



# PACKAGING INNOVATION

BRIEFING REPORT  
DECEMBER 2022



## Welcome

Welcome to ThePackHub's Packaging Innovation Briefing Report for December 2022.

In this comprehensive and unique monthly report, you'll find a wealth of information on the latest packaging innovations and industry news. With 140 pages of content, including 115 new packaging innovations for the month, you can be sure that you'll stay informed and up-to-date on all the latest developments in the packaging industry.

So sit back and enjoy this exciting journey through the world of packaging innovation.

# The innovations featured track ThePackHub's nine trend areas:

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Naturally done



# Naturally done

This month saw a continued focus on bio-based packaging, with 12 new initiatives in the space. Biodegradable and compostable packaging continue to be developed, as well as new bio-based alternatives to plastic. However, the lack of established industrial composting systems in most markets is a significant barrier to mass adoption.

Additionally, there are concerns about compostable and biodegradable packaging contaminating existing recycling streams, and the cost of such packaging is often three to four times higher than conventional plastic-based products. Despite these challenges, the bio-based packaging sector is expanding rapidly, with many new initiatives in development and not yet available on store shelves. However, big brands are yet to widely adopt these new packaging options, and most usage is currently limited to small challenger brands looking for a sustainable point of difference.



# Naturally Done

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# Start-up claims to be launching world's first biodegradable water bottle

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A Californian start-up is claiming that it has created the world's first reusable, biodegradable water bottle and is now ready for roll out after many years of development. The Cove water bottle is a thin, sturdy cylinder, eggshell-white with a matching lid. Instead of being made from conventional plastic, it is made from PHA (polyhydroxyalkanoate), a polymer capable of dissolving in water or soil without any toxic residue. The polymer is supplied by RWDC Industries, who have developed technology to harvest outputs of a microbial fermentation process using plant-based oils that produce the naturally occurring biodegradable polymer. RWDC produces its PHA from waste cooking oil from restaurants. Due to natural fluctuations in product attributes, it has taken Cove five years to develop the bottle. Cove says that the bottle is expected to biodegrade in water and soil in under five years. The bottle is anticipated to have a retail price of \$2.99.



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# Fruit and vegetable home delivery service moves away from 'compostable' plastic

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British fruit and vegetable home delivery service Abel & Cole has announced that with immediate effect it is removing all compostable plastic from its products. The move follows research from University College London, which claims that compostable plastic only breaks down under certain conditions, which the report claims is not happening properly and consistently, across local authority facilities or in home compost heaps. A spokesperson for Abel & Cole said that they thought compostable plastic would end up as compost but growing evidence has shown that's not always the case. The research detailed that compostable plastic only breaks down under certain conditions. And unless your local authority has access to the right equipment, compostable plastic behaves a lot like regular plastic. In light of this evidence, the company has made the decision to remove compostable plastic from its products, and is working with its suppliers to remove it completely by the end of 2023.



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# Luxury drinking chocolate manufacturer moves to compostable packaging

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Luxury drinking chocolate manufacturer Cocoa Canopy, based in the south of England, has moved to a compostable film to pack its products. The film, supplied by the Futamura plant based in Cumbria is the company's NatureFlex cellulose film. As Cocoa Canopy has grown, they decided to move from hand-packing its products to an automated packing process. As NatureFlex film handles differently from conventional plastics, in order to be certain its bagging machinery was compatible with the new substrate, the chocolate specialist worked closely with its suppliers. To enable the transition, they were assisted by engineers from both Futamura and the bagging machinery company, Nottingham-based BW Flexibles. The result was a solution that enabled Cocoa Canopy to manufacture at speed and meet demand from its growing customer base. Futamura Natureflex is fully certified for home and industrial composting after use.



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# Electronics giant to move out of plastic packaging

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Japanese electronics manufacturer Sony has announced that it is to gradually move away from plastic packaging, and will instead use packaging materials made from natural products such as bamboo and sugarcane fibre. Sony says that they will start with the smaller products in their product range, which weigh less than 1kg (2.2lbs). These smaller products make up around 40% of Sony's entire product line-up, and include earbuds, smartphones, cameras, and a huge range of accessories. FSC-certified paper and board-based packaging will be used alongside bamboo and sugarcane. For their larger items such as TVs, Sony is looking into the potential of a new foam created from powdered recycled paper. However, it's early days for the technology and the viability of such a foam needs to be confirmed before Sony decides to protect very expensive devices with such a material.



# Compostable communion cup launched in Australia

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A collaboration between BioPak Australia and the Australian Christian Resources (ACR) has resulted in the development of what is claimed to be the world's first certified home compostable communion cup. The cup was developed in response to the single-use plastic ban legislation rollout across Australia. The new plastic-free, compostable communion cups will help thousands of churches in Australia continue their religious practices while adhering to new rules on plastic use. The new cups are made using Bagasse (also known as sugarcane pulp), which is a rapidly renewable resource and a by-product of the sugarcane refining industry. It is considered a viable solution to effectively and sustainably replace single-use plastic. The cups will fit existing standard communion cup trays made of wood or metal and have a fill line for consistent pouring. The ACR Communion Cups will go on sale in November 2022 via the ACR website.



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# Company creates biodegradable wheat bran packaging

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Orquídea Eco is a Brazilian startup that is producing biodegradable packaging made from wheat bran, the husk of the wheat grain. It was already being used to produce animal feed, but an employee at the company had the idea of making it into packaging from the residue of their wheat milling operation. The company developed its own machinery to arrive at the right recipe for biodegradable packaging. The owners say the original idea is not to compete with plastic “but to enable consumer migration”. The machine can process 500kgs of bran per month, although the waste capacity available is large, as nine thousand tons of wheat bran could be converted into packaging. After use, decomposition happens naturally in the right conditions in 45 days. The company’s biodegradable packaging was officially launched in early 2022. The brand’s initial portfolio consists of a plate and three bowls of different sizes.



# Vodka producer moves to partly hydrogen-fired produced bottles

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Swedish vodka producer Absolut has announced that it is to become the first global spirits brand to move to a partly hydrogen energy-fired furnace for large-scale bottle production, in a significant step to reduce the CO2 emissions from making its iconic bottles. Absolut has signed an agreement with Ardagh Glass Packaging in Limmared, Sweden, a subsidiary of Ardagh Group, to use a partly hydrogen-fired furnace (20% green gas) commencing in the second half of 2023. The hydrogen will be produced onsite at Ardagh by using renewably-sourced electricity and would reduce Absolut Vodka's carbon footprint from glass by 20%. It is claimed that Absolut Vodka's hydrogen initiative is an important milestone for the company's ambitions to become completely CO2-neutral by 2030. The company state that a prerequisite for being able to meet this goal is the reduction of the carbon footprint of its glass packaging.



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# Start-up watch brand chooses home-compostable seaweed-based packaging

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ID Genève, a Swiss start-up watch brand from Geneva, chose home-compostable seaweed-based packaging for its new watch launch, which is claimed to be a first for the watch industry. The box is supplied by London-based Notpla, and once customers have safely taken delivery of their new ID Genève Circular S watch, the seaweed packaging can be composted in 4-6 weeks or dissolved entirely in water and used to fertilise plants. Notpla says that the material used is the fibrous by-product of the industrial processing of seaweed, with the company stating that farmed seaweed captures carbon 20 times faster than trees. ID Genève is a sustainable watch brand that already uses a mycelium-based alternative to polystyrene packaging and leather-alternative straps made from discarded grape skins and stalks from the Italian wine industry. The Circular S watch is available to order via ID Genève and priced beyond most people's budget at CHF 3,940 (approximately £3,500).



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# Researchers develop compostable packaging made from vegetable waste

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Researchers at Australia's Victoria University have been looking at how agricultural waste from vegetables such as courgette, broccoli, celery and lettuce could be used to create affordable and easily compostable packaging. The team experimented with unusable produce provided by a nearby Werribee South market farm. They considered leaves, stems and rejected produce that is normally used as animal feed, composted or can be sent to landfill where it decomposes and produces methane gas. The researchers found celery's high cellulose content makes ideal food trays. Courgette, broccoli and lettuce can be processed into thick films that could be suitable as a tray insert or produce separator. Away from the farm, the team uses starch waste material left over from the extraction of proteins from yellow peas to create a flexible film that is viewed could become a new plastic in a more circular economy.



# Ice cream spoons, stirrers and straws are edible

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Spoontainable is a German company based in Heidelberg that produces edible spoons, known as Spoonies, aimed at the ice cream market. Their edible spoons can be eaten after use, because their recipe consists of 100% natural ingredients. The spoons are manufactured from cocoa shells, which are processed into edible spoons, and which are also vegan. The cocoa shells are a by-product from the food industry, in this way ensuring sustainable production for their edible spoons. The company also manufactures edible coffee stirrers called Twirls, and straws from the same basic materials. Spoonies are available in Classic or Choc variants, and prices start at just under €44 for two boxes, each box containing 450 Spoonies (just under €0.05 each). Twirls are available for the same price, but contain around 600 stirrers per box. Edible straws are available in packs of 40 for €7.99.



# New foam packaging created from wood waste

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A collaboration between researchers from the University of British Columbia and Wet'suwet'en First Nation has resulted in sustainable foam packaging made from wood waste. The project was inspired by a desire to address unsustainable forestry practices. It is reported that less than 50% of harvested trees end up being used in the wood industries, and the rest is discarded in the forest where it becomes a potential fuel for wildfires. The researchers claim that the biofoam they have created breaks down in soil in a couple of weeks, requires little heat and few chemicals to produce, and can be used as a substitute for packaging foams, packing peanuts and even thermal insulation boards. The waste wood, which is sourced near Burns Lake, B.C., is ground down to its fibres and then constructed into a biodegradable foam that has a similar density and thermal insulating profile to styrofoam.

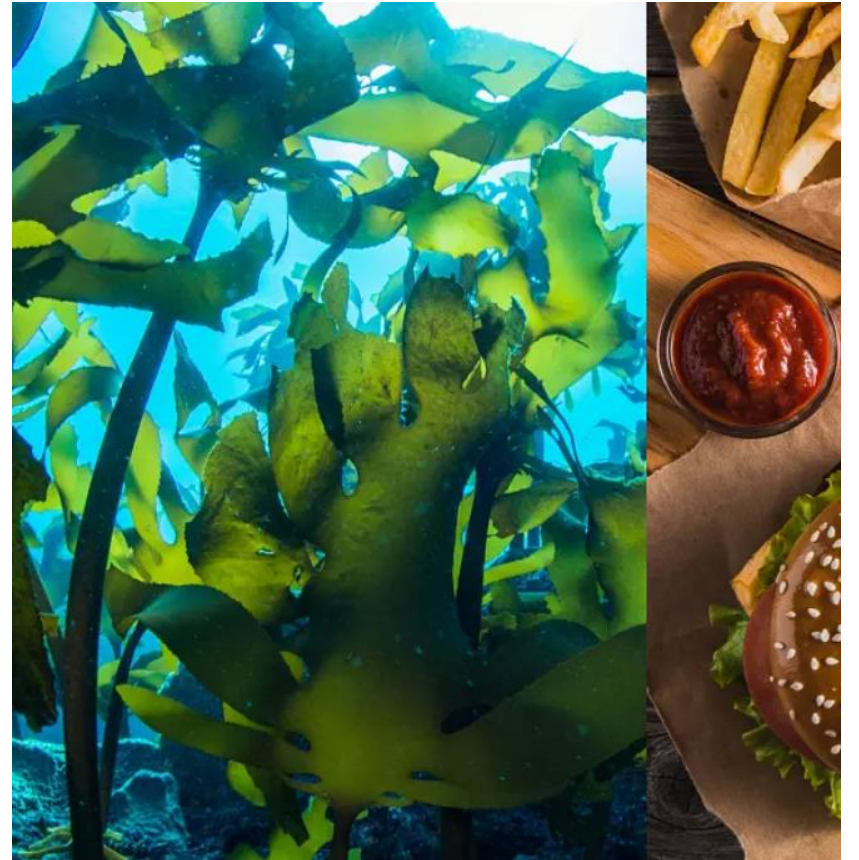




# Polymer from seaweed could be used to produce food packaging

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A collaboration between researchers from Flinders University in Australia and German biomaterials developer 'one • five' is looking to create a seaweed-based biopolymer. A spokesperson for the university said that the seaweed extracts have a similar structure to the natural fibres from which paper is made, and the resulting product is also just as recyclable as paper. Novel specialist treatments are said to boost the grease-resistance feature of the seaweed material via simple modifications, while not affecting biodegradability nor recyclability of the coated paper. 'one • five' is now seeking to scale production up from the laboratory to the factory. A spokesperson for the company said that seaweed cultivation helps to naturally rehabilitate marine environments, reducing greenhouse gases, and mitigating coastal erosion. Also they can reduce plastic pollution with this product, and are using feedstock that is environmentally regenerative.



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# Everyday Engagement

# Everyday Engagement

Packaging that effectively connects with consumers plays a crucial role in the market. We continue to observe a variety of innovative examples, such as utilizing smart technology or unique packaging graphics to spark engagement. Maintaining a consistent dialogue with consumers can greatly enhance brand-building efforts.

Tech-based solutions like RFID, NFC, and QR codes are becoming increasingly popular and cost-effective for these purposes. Sustainability is also a key factor in the use of technology-based packaging, as many lack proper disposal methods. However, as recycling options improve, this sector is becoming more viable. Additionally, utilizing technology in packaging also provides valuable data insights for brands.



# Everyday Engagement

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# Beer can labels are also collectible stickers

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A Vermont craft brewery has given its can labels an extra life by turning them into stickers. The owner of the Whetstone Beer Co. wanted his beer's custom-printed labels to have a longer life. So they decided to turn the can label into a sticker for their customers. The company says that craft beer fans love keepsakes from the breweries they go to, and there are whole communities online where people trade and sell products from different breweries and locations. The stickers are part of a rebrand that coincided with the brewery's 10th anniversary. A local Vermont artist designed the new packaging, which references old "travel by rail" posters popular in the early 1900s. A spokesperson said that people reach out all the time requesting stickers, which have now become collector's items, as well as long-lasting promotional advertisements.



# Label for Australian wine bottles aims to encourage recycling

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The Australian Packaging Covenant Organisation (APCO) and Accolade Wines have together developed the first Australasian Recycling Label (ARL) of its kind for the Australian wine industry. This is part of a nationwide drive to encourage greater recycling among consumers. As a 'Combined-Micro ARL', it is specifically designed for the smaller label size typically found on wine bottles, making it easier for a range of wine producers to adopt the new label. By 2024, Accolade Wines expects total coverage of its portfolio, which includes Hardys, Grant Burge, House of Arras and Petaluma, among many others. The ARL is designed to replace the existing single-image recycling label, combining several components that provide recycling instructions for every part of a wine bottle's packaging, including the glass or plastic, cap or cork and other elements such as the foil found on champagne bottles.





# Partnership sees world's first smart tamper seal using RFID technology for cannabis products

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A partnership between digital security company Identiv and cannabis technology company TrueGreen has resulted in developing what the companies claim is the world's first smart tamper seal using RFID technology. Along with the TrueGreen software as a service (SaaS) platform, it is said to deliver digital transformation for the cannabis industry, giving products a unique digital identity. The companies spent over a year developing and testing to ensure that the tamper seal works on all packaging types and styles across the industry, regardless of material or size, resulting in three versions. The tags go onto the packaging as a tamper seal when products are placed in their final container. The TrueGreen system can then be used to automate vault inventory. The seals also allow test results and product information to be embedded into the label, so the information is delivered directly to consumers in stores and at home.



