

FUTURE OF PACKAGING

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BOXING CLEVER
TO BOOST SALES

PAGE 08
INNOVATION CAN
SAVE THE EARTH

PAGE 06
SILENT SALESMAN
SHOULD SPEAK UP

● Raconteur Juice

£500bn
global packaging industry by 2016
Source: Smithers Pira

£154bn
global food packaging market in 2013
Source: Visiongain

76%
of consumer choice is based on
attractive packaging
Source: POPAI

cold press juice

organic



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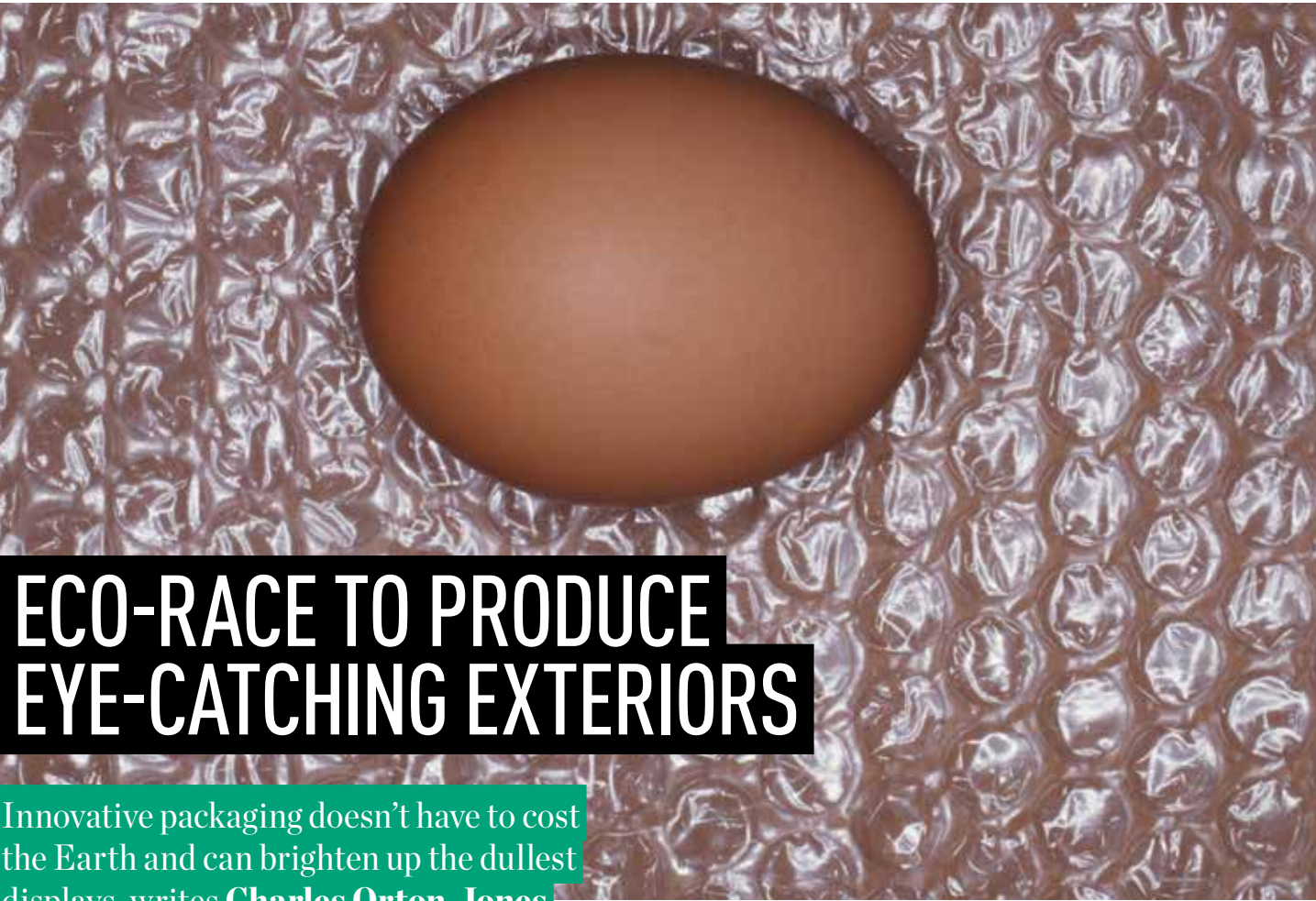
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Innovative packaging doesn't have to cost the Earth and can brighten up the duller displays, writes **Charles Orton-Jones**

OVERVIEW

■ Packaging is more than a functional trade. Peer closely and you'll see it's a world sparkling with little moments of genius and inspiration. Jillian Wright Skincare range comes in boxes impregnated with wild flower seeds. When you are done with the face cream, soak the boxes in water and plant them. In a few weeks you'll have daisies and snapdragons dancing merrily in the sunlight. A cynic might say the packaging will bring more joy than that product.

Or remember when Heinz turned its ketchup bottles upside down to stand on the cap so every drop of gloopy red goodness could be squeezed without hernia-inducing shaking? That was just the start. Today designers are making the packaging an integral part of the experience.

Thelma's Cookies come in a cardboard box which looks like an oven. You open the "oven door" to get the cookies out. It's just impossible not (a) to smile at the silly cuteness of it and (b) to feel that you really are getting oven-fresh cookies.

The Festina Profundo diving watch is sold in a clear plastic bag of water. You'll remember the creativity of the packaging department long after the details of the watch inside have faded from memory.

Some of the most brilliant developments have been to address the environmental concerns of the packaging trade.

Kenco launched its eco-refill coffee packs in 2009 and the brand cites it as a reason it has grown faster than the market as a whole. Consumers now buy more eco-refill packets than jars, each time saving 84 per cent of materials. Hard proof that when given the choice consumers will go green.

Other masterstrokes are harder to see. Drinks cans are a huge retail category; more than nine billion are sold in the UK each year. To cut down on waste the cans have got thinner and thinner. It is now possible to make three tin cans from the same aluminium used by one 30 years ago. Recycling is now so efficient that a recycled aluminium can uses just 5 per cent of the energy taken to produce a new one and 30 per cent for a steel one. And these are infinitely recyclable products.

Nampak Plastics is one of the major names in plastic milk bottle production. A bright spark had the idea of moving the handle to the side of the pack and

switching to 30 per cent recycled HDPE plastic, twice the normal amount. By making the casing thinner, only a quarter of the plastic is now needed; significant when you are talking about 300 million bottles.

In the bread industry, the Carbon Trust worked with Amcor Flexibles and Premier Foods to improve the bread bags for Hovis Seed Sensations. These are made from bio-polymers which reduces the carbon intensity of production by 65 per cent.

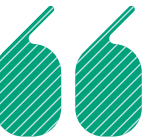
Naturally, commercial concerns will always motivate the packaging world. Like birds of paradise in the Amazon rainforest, packaging designers are in an arms race to come up with more eye-catching exteriors.

strip means the product can be removed, yet without compromising security. *Which?* magazine found 40 per cent of consumers had injured themselves on packaging in the last two years: these little improvements are more than merely cosmetic.

This is the packaging industry in a snapshot. Bubbling with quirky innovations and improvements to make our lives just that bit easier and brighter. To dismiss these as facile is itself rather shallow.

For example, each year Château Mouton Rothschild wine gets an eminent artist to paint the label. Previous contributors include Picasso, Chagall, Andy Warhol, Francis Bacon, Joan Miró and royal watercolourist Prince

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Some of the most brilliant developments have been to address the environmental concerns of the packaging trade


In pubs and clubs the punters have a few seconds to decide what spirit to order. Their eye scans the shelf searching for a brand to latch on to. To shine brighter than rivals the Ballantine's Finest blended Scotch whisky bottle has been fitted with an LED screen where the paper label used to be. The image shows bars of a graphic equaliser pumping up and down in rhythm with the music in the club. When grouped in unison, Ballantine bottles will communicate with each other so the light effect seems to radiate from a central point across the bottles.

Convenience is a crucial differentiator. Remember those casings which were just impossible to cut through? Now an easy-tear

Charles. Only a Neanderthal would call these contributions "only packaging".

The ultimate in packaging creativity? How about Catherine Conway's organic grocery store Unpackaged where there is zero packaging. Customers bring their own containers (packaging). They weigh them, fill them with beans, lentils and nuts, then pay only for the foodstuffs they take away.

For her eco-minded North London hipster clientele, it's the ultimate concept in sustainability. For Ms Conway, it's a brilliant way to survive in the cut-throat world of retail while staying true to her ethical belief system.

Whatever your tastes, there are gems to be found in this industry. 

