



# PACKAGING INNOVATION

BRIEFING REPORT

OCTOBER 2023



## Welcome

Welcome to ThePackHub's Packaging Innovation Briefing Report for October 2023.

In this comprehensive and unique monthly report, created exclusively for Innovation Zone members, you'll find a wealth of information on the latest packaging innovations and industry news.

With 122 pages of content, including 110 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.

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# Summary

Our latest monthly report underscores the latest advancements in packaging innovation, highlighting key areas such as bio-based packaging, tech-enabled solutions, e-commerce packaging, functional packaging, recycling initiatives plastic reduction, and refillable and reusable packaging. Sustainability remains the primary focus, with approximately 80% of the latest initiatives being eco-centric.

The biobased packaging industry, particularly seaweed-based packages, is seeing rapid expansion, and consumer-centric packaging continues to be vital. Furthermore, the surge in e-commerce offers increasing opportunities for brands and retailers to provide packaging solutions specifically designed for this platform. The trend towards refillable and reusable packaging is picking up steam, with a plethora of initiatives observed in the dry food, household, and personal care sectors.

Recycling initiatives continue to be among the most dynamic sustainability actions, fuelled by the stringent commitments of global Plastic Pacts and packaging taxes.

The innovations featured track  
ThePackHub's trend areas:

[Recycling Resurgence](#)

[Refill Revolution](#)

[Paperisation](#)

[Bio Alternatives](#)

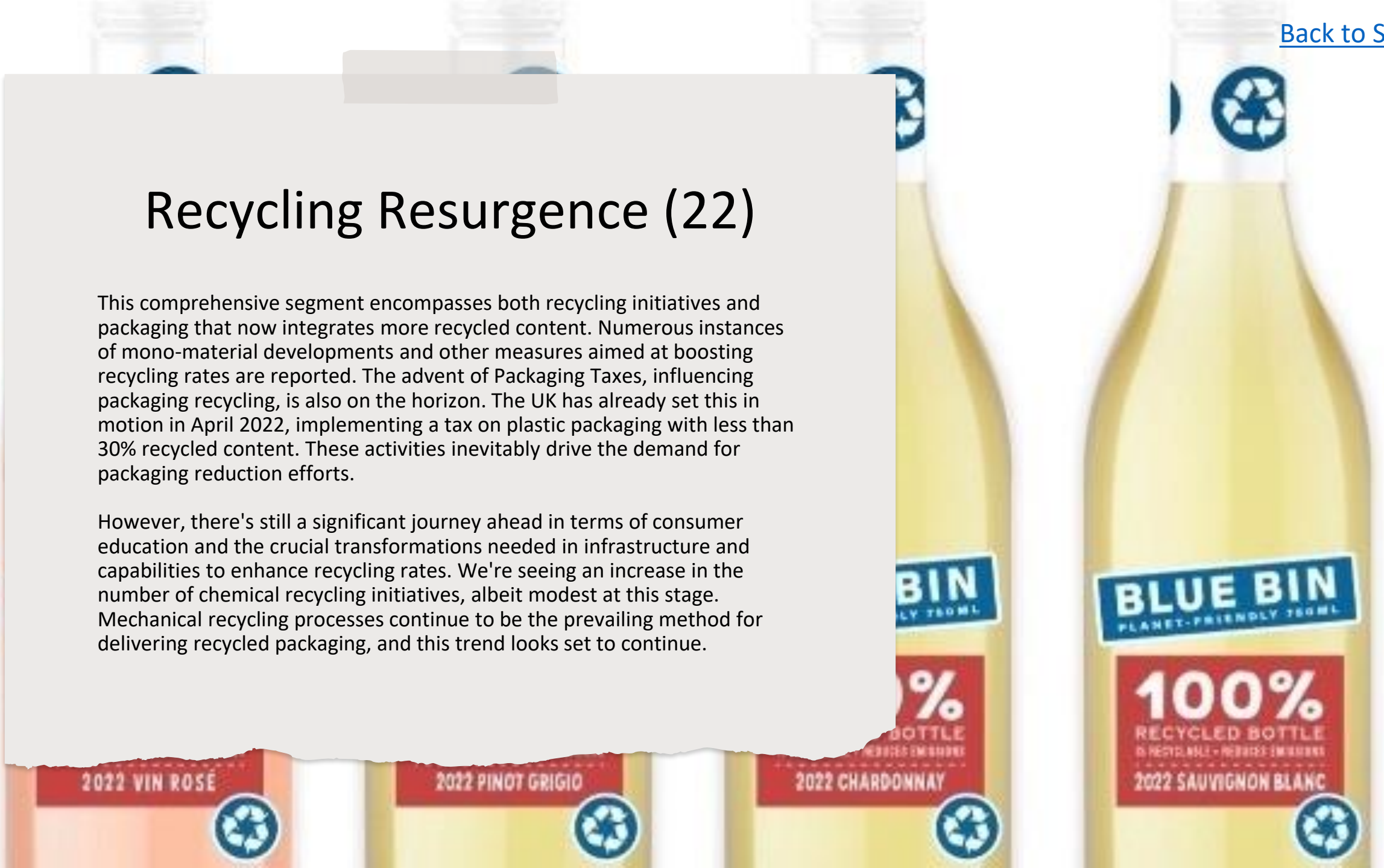
[Miscellaneous](#)



