

convenience foods

# Meeting healthy demand

After a quiet period of little investment during the recession, the ready meals market is all about driving out production costs while also driving up the quality of meals and also their presentation. *Machinery Update* reports on how machinery manufacturers are responding and how automation is forecast to impact sandwich production, too

Chilled foods have been available since the 1960s and recipe dishes – or ready meals – were first seen in the Thatcher-years when consumers had high disposable incomes but more time pressures. The rise in the number of working women and people living alone have also added to the rise of ‘convenience foods’ as a whole, with sandwich fillings making their entrance in the 90s, for instance.

The UK sandwich industry has fared well through recession, despite some trading down and tightening of belts by some retailers, says the British Sandwich Association in its 2010 report. In the manufacturing sector, the Report says that the market is now mature and that it believes it is increasingly difficult for middle-sized businesses to compete, although there remains scope for small, local firms. The tendency, however, will be for manufacturers to devote increasing resources to automation in order to manage costs, particularly if factors such as the minimum wage continue to rise. Readers will see an example of this on page 33 of this feature, where details of sandwich provider Greggs’ installation of new equipment are outlined.

Back to ready meals. The market has moved on in recent times with luxury meal



*More automation will be seen in sandwich production in the coming months*

kits and stir fry kits being added to the mix in the last ten years. These variants also help to meet the demand that more health conscious consumers bring to the sector although this is an issue that impacts across the board.

And in May, Easy Bean launched the first Fairtrade ready meal into the UK which will be available at selected Sainsbury’s, Waitrose and John Lewis stores.

According to Rob Hargreaves, director of tray sealing machinery manufacturer Proseal ([www.prosealuk.com](http://www.prosealuk.com)), one of the main drivers in ready meals is quality. “Consumers are becoming more sophisticated and looking for more adventurous recipes, but even for the more traditional ready meal dishes, taste must

not be compromised,” he says. “At the same time, the usual production pressures mean speed and efficiency of equipment is also critical and is behind our development programme with the latest models such as the GT2 and GT3 capable of 90 or 180 trays a minute.”

Hargreaves also believes this competitive market will continue to grow and so speed and efficiency of new equipment will be paramount, as will environmental considerations. “Manufacturers will look for machines that can demonstrate efficiencies and energy savings that will contribute to a reduction in their carbon footprints while new tray formats and new, sustainable materials will also be developed.”

Sales manager at Packaging Automation ([www.pal.co.uk](http://www.pal.co.uk)) Neil Ashton believes retailers and their suppliers have been nervous about the ready meal market during the recession but the company has seen an increase in the requirement for tooling to suit new packaging – in particular for premium product launches, rebranding and reformulating products – after a period of stagnation. “Overall market volumes are not growing, but we are seeing a requirement for replacement equipment,” says Ashton. “As manufacturers look more carefully at their existing assets and

Product Inspection the easy way?

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factories towards maximising efficiencies, this means inevitably that some investment will have been put on hold or cancelled.

“Our customers are keen to understand what savings the latest technology can bring them, so our soon to be launched E-seal technology that requires no compressed air, offers them savings,” he continues.

Director of Partners in Packaging Machine Systems ([www.partnersinpackaging.com](http://www.partnersinpackaging.com)) Duncan Macintyre says there has been a significant increase in both quality and diversity of ready meals at more affordable prices. “Manufacturers are investing in new equipment in an ever increasing mission to drive out cost while driving up quality and presentation and our tray denesters deliver a quick return on investment,” he says.

“I’m certain this sector will continue to expand, paying more attention in the future to minimising packaging.”

Ishida Europe ([www.ishida.co.uk](http://www.ishida.co.uk)) sees many drivers in this sector including an increase in traceability and consumer safety, an increase in ‘healthy’ ready meals, a move to smaller pack sizes for smaller households, more frozen ready meals for microwave cooking and a desire to reduce costs.

“Manufacturers are investing in equipment that helps to reduce cost and increase consumer safety,” explains Torsten Giese, marketing manager, PR & exhibitions at the company. “However the recession has seen large-scale investments being shelved and replaced with more requests for spares or small fixes,” he says.

