch. “We get a lot of phone calls where people run things by us. If something doesn’t seem right, say something.”
Ionisers for static environments
Static is problematic in the manufacturing environment, causing issues such as the presence of dust, the nuisance of products clinging to each other, plastic sheets not separating properly and even possible damage to electrical products. There is also the real hazard of a fire which can be caused by a spark in a chemically sensitive environment. SMC Pneumatics offers a solution to these manufacturing problems with its range of three different types of ionisers.

The bar type of ioniser is equipped with nozzles which generate charge and air, then blow the charge onto the application. This is suitable for applications such as PET environments, lamination and web printing. The bar type varies in length and performance options. The nozzles can be equipped with condition monitoring; therefore, easy maintenance and replacement of the nozzles are not a problem.

The ioniser can be ordered in a variant which is equipped with a sensor. The sensor has a feedback device which is able to determine if a positive or negative charge is required and will then generate accordingly. The charge relates back to a voltage so that the unit can measure the charge. This is communicated back to the ioniser and the ioniser will generate ions to balance out the charge.

An option without a sensor is also available. In this case, the unit will generate an alternate charge which ‘bombards’ the application with positive and negative ions until it neutralises the application.

The ioniser is also available in two other variants. The fan type will generate a charge and blow it over the affected area, making it especially suitable for environments where polystyrene is involved.

The nozzle type consists of a single nozzle and is for concentrated applications where a single area needs to be neutralised. The air supply is blown onto the area required.

SMC Australia | New Zealand
www.smcworld.com

Thermal inkjet case coder
Domino’s G20i is a compact, all-in-one, single-sided carton coder that meets the requirements for printing high-resolution alphanumeric texts, barcodes and graphics on secondary packaging.

The product is simple to install and provides everything the user needs to mount and configure the printer on the production line — the only other thing that is needed is ink. Ink cartridge change is simple, taking less than 20 s without any technical skills or tools.

The thermal inkjet print head provides sharp, high-resolution codes up to 600 x 600 dpi on a variety of substrates without ongoing maintenance or support requirements. Messages are easy and clear to create, meaning operators can avoid potential errors and rework, keeping the production line running.

Line side control of the device is simple: either connect on a mobile device via an Android app, use the familiar wireless QWERTY keyboard or link to a PC to operate the printer. Users can easily monitor cartridge change, print parameter settings and ink levels wirelessly to ensure minimal downtime and simple error-free operation.

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Preferences for certain brands could be making your partner unhappy, suggests new research published in the *Journal of Consumer Research*.

Gavan Fitzsimons, a marketing professor at Duke University’s Fuqua School of Business, worked alongside lead author Danielle Brick, Tanya Chartrand and Grainne Fitzsimons on a study called ‘Coke vs. Pepsi: Brand Compatibility, Relationship Power, and Life Satisfaction’.

After monitoring some couples for up to two years, the study found that being dominated by your partner when it comes to consumer choices may lead to resentment, and this can impact the relationship more than shared interests or personality traits.

“People think compatibility in relationships comes from having similar backgrounds, religion or education.

“But we find those things don’t explain how happy you are in life nearly as much as this notion of brand compatibility.”

Brand preferences impact the day-to-day lives of consumers, and a continuous feeling of having no power to influence these choices can cause problems.

“This could lead to a death-by-a-thousand-cuts feeling,” Brick said.

Other studies testing brand preferences for soda, coffee, chocolate, beer and automobiles also produced similar outcomes. These results were combined with findings on relationship power and happiness, and researchers found these preferences had a “robust” effect on relationships.

“If you are a different religion than your romantic partner, you know that if this is an issue you can’t work through, then the relationship isn’t going to last,” Brick explained.

“Conversely, if you like Coke and your partner likes Pepsi, you’re probably not going to break up over it — but 11 years into a relationship, when he or she keeps coming home with Pepsi, day in and day out, it might start to cause a little conflict. And if you’re the low-power person in the relationship, who continually loses out on brands and is stuck with your partner’s preferences, you are going to be less happy.”

Although it is unlikely to lead to a couple breaking up, Fitzsimons suggests that declaring these preferences on dating profiles could help relationship compatibility and avoid problems occurring in the future.

Another solution is to compromise and mutually agree on a different brand that satisfies the family. Marketers should aim to be the family brand that can even the power dynamics of the relationship and therefore increase happiness levels in both partners.

“Some brands are marketed as family oriented, but that’s not the same as reaching out to everyone in the family,” Fitzsimons said. “It’s tricky, but firms that get it right can have their brand associated with happiness and harmony — and there’s nothing better than that.”
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Condition, de-lump, screen, feed, weigh batch, combine with liquids, and convey as you discharge, with a custom-integrated, performance-guaranteed, dust-free discharger system. Offered as stand-alone units for loading with forklift or electric hoist and trolley, split frames for low headroom areas, economical half frames and mobile frames. All available with mechanical and pneumatic conveyors, flow promotion devices, bag dump access, automated weigh batching packages, and much more.

Stand-alone units to complete, automated systems integrated with mechanical and pneumatic conveyors

See the full range of fast-payback equipment at flexicon.com.au: Flexible Screw Conveyors, Tubular Cable Conveyors, Pneumatic Conveying Systems, Bulk Bag Unloaders, Bulk Bag Conditioners, Bulk Bag Fillers, Bag Dump Stations, Drum/Box/Container Tippers, Weigh Batching and Blending Systems, and Automated Plant-Wide Bulk Handling Systems

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