## Recycling Resurgence (22)

This comprehensive segment encompasses both recycling initiatives and packaging that now integrates more recycled content. Numerous instances of mono-material developments and other measures aimed at boosting recycling rates are reported. The advent of Packaging Taxes, influencing packaging recycling, is also on the horizon. The UK has already set this in motion in April 2022, implementing a tax on plastic packaging with less than 30% recycled content. These activities inevitably drive the demand for packaging reduction efforts.

However, there's still a significant journey ahead in terms of consumer education and the crucial transformations needed in infrastructure and capabilities to enhance recycling rates. We're seeing an increase in the number of chemical recycling initiatives, albeit modest at this stage. Mechanical recycling processes continue to be the prevailing method for delivering recycled packaging, and this trend looks set to continue.



# Recycling Resurgence

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# US multinational releases new MDO mono-PE film designed for recyclability

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American multinational oil and gas corporation ExxonMobil Corporation has announced a new development in its range of HDPE (high density polyethylene) films. Its latest development is ExxonMobil™ HD7165L for Machine Direction Oriented (MDO) PE film applications. Development of HD7165L has been driven by market demand from brand owners and processors seeking all-PE packaging, which has created a need for print webs made of blown MDO-PE films. Designed for recyclability, HD7165L enables the production of mono-material laminates to replace multi-material laminate structures, which can be difficult to recycle. The company says that HD7165L is well suited for mono-material laminated packaging for nuts, crackers, condiments, granola bars, potato crisps, and more. The main attributes of its use as a PE/PE laminate are heat resistance, stiffness, printability and good optical properties. ExxonMobil says the film is recyclable in communities with programmes and facilities that collect and recycle plastic film.



# American company introduces new label materials with 'no label look'

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Mactac is a US company specialising in pressure-sensitive adhesive applications. It has now announced expanding its label film portfolio by adding two new PP (polypropylene) film solutions. PJI3892-2 is a 2.4 mil white film, while PF3892-2 is a 2.0 mil clear construction. Both feature MP238 — a new optically clear (no label look) permanent acrylic adhesive for labelling applications in beverage, food, personal care and household goods markets. The company says that the standout feature of MP238 is its remarkable resistance to water whitening, coupled with good open time, wet-stick, and wet-out properties. Other features of the new prime label products include a robust topcoat with bold imagery, excellent printability, and a stiff, smooth film liner. The new products are compatible with UV screen, UV flexographic, water flexographic, cold foil and UV inkjet print methods.