He does, however believe, that the expansion in ready meals, kits and accompaniments will continue post recession for products such as easy to open packs; resealable options; split packs



*Ready meal development is reflecting consumers changing needs and lifestyles*

and steam variants.

John Rose of Raque Food Systems ([www.raque.com](http://www.raque.com)) says that despite the best efforts of nutritionists, celebrity chefs and the medical profession advising that ready meals may not be the healthiest way to eat, there seems to be no let up in demand. “If the current level of activity is anything to go by, manufacturers are intending to invest in new kit, but a combination of no available funds and a lack of a long term contract with their supermarket customers make these decisions very difficult,” he says.

In terms of coding, Jon Cossins, product manager, thermal transfer overlay, at Domino Printing Services ([www.domino-uk.com](http://www.domino-uk.com)) thinks thermal transfer is an excellent digital coding solution for snacks and convenience food as it allows message selection/message change at the press of a button. “It also provides a superior code quality over

prolonged use as it is not subject to high contact forces which can damage the printing interface of hot stamp coders.

A snack company that has benefited from Domino’s V-series is Trigon Snacks producer of Big D peanuts who installed a V100 thermal transfer overprinter to produce clear legible codes on to flexible packaging.

Senior product manager at Linx Printing Technologies ([www.linx.co.uk](http://www.linx.co.uk)) Charles Randon says that during the recession, many sectors inevitably delayed purchases of capital equipment, however there has been an increased demand for products that could deliver immediate cost benefits through reduced consumables usage and maintenance requirements.

The next few pages will look at recent developments as well as installations across more areas of the convenience foods sector.

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# Valve ensures quality

When Swedish company Gooh! wanted to give more people the opportunity to eat tasty, well prepared and healthy food at a reasonable price, it teamed up with top Swedish chef Stefano Catenacci and MicVac, a company who has developed an in-pack microwave cooking and pasteurisation concept into the production of ready meals. This process results in a shelf life of at least 30 days at 8deg C being achieved while the taste, nutrients and texture of the food is maintained.

In turn, MicVac also uses Sealpac's A7 traysealer in its manufacturing process.



Sauces are prepared on day of production

A special valve is applied to the top film, which is sealed to the tray on a Sealpac A7 traysealer, and then the tray is transported to a microwave tunnel, where the contents are cooked at higher speeds than traditional pasteurisation methods. During this heating process, the valve opens due to the pressure caused by the food releasing steam. As soon as the pasteurisation process stops and cooling in the spiral freezer begins, the valve closes.

During this process, the remaining steam condenses, causing an under-pressure in the tray. The final result is a cooked,

pasteurised and vacuum packed product with "excellent quality in flavour, nutrients, and texture that can even be presented vertically on retail shelves, if required.

Consumers simply microwave the product in about three minutes, where the valve releases the steam. After removing the peelable film lid, the meal is ready to serve.

Henrik Jacobson, production manager and vice president at Lantmännen Gooh! went to distributor for Sealpac traysealers in Sweden and Denmark Nemco when building this new line.



A special valve is applied to the top film



The processing line for the MicVac method

Dishes are based on chef Catenacci's original recipes and only contain fresh ingredients to ensure the quality of these premium ready meals. Gooh! – in Swedish the name is short for good and healthy – uses the special MicVac method to prepare its food which begins with a tray being filled with fresh ingredients.



Only the freshest ingredients are used

The patented MicVac valve plays a crucial part in the manufacturing process. Together with ELS in Germany, Sealpac developed a special application device for this valve on the A7 traysealer. Due to its servo driven film transport, accurate punching of the hole and positioning of the valve is ensured.

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# Automating fillings

Leading high street baker Greggs has invested in automation to improve the depositing into trays of sandwich fillings for distribution to their nationwide outlets.

One kilo and 600g sealed trays had previously been hand filled to avoid damage to the delicate



Greggs has automated handling of its sandwich fillings by installing filling machines from Raque

particulates in sandwich fillings such as sliced chicken breast or prawns. This is made all the more difficult by the high ratio of protein to dressing which Greggs uses to make its sandwiches, but the gentle handling attributes of the depositors manufactured by Raque Food Systems provided the answer.