SLICK PRESENTATION IS BOXING CLEVER

A well-designed box has a feel-good factor and can boost sales, as **Chris Johnston** reports

DESIGN

■ As chairman of brand design consultancy Elmwood, Jonathan Sands often speaks at conferences and events. This year he estimates he has asked some 10,000 delegates the same question: how many people own an Apple iPhone or iPad? Usually about half the audience put their hands up. He then asks how many have kept the box that the device came in. “Every single person puts their hand up again and start giggling or laughing,” Mr Sands says. “People don’t throw away the box because it’s beautifully engineered – there’s something about the way that the lid comes off so slowly and glides back down.” The anecdote is a neat illustration of the importance that packaging plays in making or breaking a brand’s reputation in today’s highly competitive markets. “An unusual, distinctive and aesthetically pleasing packaging is a very effective way to gain consumers’ attention and greatly contributes to the success of a product,” says Irene Scopelliti, marketing lecturer at City University’s Cass Business School. While advertising and other forms of marketing might attract consumers into shops, the “first moment of truth” comes when a consumer is presented with an often bewildering array of choice

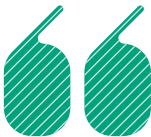
on the shelves, says Mr Sands. “Your packaging is the goal-scorer really. There are something like 40,000-plus products in a typical supermarket – that means your pack has milliseconds in which to stand out.” Designers draw on an array of techniques and tricks to make packaging appeal to our sensory triggers. Elmwood was brought in to redesign the packaging for Andrex toilet paper. The old label featured a Labrador puppy, but the image was small and he was looking away. For the makeover, Mr Sands says that his designers searched for a puppy with the biggest, most doleful eyes they could find. They became the focal point of a much larger image on the pack because such “puppy dog” eyes trigger an emotional response in shoppers. “We respond to all sorts of emotional stimuli around us; the old pack just wasn’t talking to people,” he says. “Packaging is your chance to tell the final chapter in your story – if advertising is the first chapter then packaging is the last.” The Andrex makeover had the desired effect, turning six years of falling sales into a 17 per cent rise in volumes, underlining Mr Sands’ assertion that changing nothing but the packaging can boost sales dramatically.



For upmarket brands in almost any category, the packaging has to reflect the premium price tag. Consumers look to the extrinsic qualities, or what is obvious on the outside, when trying to determine the quality of the product inside the box, according to Andre Spicer, professor of organisational behaviour at City University in London. Dr Scopelliti adds: “Research has found that aesthetically pleasing packaging stimulates some centres in the brain associated with intrinsic reward, so even just looking at products that have beautiful packaging can make us feel better.” Less famous brands can aim higher by improving the look and feel of their packaging. According

to some studies, consumers prefer a beautifully packaged product from an unknown label than one in less appealing packaging from a well-known brand. Some brands have managed to create packaging that is instantly recognisable even without its label; Coca-Cola’s glass bottle is but one example. Yet even market leaders need to innovate to remain ahead of the competition and Mr Sands says that limited edition packaging is one way to do so. Although the product inside remains the same, he believes that such an approach keeps the brand fresh in consumers’ minds. Mr Sands also cites Heinz’s launch of baked beans in a resealable plastic jar that can be kept in the

fridge, bringing an end to unfinished tins that go mouldy on the bottom shelf. Innovations like this help convince consumers that they should pay the extra for Heinz because of the level of thought that has gone into the packaging. Manufacturers are also coming under increasing pressure to reduce the amount of packaging to minimise their environmental impact. Yet it should not be forgotten that packaging plays more than a branding function. It can protect and preserve a product. Even if the marketing department is saying “let’s get rid of the packaging”, then sometimes those responsible for the supply chain will resist because doing so will increase costs or wastage. Ensuring that packaging always properly reflects the image a brand wants to portray is clearly a highly complex, but essential, task. “You’ve got to treat packaging as a canvas with which to tell a story, but you have to do it in milliseconds,” Mr Sands concludes. “It can have a fundamental effect on your bottom line by increasing sales – or determining whether a product sells at all.” ■



Packaging is your chance to tell the final chapter in your story – if advertising is the first chapter then packaging is the last





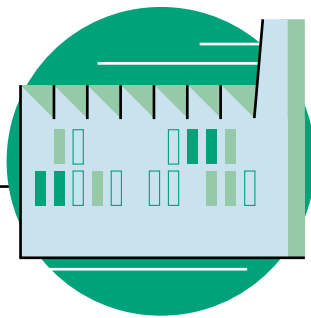
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people employed by the packaging industry in the UK



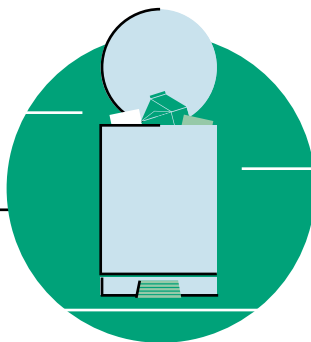
£11bn

sales in the UK packaging industry



20%

of UK household waste accounted for by packaging



Source: Packaging Federation

150

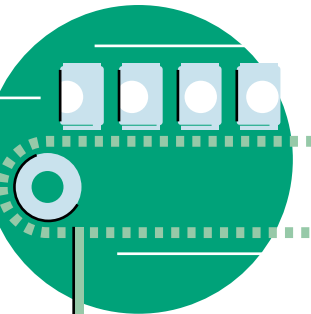
names used on personalised bottles of Coca-Cola this year



Source: Coca-Cola

60bn

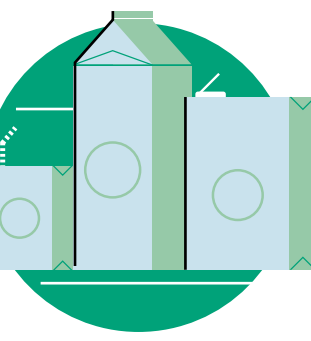
cans produced by Rexam annually at its 57 factories worldwide



Source: Rexam

173bn

Tetra Pak packages sold in 2012



Source: Tetra Pak

Perfect way to design in a virtual world

There is a better way to develop new packaging which avoids time-consuming and costly mistakes, says **Dassault Systèmes**



New package design can take eighteen months to two years. By the time the product is ready the market has moved on. Worse, development is a disjointed affair. The labelling team don’t know what the design team or the materials team are working on. When the prototype is ready the manufacturing department shrug and say the new shape isn’t really suited to the production line. And the materials aren’t right. Iterating designs is expensive, slow, frustrating and leads to sub-optimal products.

The answer is to switch from physically making prototypes to a virtual environment. The Dassault Systèmes suite of software, collectively known as the Perfect Package 3DEXPERIENCE, offers an integrated journey stretching from the conception and ideas stage of concept development, through detailed modelling and refinement, via artwork and labelling, to technical qualification and consumer validation. A change made by one team can be seen instantly by colleagues at every stage of the design process.

The result? Design time is cut in half. Material cost can be cut by 30 to 50 per cent. And packaging related recalls and quality issues can be virtually eliminated.

The Perfect Package 3DEXPERIENCE offers tools to accelerate the process at every stage. Take the design phase. Technical engineers can access and import the ideas and specifications drawn up by colleagues earlier in the concept development process. The engineers can also choose between a vast array of pre-existing templates or create from scratch.

These models can be tweaked and refined using Dassault Systèmes’ 3D Digital Product Experience, included in the Perfect Package. It offers a vast library of materials, from glasses and plastics, to cardboards and metals.

And when the design looks ready, simulation tools can subject the prototype to real-world scenarios. Will the product tip over? How much pressure can it handle? It is crazy to wait until the manufacturing process to examine whether a plastic bottle has the necessary rigidity to dispense its contents as required. The simulation

process from Perfect Package allows you to improve the performance of a design without needing to physically create dozens of versions.

Naturally, designs cannot be produced without reference to manufacturing capabilities. So the Perfect Package 3DEXPERIENCE allows prototypes to be evaluated with close reference to those capabilities. How will products flow down a production line? How convenient is it to shape a particular glass section? What are the implications of paper carton manufacture? Can the contents of each product be inserted with the minimum of fuss?

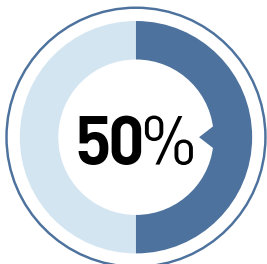
These questions gets answered during the Perfect Package 3DEXPERIENCE journey, ensuring the final product is green, cost-efficient, structurally and aesthetically optimised, and is a joy to the people who have the honoured task of turning it into a physical reality, filling, then distributing it, and one day in the distant future, recycling it.