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# Marketing campaign features innovative printing on underside of yoghurt lid

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Australian print and packaging specialists, Jet Technologies has collaborated with yoghurt manufacturer Chobani to implement a marketing campaign featuring a competition code uniquely printed on the food contact side of a yoghurt tub's inner foil seal. The campaign gave consumers the opportunity to win a range of Chobani branded activewear via an on-pack promotion, which was brought to life with a unique shopper marketing activation at select independent retailers in New South Wales, South Australia and Victoria. To protect and preserve the product contents, the foil lid attached to the top of the yoghurt tub was printed in three different printing technologies, including inks and lacquers that were specially selected to meet the EuPIA standards, Exclusion Policy for Printing Inks and Related Materials; and the EuPIA-guideline, Guideline on Printing Inks applied to Food Contact Materials. Migration testing confirmed there would be no transfer either onto other foils (indirect transfer), or into the food itself (direct transfer).





# The Online Surge



# The Online Surge

The e-commerce industry has experienced substantial growth in recent times, and this trend is influencing packaging development. The COVID-19 pandemic has accelerated this trend, as the need for online-specific packaging remains significant.

The e-commerce market has seen a significant spike due to the pandemic, as consumers worldwide shift from physical stores to online platforms. A significant number of these consumers are online shopping for the first time, and it is likely that many will continue to do so. The role of shopping and packaging has changed permanently as a result.

As the e-commerce market continues to expand, there are increasing opportunities for brands and retailers to offer packaging solutions that are tailored specifically for this channel, rather than simply replicating the packaging used in physical stores. Packaging designed for e-commerce does not require the same level of security measures, as the purchase decision is made on a screen and bright on-pack messaging is not necessary. Additionally, packaging does not need to be explicitly designed to be attractive on a physical store shelf.

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# The Online Surge

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# New paper-based tear tape solution is recyclable

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Oxford-based Essentra Tapes has announced the launch of Rippatape Halo, a brand-new solution that the company says is the first paper tape of its kind in the Essentra Tapes ECO Range. It is externally certified as recyclable with paper achieving an A+ level via the Italian National Recyclability Standard: UNI 11743 and MC 501: 2017 criteria. Rippatape Halo targets the e-commerce market and aims to help packaging manufacturers and brand owners as they seek to exceed consumers' environmental expectations. The company says that Rippatape Halo has a tearing performance comparable to their market-leading Rippatape 60. Rippatape Halo does not compromise on the easy opening credentials of its plastic alternative, which Essentra says is impressive from a product based on a single-ply, specialised coated paper with no plastic films or laminates. Rippatape Halo is seen as ideal for opening paper and carton/fibreboard cartons and cases and is the result of over four years of development.



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# Hexagonal protective packaging now comes in dispenser box

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Kite Packaging, based in central England has announced the introduction of a dispenser system for their bestselling Hivewrap paper protection product. The new product, called the Hivewrap Box, is an FSC (Forestry Stewardship Council) approved corrugated dispenser that is biodegradable and kerbside recyclable, aiding sustainable disposal. The Hivewrap Box is a fully recyclable corrugated dispenser which expands and compresses the hive-shaped cells to provide effective shock absorption and protection. The dispenser features a pre-cut slit through which the paper is pulled manually, expanding into a strong interlocking hexagonal structure as it does. The paper is used to wrap and protect customer's products, then hand torn and placed into the outer packaging. This prevents any internal movement and damage from occurring. Adhesive on the base of the box stops it from slipping when being used.



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# Sustainable paper-based mailer is plastic free

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Leeds-based Lettershop Group (Paragon) have launched an alternative to PE-based (polyethylene) bubble-wrap mailers. They are utilising Henkel's EPIX Technology, which expands paper functionality and improves performance while maintaining the sustainability and recyclability of the package. The product, called ecoMLR, is made entirely of paper, and partially of 70% recycled fibres. Because it is paper-based, it can be disposed of and recycled with household paper waste. It is water resistant and also has a self-seal closure that is impervious to water. It is lightweight, making it cheaper to post, while also taking up less space than cartons. Lettershop are also able to print on ecoMLR mailers, meaning that customers can have their mailers branded. ecoMLR is available in five sizes, ranging from external sizes of 155 x 235mm, up to 495 x 345mm.



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# Packaging designed to be sustainable holds up in cold chain

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The American division of Storopack has recently launched its Renature Thermo solution. Renature Thermo packaging comes in PE-wrap (polyethylene) and paper-wrap substrates, both of which are fully recyclable. The starch inside the wrap is certified BPI compostable, and the entire kit has gone through the Western Michigan University's recyclability study for further certification. Temperature fluctuation during freight travel continues to be a significant issue, especially for companies operating out of multiple locations within the pharmaceutical and medical device industry. Storopack's Renature Thermo packaging is designed to be a sustainable solution that holds up through cold chain systems. The company says that the packaging is designed to be discarded in the compost but can also be recycled if composting is not an option. Storopack customises the Renature Thermo packaging to meet the size requirements of its customers, along with offering a standard cube size.





# Postal service to introduce reusable wood pulp packaging

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In 2023, Austrian Post plans to introduce reusable packaging. The returnable boxes and bags from Re:Zip are made from wood pulp, and can be reused up to 30 times, though testing has proved that 20 reuses is more realistic, as it was noticed that after 20 reuses, return rates dropped off. Swiss Post, (who merged with Austrian Post in 2010) extensively tested the packaging between March and September. In total, these were sent several thousand times. It has been shown that smaller packaging with little or no filling material is most suitable. The companies, online drugstore dm, coffee retailer Tchibo, online bookseller Thalia, INTERSPORT and INTERSPAR weinwelt took part in the pilot test. Customers can return the packaging after receiving their items. All they have to do is fold the shipping material and hand it in. This can be done via mailboxes, post offices, self-service zones or directly via the company where the order was placed.





# Making Life Easy

# Making Life Easy

Packaging that is easy to use will always have a place in the packaging innovation schedule. With the focus very much on sustainable solutions, it is important that packaging still delivers the necessary functional requirements and packaging. Easier to use packaging will always create a point of difference in the market and often meets the needs of a growing senior consumer segment.

Packaging that has added functionality, that is easy to use and makes life easier for consumers continues to be popular. We will continue to see many new examples come through the innovation funnel. With most of the development focus on sustainability, it is essential that brands and retailers can still deliver pack formats and solutions that meet an unmet functional need to make the consumer experience easier and more pleasurable. Plastic reduction is a primary focus for the majority of brands and retailers and there are signs this is having an impact on pack functionality in the market. We have tracked a couple of recent examples in the cheese sector where the resealable functionality has been removed to achieve packaging reduction targets. These isolated examples might just be a sign of things to come. However, the worldwide ageing marketplace means an increasing need for packaging that is easy to open and close.



# Making Life Easy

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# Automated packaging solutions specialist introduces print-on-box capability

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Sparck Technologies is a Dutch automated packaging solutions specialist. Their machines create, fill, fold and label each parcel to fit the contents in one seamless process, reducing package volumes by up to 50%, cutting cardboard usage by a reported 30%, and eliminating the need for void fill. They have now announced the launch of a new 'Print-on-Box' facility which is available with both their CVP Impact and CVP Everest models and can be retrofitted for existing customers. Custom messages, logos and branding can be individually tailored for each and every package at lightning speed. Printing directly onto packs offers tremendous opportunities for enhanced branding and individualisation, giving the customer a more personalised unboxing experience. The super-fast, in-line printing system uses instantly drying UV LED ink and is available in monochrome or full-colour (CYMK) versions, with the CVP Everest producing 1,100 boxes per hour.



# Start up delivers water directly to customers' homes

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Walter is a French start up that delivers water directly to customers' homes. The water is delivered in 10 litre cubes, which are made from 90% board, keeping plastic use to a minimum. The cube-shaped makes them easier to store than conventional 10 litre plastic bottles. The cube sits on top of a fountain, which costs €40. The water is supplied by Bonneval mineral water, which springs freely from the earth's surface, from the heart of the French Alps, in the town of Bourg Saint Maurice. When a cube is finished, the consumer can either remove the plastic inner bag from the board outer and recycle it separately, or the inner bag can be given to the delivery person. All bags returned this way go to a partner company for recycling. Initially, the service is only available in the Paris area.



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# Sporting goods retailer develops energy gel with edible packaging

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French sporting goods retailer Decathlon have developed an energy gel contained within an edible outer coating. The innovation, known as the 'Gel Pod' is made from an edible layer made from algae and plant material. The pod is said to have two advantages over current energy gel packs – the first being that there is no packaging to dispose of, and second, the runner does not have to slow down or stop when consuming the gel. The development of the Gel Pod is part of Decathlon's ambitions to remove plastic containers from all places where sports are practiced, especially in mountain environments. The Gel Pod has already been awarded the innovation prize in ecodesign at the Reveal Innovation 2022, although presently there is no indication of when it will be on sale to the public.



# Limited edition device enables easy concoction of Mimosas

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Florida-based orange juice brand Tropicana has introduced a limited edition device to enable Mimosa drinkers to more easily concoct their preferred drink. Mimosa is usually a combination of orange juice and champagne, though prosecco can also be used. The “Tropicana Mimosa Maker” is a 12-oz spray bottle that can spray just the right amount of orange juice into the glass. The spray bottle has three settings, with “whisper” as its lowest, “spritz” as its medium tier, and “shower” as its third. This means the drinker can have a mimosa with a little to a lot of orange juice. The spray bottle came as part of a mimosa kit that includes a bottle of Tropicana Pure Premium Original orange juice without pulp, two glasses, and two Tropicana red and white striped paper straws. The kit was available on the Tropicana US website in November as part of a promotional sweepstake.



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# Innovative French tube design improves evacuation rate

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French packaging company Pumpart is collaborating with American leaders in formulation and packaging innovation, HCT by kdc/one to bring Pumpart System's Tubeasy solution to North America. The Tubeasy solution is reported as a breakthrough technology that bridges the gap between a tube, flexible standing pouch, and an airless bottle to deliver a 95% evacuation rate. Traditional tubes provide an average 80% evacuation rate depending on the formula type. A soft plastic pouch is inserted into the standard plastic tube, separating the volume into two parts. A flexible film acts as a valve closing a blowhole and controlling airflow and forcing it to act as a piston forcing out product. The blowhole opens once pressure is released and allows air to flow back into the lower chamber, making it ready for the next dose. Customers have sustainable options: in addition to the mono-material PE version, it is also available with the inclusion of PCR material, bio-based resin, or even cardboard.







# Materially Changed

The packaging continues to see a lot of change of materials driven largely by sustainability objectives. Plastic replacement is still top of the agenda for many brands and retailers as they look to switch out of the material to solutions that may offer a better environmental footprint or at least be better received by anti-plastic focused consumers. We have 18 initiatives this month.

ThePackHub continues to report many instances of brands and retailers switching primarily from plastic to other often paper-based alternatives. Some, but not all, support the move with positive evidence of these changes' environmental impact. The reality is that we are experiencing a cycle of high change where, in some cases, recyclable plastic is being replaced with other materials because consumers believe this as the right thing to do from an environmental perspective. However, not all examples stand up to stringent environmental scrutiny. Most of the material changes have often come about following significant investment in machinery and new processes. These switches are for the longer term, and any reversals are a long way off.





# Materially Changed

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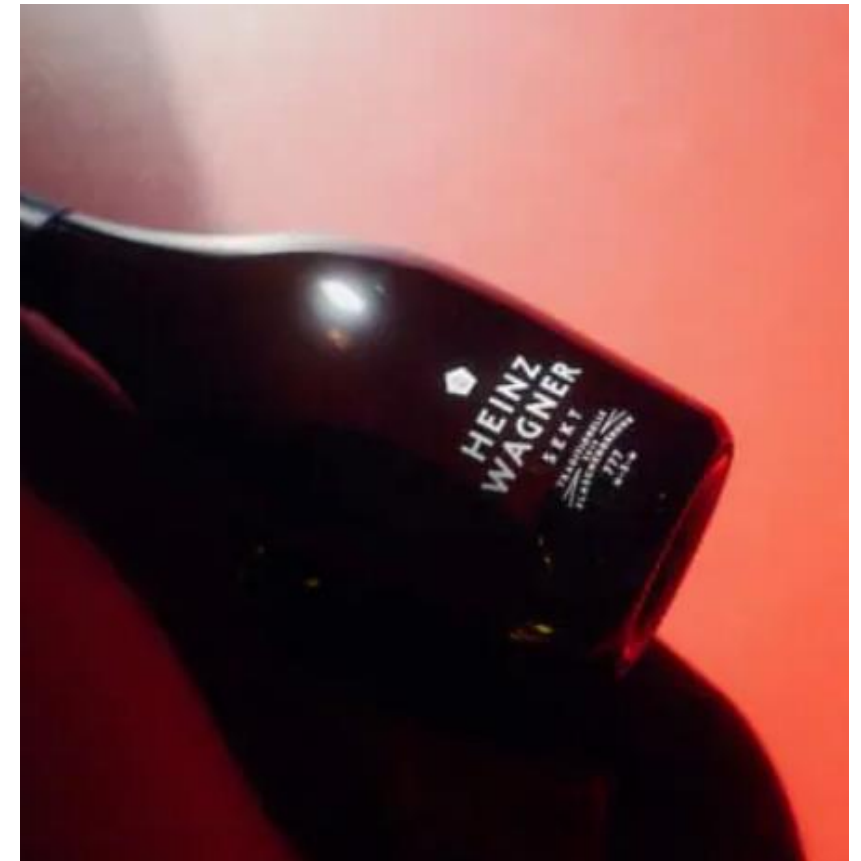
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# German sparkling wine producer eliminates paper labels

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Sparkling wine manufacturer Heinz Wagner Sekt, based close to Lake Constance, in Germany, has made the decision to no longer use paper labels on its bottles. The young company has invested in its own printing system to replace labels. The company has calculated that it could save maybe 20,000 litres of water a year by printing the bottles directly. It refers to a study by the Pro Recycling Paper initiative, which assumes that 0.3 litres of water are required per A4 sheet of paper. However, the paper thickness of paper labels is much greater than that of conventional office paper and therefore requires even more water in production. The company also says that plastic use would be reduced, because paper labels are always supplied on a plastic carrier film. The company says that designs and colours can be easily customised for individual customer orders and special editions.



# Supermarket moves from plastic to board for porridge pots

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The UK arm of German supermarket chain Aldi has announced it will introduce board packaging for its own-brand porridge pots as part of its move to combat plastic waste. The company says that the change will save 175 tonnes of plastic packaging annually. The retailer will roll out the fully recyclable, board-based porridge pots at all its UK stores from early next year. As well as being the first supermarket to make the change, this comes as Aldi has also become the first grocery retailer to join a global coalition calling for a new Global Plastics Treaty to end plastic pollution. Aldi has pledged to halve the volume of plastic packaging it uses by 2025. Earlier this year the retailer removed the plastic shrink wrap from all its Corale baked bean multipacks in a move expected to prevent 78 tonnes of single-use plastic from being sent to landfill annually.



# Spirit company removes single-use plastic pourers from bottles

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Spirits company Bacardi has announced that it is removing plastic pourers from its bottles in the US, Canada, Puerto Rico, Spain and Portugal. The pourer, known as an NRF (Non-Refillable Fitment) is common throughout the spirits industry. It has, until now, been found on the neck of several of the company's iconic drink brands, including Bacardi rum, Martini Fiero, Bombay Sapphire gin and Dewar's White Label blended Scotch whisky. The removal of the pourers has already begun in the US, Canada and Puerto Rico, and the company says that this will remove 76 metric tonnes of single-use plastic annually. When Spain and Portugal have also removed the pourers, the total will go up to 140 tonnes. The company says that it will have removed all single-use plastic from its gift packs and POS displays by 2023, and by 2025 100% of its packaging will be recyclable.