Raque is experienced in high speed ready meals, pizza and pie production systems and supplied a variation of its standard filling machine which allows deposits in excess of 1kg per single shot. The design of the filler maintains product integrity, delivers consistent deposit weights cleanly and does so with significant increases in speeds.

This increase in speed has led to cost reductions as all hand filling and cutting on the production line has been removed.

Raque has now supplied three depositors to handle Greggs' sandwich fillings, all delivering the same benefits and cost savings.

01905 642820

[www.raque.com](http://www.raque.com)

## CFA guidance for food shelf lives

A free publication to help food businesses of all sizes determine the shelf life of ready to eat foods has been published by the Chilled Food Association and the British Retail Consortium.

The guidance is designed to help businesses from small food outlets to major food manufacturers calculate an accurate time period for people to eat food and minimise the risk of illness. It is also designed to help firms meet European Union microbiology rules – in particular Regulation (EC) No. 2073/2005 – which sets limits on micro-organisms, such as listeria in food.

Complex issues are explained in an easy to understand manner for staff at all levels of expertise, while real life worked examples are provided.

[www.chilledfood.org](http://www.chilledfood.org)

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## special feature

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# Snacks bagged at higher speeds



*Processed Snack Products installed an extra-wide bagging machine from PFM to handle multipacks of its Happy Snax brand*

Processed Snack Products has increased capacity for variety multipacks of its flavoured corn-based Happy Snax with a new extra-wide bagging machine from PFM Packaging Machinery. It was delivered in less than a week of being ordered, ready for commissioning.

Built in stainless steel to food industry hygiene requirements, the Italian built PFM Zenith EW Servo produces multipack bags 300 wide x 455mm to hold 20 individual snack packs of 100 x 130mm, replacing an old machine that became unreliable.

"We needed a new bagger quickly and PFM were able to offer the right size of machine immediately from stock, and complete the installation in less than a week," explains Peter Fletcher, managing director at Processed Snack Products. "We also have the advantage of a machine that can produce more bags than before, although current feeding arrangements limit output to 35 multipacks a minute."

0113 239 3401

[www.pfmuk.com](http://www.pfmuk.com)

## Primary pie pack coded



*Essential traceability information is printed directly on the foil tray*

Linx Printing Technologies has ensured that a range of pies from Shire Foods includes essential traceability information directly on the foil tray which ensures customers can cook with confidence even after the outer packaging is removed.

Moving its square pies to silver foil trays was a step away from the previously used colour-coded trays but the Linx 4900 continuous ink jet printer used by Shire Foods was up to the job when trialled.

A further two units were purchased specifically for this application each of which prints an 8mm high, two line code: the first details the product description while the second is the batch code.

01480 302100

[www.linx.co.uk](http://www.linx.co.uk)

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# Reducing ready meal giveaway

An Ishida CCW-RS-210W-S/30-WP multihead weigher forms the centrepiece of a new packing line solution devised by Ishida's Belgium agent BRN for leading frozen food manufacturer Fribona. The line replaced a linear weighing system which was not achieving the required production standards and is delivering higher throughput, improved accuracy and reduced giveaway for a range of frozen prepared meals and accompaniments.

Products being weighed are mainly multi-ingredient meals such as paella, farfalle with chicken, spirelli-ham-cheese, broccoli or individual items such as potato croquettes and turkey nuggets. Owing to the large weight of each ingredient, product giveaway using the linear method was unacceptably high. With the introduction of the Ishida line, total giveaway has been reduced to between 0.5% and 1% depending on the product size, generating valuable cost savings while the line also delivers faster speed, reliability and also durability.

The 10-head Ishida RS-Series weigher is one of the company's mid-range models which, thanks to the

latest combination of calculation hardware and software, runs at top speeds. For the 300g pack sizes, the line is now operating three times faster than the old system.

In addition to the Ishida weigher, the BRN devised line comprises a lift / tipper to

transfer product to the packing line, a belt link with freezing tunnel to transfer product to the weigher, the weigher gantry and a Rovema vertical FFS-machine.

