

Olfactory packaging seems like an important next step, cementing brand identity and demonstrating product quality. But things are not necessarily so rosy. Nikki Preston questions how the technology works and how seriously it will be adopted

Smell of success

Packaging is one of the only ways brand owners can add value to their products and make them stand out. Research shows that more than 70% of buying decisions are made on the shop floor. Brand owners use vision and touch to connect emotionally with consumers in a bid to get their product into our homes. But now there is a technology that they can use to appeal to the most emotive sense of all – the sense of smell.

When you walk through a supermarket aisle you are surrounded by millions and millions of packages, in a variety of different shapes, sizes and colour, all crying out for your attention. But what if one product spoke to you in a way that none of the others could – through smell? Imagine smelling an aroma of freshly baked cookies that evoked memories of your childhood and spending time at Grandma's house, or the smell of the salty sea air that took you back to a time where you were splashing around in the ocean carefree.

Olfactory packaging

Olfactory packaging refers to packaging that appeals to the sense of smell. Scented and aromatic oils are embedded into capsules and are integrated into a label, plastic package or printable ink that releases scent. Some of the more traditional technologies require touch for the smell to be activated, whereas ones using slightly different encapsulation technologies release an on-going smell.

Research completed by the *New York Times* reported that when consumers were given a

choice between two similar food products or beverages, more than 80% would choose a product they could smell and see. Therefore it is not surprising that in the next few years the number of scented advertisements, packages and direct mail-outs is likely to grow as savvy brand owners continue to add shelf-appeal to products.

Pharmaceutical applications

Large global pharmaceutical product manufacturers have cottoned on to the concept of smelly packaging and the technology is becoming more and more prominent on the packages of products such as face creams, hair care products, soaps and deodorants.

Proctor and Gamble

Proctor and Gamble in the US has recently put a scratch-and-sniff label on its Whitening Crest toothpaste range. The label emits a smell representing each flavour of toothpaste – Cinnamon Rush, Fresh Citrus Breeze and Extreme Herbal Mint. The company is using the labels in an intensive marketing campaign to create an increased brand awareness of the product. The label will feature on direct-mail outs, magazine advertisements and the package itself. Proctor & Gamble are using the label in a move to give the product a unique identity on the shelf edge by demonstrating that it not only smells good but that it tastes good too.

Unilever

Unilever Germany is taking a similar approach to market a range of deodorants and personal

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care brands. The company is using scented printable ink that is being launched in Europe in June. The ink will act as a sampling vehicle for consumers and will deter consumers from tampering with the product in order to see what it smells like. This technology brings a whole new meaning of try before you buy.

Technology suppliers

Arcade Marketing

Arcade Marketing, headquartered in New York, is the supplier of 27 sampling devices, including scented labels. Arcade has designed a range of olfactory labels with specific applications in mind. The MicroFragrance label that Procter & Gamble uses to market its toothpaste range is made from a robust plastic material that emits a smell when touched (see Figure 1). Other offerings include the DiscCover label, which is a scented adhesive label that lifts up and can be attached to a CD cover and is used to market JLo's Glo perfume, and the AromaLacquer, a varnish system that when rubbed delivers the identical smell of the product that is being sampled. The labels last up to 50 rubs and Arcade compiles the label using the same oil the company used in the product. The labels cost under €0.01 when supplied in large quantities.

Arcade Marketing senior vice president Louis Zafonte says the advantage of the MicroFragrance label is that it is printed onto a clear film so does not wear down or blend with another smell, such as paper.

Arcade's MicroFragrance label was commercialised for food in March 2004 to

promote CarboRite cereal bars in the US. Miller Branding & Consulting (MBC) designed the campaign for the bars and used the labels, which produced accurate renditions of the flavours, so that readers could actually smell the taste of the low carbohydrate bars. MBC chief executive officer explains: 'We're zeroing in on CarboRite's unique differentiator in this burgeoning market – providing low-carb options that taste, smell, and feel as good as or better than high-carb packaged foods.'

Driscoll Labels

Driscoll Labels, based in New Jersey, US, provide a range of label solutions to customers, including the scratch-and-sniff labels. The labels are customised and Driscoll provides the technology for a range of products. Driscoll marketing manager Pat Vargas says the labels can last indefinitely and claims they can still emit smell ten years on. The company's biggest market for scratch-and-sniff is the fragrance industry which uses the labels to market their perfumes, but Vargas says its clientele also includes health and beauty, restaurants, children's books and toys, and candles. Vargas explains scratch-and-sniff labels help brand owners with their biggest challenge, which is getting the consumer to choose their product the first time, because after that the product can prove itself.