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# Global packaging group launches first paper-based cushioning products

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Global packaging group Sealed Air, known for its protective and shock-absorbing packaging systems, such as the ubiquitous Bubble Wrap, has launched its first paper-based products. The new solutions, aimed at small to medium-volume businesses are known as Sealed Air QuikWrap Nano and QuikWrap M. They will provide users with a small and ready-made paper packaging solution that is easy to use. The systems require no electricity or maintenance and involve little or no assembly. Both systems produce a double layer of FSC-certified kraft paper with a honeycomb structure and tissue paper to improve product protection. The paper is 100% recyclable and is dispensed with a “tear and hold” technology for faster and safer operation without the need for scissors. Both systems quickly produce two layers of protective material. The expanding honeycomb paper provides cushioning, while the tissue paper protects against scratches.



# Researchers create new biodegradable replacement for EPS

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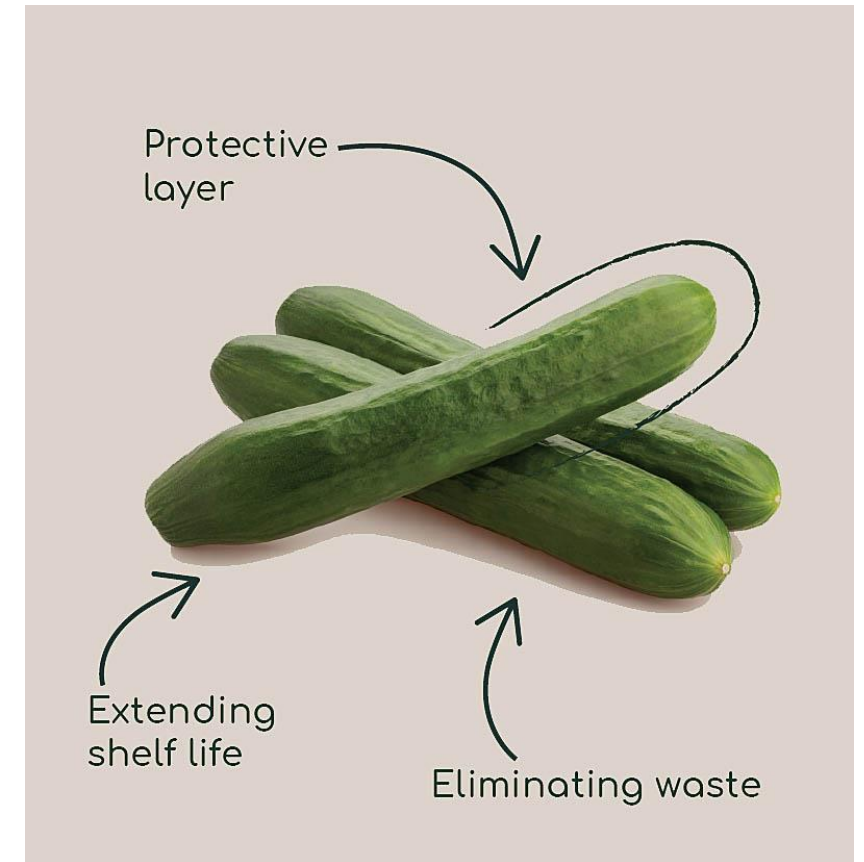
Researchers at the UNBC (University of Northern British Columbia) in Prince George have collaborated with Brown's Bay Packaging Company to create a renewable and biodegradable hybrid packaging replacement for EPS (expanded polystyrene), also known as Styrofoam. Together they hope to develop a new kind of plant-based bioplastic foam that will provide the thermal insulation required to keep seafood fresh, but has a significantly smaller environmental footprint. The university and Brown's Bay Packaging Company recently received a \$300,000 Ignite grant from Innovate BC to continue their research. The scale and potential of their packaging challenge is immense. Every year, seafood suppliers use hundreds of millions of plastic containers to ship their products safely. As jurisdictions around the world are imposing bans on single-use plastics, it is seen as imperative to develop new products that can replicate the performance of petroleum-based plastic, but come from a sustainable source.



# Vegetable biocoating replaces plastic film

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Saveggy is a food tech startup from Lund, Sweden. They have developed a bio-based edible vegan coating that extends the shelf life of fresh fruit and vegetables. They have now formed a collaboration with retailer ICA Sweden and will start testing coated cucumbers in parallel logistics flows to measure the durability of the product. In 2021 ICA arranged a skills-sharing workshop together with Saveggy to increase understanding of the Swedish cucumber market. During the summer of that year, flow analyses were carried out and now in the autumn, a consumer study has been carried out to understand the customer's behaviour and preferences. A spokesperson said that from the consumer study, they saw that the curiosity and openness to replace the plastic film with a coating is higher among consumers than they had hoped for, which has been seen as a positive step.





# Groundbreaking PET bottle cuts CO2

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KHS is a leading German company that produces filling lines for glass and PET (polyethylene terephthalate) bottles. They have announced the launch of the KHS Loop LITE, which they say significantly reduces the CO2 footprint of the PET bottle. The bottle is manufactured from 100% rPET (recycled polyethylene terephthalate), which has a wafer-thin inner coating called FreshSafe-PET which gives freshness and quality protection without affecting the recyclability of the PET material. Also, thanks to its specially developed design, this rPET bottle, designed for highly carbonated beverages enables a material reduction of up to 25% compared to conventional bottles currently available on the market. A redesigned label also gives a material reduction of up to 30%. The bottles feature tethered caps as required by law to improve recycling in the EU from July 2024. Finally, the industry-standard plastic outer wrap has been removed, and the bottles are held together with sticky dots.



# Patented aerosol nozzle swirls fresh fruit juices into whipped cream

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Two American sisters have developed and patented a new aerosol can nozzle that swirls fresh fruit juices and flavour essences into whipped cream during dispensing. Tracy Luckow and Lori Gitomer developed the new Whipnotic line of whipped cream toppings to offer consumers more value, innovation, and creativity in the category. To make this multi-sensorial dessert, the consumer needs only to press a button. Less straightforward, however, was the task of engineering the technology behind the experience. While developing the proprietary technology, the sisters needed to take into consideration the manufacturing and packaging processes for the product. Realising that it would be very difficult to disrupt the whole manufacturing system, they found a loophole, which was to design a technology that works at the end of the process flow. Whipnotic was launched in two varieties, Strawberry Swirl and Vanilla Salted Caramel, followed by Fudge Brownie and Peach Mango.



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# Fast food giant eliminates plastic cutlery

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Following a successful trial across Scotland, Ireland and Northern Ireland in the first half of 2022, McDonald's has announced that it is to replace all plastic cutlery, including McFlurry spoons, with paper-based alternatives in the UK & Ireland. The company has estimated that the change will replace more than 850 tonnes of single-use plastics yearly. Restaurants will use their existing supplies of plastic cutlery but will not order any more, and as such, the new cutlery will be phased in gradually. At the end of 2019, McDonald's UK and Ireland pledged to remove plastic from as much of its packaging portfolio as possible by 2024. Since then, it has implemented changes such as switching to paper straws, doing away with plastic McFlurry lids in favour of an entirely paper-based container with a foldable top. It is reported that over 90% of the packaging McDonald's uses comes from recycled or renewable sources and can be recycled.



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# Packaging for dishwasher detergent uses 30% less plastic than market standard

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Brazilian home cleaning products manufacturer Limppano has developed packaging for its ODD dishwasher detergent that it says uses 30% less plastic than the market standard, equating to 4 grammes per pack. This is a reduction of 26 tonnes of plastic a month or 312 tonnes per annum. The brand's packaging bears the 'I Recycle' seal, reported as one of the most innovative positive impact solutions in the world, which monitors and develops the recycling chain. This guarantees environmental compensation for packaging and correct disposal with the support of recycling cooperatives: between 2019 and 2021, the company compensated for 488 tonnes of material, including plastic and paper. Limppano has two industrial complexes in the state of Rio de Janeiro that work with clean, renewable and certified energy, in addition to capturing rainwater for reuse for production purposes and internal consumption for cleaning.



# Multinational to trial paper-based fabric conditioner bottle

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Multinational consumer goods manufacturer Procter & Gamble (P&G) is to conduct a pilot trial starting in early 2023 to assess the feasibility of paper-based bottles for fabric conditioner. The trial will be conducted in partnership with Danish paper bottle pioneers Paboco, and Dutch supermarket chain Albert Heijn. The trial will see 120,000 paper bottles of Lenor's Fabric Conditioner on shelves in early 2023. The bottle is composed of paper fibres from FSC-certified sources, but to prevent seepage and to preserve the fresh scent of the Lenor Fabric Conditioner inside, this first-generation bottle has an inner layer of recycled plastic. A spokesperson for the company said that during the trial period they will gather critical in-use feedback. These learnings, combined with P&G's size and reach, will enable P&G to work towards their shared vision of a recyclable paper bottle at scale, delivering carbon footprint reduction solutions for the packaging industry.



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# Alternative to conventional gel and ice packs launched

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Corby-based CoolBoxSolutions is offering a more sustainable alternative to conventional gel and ice packs for keeping food chilled or frozen. Their RecyCool-Ice Water Bottle Ice Packs are PET (polyethylene terephthalate) bottles filled with spring water that are designed to be frozen down and used in place of gel or ice packs. After their initial use, they can be either reused or opened and drunk by the recipient. They have been specifically designed to be under-filled by 8-9% to prevent the bottle from bursting upon freezing, RecyCool-Ice will freeze uniformly and perfectly to deliver the same power as a 500g water/gel ice pack. RecyCool-Ice is made from UK sourced PET plastic and is made with a minimum of 30% recycled content and is, of course, kerbside recyclable. Current ice pack material is recycled less than 6% of the time, whereas the recycling rate is currently at more than 60% and increasing for PET bottles. Prices start at 22p per bottle.



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# Food giant removes plastic bags from iconic coating mixes

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Global food giant Kraft Heinz has announced that it is to remove the plastic bags from its Shake 'N Bake seasoned coating mixes in the US. Until now the coating mix has always come with a plastic bag inside the package, used to help coat the customers' desired product. Consumers are instead encouraged to shake using a reusable container as the vessel for adding that extra layer of crunch to their favorite recipes. According to the company, removing the bags will help to “eliminate 900,000 pounds (around 410,000 kgs) of plastic waste – equivalent to the weight of more than 270 mid-size cars.” A spokesperson said that while the ‘shaker’ bag was an important part of the products’ legacy, the product was just as effective and delicious without the plastic waste, and that they were excited for all the good to come from this simple, yet effective packaging change.



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# Australian start-up uses seaweed to produce natural polymers

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ULUU is an Australian start-up that is using seaweed to produce a range of natural polymers called PHAs (polyhydroxalkanoates). Using ocean resources such as seaweed, seawater and saltwater microbes, they are on the road to producing a sustainable alternative to fossil-based plastics. ULUU is a safe, natural polymer, a type of PHA that's durable yet truly biodegradable, even over several months even in cold, dark conditions such as the ocean. ULUU utilises farmed seaweed rather than terrestrial crops, which the company says provides not only economic advantages but also the potential to scale enough carbon to switch from a fossil fuel-led economy. ULUU is a material produced from microbial fermentation which can be tweaked to mimic all kinds of plastics. It is reported that the production of ULUU can give opportunities to improve the lives of vulnerable people in the seaweed supply chain (often female farmers) living below the poverty line and in remote coastal communities.



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# Supermarket chain removes plastic packaging from wooden toy range

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Supermarket chain Aldi has announced that it has removed all plastic from its seasonal wooden toy and plush range this year. The toys are currently available in UK and Ireland stores and include 26 different children's favourites, such as wooden toy kitchens and pirate ships. The UK's fifth-largest supermarket said that the changes in its packaging of wooden toys will see it achieve an annual reduction of 5.5 tonnes of plastic packaging. It has been achieved through several efforts, including substituting plastic tape for paper and replacing bubble wrap for paper wrap. The company also says that the range's packaging is now made from 93% recyclable materials. Aldi achieved Carbon Neutral status in January 2019 by reducing its carbon footprint through various measures, including buying 100% renewable electricity and using greener refrigerant gases.



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# Chewing gum packaging moves from plastic to paper

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Perfetti Van Melle is an Italian-Dutch multinational company of confectionery and gum manufacturers whose brands include Chupa Chups, Fruitella, Sula, and Mentos. They have announced that in the UK market, they are moving their Mentos Pure Fresh Gum packaging to a paper-based bottle, reducing the amount of plastic by 93%, according to the company. It is claimed to be the first paper bottle packaging for UK confectionery. The new bottle will first launch in 600 Co-op stores in the UK this November across the full Pure Fresh range of Cherry, Tropical and Fresh Mint varieties. The Mentos Gum Paper Bottle is being launched not long after the recent switch to paper sticks for their original lollipop, the iconic Chupa Chups brand, in a move that the company estimates will eliminate around 5,000 metric tonnes per year of plastic globally over the next three years.



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# ‘Invisible label’ effect for new transparent film

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Cumbria-based Innovia Films has announced the launch of Rayoface CSA46, a one-side gloss lacquered clear BOPP film, which it says is ideal for use in food and beverage, personal and home care applications. Rayoface CSA is reported as a high clarity, low haze film that provides enhanced product visibility and the ‘invisible label’ appearance. Rayoface CSA46 is said to have a very wide print window and is suitable for flexo, gravure, screen and letterpress printing. Also with UV inks, low migration and water. It also has a lower carbon footprint than other materials on the market as at 46µm it is approximately 10% thinner than other available films. A spokesperson for Innovia said that the excellent performance of CSA46 translates into excellent cold stamping capabilities and appearances, allowing for eye-catching label images and designs. It complies with EU food contact regulations.



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# Detergent brand releases limited edition bottle with 100% social plastic

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Henkel has announced a limited edition bottle for its Pril dishwashing detergent that contains 100% “social plastic”, while the cap is made from 84% recycled material. Social plastic is defined as collected before it enters the sea or rivers. In collaboration with the social enterprise Plastic Bank, the local population can exchange plastic collected on the beach or land and receive money or social benefits in return. Part of the plastic waste collected is fed into the recycling value chain as social plastic and can be used in bottle bodies. This is intended to combat poverty and plastic waste in nature. In 2017, Henkel became the first global company to partner with Plastic Bank. The Pril Social Plastic Limited Edition will be produced at Henkel’s production site in Düsseldorf, featuring “Sea Freshness” and “Coral Freshness” variants.







# Protect and Preserve

# Protect and Preserve

Solutions that prolong shelf life, decrease food waste, and safeguard contents have both environmental and economic benefits. We continue to observe new developments in this area. The COVID-19 pandemic has led to an increase in supply chain-based initiatives that aim to safely distribute vaccines.

Preventing food waste remains a crucial goal, and we are monitoring various packaging formats that have been engineered to reduce food waste. It is widely reported that between 33-50% of all food produced globally goes to waste, with a value of over \$1 trillion. Advancements in technology are playing a role in addressing this issue, with many recent developments using technology to detect and communicate changes in the state of food. Packaging plays a vital role in minimizing food waste. In this section, we will focus on examples that enhance the environment by extending shelf life or reducing waste, as well as packaging that protects the product through improved secondary packaging solutions that take into account environmental or cost considerations.