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## Wrap around unit

Flexibility was a key consideration when Cama installed a new concept wraparound machine to pack different types of dried soups and pastas.

As well as different formats of bags and a wide variety of boxes to be accommodated, the high capacity FW machine had to be combined with a twin production line. The case packer receives and loads the bags in a standing position in two parallel lines. Products are then grouped and loaded alternately in the wraparound case, formed from a flat blank.

The loading unit prevents the standing bags from sliding down to ensure they all look good on supermarket shelves.

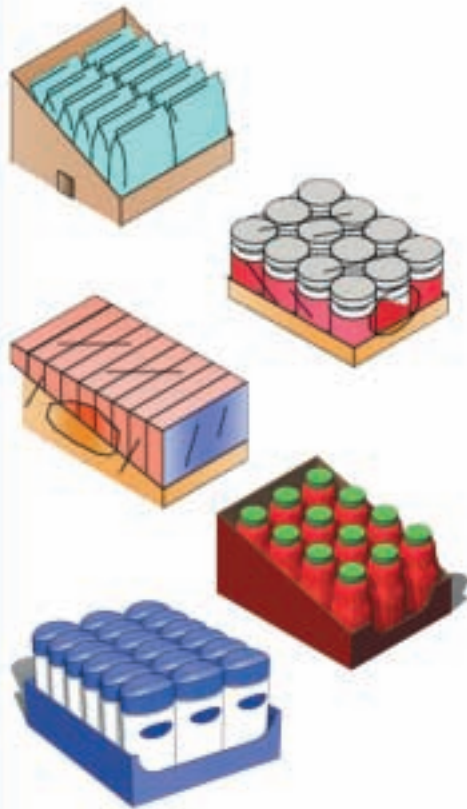
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## special feature

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# Efficient weighing

To address the growing frozen food products market, Geti Wilba has purchased an additional multihead weigher from Multipond for its ready meals production facility in Bremervörde, Germany.

The system incorporates a 16-head memory weigher, an MP 1612-FFC-S5 with two-way product separation that is used to weigh a variety of frozen ready-to-cook meals and frozen, partially cooked items used in the preparation of soups, vegetable and meat dishes.

To maintain its quality standards, the food company enclosed the weigher to ensure the integrity of the frozen chain which has resulted in the weigher operating at an ambient temperature of -5deg C.

Up to 80 weighings a minute are carried out and the line produces a total of eight million packs a year.

"The Multipond weigher runs reliably and meets our demanding requirements for hygiene completely," says Andreas Strauss, operations manager of the ready meals facility. "Moreover, the system has the flexibility we need as product changes are



A Multipond multihead weigher is handling ready meals components in Germany

accomplished easily."

This is important to the German company as about 30 different meals are packed on this production line.

01494 816644

[www.multipond.com](http://www.multipond.com)

# Heat sealing healthy meals

Ready meals manufacturer Bakkavor Cucina Sano is using heat sealing equipment from Proseal as part of its line that produces a range of Italian meals for Marks & Spencer.

While speed was essential, another critical factor was user-friendliness as over 70% of the factory's labour force consists of Eastern European migrant workers. The touch screen control user interface on the GT1 tray sealer delivers a graphic-based operating system

that ensures fast, intuitive retrieval of all recipe settings from the database. The auto-tool feature enables tool changes to be carried out in about two minutes.

The Boston, Lincolnshire site has installed two machines, complemented by Proseal's OC intelligent filling conveyor for fast, efficient delivery of packs for tray sealing.

01625 856600

[www.prosealuk.com](http://www.prosealuk.com)

# Tray denesting in tight spaces

A leading snack food manufacturer has installed a Sigma Four tray denesting machine from Partners in Packaging Machine Systems.

The compact footprint vertical denester was integrated into a line of equipment onto the end of a Proseal OC chain infeed, and is capable of holding up to 15 minutes of tray capacity.

01706 369000

[www.partnersinpackaging.com](http://www.partnersinpackaging.com)



The Sigma Four tray denester is a compact unit