Scentsphere

Scentsphere's RubN'Sniff, a printable scented ink, has only been on the market for a few months but could be a threat to the more traditional scratch-and-sniff labels due to the

Figure 1

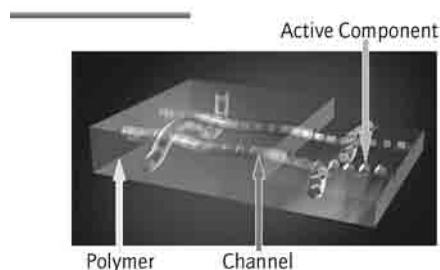
P & G's new line of scratch-and-sniff packaging for Crest toothpaste

Source: Arcade Marketing

Figure 2

CSP Technologies' three-component plastic with active component allows aromas to be controlled through materials

Source: CSP Technologies



ability to be printed directly onto packaging. Scentsphere, affiliated with giant ink supplier FlintInk and European chemical company Follmann's, has spent the last two years testing the product to ensure it produces an even lay-down on paper. The company uses a robust microencapsulation technology to create a clear printable ink.

RubN'Sniff inks can be used for packaging and labeling applications as well as on promotional tools. Scentsphere chief executive officer James Berrard says the company is targeting manufacturers and packaging providers of low-cost health and beauty, personal care and household products. The first application of the technology is due to be commercialised by Unilever within two months. The product was launched at the Drupa print conference in Düsseldorf, Germany, May 2004.

Traditional scratch-and-sniff labels are made using a slurry printing process where the printing machines are slowed down and the ink takes time to dry. The manufacturers of scratch-and-sniff labels supply the finished product. Scented inks are supplied to packaging/printing companies, which then add the ink to standard printers without interrupting the printing process. The ink is quick drying.

CSP Technologies

CSP Technologies, based in Alabama, US, engineers aroma-emitting and aroma-absorbing packages but has far more demand for the aroma-absorbing packages. CSP Technologies president Billy Abrams explains customers are interested in the concept but are often unwilling to pay the price for it. The company engineers the polymers to control small molecule transport, such as aromas, through the materials (see Figure 2). The scent emitted from a technology such as CSP's

is on-going and does not rely on activation from the consumer.

Disperse Technologies

UK-based Disperse Technologies, a company that provides film and coating technologies, has developed a controlled-release technology that can trap any kind of oil-soluble scent into a powder coating. The company's thin film encapsulating (TFE) technology, paired with its new ultraviolet-curing technology, can be used to apply a smell to a number of board and paper applications such as packages, magazines, greeting cards and air fresheners. TFE releases a consistent smell over a long period of time, such as six months.

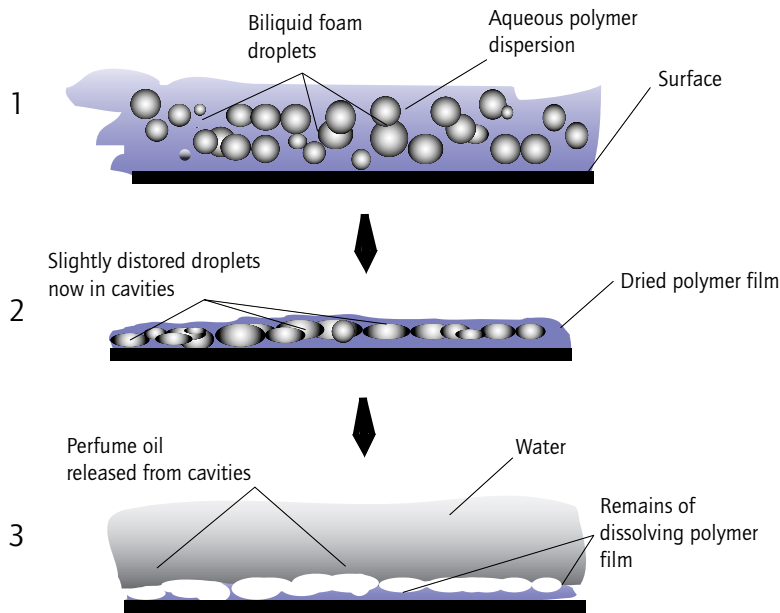
Disperse Technologies scientist Dr Stephen Lennon says the company has received a lot of interest from brand owners looking to use the technology for advertising fragrances, putting on greeting cards and for air fresheners. The company is interested in pushing the technology in these areas as it sees a lot of market potential. The technology was first commercialised in the middle of 2003 by UK retailer Marks & Spencer to make its artificial flowers more life-like by emitting a floral fragrance.

Market leader

When looking to the future of olfaction packaging you can not look past the pioneering work Scentsationals Technologies is doing. The US-based company is not only using the technology of integrating flavoured-aromas into plastic packaging as a marketing tool, but also as a flavour enhancer, flavour scalper, and to increase head-space aroma.

This more advanced type of olfaction packaging works at a subconscious level and using retro-nasal olfaction (the knowledge that 90% of what consumers taste is a result of their sense of smell) manipulates buyers to believing they are eating flavourful food instead of just tasting a smell. The food grade flavours Scentsational uses have been approved by the Food and Drug Administration (FDA).

Scentsational Technologies is the leader and most advanced company in supplying

**Figure 3**

Thin film encapsulation – principal of perfume release from coating by contact with water

Source:

Disperse Technologies

aromatic packaging. The Californian-based company uses its encapsulated-aroma release technology to incorporate aromatic flavours directly into packaging components, including closures, bottles, containers, trays, flexible pouches, fitments and sipping lids.