# Protect and Preserve



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# New child-resistant closure preserves cannabis quality

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Two American manufacturers have collaborated to bring a cannabis container to market that is child-resistant while also preserving product quality. Boveda, a Minneapolis-based manufacturer of 2-way humidity control products that are sold around the world, have partnered with Pennsylvania-based Drug Plastics & Glass (DPG), supplier of pharmaceutical-grade containers and closures. Using DPG's Child Resistant SecuRx closure, it provides a child-resistant package, combined with Boveda's Original Terpene Shield patented formula to safeguard products from trichome damage, terpene loss, over-drying, and mould. Each closure system features four grams of Boveda's most popular cannabis-specific formula to maintain 62% relative humidity. The result is a child-resistant package that complies with Consumer Product Safety Commission (CPSC) requirements while preserving flower character, flavour, potency and aroma. The closure passed CPSC requirements when combined with 1, 3.5, and 7-gram plastic jars manufactured by DPG. The jars can also be created with post-consumer recycled materials.

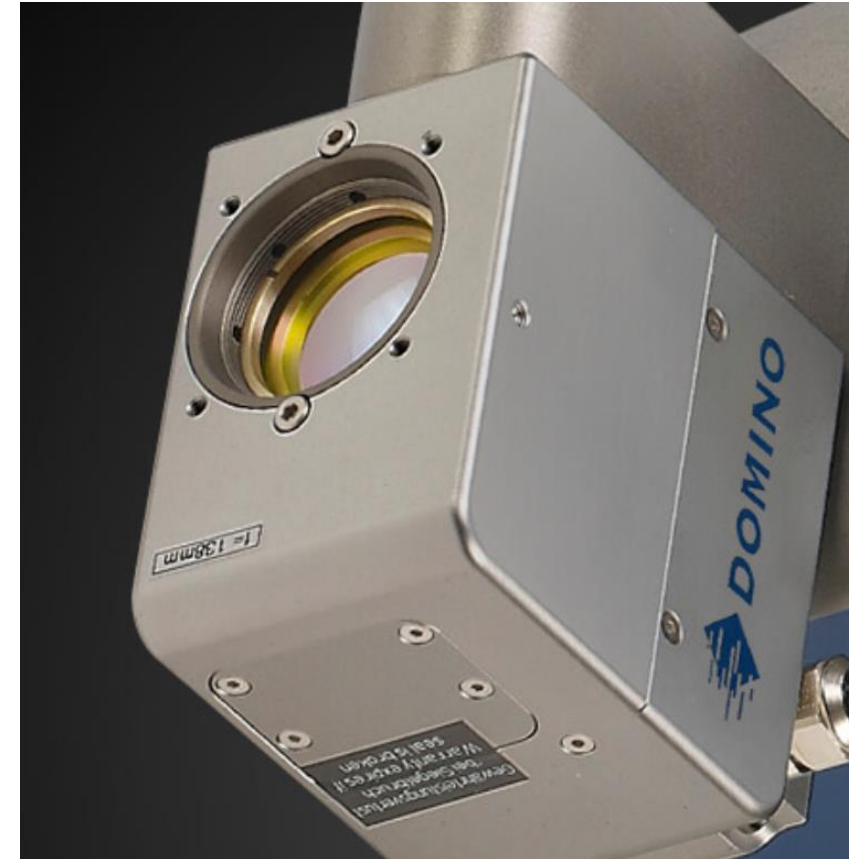


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# Sustainable laser coding of barrier paper packaging for food use

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Cambridge-based Domino Printing Sciences has collaborated with Sappi, a leading global provider of fibre-based packaging products, to determine the ideal laser coding solution for global food brands requiring high-quality codes on barrier paper packaging. A spokesperson for Domino said that CO2 lasers are the most suited laser application for paper packaging. They said that the first step was determining which type of CO2 laser would be most effective. To identify the ideal laser wavelength, Domino's specialists performed spectroscopic analysis on six different barrier papers from Sappi to identify which laser wavelength had the best interaction with the substrate material. Extensive testing identified the D320i blue tube laser as the optimal solution. In code quality testing, the D320i created crisp, clear codes on the barrier papers for simple messages, such as best before dates and batch codes, and more complex designs, including graphics and scannable 2D codes.

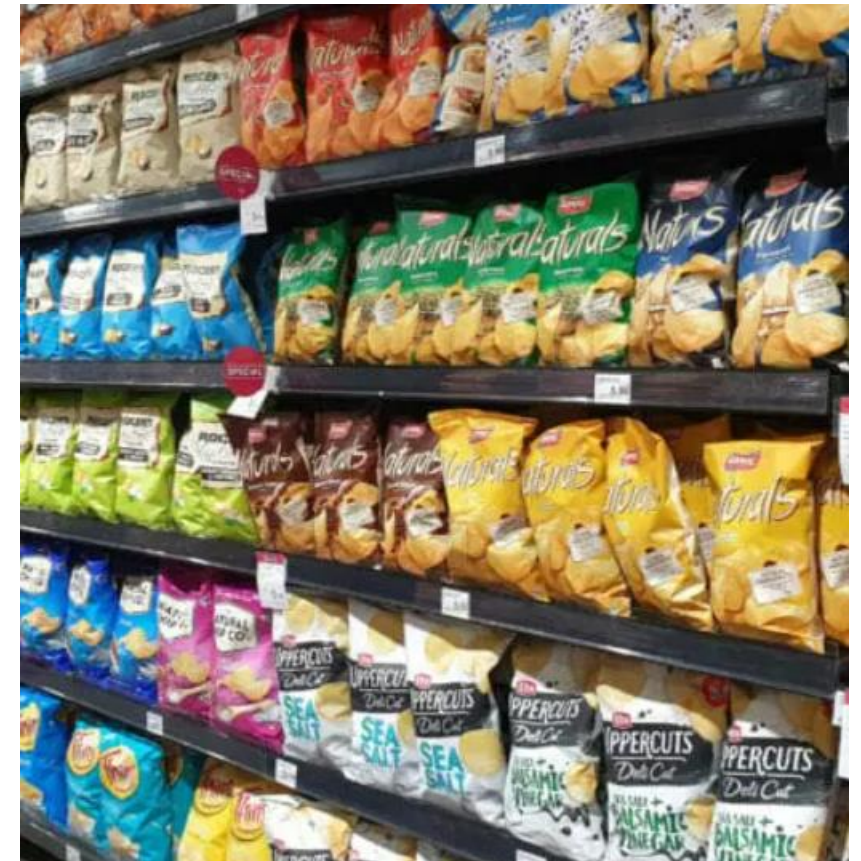


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# Coating gives mono-materials oxygen barrier for food packaging

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German Companies Henkel and Siegwerk have joined forces to develop a coating that creates an oxygen barrier for food packaging. The application of the coating enables the recycling of mono-material flexible packaging. Working closely together, the two companies developed a product that was recently recognized as recyclable by the APR (Association of Plastics Recyclers) Critical Guidance. As the coating is aimed at single-material packaging for dry foods, it eliminates the problem of material mixing for recycling companies. Representatives of the companies met at K-Fair in 2019 and agreed to jointly develop an oxygen barrier coating to enable more recyclable food packaging. Now they are preparing to launch this solution in North America and Europe and will be presenting it at two trade shows: K-Fair in Dusseldorf and Pack Expo in Chicago.





# Water soluble polymer has high tensile strength and flexibility

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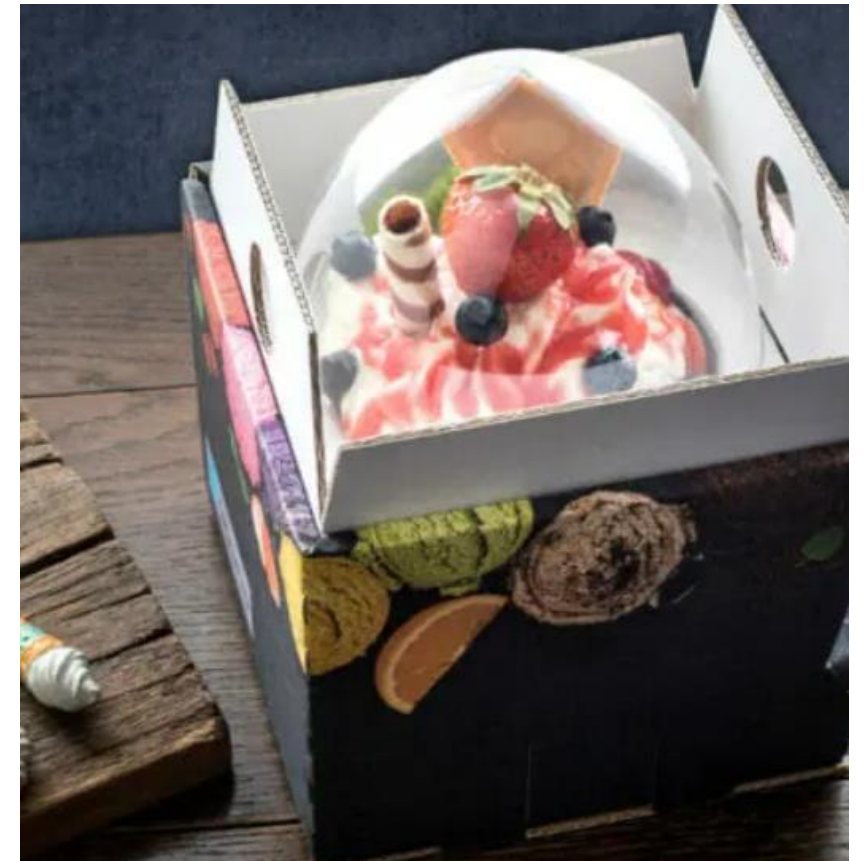
Terrasol is a biodegradable and water-soluble plastic created from PVOH (polyvinyl alcohol) made by German plastics manufacturer FKuR. The company says that the main application area for their Terrasol compounds is water-soluble films. These are said to be particularly flexible and have a high tensile strength. They dissolve completely in water and are fully biodegradable. Terrasol granules are tailor-made and offered with controllable water dissolution temperatures of 5-70 °C. Compared to other water-soluble polymers, Terrasol stands out due to its high crystallinity. This leads to less shrinkage in the finished product and at the same time enables shorter cycle times than with standard PVOH granules. As a thermoplastic, Terrasol can be processed using standard plastic processing methods. It is suitable for film extrusion, thermoforming, injection moulding and blow moulding. Typical applications include the manufacture of a wide variety of water-soluble products, such as mono- and co-extruded films, packaging, fibres, foams, hoses and profiles.



# Patented ice cream pack has two separate temperature zones

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German company GelatoPack is a startup with patented reusable packaging for ice cream products that is made of sustainable and insulating corrugated cardboard, but has two separate temperature zones, which keep the actual ice cream edible and at the same time protect sensitive toppings from frost. The food-safe cooling liquids in the cold packs were developed in cooperation with the Bavarian Centre for Applied Energy Research (ZAE). These ensure that the ice cream in the lower part of the packaging is cooled to a temperature of -14 degrees°C, which corresponds to the temperature of ice cream counters of gelateria. In the area above, a doughnut-shaped battery ensures an optimal topping refrigerator temperature of 3 to 6°C. This means that the fruit cannot freeze or the ice cream melt. The company is now looking for investors, and they hope that a recently awarded German Packaging Prize will give the innovative packaging additional impetus.



# New child-resistant cap is more sustainable

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American pharmaceutical and nutraceutical packaging manufacturer Rieke has announced the launch of a new child-resistant cap. The company says that their new two-piece push-and-turn Child Resistant Caps Range features an innovative patent-pending interlocking inner/outer cap design – to ensure convenience for older consumers and an added level of difficulty for children to open. As part of the development, Rieke also set itself ambitious sustainability goals – the caps were designed with less plastic, reducing its carbon footprint without compromising on quality, durability or functional performance. The caps are also available with a post-consumer recycled (PCR) inner cap option which delivers an even more sustainable solution.





# New technology adds micro perforations to MAP packaging

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Kansas-based Preco has announced that its newly developed technology known as AcuBreathe can add micro-perforations to flexible MAP (modified atmosphere) packaging between 25 to 65 microns. Laser micro-perforating is a process of generating a series of small through-holes for MAP. Perforations can also be used to help achieve controlled airflow and moisture release in various packaging products such as extending shelf life for fresh produce and burst protection for changing air pressure. Perforations also offer the capability of easier filling because air escapes quickly during filling while the product remains contained and compressed for improved stacking. The company says that the market has been requesting micro-perforations for MAP applications for ten to fifteen years, but until now the technology wasn't sufficiently advanced. AcuBreathe debuted recently at Pack Expo International in Chicago.



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# New process extends the shelf life of fresh pasta

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Researchers at the National Research Council (CNR), the largest public research institution in Italy, alongside the University of Bari Aldo Moro, have developed a new “clean-label” method to minimise the spoilage of fresh pasta. First, they changed the ratio of MAP gases and the combination of plastic films used in the packaging to better control microbial growth and impermeability. They also added a multi-strain probiotic mixture to inhibit the growth of bacteria. The scientists then tested the new protocol using a pasta type called trofie. One set of fresh pasta was manufactured and packaged conventionally. A second group was manufactured traditionally but stored in the experimental MAP. They added the bioprotective probiotic strains to a third set, which was then stored in the experimental packaging. After a few months they found that the pasta treated with antimicrobial bioprotective probiotics in the experimental MAP had the best shelf life, increasing longevity by 30 days.



# Packaging serialisation solution accommodates complex pharmaceutical coding requirements

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Leading paper and board-based packaging solutions provider Graphic Packaging International (GPI) has launched its latest pharmaceutical pack serialisation solution. This development will provide the pharmaceutical industry with a versatile packaging serialisation answer that can accommodate longer or more complex coding requirements. It can create everything from EU codes to C128 barcodes for the Chinese market, and answer latest drug traceability specifications that were released at the end of June 2022. A spokesperson for the company said that the solution gives contract manufacturers and packers the flexibility to include any code format printed either onto the label or directly onto open or pre-glued packaging. The innovative feature prevents duplicates from occurring, ensuring maximum process reliability and pharma-compliant data handling. This latest development by GPI comes as lawmakers around the world introduce traceability legislation to clamp down on counterfeit healthcare products and improve patient safety.



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# Alternative sterilisation method for vials is more sustainable

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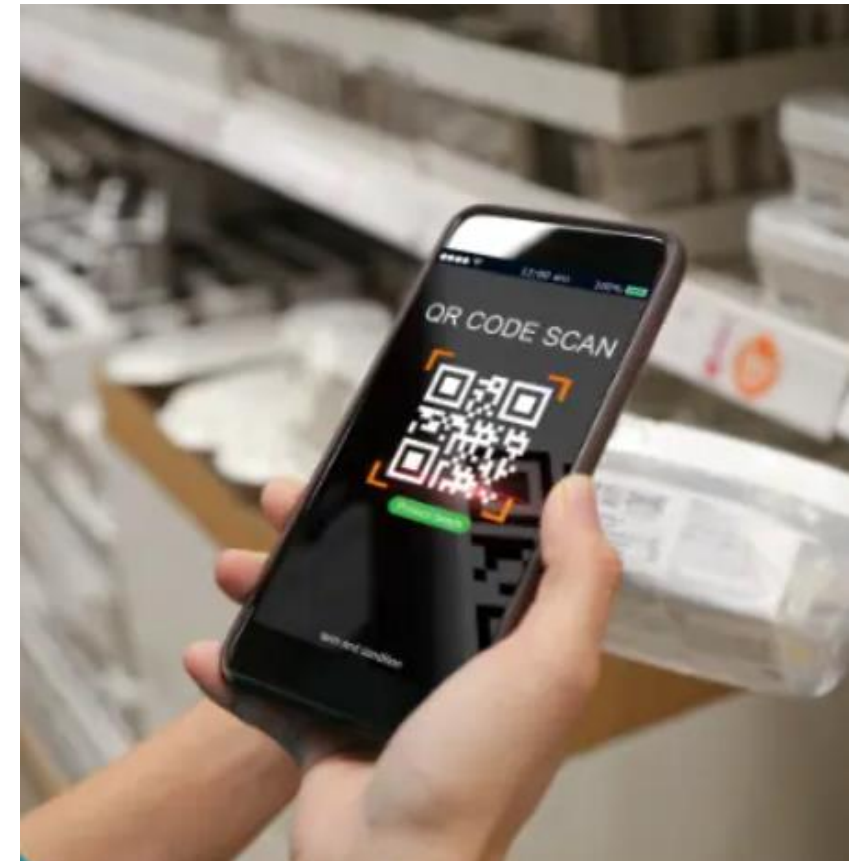
Two leading pharmaceutical packaging companies have collaborated to bring an alternative sterilisation method for vials to market. Gerresheimer AG, a leading global provider of healthcare, beauty and drug delivery systems for pharma, biotech and cosmetics, has combined with Stevanato Group S.p.A. (NYSE: STVN). They are a global provider of drug containment, drug delivery and diagnostic solutions to the pharmaceutical, biotechnology and life sciences industries. The two parties have announced the launch of EZ-fill Smart. It is a sterilisation method that is seen as more environmentally friendly than traditional Ethylene Oxide (EtO) sterilisation. It is intended to be suited for primary packaging solutions in use with highly sensitive drugs. The optimised platform features no glass-to-glass or glass-to-metal contact, which improves the quality and integrity of the vials throughout the product life cycle. EZ-fill Smart is intended to improve sustainability in multiple areas, increasing packaging efficiency, implementing a new, more sustainable sterilisation method, and using biopolymers and recycled plastic.