The Perfect Package 3DEXPERIENCE drastically stretches beyond the immediate realm of design. It offers a platform for mass participation in the brainstorming of packaging ideas. It seamlessly weaves in customer feedback data and historic sales data. Instead of each department – marketing, design, technical, management, purchasing – all working independently, the Perfect Package 3DEXPERIENCE pulls them together into one unified team.

This is why Procter & Gamble, Coca-Cola, M&W, Tetra Pak and thousands of other world-class firms rely on the Perfect Package. You have five to eight seconds to capture the attention and win the custom of a shopper. The Perfect Package 3DEXPERIENCE means you’ll have the maximum chance of winning that sale.



The answer is to switch from physically making prototypes to a virtual environment



Through the use of Perfect Package 3DEXPERIENCE design time can be halved



30-50%

reduction in material costs, therefore the need for prototyping is decreasing



Alterations made at any stage can be seen instantly by colleagues throughout the design process

SILENT SALESMAN MUST SPEAK UP

As consumers and regulators alike demand more information about products, new developments are in store for labelling, writes **Nick Martindale**

LABELLING

■ Once little more than an afterthought, labelling is now playing an increasingly prominent role in the world of packaging.

As consumers and regulators demand greater transparency around product provenance and contents, brands are seeking ever-more interactive ways to engage with customers.

“With a label often being a brand’s only way of directly communicating with consumers, brands need to use them to differentiate themselves from competing products, grab consumers’ attention and potentially build loyalty,” says Fiona Mills, marketing director at Avery UK.

At the most basic level, labels are there to convey information to consumers. Jocelyne Ehret, director of packaging consulting services at HAVI Global, points to the need to outline ingredients in foods, cosmetics and pharmaceuticals for those who suffer from allergies.

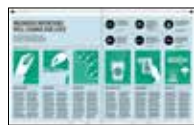
“According to Allergy UK, millions of adults suffer from at least one allergy, with numbers continuing to rise,” she says. “If a brand does not respect the rules, it could damage its image and, even worse, cause harm to the consumer.”

Increasingly, though, customers expect more than such basic details, particularly in the wake of the recent horsemeat scandal. Leigh Banks, director of London-

based Spinach Design, gives the examples of M&S and Burger King as brands that have placed a greater emphasis on labelling in a bid to stand out from rivals.

“We are seeing an increase in consumer awareness and concern for where the products they purchase and consume have been sourced, and how they have been manufactured, through to their ingredients,” he says. “Brands are using labelling to demonstrate higher corporate values using cues such as environment, health and quality.”

Packaging innovations



The issue of sustainability is particularly hot at present, says Darran Messem, managing director of certification at the Carbon Trust. “Businesses want to find a way to demonstrate the sustainability credentials of their products because consumers tend to prefer sustainable products,” he says. “The best labels convey a clear message that a consumer can trust, based on a serious assessment of environmental credentials.”

Regulations, too, are having an impact. In the food industry, where

many brands have already acted to create a voluntary “traffic-light” system around ingredients, two new EU regulations will have an impact. Jessica Burt, a lawyer at Mills & Reeve, says the Nutrition and Health

Claims Regulation will tighten the rules around claims that can be made. “If, for example, a producer is reformulating a product and wants to claim that they have reduced the fat content, it has to be reduced by at least 30 per cent,” she says.

The Food Information Regulation, meanwhile, will create the biggest labelling challenge to hit food manufacturers in the past 20 years, says Andrew Jackson, partner and manufacturing specialist at law firm Thomas Eggar.

“From December 13, 2014, companies must comply with mandatory food labelling guidelines and can no longer simply apply their own voluntary labelling,” he says. “A number of additional new requirements have been introduced, including a minimum font size for all mandatory text, mandatory nutrition declaration, a clearer indication of allergens and country-of-origin labelling to fresh meat of pork, lamb and poultry.”

The increased amount of information that must be provided and the requirement for a minimum font size – the “x height” of

A label must convey information and grab attention



any copy needs to be a minimum of 1.2mm – is likely to cause particular issues.

“It will drastically impact how on-pack information and the packaging itself can be used,” says Sarah Dear, managing partner at design agency Elmwood. “The ultimate impact is that there will be less space to sell the product and, in some cases, the information will need to take up space on the front face of the pack in order to fit it all on.”

The emergence of new technology, though, might help brands to cope, as well as offering potential to further engage with customers. QR codes in particular can enable people to find out more information about products, although they cannot replace the manda-

tory requirements. They can also access competitions or rewards by taking customers through to mobile versions of the brand’s website, via a smartphone.

“It gives the brand owner the opportunity to create an eye-catching pack design without having to worry about cramming too much information on the actual packaging,” says Malcolm Allum, managing director of carton pack manufacturer SIG Combibloc.

This can be complemented with “behind the scenes” labels that can provide supply chain information around the source of products, which would be needed in the event of a recall and can help to combat counterfeit products.

“These could contain, for example, the source of raw materials,

current location of products in the supply chain and expected end-destinations with retail outlets to provide ‘farm to fork’ traceability,” says Steve Ellison, a printing and labelling specialist at Zetes.

Smart labels are also having an effect in the supply chain, particularly in the pharmaceutical industry, by providing real-time information around the conditions products have been kept in.

“A third of the vaccines in the world are discarded for fear of being compromised by warm temperatures,” says Jennifer Ernst, executive vice president, sales and business development, at Thin-Film. “Companies can be alerted if an individual item has been in transit for an extended period of time or crossed a temperature threshold.”

Interactive or augmented reality is another development that can help brands better engage with customers. Eric Seiberling, solution experience director for consumer packaged goods and retail

at Dassault Systèmes, flags up the use of 3D technology by Nestlé on cereal packages.

“This allows consumers to use the packaging as part of an online gaming experience,” he says. “Promotions such as these see large percentage sales increases, and improved brand recognition and loyalty.”

At the moment, the use of such labelling or packaging is in its infancy, says Stuart Chapman, associate director at consumer design research agency The Big Picture, but the future potential is huge.

“If wearable technology, such as Google Glass takes off, expect to see more packaging taking advantage of opportunities to convey information off-pack,” he says. “Initially that’s likely to be promotional material, but I can foresee a future where legislation-imposed nutritional information is handled digitally, leaving the pack and labelling to focus on being the silent salesman again.” ■



We are seeing an increase in consumer awareness and concern for where products have been sourced, and how they have been manufactured



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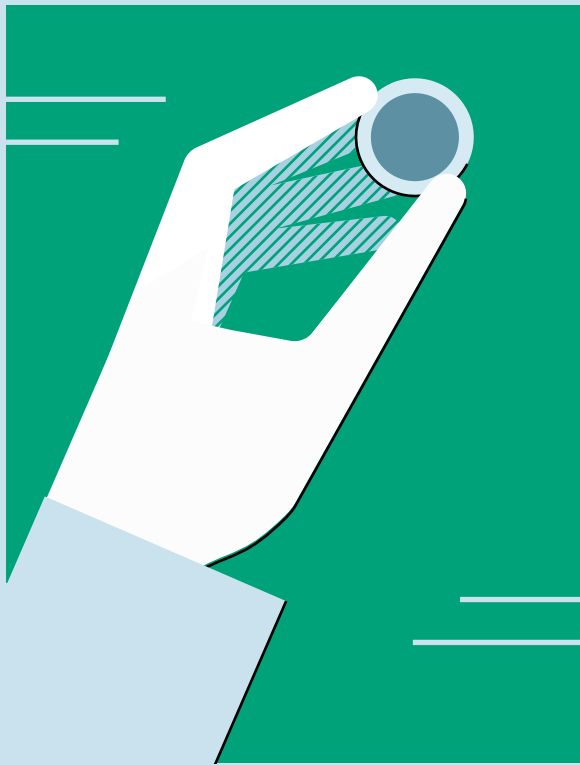


IF WE ask the right questions we can change the world.