The US army, which is always at the forefront of ground-breaking technologies, is running intensive trials and tests on ScentSational's olfaction packaging. The army is concerned that soldiers in the field are under-eating and has drawn the conclusion that the food and water is not tasty enough. The rations that are served to soldiers sit in storage for as long as three years, and while they are still nutritionally complete and safe to eat, many of the food items lose flavour after such a long time.

The packaging team at the Natick Department of Defence, which develops non-artillery equipment for the US army, is doing extensive studies on two types of olfaction packaging to prove the technology increases the appeal and influences the consumption of military food rations.

The two studies began in May 2004 and will run for three months. The first involves military and general consumers. Two bowls will be filled with oatmeal. One bowl is a regular plastic bowl and the second will contain an aroma additive diffusing a maple/

brown sugar aroma. The second study is being conducted with military consumers to monitor the effect a variety of aroma-releasing bottle caps have on enticing them to drink more water by disguising the chlorinated odour that is a result of the liquid being treated.

Natick food science expert Lauren Milch hopes the findings, which she believes will be in favour of olfaction packaging, will encourage the US service officials to give funding for the proposed Olfaction Ration Packaging project earlier than 2008, which is the date the project is scheduled to go-ahead.

Benefit to diets

However, ScentSational's technology also offers appeal to brand owners working to supply low-fat foods. The aroma-infused packaging can release flavour into food without using unhealthy additives. For example the technology enables a chocolate drink to be rich and sweet without adding additional sugar. The concept offers a raft of opportunities for healthier foods, which is extremely relevant in today's society as government officials, retailers, brand owners and hospitals start taking responsibility for the growing obesity problem.

Consumer issues

Still this technological advancement raises an interesting question – in the future will good tasting food rule out quality ingredients and

“The army is concerned that soldiers in the field are under-eating and has drawn the conclusion that the food and water is not tasty enough.”

instead focus on the creation of good smelling aromas? And do consumers have the right to know why their food and drink smell so good?

Several suppliers of the technology, who would not be named, are sceptical about olfaction packaging. The suppliers point out a number of barriers standing in the way of olfactory packaging well and truly taking off.

The spokesperson for one company inferred the technology for integrating scent into plastic isn't quite there yet, explaining that many aroma compounds are very volatile and are unable to withstand the temperatures of plastic processing. Some generic aromas, such as citrus, are heat stable and already in the market but there is a limited number of flavours available at present.

Brand owners and retailers also seem reluctant to spend on such a revolutionary technology, and while they are now reaching into their pockets to pay for scratch-and-sniff technologies, more types of olfaction packaging still seems a few years way off.

Too many smells is not always a good thing. Retailers are dubious about the number of smells that could end up cluttering the shelves and having a negative effect on customers. And while scratch-and-sniff labels offer more control over when a scent is released, by requiring the consumer to rub it, there is no getting away from the distinctive smells they emit.

At first glance the concept of smelly packaging seems fun, different and a novel way of reaching consumers. However, picture it is 2010 and, just as before, imagine you are walking down a supermarket aisle surrounded by millions and millions of products but this time they are all giving off different scents. Can you even try to fathom what the end result of millions of smells mingling together could be?

But who knows, if brand owners continue to utilise and explore olfaction packaging, then consumers may have no other choice but to walk around a rancid smelling supermarket with pegs attached to our noses to block out the smell ■

TAKE AWAY

- Brand owners have always used visual and textural elements to connect with the consumer, but there has been an increase in packaging that relies on smell to create distinction
- Olfactory packaging appeals to the sense of smell, and works by incorporating scented oils into labels, packaging or printable ink
- Global pharmaceutical firms have been amongst the first to adopt the technology, using it to supplement the attraction of products such as face creams
- Recently, in the US, Proctor and Gamble has placed a scratch-and-sniff label on one of its toothpaste ranges
- Similar to P & G, Unilever in Germany has applied olfactory principles a line of deodorants and personal care brands
- A principle supplier of olfactory packaging is Arcade Marketing, which has 27 devices, including MicroFragrance, which was used by Proctor and Gamble on its toothpaste
- CSP Technologies in the US has developed aroma-emitting packaging, but is more confident about its aroma-absorbing technology, as the company is concerned that consumer might not pay the necessary extra for packaging that smells
- In the UK, Disperse Technologies provides film and coating technologies and has been able to provide a technology that can trap any oil-soluble scent into a powder coating
- Scentsationals Technologies, based in California, is the market leader because it has proven able to put smells in a variety of packaging items, including closures and trays
- The US army is keen on olfactory packaging and is conducting extensive studies in this area
- Aroma-releasing packaging can be used to provide flavour to low-fat foods, without using unhealthy additives, as the sense of smell is proven to guide taste more than people realise
- Several technology suppliers are unsure about the technology, and wonder if it will ever truly take off.

Nikki Preston

Nikki Preston is the editor of *Active Intelligent News*, Pira's fortnightly subscriber newsletter for the packaging industry. For information on a free trial, visit www.piranet.com



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