# Brand protection through covert ink technology

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A partnership between two North American companies, ink producer INXS International and anti-counterfeiting solutions provider VerifyMe, Inc. has resulted in the development of VerifyInk, a covert ink technology now available for sale to run on continuous inkjet (CIJ) printers. VerifyMe provides brand owners with time-sensitive logistics, authentication, supply chain monitoring, and data-rich consumer engagement features using unique smartphone-readable codes on their products. The companies say that their new inkjet technology will allow brands to easily deploy low-cost, high-impact brand protection and consumer engagement capability using large volume flexo and web printing presses and infrastructure that often already exists in their supply chain. Developed over a period of two years, when used in combination with VerifyMe's proprietary and patented reading devices, smartphone integration, dynamic serialisation and cloud-based authentication services, the CIJ VerifyInk solution will allow brands around the world to launch brand protection solutions easily.



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# New RFID labels enable improved inventory management for syringes

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A partnership between German label manufacturer Schreiner MediPharm and US pharmaceutical packaging company Schott Pharma has resulted in the development of a solution for equipping pre-filled syringes with RFID for the first time. This new application enables optimised processes in inventory management in the hospital and in patient care and documentation, as well as the identification of medication and medical devices. In addition, a digital indication of first opening is possible to ensure the integrity of the syringe. Various properties of the prefilled syringe had to be taken into account by the companies in order to ensure flawless RFID functionality. In addition to the material such as COC (cyclic olefin copolymer), PP (polypropylene) or glass, the size and diameter of the syringes play a particularly important role: the smaller the syringe, the less space for product identification and integration of the RFID chips.







# Recycling Resurgence



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# Recycling Resurgence

Recycling initiatives continue to be one of the most active sustainability areas driven by challenging Plastic Pacts around the world that are part of a three-pronged objective to deliver 100% recyclable packaging by 2025. Pending packaging taxes that require 30% recycled content is influencing change as well as the focus on stretching recycling targets. We are seeing more chemical recycling initiatives as well as recycled PS and PP developments coming to our attention.

This large section includes recycling initiatives as well as packaging that now incorporates (more) recycled content. We can report many examples of mono-material developments and other measures to improve recycling rates. The introduction of Packaging Taxes is also on the horizon, influencing the recycling of packaging. The UK's has already been implemented in April this year, which sees a levy on plastic packaging with less than 30% recycled content. This activity inevitably influences the demand for packaging reduction activities. There is still a long way to go in terms of consumer education and essential infrastructural and capability changes to improve recycling rates. We can report on an increase in the number of chemical recycling initiatives coming to our attention although still modest at this stage. Mechanical recycling processes is still the dominant way to deliver recycled packaging and this looks set to continue.





# Recycling Resurgence

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# Adhesive tape made from recycled PET bottles

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Tesa is an international manufacturer of adhesive tapes and self-adhesive system solutions based in Germany. They have announced the launch of Tesa 60412, which includes a backing with 70% recycled PCR (post consumer recycled) PET and a water-based acrylic adhesive system. The company says that Tesa 60412 is an ideal alternative to conventional biaxially oriented polypropylene (BOPP) or polyvinyl chloride (PVC) packaging tapes. This new tape is a sustainable packaging tape that features high recycled content in the backing material. It also features strong holding power and is perfect for light and medium-weight packaging applications of up to 30 kg. Tesa 60412 is certified according to INGEDE Method 12 and can be disposed of together with waste corrugated board and paper packaging without compromising the cardboard recycling process. Tesa 60412 is now available from professional retailers in transparent or, on request, in brown and white versions.



# rPET bottle with glued-in handle is fully recyclable

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KHS Group is a German manufacturer of filling and packaging equipment. They have announced the introduction of the KHS PET (polyethylene terephthalate) bottle, which is stretch blow moulded and contains a glued-in bottle handle, with both bottle body and handle fully recyclable and made of recycled rPET. The company says that this new bottle is more stable than the extrusion-blow-moulded polyolefin alternatives currently available on the market. Glued-in handles also require a simpler contour than the clip-in variety, which it says saves on material and at the same time increases efficiency in the stretch blow moulding process. KHS collaborated with Logoplaste Innovation Lab over a period of 18 months to develop the 2.3 litre bottle, with the aim being to develop a bottle with the smallest possible carbon footprint. KHS says that comparison reveals that up to 30% fewer resources are used in the manufacturing process, with 10% in material saved over a clip-in handle.



# Collaboration develops recyclable wide-format PE pet food bag

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Dow Packaging Europe has collaborated with two German machinery manufacturers to develop a recyclable wide-format MDO-PE (machine direction oriented polyethylene) pet food bag with machinery manufacturers W&H (Windmoller & Holscher) and B&B Verpackungstechnik. Made almost entirely of PE, the bags have a minimal layer of EVOH as a barrier, in line with recycling guidelines. Using quality resin and the latest extrusion technology of the W&H VAREX II machine with inline MDO, the film has a final web width of 2×1260 mm and is optimized to reduce material wastage during production. A combination of Dow's ELITE, INNATE and AFFINITY high-performance resins and sealants and W&H's VAREX II extrusion line and their HELIOSTAR II rotogravure press, they were able to print at very high speeds of 400 m/min thanks to the perfect flatness of the film.





# Partnership enables consumers to recycle PP gum containers

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California-based Olyns, was founded in 2019 and operates as a developer of tech-centric recycling solutions that help reduce plastic waste. They have now formed a partnership with Mars-Wrigley to provide access for consumers to recycle their PP (polypropylene) plastic candy and gum containers. Beginning at the end of October, consumers in Northern California who deposit qualifying candy containers in an Olyns reverse vending machine will have a chance to win money in rewards in a game-like system. A spokesperson for Olyns said that there was currently no reliable way to recycle rigid plastic candy and gum containers, meaning that many rigid plastic candy and gum containers are put directly into the trash or landfill. The Sweet Rewards Challenge will run at select retailers in the San Francisco Bay Area and is scheduled for six months. If deemed successful, it will be extended and expanded across the US.



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# Additives range enable more plastics to be recycled

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Texas-based SI Group are developers and manufacturers of performance additives, process solutions, pharmaceuticals, and chemical intermediates. They have now unveiled their EVERCYCLE additives platform for recycling PET, HDPE, PP, and LDPE packaging – aiming to improve stability, performance, colour control, and the amount of recycled content produced. The range of additives includes EVERCYCLE PET-102D for colour control in PET bottles, trays, and fibres (pellet), EVERCYCLE PET-103D for colour control in PET bottles, trays, and fibres (liquid). EVERCYCLE PP-101S for stabilisation in HDPE and PP rigid packaging, EVERCYCLE LD-101S for stabilisation in LDPE flexible packaging, and EVERCYCLE LD-104P for improved mechanical performance in LDPE pre-consumer stretch film. The EVERCYCLE brand is claimed to be based on resource conservation, enhanced recycling, and innovative technologies. A spokesperson for the company said that their additive solutions would help advance the transition to a more circular economy by enabling more plastics to be recycled back into the economy.



# Recycled polyethylene resin is made from 100% PCR material

Canadian petrochemical company Nova Chemicals has launched a new recycled PE (polyethylene) resin made from 100% post-consumer mechanically recycled polyethylene. Called EX-PCR-NC4, the source material is derived from distribution centre flexible film, which includes a blend of back-of-store stretch film and front-of-store consumer drop off. These materials are then processed with state-of-the-art technology resulting in a low odour product that is consistent and stable. The company says that EX-PCR-NC4 allows converters and brand owners to meet their sustainability goals, without compromising package performance in applications such as shrink, e-commerce, heavy-duty sacks, and protective packaging. It also says that through customer trials and applications development at their Center for Performance Applications in Calgary, they have successfully incorporated the new rPE resin in various end-use formats. Nova say they are committed to enabling 100% of plastic packaging to be recyclable or recoverable by 2030; and 100% of plastic packaging to be re-used, recycled or recovered by 2040.





# Polystyrene cups and pots contain up to 30% PCR material

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Italian manufacturer of vending cups and disposable tableware FLO Spa, has announced that it is launching two new products that contain up to 30% recycled material. The company has developed vending machine cups and yoghurt pots made with Versalis Revive PS. Revive PS is a polystyrene that contains secondary raw material derived from domestic post-consumer waste separate collection or post-industrial sources. Both products are thermoformed, with an ABA layered structure where the r-PS of the Versalis-Revive PS series is inserted in the inner layer and virgin PS in the outer layer which acts as a safe, functional barrier. The packaging has been tested according to European and Italian national regulations for suitability for contact with food. The company says that they have conducted scientific and organoleptic tests on the new products, detecting no difference between a product in virgin PS and one made with rPS.



# High barrier mono-material stand-up pouch is recyclable

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A collaboration between several companies has resulted in what they say is a recyclable, high barrier, mono-material stand-up pouch. TotalEnergies, Windmüller & Hölscher, and Mitsubishi Chemical Group say that they have completed a successful proof of concept for their High Barrier Stand-Up Pouch, said to be fully recyclable and applicable to contact-sensitive food packaging. It is said to be manufactured with an MDO-PE (machine direction oriented polyethylene) film – a combination of TotalEnergies' Supertough, Lumicene high-density PE, and Mitsubishi Chemical Group's Soarnol – and a sealing film, and laminated together by Dettmer Verpackungen. Machine manufacturer B&B then formed the material into a stand-up pouch, it is claimed. The pouch is intended to replace multi-material, metallised structures, with the new design claiming to be made of 98% polyethylene and less than 2% of the EVOH necessary for barrier properties.



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# Barrier solution for single-use paper cups claims to be recyclable

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Two American companies have combined their respective technological know-how to create what they say is a recyclable barrier solution for single-use paper cups. HSMG has combined its patented PROTĒAN CupKOTE coating with H.B. Fuller's Swifttak adhesives to create a supposedly recyclable and PE-free water, oil, and grease barrier solution for single-use paper beverage cups. The cup uses HSMG's patented PROTĒAN CupKOTE coating combined with H.B. Fuller's Swifttak adhesives. Standard PE coatings are said to self-heat seal while a cup forms. However, PROTĒAN CupKOTE secures cups on the sides and bottom using water-based, cold-seal Swifttak adhesive, which is applied during the printing process. HSMG cites a figure from Science Direct that raising the recycling rates of paper cups could reduce the impacts of carbon footprints by up to 40%.





# Sustainable and recyclable blister pack launched

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Rotor Print is a Spanish company that claims to be committed to providing sustainable and innovative solutions for flexible packaging. They have developed what they say is a recyclable 100% PET (polyethylene terephthalate) blister pack. It is intended to replace PVC (polyvinyl chloride) base, avoiding risks to public health, and also replaces the aluminum push-through film, to achieve a recyclable container. Until now these were considered impossible to be recycled, as the two layers are said to be impossible to be separated. The company says that their 100% PET blister has barrier qualities equivalent to PVC. This makes it possible to preserve the products as per current packaging, but also reduces the environmental impact of the product. Through research and development, the Rotor Print company has achieved a “push through” system that allows the tablets to be extracted without usability problems through the PET lidding film.



# Startup develops enzyme-recycled packs for major retailer

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Major Australian retailer Woolworths has plans to launch products in recycled plastic in its stores that have been enzymatically recycled in 2023. The recycled packaging will be supplied by enviro-tech startup, Samsara Eco, who are building their first plastic recycling facility later this year, ahead of full-scale production in 2023. Samsara recently raised \$54 million to scale up their infinite recycling technology. The solution was developed with Australian National University (ANU) and CSIRO-founded Main Sequence. It uses enzymes to break plastic down to its core building blocks, regardless of colour and state, which can then be used to recreate brand-new, virgin-quality plastic, again and again. The introduction of enzymatically-recycled packaging to Woolworths stores next year, will serve as a key milestone for its roadmap to recycling 1.5M tonnes of plastic per annum by 2030.



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# Hybrid offering is sustainable replacement for plastic pails

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Massachusetts-based CDF Corporation has launched the Smart Pail as a reported more sustainable alternative to industry standard plastic pails. The Smart Pail is a semi-rigid, flexible vacuum-formed HDPE (high density polyethylene) plastic liner contained within a corrugated outer. It features a unique laminated peel-reseal lidding film structure offering tamper evidence, easy open-close, excellent oxygen barrier, and efficient disposal. The Smart Pail uses 80% less plastic than comparable plastic pails due to the unique design and stacking strength. It also provides 33% more product per outbound shipment and can be double-stacked. The Smart Pail is collapsible and recyclable for easy disposal. It is considered a more sustainable plastic pail replacement solution for the transportation of semi-viscous, solids and liquids. Smart Pail also offers superior branding potential, optimized storage and inventory, and improved ergonomics. It also promises a lower total cost.



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# Motor oil brand move to 100% PCR bottle is an Indian first

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British motor oil brand Castrol has announced that its Indian subsidiary has introduced 100% PCR (post consumer recycled) plastic bottles for its premium oil range, Castrol Power 1 Ultimate. The brand owner is keen to highlight that PCR plastic decreases plastic waste, reduces carbon emissions, and supports a more circular economy. They say that they believe that the move to PCR plastic is a first in the Indian market. The move is part of Castrol's PATH360 which aims to reduce the company's footprint by 50% by 2030. It focuses on three areas of saving waste, reducing carbon, and improving people's lives, with an overall aim of helping Castrol become net zero by 2050 or sooner. The new packs will start to appear on Indian shelves soon. It is claimed that consumers will not incur any incremental cost arising from the transition to the new packaging.



# Supermarket increases use of prevented ocean plastic

Lidl GB has announced that it is increasing the amount of products that contain POP (prevented ocean plastic). It is now packing its 400g and XXL 667g Deluxe sausages in trays that contain 30% POP, following on from selected fish and poultry products in 2020. Lidl GB worked with Bantam Materials, and the POP comes from discarded water bottles found in Southeast Asia. POP is defined as discarded plastic found within 30 miles (50km) of a coastline or major waterway that feeds into the ocean, from a country or region that lacks waste management infrastructure and collection incentives. A spokesperson for Lidl said that as the first UK supermarket to launch packaging using prevented ocean plastic, they are proud to have prevented the equivalent of over 15 million plastic water bottles from entering the ocean. Customers can spot the POP packaging in-store via a blue and white logo on individual items.