INGENIOUS INVENTIONS WILL CHANGE OUR LIVES

A host of alternative packaging is under development which promises to transform the industry, as **Brid-Aine Parnell** reports

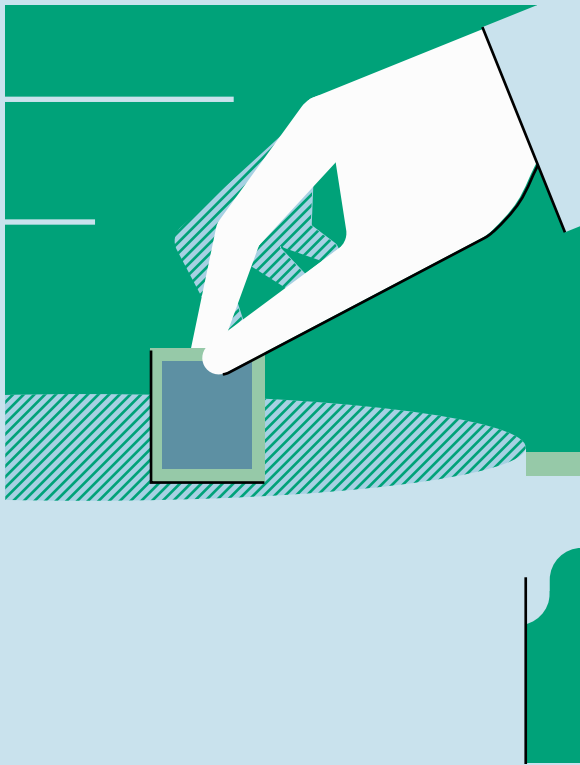
TECHNOLOGY AND INNOVATION



PEARL OF AN IDEA

The rising demand for bottled water in today's on-the-go society, and the ongoing substitution of plastic for materials like glass and metal have led to huge growth in the use of rigid plastic containers. Although most of these can be recycled, millions of tonnes end up as landfill. To combat this kind of waste, a scientist in the United States has come up with a novel concept to package liquids, called edible pearls.

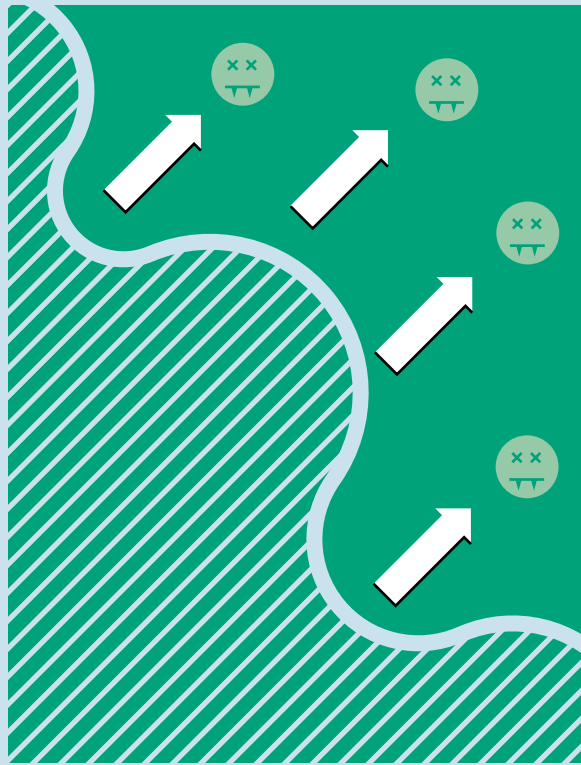
Bio-creator Harvard professor David Edwards first introduced the world to his invention, the Wiki-Cell, back in 2010 and has since created start-up WikiFoods, in the US and France, to get the packaging out into the retail world. The company makes the WikiPearl, which draws inspiration from how grape skins behave, to parcel up ice cream, yoghurt and beverages. The pearl can be different flavours to complement the stuff inside, such as a hazelnut skin to house some chocolate ice cream or a coconut skin for a mango filling. For now, ice cream WikiPearls are only sold at the WikiBar in Paris, with promises of yoghurt, cheese and coffee pearls to follow soon.



SOLUBLE FILM

If you can't flavour your packaging, why not just have it melt away? That's the plan of MonoSol, a manufacturer that has come up with a water-soluble edible packaging. The transparent film dissolves in hot or cold water and is safe to consume along with the contents. It can be made into pouches, sachets or other delivery systems and claims to be both tasteless and odourless. For confidentiality reasons, the firm isn't keen on revealing exactly what the film is made from, but it will say that it's a blend of synthetic and natural ingredients that

are all food grade. The company sees the film being particularly useful in industrial food production, where the precise amount of colour, flavouring or fragrance could be added to large quantities of foods, without scooping or measuring, in pre-packed pouches. The technology could also help in large-scale food service when pre-packaged herb and spice mixtures, for example, could be tossed into a Bolognese or a chilli sauce all at once instead of one by one. Products in the pipeline include, coffee and hot chocolate drink sticks, and oatmeal.



KILLER PAPER

Britons hear plenty about how much food they're wasting every day, often throwing food from the fridge straight into the bin without it ever touching a plate as they juggle busy lives with sell-by dates. The answer could lie with "killer paper", a silver, nanoparticle-coated wrap that keeps away the bacteria that spoils food. Researchers from the Bar-Ilan University's Institute of Nanotechnology and Advanced Materials in Israel first published a paper on the subject in the journal of the American Chemical Society, *Langmuir*. Silver has long been

known as an antibacterial agent and is used in substances such as medical ointments, and kitchen and bathroom cleaners. With scientific progress in nanotechnology, scientists have started to explore using silver nanoparticles to coat everything from metals and plastics to fabrics and paper, creating germ-fighting materials. The "killer paper" developed in Israel was able to protect food from *Staphylococcus aureus*, a common cause of Staph infections, and *E. coli* (*Escherichia coli*), a well-known agent of food poisoning.

5.2%

forecast annual growth rate for the global rigid plastic packaging market over the next five years

Source: Smithers Pira

£76bn

annual turnover of the UK food and drink manufacturing industry, the single largest manufacturing sector in the country

Source: Food and Drink Federation

6

meals or the equivalent are thrown away by the average UK household every week, costing £12.5bn a year

Source: Waste & Resources Action Programme (WRAP)

31m

Americans, particularly men aged 18-34, skip breakfast every day because they don't feel hungry or have time

Source: NPD

\$44.3bn

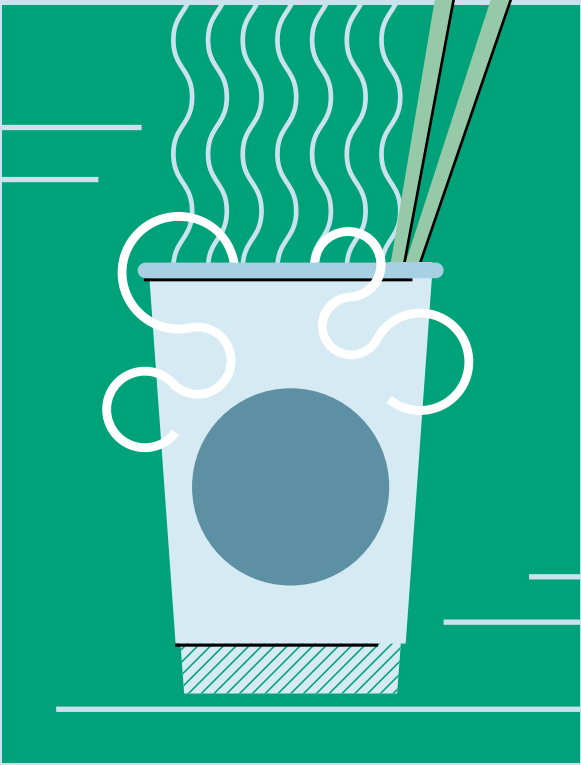
projected overall market value for intelligent packaging solutions in 2017, after rising at a compound annual rate of 5.8%

Source: BCC Research

1.52trn

1.52trn barrels of proved global reserves of crude oil in 2012, including more than 29bn barrels in the United States

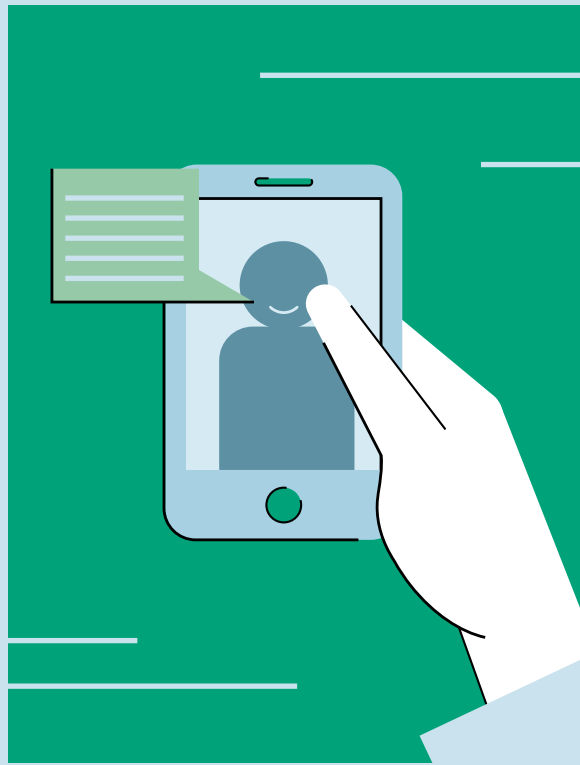
Source: US Energy Information Administration