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# New PET technology significantly reduces material usage

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Michigan-based Amcor Rigid Packaging (ARP) has announced the development of its two-step, lightweighting Quantum technology, which eliminates more than 50% of the material and weight in the bottle's finish. ARP said that its new Quantum technology for PET (polyethylene terephthalate) bottles delivers sustainability benefits, lowers costs, and improves packaging appearance. By removing more than 50% of the material and weight from the finish, the new Quantum technology reduces manufacturing costs and greenhouse gas emissions, resulting in energy savings and lower carbon emissions compared to bottles with traditional bottles. The company also says that their Quantum technology allows for up to 100% recycled material use, and provides superior consumer experience with a more sustainable, fully recyclable package. According to Amcor's lifecycle analysis, PET, which they say has rapidly become the world's preferred packaging material is lightweight, shatterproof, reclosable, resealable, reusable and recyclable.



**Quantum™**  
**Premium Lightweight  
Finish Technology**



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# Ketchup bottle cap is now 100% recyclable

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Global food giant Kraft Heinz has announced that the cap of their squeezable upside-down plastic ketchup bottle is now 100% recyclable. The original cap contained a flexible silicon valve, which was designed to dispense a standard blob of sauce without spilling. However, silicon is very difficult to recycle, and also difficult to separate from the rest of the cap. But after nine years, and a reported 185,000 hours of development, they have arrived at a suitable mono-material alternative. The new cap, made of PP (polypropylene), comprises two parts that make an indirect exit for the product to be dispensed when the bottle is squeezed. Then when the consumer lets go, the air rushes back in, creating a controlled dose. It apparently took forty-five versions to recreate the performance of the current closure. The new design will be rolling out in the UK within the next couple of months.



# Cardboard wrap and plastic cup separate by themselves for recycling

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Greiner packaging, based in Austria, amongst other things, are known for their cardboard-plastic combinations for cups and pots, where the board outer supports an inner cup with very thin walls. Thanks to an innovative tear-off system, the wrap is easy to detach from the cup so that the two components can then be disposed of separately and recycled. This, of course, requires the consumer to separate the two materials prior to recycling. Their K3 r100 takes this a step further in that the cardboard wrap separates itself from the plastic cup during the waste collection process – i.e. before the packaging arrives at the NIR (near infrared) detection section in the sorting unit. Cyclos-HTP has given K3 r100 (with a standard aluminium lid) a recyclability rating of higher than 90%, while RecyClass has also issued K3 r100 its best rating (Class A).



# Label manufacturer receives recognition for multiple recycling compatible materials

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Finnish label manufacturer UPM Raflatac has announced that Recyclclass, the non-profit initiative that promotes the recycling of plastic products, has recognized multiple label products with different adhesive technologies from their portfolio to be recycling compatible. These expand UPM Raflatac's RecyClass recognised PE (polyethylene) label materials and extend the portfolio to include PP (polypropylene) label materials. Both the PE and PP materials are recognised to be recycling compatible with coloured HDPE (High Density Polyethylene) and PP packages. It means that the PE and PP labels can be recycled either in PP or HDPE-coloured recycling streams. The recognition for the PP recycling stream compatibility is said to be the first of its kind in the world. UPM Raflatac say that they are the first self-adhesive label company to provide RecyClass-approved recycling-compatible labelling solutions for PP packaging.



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# Life cycle analysis shows monomaterial improves sustainability by 35%

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Eco Flexibles, a sustainable flexible packaging business based in Daventry in the UK has revealed the results of an LCA (life cycle analysis) they commissioned from Oxford-based packaging data specialists Ecoveritas. Ecoveritas conducted the LCA on the company's compostable monopolymer film solution, EcoFlow, and found that it has an environmental footprint 35% lower than standard mixed plastic and paper equivalents when used in typical flexible packaging applications. Using a customer's sausage packaging for the project, Eco Flexibles redesigned the pack to utilise EcoFlow. The review process, which tracked the environmental footprint through a measurement of CO<sub>2</sub>e per pack, found that at each stage of the product's lifecycle, EcoFlow provided improvements ranging from 28% to 57%, under the study assumptions. A spokesperson for Ecoveritas said that the results provide comparative and measurable data to back up what Eco Flexibles say when talking about the extensive benefits of their sustainable packaging solutions.



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# PET bottle is label-free and made from 100% recycled material

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French liquid packaging solutions provider Sidel has launched 1SKIN, a 1 litre PET (polyethylene terephthalate) bottle for sensitive juices, teas and flavoured drinks with a distinctive streamlined design. The 1SKIN bottle is label-free for greater rPET resin quality and also has a tethered cap in line with the 2024 EU SUP (Single Use Plastic) directive. It is also made of 100% recycled PET, and material usage is optimised. 1SKIN is said to have a comfortable pouring and drinking experience thanks to an ergonomic grip and cap lock. It has a minimalist, premium, label-free design with multiple font and texture options available. It also has the StarLite™ Sensitive base, which Sidel says unlocks production speed and increases packaging performance. Customers can also have either a QR or barcode printed on the bottle closure to provide specific information to consumers or enable individual unit sales.



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# Food giant launches new compostable-pod coffee machine

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Swiss multinational food and drink giant Nestlé has launched a new at-home coffee machine, Neo. The coffee pods for the Neo system are paper-based, home-compostable and use 70% less packaging. Through the use of technology, Neo aims to replicate the “coffee shop at home” experience. Its SmartBrew technology combines three brewing methods to create espressos, coffeeshop-like americanos and drip-style coffees, in one single machine, at the touch of a button. The new pods are made from 1g of paper certified by Forest Stewardship Council suppliers with a compostable biopolymer lining to help protect the coffee freshness from oxidation. Nestlé tested over 200 novel material structures before perfecting the paper-based pod. Their proprietary SmartBrew system tunes the extraction parameters for each drink, and can even be personalised through a connected smart phone app. Neo will launch in Brazil this year and will roll out into other countries over time.



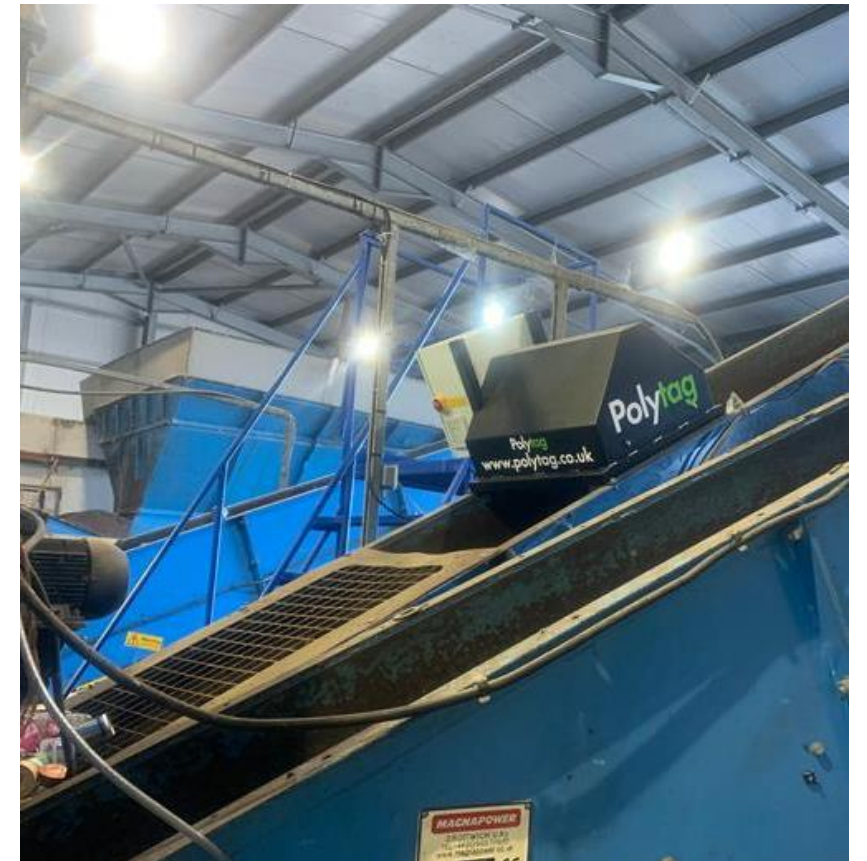
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# Retailer launches trial to assess level of bottle recycling

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British supermarket chain Co-op is launching a trial aimed at revealing the proportion of its own-brand plastic bottles that are being recycled. A UV code that has been added to its two-litre still spring water line will be identified by specialist equipment fitted to the sorting machines, so the bottles can be counted. A spokesperson for the Co-op said that as a retailer, they wanted to gain a greater understanding on a product's journey in the recycling chain to help paint a clearer picture and support future traceability. The trial is to be conducted in partnership with technology business Polytag, and will begin at a recycling centre in North Wales. Co-op said it would look to expand the initiative with more own-brand products as the pilot developed.



# Stand up pouch is suitable for kerbside recycling

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Wisconsin-based Glenroy has launched a version of their Standcap pouch that is suitable for kerbside recycling. The new version is part of Glenroy's TruRenu™ sustainable packaging portfolio. The structure itself is multilayer, as most flexible packaging pouches are; each layer is a form of HDPE (high density polyethylene), therefore classing it as a mono-material multilayer structure. To a material recovery facility (MRF), the material is equivalent to a recyclable HDPE tube or rigid bottle. The company says that the new pouch is easy-to-use, lightweight, and provides up to 99% product evacuation, making it ideal for food packaging applications like sauces, condiments, spreads, dips as well as personal care products. The caps/closures are not recyclable because they are made with a different plastic than the HDPE pouch structure. According to a Lifecycle Assessment (LCA), the recyclable STANDCAP reduces fossil fuel consumption, greenhouse gas emissions, water usage, and landfill waste compared to rigid bottles.



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# Container for ceramic inks wins award

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Hinojosa is a Spanish manufacturer of sustainable corrugated packaging solutions. They have now won an accolade at the Liderpack 2022 Awards for developing an innovative 100% recyclable packaging system for liquids. It is a bag-in-box format created for the Akcoat company, a benchmark in the ceramic inks, pigments, frits and glazes sector. The award was given for the category of best logistics and distribution packaging. The award-winning design eliminates up to three times the plastic that the drums traditionally used for the packaging of this product contained up to now. The new packaging makes it possible to reduce the generation of waste in the use of inkjet inks in the ceramic industry, as well as facilitate the handling of the product throughout the logistics chain. It comprises a flexible plastic bag and a corrugated board outer and is easily separable for recycling.





# Labelless water bottle launched in South Korea

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South Korean company Korea Crystal Beverage has announced that its Montbest water brand is moving to labelless bottles. The bottle's labelless design was developed by Italian design house Gentlebrand, and is a means to abide by South Korea's increasing number of plastic regulations. The company says they had to create "a new product identity", while also striking the right balance between the size of the logo and the information required by law. Labelless packaging can come with complications in ensuring the item has the proper information displayed for consumer understanding, therefore, the company stated it concentrated on the legibility of the embossed information. The Montbest bottle is designed with a square shape for optimized consumer grip and is sold in 330mL, 500mL, 1L and 2L sizes. South Korea has one of the highest recycling rates in the world, with 86% of Korea's total waste being recycled.



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# Non-carbon black packaging is detectable by NIR scanners

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Norwegian ice cream producer Diplom-Is is moving to new black packaging for its Royal brand that is detectable by the Near Infra-Red (NIR) scanners used for waste sorting processes. This means that the containers can be identified for recycling purposes. The new packaging, supplied by Denmark-based Berry Superfos uses a special high-quality non-carbon black masterbatch with special pigments to improve NIR technology detection and sorting. A spokesperson for Diplom-Is said that the company is very satisfied with the result. The new black enables proper sorting of Royal ice cream containers at local recycling and sorting facilities, which can save significant amounts of virgin plastic material. The new packaging was tested at two local recycling plants in Norway, as well as a sorting plant in Germany. Diplom-Is is one of the biggest ice cream producers in Norway, and the shift to a non-carbon black container has caught the attention of the market.



# Stand-up paper pouch chosen for cassava flour launch

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Brazilian food manufacturer Rocha Alimentos has launched their new gluten-free cassava flour called Yucafit in a paper stand-up pouch. The pouch is supplied by Brazil's largest paper manufacturer Klabin, and is made from their EkoFlex paper product. Produced from long pine fibres, EkoFlex is of renewable origin, coming from planted and certified forests, and being a repulpable, recyclable and certified solution for contact with food. The advantage of using EkoFlex paper is its ability to seal, which allows the material to be compatible with the FFS (form, fill and seal) machines already on the market, meaning that existing equipment can be used. The sealing system with barriers ensures that the product is free of cross-contamination by gluten-containing foods. The product is now available on the market and can be found in packages of 500 grams and 1 kilo.



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# Stretch film contains 10% PCR material

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Revolution, based in Little Rock, Arkansas, aims to manufacture plastics with the most recycled resin possible. They have now announced the launch of Encore Wrap, a high-performance hand stretch film, made with 10% post-consumer recycled (PCR) resin. Encore Wrap has recently received certification from Scientific Certification Systems Inc. (SCS) Global Services, which is a third-party certifying body. Revolution says that Encore Wrap produces a higher quality of clarity and strength than typically seen in plastic stretch wrap films containing PCR. They say that what makes Encore Wrap a better quality product is the inclusion of its Encore PCR resins, which aims to be a sustainable solution able to aid warehousing, transportation and commercial industries in reducing their environmental impact. It is designed to provide maximum load-holding force and high puncture resistance, while gauge reduction is reportedly possible due to the film's strength.



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# Plastic battery packaging replaced with cardboard

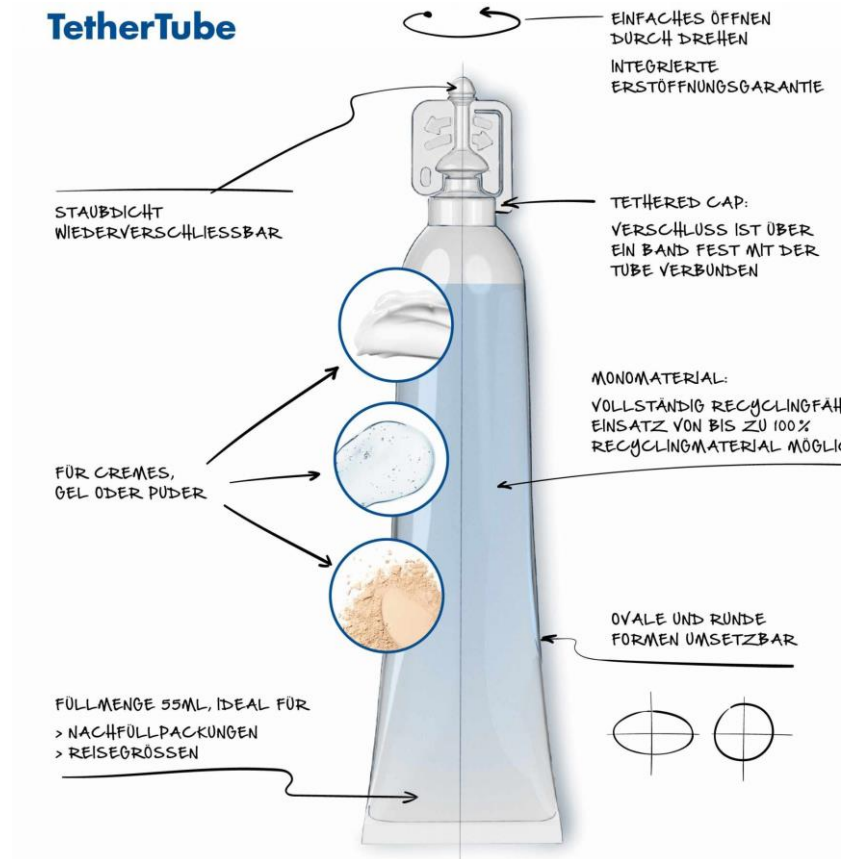
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Moura is a Brazilian automotive battery manufacturer that claims to be one of the largest suppliers of batteries for vehicle fleets in South America. They have decided to move away from plastic packaging for its product packaging. It will be gradually replaced by cardboard with the FSC (Forestry Stewardship Council) seal of responsible forest management. The development of the new packaging was carried out over the last two years, focused on solving an environmental issue that met the company's needs and complied with the commitment to expand its ESG (Environmental, Social and Governance) agenda. The packaging design was also developed with a focus on product differentiation at the point of sale and on its functionality, with perforations on the front that facilitate carrying out load tests and prevent the packaging from being torn or removed for this purpose.