HEAT WITHOUT FIRE

At first glance, self-heating packaging may seem like a bit of a gimmick. After all, how many people need to buy a self-heating can of coffee when there are coffee shops on every corner? But food that heats itself, offering on-the-go convenience, could be of real benefit; think of parents who need hot milk for their babies, kids running late for school or even army personnel in the field. Enter firms like HeatGenie, whose patent-pending technology has been in development since 2008. In this system, which is a lightweight,

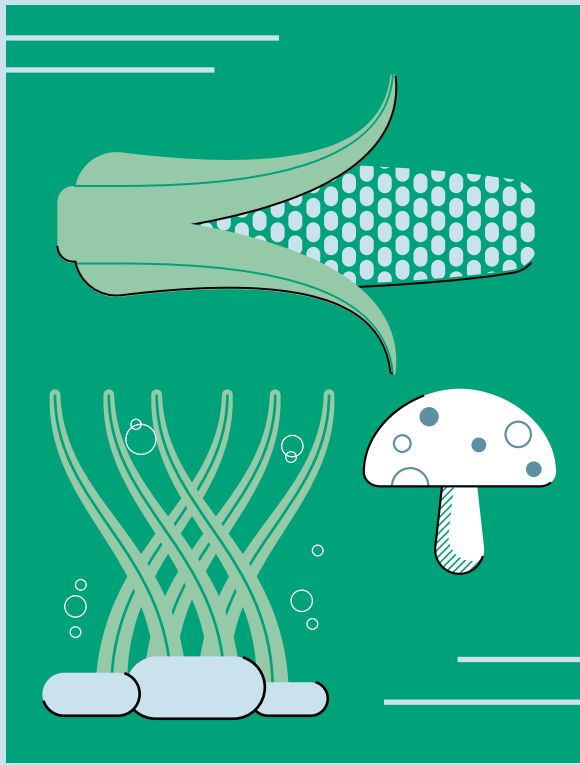
self-heating packaging component that can be incorporated into a tin, for example, customers press a button on the bottom of the can to start a chemical reaction between the benign substances aluminium and silica that will get the contents hot in less than two minutes. Best of all, the packaging is recyclable, both after the self-heating is used and before. And, of course, food that can be heated quickly has already proved popular. The Pot Noodle is just one of many quick meals, including rice dishes and porridge, which just need added hot water.



TALKING PACKS

Radio-frequency identification (RFID) tags and barcodes have been around on packaging for some time to help track and locate products, and stop counterfeiting of goods like medicines. But the future of intelligent packaging that researchers are now envisioning includes parcels that can "talk" to customers using technologies such as near-field communication (NFC) or even 2D codes that can be printed on images or texts. The HearMe-FeelMe project, led by VTT Technical Research Centre in Finland, showed how NFC could be used by the elderly and the visu-

ally impaired. Customers could touch their mobile phones on the information code on medical packaging, and have product and dosage information transmitted to their mobiles to be read out to them. Meanwhile, packaging firm Wipak has been working on Self Talk, 2D codes already used with books and learning media that can be "read" at the point of sale or on the shelf using a special pen. The codes can contain information to be played back both visually and audibly, adding the potential for marketing as well as helpful nutritional or product data.



BIO-PLASTIC

Besides the environmental impact of plastics that end up on rubbish dumps, there are also potential problems in their production since they're made from a finite resource, petroleum. For greener, more efficient and, of course, cheaper plastics, researchers have been trying to come up with ways to make plastic and packaging from other natural sources. Ecovative, which makes packaging and building materials from mushrooms, has been well documented, but there are also projects underway to source plastics from another sustainable source, algae.

In Europe, the EU is researching algae-based polymers through SPLASH – Sustainable PoLyMers from Algae Sugars and Hydrocarbons – which held its inaugural meeting late last year. Californian firm Cereplast uses corn, tapioca, potatoes and algae to make plastic resins, and its ranges are already in use in food packaging, and service and consumer packaging industries. The company says recent developments, including legislation in countries around the world to ban the sale of plastic bags, has led to increased demand for its products. **R**



Meeting the challenge to create shelf-shout

In today's competitive landscape, manufacturers and retailers need to do all they can to make their brands stand out on the shelf, says **Esko**



Carsten Knudsen
chief executive, Esko

According to research by international point of purchase association POPAI, 70 per cent of purchasing decisions are made while customers are actually in the store.

A study by the Grocery Manufacturers Association, Booz & Co and SheSpeaks found 85 per cent of shoppers perceive in-store factors, such as price, packaging and shelf displays, as more influential than out-of-store marketing.

"When people walk into a supermarket they know they need something, but they don't know what type of something they want," says Carsten Knudsen, president and chief executive of Esko, a global supplier of integrated solutions for packaging, sign and display production, which has a hand in the development of packaging for nine out of every ten major brands.

"Creating that shelf-shout is very important for brands. Frequently changing package design is a common practice among brands to stay in the spotlight on the shop shelves. Intelligent packaging is probably the next thing we will see. We're already starting to see QR codes printed on products and then linking to the website of the brand, so we have wine bottles that tell us about the winery or raw food that tells you how to make a dish out of it.

"Brands are now looking at how to make packaging more informative for the consumer and to add value to the product."

Alongside the use of more innovative technology is a growing desire for brands to customise their products for particular customer sub-segments. "Twenty years ago there were maybe two or three different variants of a particular toothpaste; today there are more than 40, so there is this proliferation of brands to target specific customer groups,"

says Mr Knudsen.

Some brands are even using the personalisation of products within a brand itself as a means of standing out. Mr Knudsen points to the highly successful Coca-Cola campaign where shoppers could buy Coke bottles with their own names on. "For some brands you can go on their websites today and order their products with your son's name on for a birthday party tomorrow," he adds.

But the volume of regulation and legislation now emerging around packaging is proving a challenge for brand owners.

"This can be a particular issue for international businesses, which have to comply not only with varying requirements in different parts of the world, but even in some cases regional differences within trading areas," says Mr Knudsen. "Another issue is environmental sustainability and consumers' desire to buy green products. Packaging is considered as waste."

Eco-friendly packaging is a solution that can also be extended to other aspects of the supply chain. Mr Knudsen gives the example of working with a lawnmower manufacturer, where the packaging supplier was able to fit 20 per cent more items on each truck load – creating financial and environmental savings – by modifying the design of the product to lower a screw by two inches, enabling it to fold into a more compact space.

"How to keep track of all this packaging variation in a controlled manner is a challenge," says Mr Knudsen. "There's an increasing complexity and an increased need for speed among brands, which makes it difficult for them to keep up and ensure their local manufacturers and products live up to both the local legislation and the brand design guidelines. With product recalls and bad publicity, the cost of non-compliance is extremely high so brands are very focused on ensuring they do comply.

"And how to manage that complexity is also a big challenge. Brand owners are concerned that the brand name looks right, is at the right location on the package, has the right dimensions and colour, while at the same time ensuring that customisation, and even personalisation, is possible. Often that means localised and much dispersed production, with very short print runs. Standardised and managed pack-



Producing packaging today is an ever-more challenging task for brand owners. Esko software helps them to manage all critical assets: colours, brand identity, ingredient copy, legal content, printing and production specifications. These solutions assure consistent quality, no matter where and on what material the packaging is printed

aging production processes will drive efficiencies, and ensure a consistent look and feel to brands, across different product lines and around the world."

The use of software to design and display virtual products is making these kinds of initiatives easier, says Mr Knudsen. "It ensures all parties throughout the supply chain are able to feed into designs, using cloud-based technology, and even visualise how these will look in a shop alongside competitor brands, through the use of a virtual supermarket.

"Years ago, print meant making a physical sample and printing it. Today you can have minimal iterations and much more environmental, sustainable, faster and cheaper processes to design new packaging, and reduce the time it takes from creating an idea to developing a finished product."

With the need for brands to be able to move quickly in a competitive market and the complexity brought about by regulation, having a dependable partner that can not only support the design and visualisation of packaging, but also advise and guide around the bigger picture is essential.