# Recyclable lightweight mono-material tube features tethered closure

Austrian plastic packaging manufacturer Alpla has developed a 100% recyclable, lightweight mono-material tube which features an innovative tethered cap. This is in response to an EU directive stating that from 2024 closures for beverage bottles under three litres must remain attached to bottles. Conventional tubes are comprised of a number of parts, including a tube body, shoulder and cap, and sometimes a sealing foil for better product protection. Tether Tube on the other hand, is a one-piece forming, i.e. it is made of one material in a single production step. The finished tube is delivered to the customer with an open end, where it is filled and sealed. Tether Tube can be made from either HDPE or LDPE, and the use of up to 100% recycled material is also possible. Tether Tube is suitable for liquid and powdery filling goods, and is also ideal for refill packs using concentrates.

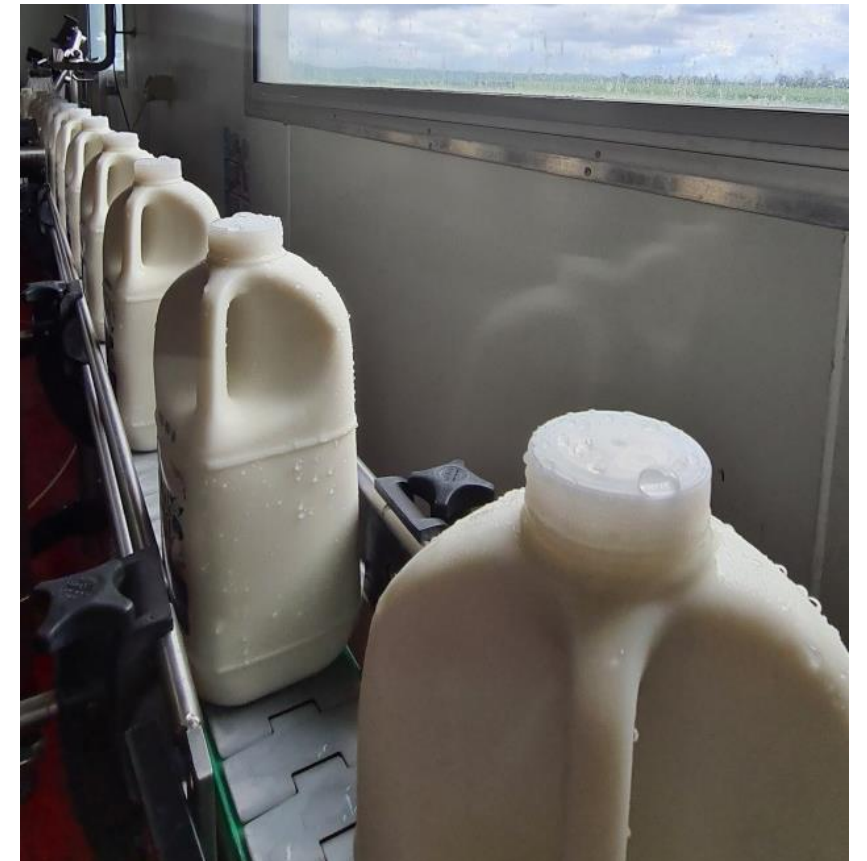




# Australian dairy moves to clear caps to facilitate recycling

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The Little Big Dairy Company is an Australian family-owned dairy business. Following discussions with their customers, including supermarket giant Coles, it became apparent that there was a desire to increase the recyclability of the caps of their milk bottles. Realising that clear lids are preferable for recyclers, as it means that they're able to fully recover the value of the plastic raw material. Because closures made with dark-coloured pigments don't yield the same results, they knew that they had to start the move to clear lids. The milk packaging is now labelled with the Australasian Recycling Label, to ensure consumers know the cap can also be recycled along with the bottle. The dairy is working closely with bottle supplier Pact Group, which is also increasing its capacity to supply rHDPE (recycled high density polyethylene) bottles through its new milk bottle recycling plant. Pact also supplies the clear HDPE closures. This initiative has already started in the UK market.

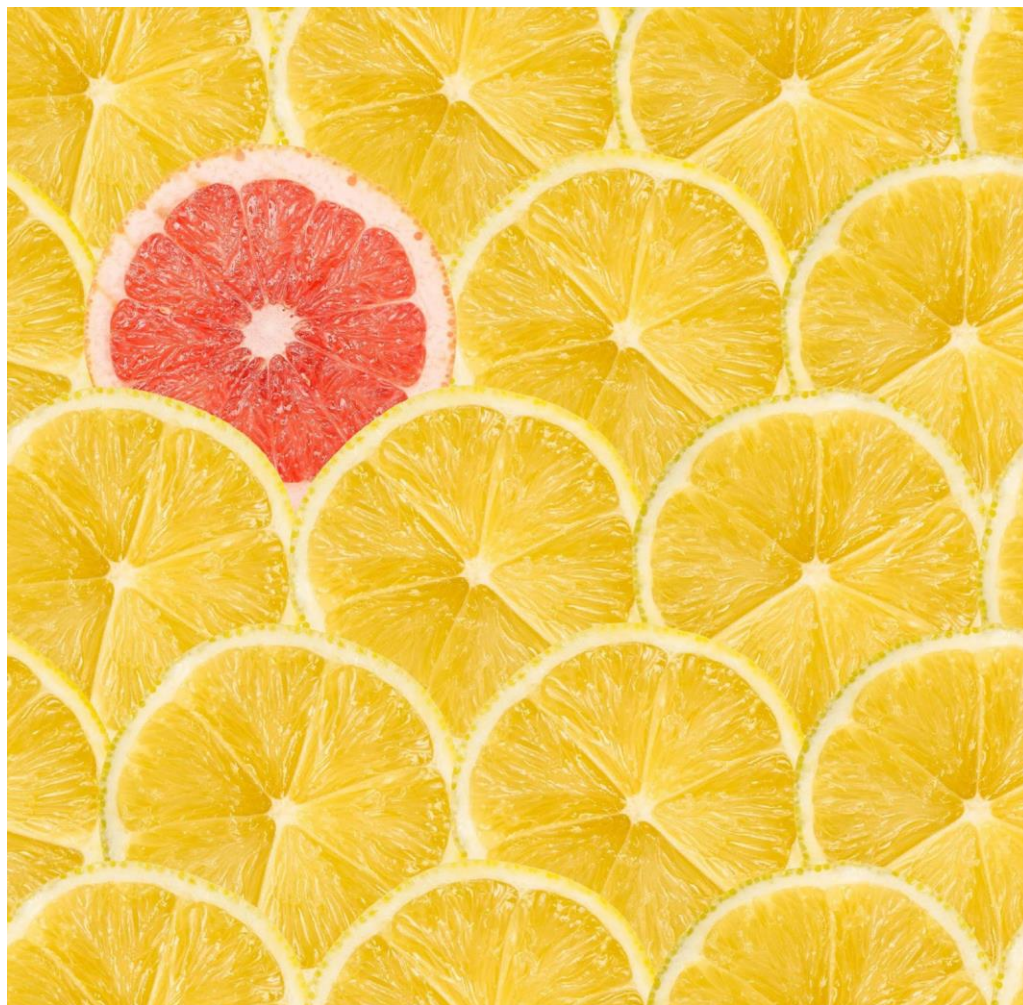


# New salads launched in 100% recyclable stand-up pouch format

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Spanish food manufacturer Huerta Campo Rico has launched a range of new salads in a stand-up pouch format. The pouch is said to be a 100% recyclable mono material and uses 60% less plastic than comparable products. The range has five varieties: roasted red peppers; roasted red and green peppers; curried carrots; beetroot and mango, and potatoes (papas aliñás). All are free of allergens, artificial colours and preservatives, and are certified vegan, halal and kosher. The salads are ready to eat, or if preferred can be microwaved in the pouch. Huerta Campo Rico was formed in 1999, with the intention of bringing new products to market that until that time, did not exist. Roasted peppers in trays were their first product, and in the first month, they went from home production to semi-industrial production.





# Getting Noticed



# Getting Noticed

Despite the growth of online, the importance of creating impactful and noticeable packaging continues to create a point of difference. The packs have a role to get noticed on shelf as well as engage and delight in the consumer's hand and again this month we have some great examples. Despite the shift to online purchases, packaging that can get noticed continues to come to our attention. The importance of standing out on supermarket shelves or even in kitchen cupboards cannot be understated.

A pack's first impression can be the difference between success and failure in an ever-increasing competitive marketplace. We have tracked several examples that do just this. Also creating an impact in the hands of consumers is also important. A challenge for brands and retailers is to deliver pack finishes and decorations that meet the need to be sustainable.



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# Getting Noticed

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# New technique allows circuits to be printed onto curved surfaces

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Researchers at North Carolina State University have developed a technique that allows circuits to be printed onto curved surfaces. Typically, circuits can usually only be printed directly onto surfaces that are flat. This new technique begins with creating a template, which incorporates a pattern of microchannels – these make up the pattern of the desired circuit. That template is used to create an elastomer membrane, in which the same microchannel pattern is reproduced. The flexible membrane is subsequently applied to the curved target surface, channel-side-down. A liquid solution containing silver nanowires and ethanol is then drawn into the membrane by capillary action, filling cavities formed by the microchannels. After the solution dries, the membrane is removed, leaving behind a functional silver-nanowire circuit that conforms to the contours of the surface. So far, scientists have created a contact lens that could be used to measure fluid pressure in the eye but could one day have some interesting packaging applications.





# Limited edition cereal packaging for centenary anniversary are one-of-a-kind

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To celebrate 100 years of Kellogg's Corn Flakes being sold in the UK, the cereal giant has collaborated with three companies that specialise in digital print, to design and digitally print limited edition Corn Flakes cereal packaging. The limited edition of 2,022 cereal boxes produced to mark the occasion have on-pack text that reads "this cereal box is one of 2,022 unique designs created to celebrate 100 years of Kellogg 'bringing breakfast to Britain'." The boxes are apparently being gifted to Kellogg's employees. The three companies involved in the creation of the boxes were design agency Deldea Design, digital printers Precision Proco Group, and digital press manufacturer HP Indigo. Utilising HP Indigo's 10000 digital press and SmartStream Mosaic software, it is claimed that a unique design has been printed on each of the 2,022 packs produced, replicating historical branding, packaging and adverts.



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# Refill Revolution



# Refill Revolution

The trend towards refillable and reusable packaging is gaining momentum as more companies explore ways to reduce their use of single-use, hard-to-recycle packaging. This growth is partly driven by the goal of the Plastic Pact to deliver reusable packaging by 2025. Many of these initiatives are coming from start-up and smaller brands, but multinational companies are also beginning to test the waters with small-scale trials and pilots. The dry food, household, and health and beauty sectors are currently the most active in this area.

Consumer attitudes towards single-use packaging are shifting, with a growing resistance to disposable packaging. The innovations in refillable and reusable packaging can be categorized into the four models outlined by the Ellen MacArthur Foundation: Refill at home, Return from home, Refill on the go, and Return on the go. The dry food, household, and personal care sectors are leading the way in this area. Many of the in-store examples of refillable and reusable packaging are currently small trials and pilots, as major retail chains test the waters with a limited number of initiatives in select outlets. The next steps of these major retailers will be watched with interest.



# Refill Revolution

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# E-commerce fashion company moves to reusable, recyclable paper-based mailers

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Polish e-commerce fashion house Modivo has collaborated with global paper packaging company Mondi to move from their plastic packaging to Mondi's paper-based boxes and MailerBags, following a successful trial period earlier in the year. Mondi will implement its paper-based solutions across Modivo's entire collection of shoes, bags and clothes. Mondi's MailerBags are made from kraft paper, allowing them to be completely reusable as well as recyclable. The bags are available in three designs to protect their contents while reducing the air in the bag. There is a flat bottom version of the bag which complements existing pinch and folded bottom bags. The design also functions with easy closing, expandability for bulkier goods and easy resealing functionality for returns. Mondi has plans to increase MailerBag production to approximately 350 million items per year, which they say would replace approximately 7,000 metric tons of plastic per year.



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# Smart kiosk offers consumers opportunity to refill spirits bottles

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Singapore-based spirits distributor Proof & Company has announced the launch of a new smart kiosk system that will allow shoppers to refill a selection of craft spirit brands. Consumers place their bottle under an intelligent pouring system and use a touch screen to accurately refill with their favourite spirits. Each sustainable refill is reported to offer significant environmental benefits, eliminating an average of 550g of carbon emissions and more than 700g of single-use packaging waste. Consumers will also save up to 20% over the same spirit in single-use packaging formats. The new patent-pending SmartKiosk technology for Proof & Company in conjunction with ecoSPIRITS is being launched initially in Singapore in partnership with DFI Retail Group. The first SmartKiosk is located in CS Fresh, Tanglin Mall, Singapore, with four more locations planned for launch later this year.





# Reusable packaging champions join forces to broaden adoption of reusables

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Reusable packaging providers Tosca, and Loop, the circular reuse platform for primary packaging, have announced a partnership to broaden the adoption of reusables. Starting in the first quarter of 2023, Tosca will take over as the primary cleaning provider for Loop products in North America. As an ISO-22000 certified provider, the company will deliver industry-best food safety practices. Tosca provides many services that are a natural fit for Loop's supply chain like reusable crates and pallets as well as IoT-enabled reusable point of sale displays. The two companies plan to work together to increase the adoption of reuse by participating in sustainability forums and increasing consumer education. Loop, which Terracycle launched in May 2019, is one of the first platforms to partner with some of the world's largest brands and retailers to offer consumers a way to shop for the products they use daily in durable, reusable packaging.



# Award-winning, cost effective, consumer friendly tape-based reseal product

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Pennsylvania-based Sealstrip claims to have the most cost effective, consumer friendly reseal product on the market. Their patented, award-winning Peel&Seal is said to be easy to use, space efficient and keeps product fresh. After opening the package by the current method, the consumer reseals the package by peeling the Peel&Seal tape away from the top of the bag, rolling the bag closed and sealing it down with the tape. It is available as an add-on to new or existing vertical form-fill-seal baggers. The applicator operates at the current line speed and applies the Peel&Seal material continuously in the film flow direction. A table-top applicator is also available for smaller businesses. Peel&Seal is typically used as an easy reclose feature for a diverse range of products including: confectionery, bakery, fresh cut produce, dry beans, rice and sugar, and snack foods.



# Reusable parcel packaging programme for temperature sensitive products expanded

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Sonoco Thermosafe provides a reusable parcel packaging service called the Orion Rental packaging programme. This is for healthcare, pharmaceutical, and other temperature-sensitive applications. They have now expanded the service and added an additional service hub in Brussels. It is said that Belgium was chosen for the new location due to its proximity to existing biopharma customers, prospects, and other western European countries. At Brussels it will be partnering with CEVA Logistics who will distribute the packaging. The temperature assurance boxes are apparently prepared in advance at an Orion Rental station, then delivered to the pharmaceutical company, where they are apparently shipped to clinical sites, healthcare or distribution facilities, and directly to patients. Customers can also utilise self-service to receive their deliveries, such as an online ordering portal with visibility from orders-to-reports.