With many years' experience solely focusing on the packaging indus-

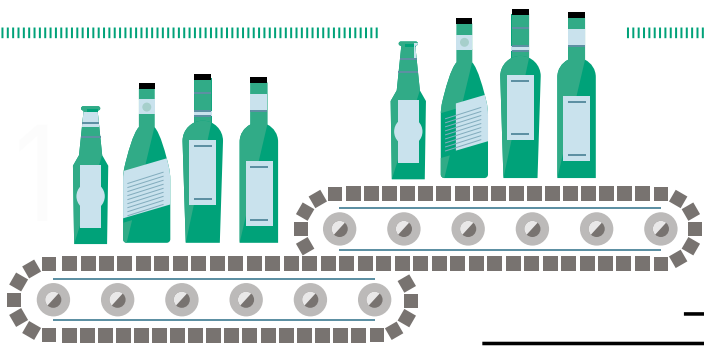


With many years' experience focusing on the packaging industry, and research and manufacturing facilities worldwide, Esko is well placed to help retailers and manufacturers struggling to cope with the sheer variety of options and requirements

THEY DON'T MAKE THEM LIKE THEY USED TO

Contrary to some perceptions, traditional materials used in packaging have a future, as **Edwin Smith** discovers

TRADITIONAL PACKAGING



REBECCA COCKING, HEAD OF CONTAINER AFFAIRS, BRITISH GLASS

Glass has always been environmentally friendly – you can take an old container or bottle and turn it into a new one without any loss of material or quality.

A lot of work is being done to save energy and transport costs by taking weight out of the bottles themselves. A wine or spirit bottle might now weigh 300g, half what it would have been ten or fifteen years ago.

With bottles that are exported to foreign markets, such as whisky, the way they look and are designed is influenced by the consumers in those countries. So it's not always as straightforward as saying "in the future we're going to make everything lightweight".

Returnable bottles have always been popular in local areas served by the microbreweries of Germany or

wine producers of France, but logistically it's often not as environmentally friendly to do that in the UK. The increase in the number of British microbreweries has helped and some companies, such as Barr who make Irn-Bru, buck the trend. But Carlsberg, for example, has just one facility in the UK. It doesn't make sense to reverse-haul bottles from one end of the country to the other.

NICK MULLEN, CHIEF EXECUTIVE, METAL PACKAGING MANUFACTURERS ASSOCIATION

We're working on increasing people's understanding of the way materials work in a closed-loop environment. Organic materials, paper and plastic all degrade over time and with use, but once you have invested in the raw materials and put the energy into the manufacturing process, metal is a permanently available material. We have a target that eventually no metal packaging should go to landfill. But the goal for

2020 is to recycle at least 80 per cent of it across Europe.

When it comes to re-purposing or recycling aluminium, for example, you only need 5 per cent of the energy. With steel about 75 per cent of the energy is recovered. But this can be quite a challenging concept for people to grasp.

Improvements to technology are being made all the time. One of the most interesting is the work done

by a company called Ardagh. Food cans tend to be much heavier than beverage cans because beverage cans get strength from the pressure created by the carbonated liquid inside them. Ardagh has developed a new technique called "nitrogen flushing" that uses a similar principle. It allows you to reduce the weight of a food can by 15 per cent and the wall thickness by about 40 per cent.



DAVID WORKMAN, DIRECTOR GENERAL, CONFEDERATION OF PAPER INDUSTRIES

Corrugated cardboard boxes may not be the most interesting thing in the world, but a lot of work goes into them. Innovation and design in paper and cardboard packaging focuses on saving space on lorries and on shop shelves, but it's quite hard to quantify.

If you look at the environmental credentials, we've come a long way. The amount of energy we need to pro-

duce a tonne of paper in the UK has fallen by more than 30 per cent in the last 20 years and carbon emissions have fallen 42 per cent per tonne.

We're selling packaging material to industries further down the supply chain, so their demands and the demands of consumers dictate the nature of packaging. But it's a cost, so they're not going to use any more than they have to.

As an industry, if we are to fall in line with wider government targets of an 80 per cent reduction in total carbon emissions by 2050, then there have to be some breakthrough technologies and a revolution in the way we manufacture.

In the future I expect further mergers, acquisitions and takeovers throughout the industry. That will help to improve design and research.

PHILIP LAW, PUBLIC AND INDUSTRIAL AFFAIRS DIRECTOR, BRITISH PLASTICS FEDERATION

One of the main advantages of plastic is that it allows for a lot of design freedom. You can achieve an almost unlimited number of shapes by using different techniques – and to short timescales. That means that the industry can respond quickly to changing social requirements. For example, the recession has forced people to economise and there is a demand for smaller portions.

New designs, such as the infini bottle, are becoming more lightweight – up to 25 per cent lighter – while still meeting performance specifications. It's also 100 per cent recyclable and contains up to 15 per cent recycled high-density polyethylene; that's targeted to rise to 50 per cent by 2020.

One of the challenges that the industry faces is dealing with the misconception that some forms of plastic

can't be recycled. The good news is that the rate of recycling is on the up and, for some types of packaging, it is already very high. Plastic milk bottles, for example, are recycled at a rate of 76 per cent. Another thing we're focused on is securing public appreciation of the role and benefits of plastics packaging, especially how it saves energy in transportation and how it keeps food fresher for longer.



JOHN DYE, PRESIDENT, TIMCON

I always say that you can look at the stock exchanges and listen to the politicians, but if wooden pallet manufacturers are not selling pallets, then the economy isn't in good shape. The industry is a good economic indicator because 90 to 95 per cent of goods moved around the world are on wooden pallets.

Recently, UK manufacturing has taken a hit and so there has been

a decline in demand for new pallets. We're hopeful that's going to change, but the trend is also down to a marked increase in reuse. More customers are becoming environmentally aware, more companies are offering repair services and users are increasingly taking the view that the initial cost is not the be all and end all – cost per trip is now a more important consideration.

Wood is the most environmentally friendly packaging material. It's sustainable, recyclable, repairable, so nothing has really changed. But we still need to make people realise this. As trees grow, they suck in CO₂ from the atmosphere. Once the tree is felled and made into a pallet, the vast majority of the CO₂ is locked into the pallet for its lifetime, which can be 20 or 30 years. ■

WHAT LIES BEHIND A PAINTED SMILE?

There’s a whole lot more to packaging than meets the eye, as **Des King** reports

LOGISTICS

■ There are more than 40,000 different products on sale in an average supermarket, of which an estimated 75 per cent of those that end up in our shopping trolleys are impulse decisions made within ten seconds per item. In such a tight time-frame and when faced by a shelf stocked with broadly similar brands, outward style can play a more significant part than inner substance in product selection.

Concentrates, dishwasher tablets, teabags, microwavable rice in a pouch and coffee pods are just a few everyday examples of packaging solutions that are integral to content consumption. They’re the tangible result of technologies that have been developed with the staying power to sustain the product’s viability within the home.

Whether it’s been designed to look the part or deliver the goods, packaging leads the charge in creating differentiation that gives competitive edge to the brand and added value to the consumer. And we’re getting a lot more for our money than we might have supposed.

The process of developing packaging solutions that represent more than their face value starts on the factory floor. Automation has increased speed and efficiency as well as raising levels of accuracy close to 100 per cent for the wide range of checking and weighing systems, dosage measurement, and inspection equipment in common usage.

Inefficiency is a waste of money in manufacturing terms, says British Automation & Robot Association chairman Mike Wilson. “Forward-thinking companies that introduce automation benefit from increased competitiveness, leading to business growth, greater profits and more jobs. There is significant potential in the UK and the growth in packaging applications is encouraging, not least in robotics,” he says.

With packer-fillers accounting for less than 5 per cent of all UK installations this year, compared with the 1,340 that went to the automotive sector, there’s

some way to go. Results, however, are immediate as followed the introduction of four robots programmed for the picking and stacking of pancakes to each of two lines at the Dunstable site of Honeytop Speciality Foods, Europe’s leading volume manufacturer of speciality flatbreads. Handling productivity has been boosted to 110 packs per minute with accelerated turnaround time between jobs.

As raw material account for anywhere between one and two-thirds of the overall cost of a finished pack, there is a continuous drive towards lightweighting existing applications, without compromising quality and performance. While this works to the benefit of the entire supply chain – optimised use of resources, reduced cost, lower CO₂ emissions incurred in transit – improvements are not always discernible by the consumer.

Leading glass manufacturer Ardagh Group now produces a 155g standard 330ml beer bottle half the weight of an equivalent container 15 years ago. A shorter neck and a more ergonomically friendly shape enabled Nestlé to trim the weight of its popular half-litre size Buxton natural mineral water last year by 25 per cent. At 10.7g, that may soon appear obese compared to the 7.95g Right-Weight bottle currently being trialled by French PET [polyethylene terephthalate] blow-moulding specialist Sidel.