# Cosmetic brand chooses refillable and recyclable jar for new launch

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Teaology is an Italian beauty brand that produces tea infused skincare formulations. For their new Kombucha Revitalising Face Cream, they have chosen Lumson's Re Place jar, which is both recyclable and refillable. The Re Place jar features a glass container with an inner PP (polypropylene) cup system designed to be easily removable and replaceable. Re Place is based on Lumson's Deluxe and Unique 50ml glass jars, which offer classic and rounded lines. The plastic inner cup has been specifically designed to allow a protective seal to be applied on top. After use, the inner cup can be easily removed from the jar and disposed of through the recycling chain. The inner cup was customised to match the graphics and colours used for the new line. Since its creation in 2017, it is reported that sustainability has been a major part of Teaology's ethos, and they are a certified B Corp company.



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# Cosmetic refill solution is lightweight and easy to recycle

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Dutch cosmetic packaging company, Fasten, part of the Innovative Beauty Group (IBG) has launched the Recharge Luxury Refill solution. The new pack is made entirely from PP (polypropylene) and PET (polyethylene terephthalate), with the company claiming that both materials are recycling stream compatible since their recycled granulates can be reintegrated into manufacturing settings. Recharge also includes an all-PP cosmetic pump, which the company claims is an industry first. The company says that the Recharge Luxury Refill System features a bottomless, clear outer frame, instead of a full outer bottle, which they say allows for reduced weight and material use, as well as full visibility of the refill. Also, the inner refill bottle is lightweight and features an easy click-in system with a pre-assembled PP dip tube that prevents cross-contamination when refilling. Recharge is available in sizes including 30ml and 100ml. Fasten says the solution is ideal for makeup and skincare products.



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# Corrugated design studio invests in new tape applicator technology

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Moyy, a Canadian corrugated design studio and print house, has invested in recently launched tape applicator technology from Essentra Tapes. They have purchased Essentra's SF-AS DH1 tape applicator system. It can run automatic stop/start performance on tape widths from 4-25mm and at compatible production line speeds. The system is capable of running two applicator heads simultaneously, meaning RippaTape can be applied alongside release liners or double-sided tapes. A spokesperson for Essentra said that the intention with the SF-AS DH1 was to create a simple-to-operate, easy-to-integrate applicator, which addresses the tape application needs of sheet feed manufacturing and makes light work of creating e-commerce solutions. A spokesperson for Moyy said that the purchase of the tape applicator was a critical piece of equipment as they look to focus on developing best-in-class opening and closing solutions.



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# London distillery introduces refill scheme for spirits

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The East London Liquor Company (ELLC) has announced the launch of Project Refill. For off-trade sales, the initiative allows customers to bring any empty 700ml bottle from home. They can then choose whether to fill it with East London gin, vodka or rum. The bottle will then be relabelled, and a fresh duty stamp will be added. The campaign has been launched to combat packaging waste and rising costs by selling its gin, vodka and rum in an additional 10-litre HDPE (high-density polyethylene) jerry format. On-trade accounts can now order ELLC spirits in the kerbside recyclable format so that existing bottles can be refilled for the back bar and speed rails. The CO2 emissions linked to the production of the primary packaging are reportedly reduced by 88% when using the 10-litre HDPE refills versus glass bottles.



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# Silicon pizza container expands to save fridge space

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Pizza Pack is a space-saving container available in the US. It can expand or contract depending on how much pizza is required to be stored, and its makers claim it can hold an 18-inch pizza cut into eight triangular slices. Users pull the Pizza Pack up to make it taller, or push it down to make it smaller, depending on how many slices it needs to hold. Each pizza slice box comes with five microwavable divider trays that not only keep the slices from sticking together while being stored, but double as pizza plates when you want to reheat a single slice. The idea behind the Pizza Pack is that it takes up much less room in the fridge than a corrugated pizza delivery box, plus, thanks to the lid it keeps its contents from drying out. The design could influence some interesting single-use and reusable packaging options. The Pizza pack retails at US\$23.99.



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# French startup offers consumers reusable containers

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Sycléo is a French startup that allows traders such as butchers, delicatessens, cheese shops, fishmongers, caterers, and restaurants to offer their customers a solution to consume their products without waste thanks to reusable and returnable containers. This is enabled via a free app that utilises QR codes. All the consumer has to do is download the free Sycléo application and go to a partner store to pick up and bring back the food in reusable packaging. After use, the customer returns the dirty containers to a Sycléo partner store within two months to have their deposit returned. Sycléo then collects the dirty containers and takes them to their facility at Le Fenouiller. Sycléo takes care of the washing and gives a sanitary guarantee, manages all the logistics, and takes care of the traceability of the containers. The service is currently only available in the Vendée and Nantes areas.



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# Corrugated case attachment allows multiple reuses

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Box Latch Products is an American company based in Wisconsin that markets what they claim is a simple and effective reusable system for closing and reopening corrugated board boxes. By using their Box Latch products it enables users to reuse boxes multiple times, eliminating the need for tape, staples, glues, and straps, all of which destroy boxes. There are a range of different shapes and sizes, to fit various sizes of boxes and materials, ie, single and double-wall. They are also available in a range of colours, so that products can be colour-coded. Box Latch products allow corrugated boxes to be reused from 15 to up to 25 times, and each time the latches and the boxes are re-used, the savings are magnified. Anchors are also available which allows the Box Latch to stay attached to boxes between uses.



# Swiss retailer brings back milk in reusable glass bottles

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The Co-op retail chain in Switzerland is bringing back milk in reusable, returnable glass bottles. The retailer is the first in Switzerland to introduce a reusable glass bottle for milk in decades, but it will only be available for organic whole milk from its own brand Naturaplan. The return to glass packaging is aimed at reducing waste and will initially be available in around 100 supermarkets. It is not quite the return of the milkman, as after the customer has purchased their milk in the glass bottle in store, after use it then has to be returned by the consumer to the store. The new 1-litre glass bottle contains pasteurised organic whole milk from Coop's own brand Naturaplan, and costs CHF 2.45 (£2.18) plus a deposit of 30 centimes (27p).



# Smart reusable bags helping to replace single-use plastic bags

Two Malaysian brothers hope to end the widespread use of single-use plastic carrier bags. They are endeavouring to change consumer behaviour by providing incentives to switch to reusable bags instead. Although the local government has sought to reduce plastic use in the country by undertaking numerous initiatives, including charging RM\$0.20 for each plastic bag at stores and banning the use of plastic straws, it is felt that these haven't had the desired impact on single-use plastic. The scheme works like this: customers download the Beebag app and get a Beebag from partners or via their website. Consumers then visit a partnering store with their Beebag and select their desired reward. They can then exchange collected Bee Coins with vouchers in the Beebag App. The Beebag is a durable bag made of polypropylene (PP), with a Beetag, which uses near-field communication (NFC) as the underlying technology.





# Sustainable home delivery service uses minimal or reusable packaging

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Launched in 2020 in Philadelphia, The Rounds is a modern-day iteration of the milkman and has a range of over 120 'everyday essential' products from which customers can choose from. Products are delivered weekly in reusable bags and refillable containers without cardboard boxes or single-use plastic. The company estimates that an average customer could save about 40 to 50 pounds (18 – 23kgs) of packaging waste per year by using its service. The service costs \$10 a month, and for this, customers get personalized refills and drop-offs and pick-ups at their homes every week. They also receive what The Rounds says are the best premium natural everyday products at bulk shop prices. The products also arrive in thoughtfully designed, reusable containers that complement customers' homes. Products are delivered by e-bikes. As well as Philadelphia, the service is also now available in Washington DC, Miami, and Atlanta.



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# World's first cradle-to-cradle certified refillable perfume

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French multinational beauty brand Coty has announced the launch of what it says is the world's first fragrance to receive a C2C Certified Material Health Certificate at the Silver level. It was awarded the certification for its Coty Chloé Rose Naturelle Intense, whose refillable bottles demonstrated reduced environmental impacts across Product Life Cycle Assessment indicators. It is reported to help reduce up to 65% in greenhouse gas emissions, 67% in water consumption, 66% in energy consumption, and 75% in mineral resources consumption. The environmental footprint life cycle assessment of Chloé Rose Naturelle Intense was conducted by an independent organization, EVEA, to measure the impact of the bottle and its refill, from the choice of raw materials to the end of the product's life. EVEA evaluated the environmental footprint of a 100ml bottle combined with a 150ml refill compared to five traditional 50ml bottles.



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# Swedish airport trials deposit scheme for take-away cups

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Swedavia AB, the Swedish state-owned company that runs many of the country's busiest airports, is trialling the Swedish deposit system &Repeat for its takeaway cups at Bromma airport in Stockholm. All takeaway cups from the airport's restaurants will be part of a deposit scheme, and cups will feature &Repeat's unique QR codes. When customers scan the code on the mug with a smartphone and confirm that they have been placed in recycling points, they will be rewarded in the form of credit points, which can be used as means of payment at restaurants etc., that are connected to &Repeat's recycling and deposit system. The introduction of the deposit scheme means that instead of the majority of the 10,000 cups sold at the airport being incinerated, they will now be recycled. If the initial trial is considered successful, they will look to expand it to their other airports.





# Refillable airless bottle launched for cosmetics and personal care

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French cosmetics packaging company Embelia has collaborated with Lablabo, a specialist in pouch airless packaging solutions, to develop a refillable version of the Baia pouch airless system. The Baia airless is a complete set consisting of a 30 or 50 ml recyclable polypropylene (PP) bottle, a recyclable polyethylene (PE) pouch, a pump allowing the distribution of high viscosity formulas, a collar and a cap. The flexible pouch retracts with each dose delivered. There is, therefore, no air return into the system, which helps to protect the integrity of the formula and to limit the total amount of preservatives needed. For the refillable version, the pouch can be easily removed by unscrewing the upper part of the system. The user can then insert a refill and reuse the rest of the system, i.e. the bottle, the collar, the cap and the pump.



# Reusable beverage cup is 30% lighter than industry standard

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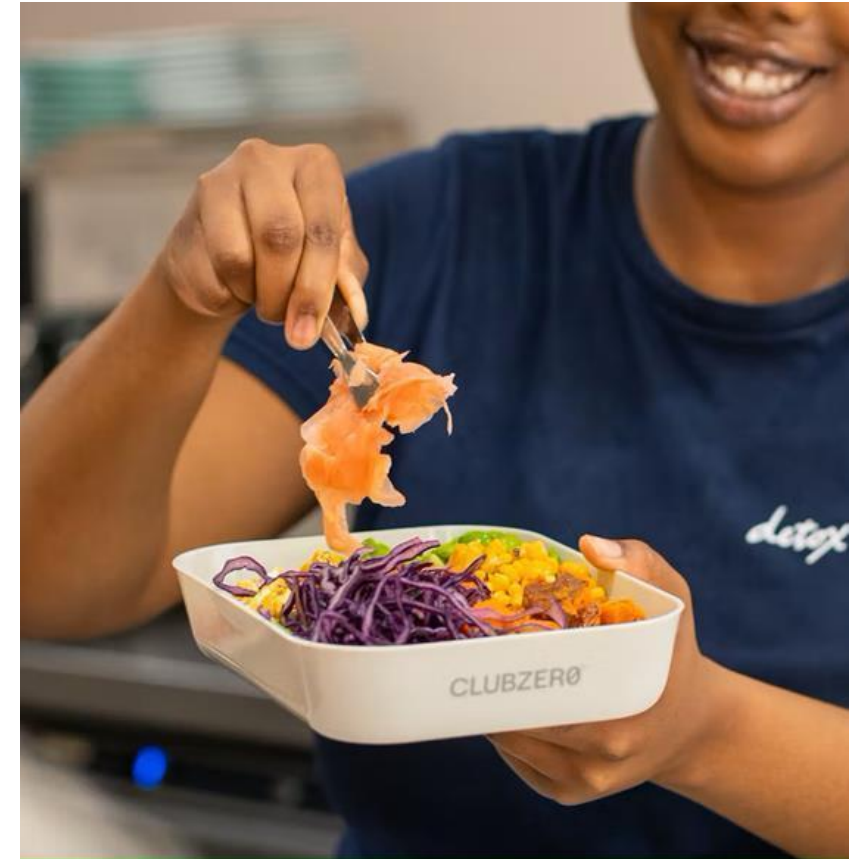
Denmark-based Berry Superfos has launched what it says is an innovation in the reusable beer cup market. Berry are offering the Super Cup, a lightweight solution, that is at least 30% lighter than the market standard for reusable beer cups. Although it is primarily intended for reuse, being made of PP (polypropylene) it is easily recyclable where facilities exist. In addition, to meet increasing demand for circular packaging solutions, the SuperCup can be produced with PP made from recycled plastic that has the same quality as virgin material. The SuperCup is sturdy and washable, and has a very recognizable “beer” design making it ideal for the imprint of logos or messages. The SuperCup comes in sizes 25 cl and 50 cl. Logos and other information can be printed on the cup’s surface by the use of In-Mould Labelling (IML) in four colours or offset in six different colours.



# Food delivery platform extends partnership with reuse system

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Just Eat, the online food order and delivery brand, has announced that it is to progress its partnership with CLUBZERØ, which will provide a returnable packaging system for corporate offices in London. The move follows a successful 10 month pilot trial. Business customers will have a choice to opt-in for CLUBZERØ reusable packaging when placing an order with Just Eat for Business from a range of participating restaurants or cafes, through the Just Eat for Business platform. After the food has been eaten, the packaging will be collected by CLUBZERØ to be washed centrally and redistributed for reuse. The expansion will see over 80 restaurants and cafes in London and surrounding areas provided with reusable takeaway cups and containers. A spokesperson for CLUBZERØ said that they hoped that reuse would be adopted as the new norm across food and beverage delivery and takeaway.



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# About Us



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

ThePackHub is a leading UK based packaging innovation consultancy specialising in delivering packaging solutions to brand owners, retailers and packaging suppliers. ThePackHub manages a market-leading innovation database called The Innovation Zone. The easy to use resource has over 6,700 packaging innovations from around the world updated at 25 initiatives a week. This internal insight and knowledge feeds into much of the consultancy we undertake. ThePackHub also has an unrivalled network of packaging contacts and connections across the industry.

Our team delivers technical support for packaging projects, large and small. From quick and helpful tips and advice through to the project management of significant packaging initiatives, ThePackHub has established a strong reputation for helping companies from start-ups to multinational organisations. Our recent clients for technical support have included EAT, Greencore, Able & Cole, Loch Duart, Innocent, Aunt Bessies, Waitrose, Leathams, WRAP, KP Snacks, Iglo, Fortnum and Masons, Church and Dwight, Aubrey Allen, Glanbia, Pip & Nut and Happen!

We have published several packaging reports covering sustainability, packaging trends, supplier guides, seasonal packaging and more. ThePackHub also hosts packaging events. We have delivered a dozen face-to-face seminars that provide insight from expert speakers as well as bring the industry together to network and collaborate.

ThePackHub has a wealth of experience helping many major companies with their packaging innovation. Clients include Arla Foods, Waitrose, Barilla, Coca Cola, PepsiCo, Mondi, Premier Foods, AB InBev, Kraft Heinz, Mondelez, Mars Wrigley, Church & Dwight, PZ Cussons, Meiyume, Walgreen Boots Alliance, Marks & Spencer, Lidl, Aldi and many more.