Material developed to reduce food waste is another less obvious and arguably indirect cost efficiency often undetected beneath the consumer radar. Viridiflex, a modified atmosphere flexible film recently developed by Grimsby-based Ultimate Packaging for Asda’s own-label Cornish Crystal Potatoes, was three times more expensive than its conventional counterpart. However, shelf life was extended by five extra days and the retailer reported a 92 per cent year-on-year reduction in complaints in the first five weeks of the in-store selling period.



Source: British Automation & Robot Association



Source: Smithers Pira



We’re getting a lot more for our money than we might have supposed



The higher cost was not passed on to the consumer.

Colour consistency on-pack is essential to brand integrity. In replicating it across different substrates, namely film to cartonboard, via different printing presses, barely perceptible variations may occur that can raise doubts about the product’s authenticity. What we buy in Brighton has to be as reassuringly recognisable in Brisbane. “A lack of colour consistency across a range of products may cause the consumer to question the quality of the contents,” says Elmwood (Brand Design) creative services director Mark O’Donnell. “Getting this wrong is like misspelling your own name.”

For a brand portrayed across a broad spectrum of packaging formats produced by an extensive network of print processes worldwide, ensuring that its image is reproduced accurately rather than as a close approximation is an expensive, but necessary, challenge. Indeed an entire industry sub-set has evolved on the back of meeting it.

Pressure on cost, however, can be alleviated by addressing the retail brand sector’s preference for spot colours, claims UK-based packaging pre-press specialist Reproflex3 joint managing director Andy Hewitson. “It’s now possible for spot colours to be produced from process rather than special inks, in effect enabling the printer to create a space of up to seven colours as standard on the press into which all the Pantone range are then converted. It’s a fantastic cost-saving tool,” he says.



Next-generation affordable colour management in development by Reproflex3 is the insertion of an interactive trigger within the half-tone screening that can be read by a suitably app-enabled smartphone and which could make on-pack barcodes redundant.

Public awareness to digital print

is now far greater in the wake of the “Share a Coke” campaign, which had consumers transfixed in the soft drinks aisle this summer hoping to find their name on the distinctive red label.

While it’s a marketing stunt that other brands will surely emulate, the technology’s core competence in producing low-volume runs cost-effectively impacts positively upon warehousing, stock control, waste reduction and goods transit. It also enables brands and retailers to update on-pack messaging quickly and inexpensively.

Hitherto, digital print has been most in evidence on self-adhesive labels – 90 per cent of all global output valued at £3.7 billion – but next-generation nanography, or digital inkjet, coming on stream with running speeds of 13,000 full-colour impressions per hour – so comparable to a conventional process – will also be targeting cartons and flexible film applications.

Chocolates: because the lady loves Milk Tray – or because the box has her name on it. ■

COMMERCIAL FEATURE

Packaging – the good guy in the supply chain

Thanks to new research and greater innovation, packaging can both reduce manufacturer’s costs and deliver significant sustainability benefits, says **Amcor**



Ken MacKenzie, managing director and chief executive, Amcor

Many consumers think of packaging as a necessary evil. How many of us tut about it as we throw bags, packets and boxes into the bin after unpacking our groceries or medicines?

It’s a perception that Amcor, one of the world’s major packaging companies, servicing many of the largest food and healthcare brands globally, is working hard to change. But, as with so many areas of life, especially when it comes to sustainability, things are not as simple as they seem at first. As Amcor points out, packaging produced the right way can actually help the environment rather than damage it.

“If it does its job by reducing waste and protecting the product, packaging is the good guy in the supply chain,” says Ken MacKenzie, managing director and chief executive of Amcor. “A lot of the work that we do for our customers involves reducing the cost of packaging to help their



Amcor protects consumers against counterfeit drugs with its innovative packaging design called N’CRYPT that includes holograms and security graphics

profitability. That’s also very good from an environmental perspective. We’re taking weight out of packaging, and we’re reducing materials and energy consumption.”

Consider, he says, a bag of cherries. Cherries eaten in the UK probably come from somewhere like Turkey. “Cherries are highly perishable and, if unprotected, they have a shelf life of about seven to fourteen days,” says Mr MacKenzie. “But with well-designed packaging and with proper handling that can be extended up to 40 days.”

The food business in the UK is fast changing and highly competitive, but very often the most exciting innovation in our supermarkets is the packaging. Bagged, pre-washed salads have, for example, become hugely popular over the last decade or so and Amcor has a leading market share for these bags.

“Have you ever wondered why it is that if you take a lettuce and cut it up, within a few hours it will be brown and wilting, whereas your bagged salads last a week?” he asks. “This is because of our ‘modified atmospheric packaging’. Like Gore-tex with clothing, it breathes. We micro-perforate the bag so that it breathes at the optimal respiratory rate for whatever it contains. This extends the life of the product, such as salad, and means that there is less need to

throw it away so there’s less need to create new product, which also means less packaging, less energy and fewer trucks on the roads.”

Thanks to the \$100- million investment into research at its 19 centres of excellence worldwide, Amcor can constantly offer new products to its vast range of clients, as well as responding to those clients’ demands. Sustainability is a higher priority for some consumers than others. Either way the calculations required are varied and intricate. In the UK, for example, Amcor manufactures a different bag for new potatoes depending on the point during the harvest at which they’re packed. This is because the respiratory rate of the potatoes changes over their life cycle.

“It’s all about extending the shelf life and reducing the waste, and doing the right thing by the environment,” says Mr MacKenzie. He cites research from the United Nations that around one third of all food produced is lost or wasted, meaning all the energy, water and other resources that go into producing, transporting, storing and preparing that food is squandered. Amcor points to another counter-intuitive fact about sustainability in packaging: just because a packaging product is recyclable doesn’t mean that it’s the best thing for the environment. Amcor finds that in many

cases it’s not the recyclability of a package that makes it more sustainable, but its weight.

“We have what we call a life-cycle analysis tool that allows us to analyse the differing cradle-to-grave environmental impacts of various types of packaging,” he says. “So, for example, if a customer comes to us with a yoghurt that they want to take to market, we can look at a plastic-based or a paper-based solution, among others, tell them about the environmental impact of each option and the trade-offs they’ll have to make in each case.”

Packaging can tackle drug counterfeiting as well, which helps to keep fake and unregulated drugs out of circulation. This is especially important in emerging markets where counterfeit medicine is becoming a daily problem. Amcor’s N’CRYPT® security solution currently protects approximately \$15- billion-worth of pharmaceutical products around the world. It uses various technologies, such as specialised printing techniques and authentication features, with secure production and supply chain processes.

With almost any product, thanks to its sophisticated and extensive research tools, Amcor can identify and create a solution that is good for the client’s bottom line – and the environment.



amcor

Creating a new world of packaging

DOING AS THEY SAY

As well as producing sustainable packaging, Amcor is committed to sustainable practices in its operations:

● Progress since 2010-11 ● Target for 2016

LANDFILL



31%

50%

WATER USAGE



12%

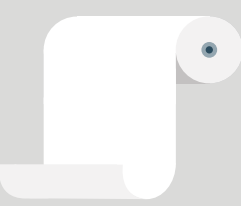
25%

CO₂ EMISSIONS



13%

10%



\$500m

In February, Amcor unveiled the \$500-million B9 paper machine, which uses 100 per cent pre and post-consumer waste

A SWEET THOUGHT



50x

The carbon footprint of sugar is more than 50 times that of its packaging. If something goes wrong with the packaging and the sugar is wasted, then more energy, fertiliser and water will be needed to grow, harvest and refine more sugar to replace it

FACING THE ENVIRONMENTAL CHALLENGES OF PACKAGING

Friends of the Earth senior resource use campaigner **Michael Warhurst** and **Jane Bickerstaffe**, director of the Industry Council for Packaging and the Environment, exchange views

OPINION



DR MICHAEL WARHURST IS AN ENVIRONMENTAL CHEMIST WHO FOCUSES ON UK AND EUROPEAN UNION WASTE POLICY

■ When it comes to the environmental impacts of our products, a focus on packaging can make it hard to see the wood for the trees. The biggest pressure on our natural world has more to do with how the goods inside the packaging are made, such as mining minerals for the components in smartphones and other gadgets, which can devastate ecosystems and contaminate water. When you look at energy use, what's used to create packaging is relatively small. For example, of the total energy used in the food chain, 50 per cent is in food production, 10 per cent on transport to the shops and 10 per cent to make the packaging. The remaining 30 per cent is used by shoppers to drive to the shops, store and cook the food, according to waste experts WRAP. However, there is still significant room for improvement in

how packaging is made. Each stage of its production – forestry, pulping, processing, and printing – has associated environmental and human impacts. The Forest Trust, which works with companies to help them deliver sustainable products, says that, although the industry is improving, it has been linked to “illegal logging, deforestation, pollution from pulp mills and weak recycling programmes”, while



There is still significant room for improvement in how packaging is made

plantation forests are responsible for losses of biodiversity. Being associated with environmental and social problems carries serious reputational risks for companies. For example, in 2012, Greenpeace revealed that companies, such as KFC and Mattel, used packaging linked to the deforestation of native Indonesian forest, through the activity of supplier Asia Pulp & Paper, which was involved in harvesting

fibre from protected rainforests. These forests are home to the endangered Sumatran tiger, of which only 400 remain. Following pressure from customers, Asia Pulp & Paper committed to end deforestation in February 2013. However, Greenpeace reports that another Indonesian company, Asia Pacific Resources International Limited, is responsible for clearing around 60,000 hectares of rainforests a year to supply its pulp mill in Sumatra. Clearing forests for packaging also worsens climate change. Indonesia ranks as one of the world's largest emitters of greenhouse gases, of which 85 per cent is from land-use change due almost entirely to deforestation and peatland degradation. The production process takes its toll too. Transforming wood from trees into thin, uniform paper products requires the

intensive use of wood, energy and chemicals, according to the Environmental Paper Network. A 2011 study estimated it takes between two and thirteen litres of water to make just one piece of A4 paper. Then there's the “land footprint” of packaging. That's the area of land required to grow the trees to make it – not just what we take home, but everything necessary as things are shipped from factory to store. For Friends of the Earth, environmental data experts Trucost examined the total land footprint of a typical smartphone. They found that 55 per cent went into making the packaging, with 43 per cent used to mine for raw materials and tiny amounts for other stages of production, such as manufacturing. With increased competition for land already leading to problems in developing countries, such as

communities evicted from their homes in land-grabs and millions going hungry, reducing land use is crucial. Complicated and lengthy supply chains can make it challenging for companies to know whether they are sourcing sustainable packaging. That's why Friends of the Earth's Make It Better campaign is calling for strong EU transparency rules to help and require all large companies in Europe to reveal the full human and environmental impacts of their operations. This would make it easier for companies to understand what's happening at the end of their supply chains – and deal with any problems. For example, they could take steps to work with suppliers to ensure paper is sustainably sourced, avoiding deforestation and destruction of habitats, and produced efficiently to reduce

water and chemical use. Rethinking design plays a big part too, to ensure packaging is streamlined and fully recyclable. Many of us get frustrated with things like unnecessary layers of sealed packages, which often come with gadgets, or black plastic food trays that can't be recycled. Tough European transparency legislation would encourage environmentally friendly practice and innovation across the board. However, there are gaping loopholes in the current EU proposals. Friends of the Earth and thousands of people are calling on the UK government to back improvements to ensure all large companies report major risks to people and the environment that occur in their supply chain.

You can sign the petition at www.foe.co.uk/makeitbetter



JANE BICKERSTAFFE ARGUES THAT MISCONCEPTIONS ABOUT PACKAGING ARE IN DANGER OF RESTRICTING INNOVATION

■ Packaging is as critical to modern life as the water supply system. Towns and cities could not exist without it and today more than half the global population lives in urban areas. It performs a major role in protecting far more resources than it uses and preventing far more waste than it generates. There is always room for improvement, but manufacturers and retailers have both economic and environmental reasons to get it right, simply because their costs are lower if they use fewer materials, energy and water. Despite this, far from being acknowledged as an essential and beneficial part of getting food and other products to us in a safe, clean and undamaged state, packaging is widely derided and criticised. Ten times more resources go into producing products than making their packaging so the packaging has to ensure that

that those resources do not go to waste. Only the manufacturer knows the stresses and strains that the product has to endure – how high it has to be stacked in storage, how it fits in the distribution lorry, how the filling machinery works and what temperature ranges it will meet. For this reason, manufacturers need to be able to choose from the widest possible range of types of packaging to match it to the requirements of the product, the supply system and the end-user. As consumers, we only see packaging when the product has reached the shop. By then it has almost finished its useful life. None of us, therefore, have sufficient knowledge to be able to judge how much or how little packaging is needed. Politicians tend to relate to packaging in the same way as consumers and some are tempted to “do something about it”. This has led

to restrictions and taxes in many countries, and is the biggest barrier to making packaging even more resource-efficient. Some politicians favour making supply chain companies responsible not only for the environmental impact of their products and packaging, but also for the cost of recycling used packaging. UK manufacturers and retailers already contribute more than £50 million a year to support recovery and recycling. Recovery and recycling is well established across Europe. Incremental improvements will happen, but there needs to be a realistic approach to what is achievable. Unrealistically high targets will push recycling where it is not environmentally and economically viable. All systems have leakage which means 100 per cent is never achievable. Not all households are provided with collection facilities; those that are may not use them;

those that do may not contribute all their recyclables; and some of the weight of collected material will not be recyclable because of contamination and moisture. What this means is that, if 95 per cent of households have collection facilities, 95 per cent of those households use them and contribute 90 per cent of their recyclables, and there is only 10 per cent contamination, then the maximum amount of material that can be recycled is 73 per cent. This is a best case scenario and such high participation is seldom achieved. Technically, everything can be recycled if enough resources and money are spent on collecting, sorting and cleaning. The question is, should we? We mustn't lose sight of the fact that the whole purpose of recycling is to conserve resources, so using more resources than are recovered makes absolutely no sense. Used packaging can and increas-

ingly is being well managed. The big problem is food waste. It is a huge environmental problem in developed countries and an environmental disaster in developing ones. Globally we currently grow enough food to feed everyone. The problem is that globally up to 50 per cent is wasted. In developing countries, it is usually because the infrastructure has not been developed: poor roads, inadequate vehicles and a lack of packaging make it difficult to get food from producer to consumer in good condition. While in developed countries, with efficient food supply chains, good roads, and technologically advanced distribution and packaging systems, comparatively little food is wasted en route to the retailer. Food waste occurs in people's homes and after it reaches the depot. The Industry Council for Packaging and the Environment (INCPEN) is working with Kent

Resource Partnership, the Food and Drink Federation, the Packaging Federation and the Love Food Hate Waste campaign to help consumers reduce food waste at home in a project called Fresher for Longer. Recent INCPEN research, *Checking Out Food Waste*, highlighted which foods are wasted between retail depot and check-out (bananas, bread and eggs topped the list). The three major

supermarkets who participated are already working on ways to reduce it. There are a variety of reasons for food being wasted and, therefore, a number of solutions, but there's one solution common to many situations – packaging. Reduce waste, buy packaged.

Packaging is not an evil waste of resources, it is the good guy.



Ten times more resources go into producing products than making their packaging



AUTOMATING YOUR PRODUCTION PROCESS?

Alarminglly, the UK is one of the slowest nations in Europe and the emerging economies to adopt automation to sustain competitive advantage and reduce costs.

Don't put it off any longer... Diary these dates and see how automation can dramatically drive productivity!

The PPMA Show will host over 8000 visitors with more than 300 exhibitors demonstrating all the latest Processing and Packaging Machinery, Automation and Robotic Solutions and Industrial Vision Systems.

All this and an extensive seminar programme which includes the recently appointed Groceries Code Adjudicator. The Adjudicator will explain how they can use new legislation to ensure supermarkets treat their suppliers lawfully and fairly. This should have a positive impact on the UK supply chain.

PPMA SHOW 2014

"The complete production line event"
Sept 30th - Oct 2nd 2014 · NEC, Birmingham
www.ppmashow.co.uk

Also see www.ppma.co.uk for the Machinery Finder service indexing over 800 machinery types from Association members

GROUP OF ASSOCIATIONS

Processing & Packaging Machinery Association
 British Automation & Robot Association
 Polymer Machinery Manufacturers and Distributors Association
 UK Industrial Vision Association

New Progress House, 34 Stafford Road, Wallington, Surrey, SM6 9AA
 Tel: 020 8773 8111; admin@ppma.co.uk



To create premium packaging,
collaboration is not a luxury.



Great packaging is a partnership between imaginative design, choosing the right materials and skilful manufacturing. For over 200 years, Tullis Russell has been making paper and cartonboard – a beautiful, tactile and sustainable material that protects and enhances many of the world's most well-known luxury brands.

And because we're a different kind of company we believe that working together in partnership with our customers delivers the best results. We are entirely employee owned – which means each one of us is driven to create new ideas and find new solutions to meet our customers' needs.

The future of packaging is an exciting one, with cartonboard still an essential part of the packaging mix in a sustainability conscious and increasingly virtual world.

If you'd like the very best packaging to enhance or support your product and brand promise, speak to us now. Having worked in partnership with our customers for over 200 years, it's something we're good at.

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