# New self adhesive tape contains 30% recycled content

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IPG (Intertape Polymer Group) is a global packaging and protective solutions provider based in Florida, USA. The company has launched a water-based acrylic pressure-sensitive carton sealing tape designed with 30% recycled film. The new tape, made from BOPP (biaxially oriented polypropylene) is called 170e. It is, the company says, a significant step in reducing the consumption of new virgin raw materials, thereby providing an overall lower carbon footprint. 170e maintains the performance characteristics and reliability of the carton closure product line. Its superior tack, UV resistance and broad application temperature performance mirror its non-recycled content counterparts and is ideal for manual and automated applications. A spokesperson for the company said that sustainability was a core value at IPG, and this new carton closure product demonstrated the company's dedication to developing innovative solutions that help their customers go green.





# Aluminium deodorant cans get sustainability overhaul

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German multinational personal care brand owner Beiersdorf has announced that starting this year and next, all deodorant cans in its European assortment of Nivea, 8X4, Hidrofugal, and Hansaplast will contain at least 50% recycled aluminium and will weigh 11.6% less due to material reduction. The switch will reduce CO<sub>2</sub>e emissions in the aerosol can value chain by around 58%. This corresponds to a reduction of approximately 30 metric tonnes of CO<sub>2</sub>e emissions annually. The recycled material used is sourced from the European market. It is remelted and processed into aerosol cans, which Beiersdorf then uses for its products, such as deodorants, at its new plant in Leipzig-Seehausen, Germany. The company says the new technical changes in the packaging do not change the product's functionality.



# Closed-loop system for swimming pool chemicals made from rPE

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Berry Global France has partnered with French water treatment specialist Ocedis, to establish a closed-loop system for the supply of Berry's 20 litre Optimum stacking containers. The containers are manufactured from rPE (recycled polyethylene) and will be used for Ocedis's pH Minus Liquide for commercial and local authority swimming pools. The containers are produced at Berry's BMS Moirans factory in France and delivered to the Ocedis plant in Trévoux. After filling, they are distributed to customers and at the same time, empty containers are collected and returned to Ocedis. These are then transported to a recycling partner where they are washed, shredded, ground and converted back into rPE pellets, which are sent to Berry Moirans to produce new Optimum containers. Berry says that these rPE containers retain the same performance levels in terms of their durability and functionality as those made from virgin polymer.



# Bottle overcaps contain 60% recycled PE

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French capping and overcapping group Crealis has announced the French launch of caps and capsules whose PE (polyethylene) layer contains 60% recycled material. Called R-derma, the caps comprise three layers, an inner and outer layer of aluminium, with the recycled PE layer sandwiched in between. The company says that R-derma caps give an 18% carbon footprint reduction compared to a traditional poly laminate material sparkling foil or Elite capsule in a standard size. This figure was confirmed by two separate independent studies conducted by Milan University, who conducted a cradle-to-gate Life Cycle Assessment, and e3 Brescia, who compared a traditional poly laminate material with the new glueless R-derma material. R-derma is recommended for sparkling wines, still wines, spirits, beers and ciders. A spokesperson for the company said that using up to 60% certified recycled material within the polyethylene layer gives post-industrial PE waste a second life.



# Wood pellets move to 50% PCR LDPE bags

TotalEnergies is a global multi-energy company that also produces and commercialises polymers – PE (polyethylene), PP (polypropylene), PS (polystyrene), as well as recycled equivalents and biopolymers that can be incorporated into the plastics manufacturing process. The company's TotalEnergies Premium Wood Pellets are now packed in high-performance polyethylene bags incorporating 50% post-consumer recycled (PCR) materials. The new innovative packaging is composed of a core layer of rPE2206, a low-density polyethylene (LDPE) grade made of 100% PCR content and part of the RE:clik circular polymer range, and high-performance Lumicene and Supertough metallocene virgin resins. It exhibits identical properties and thickness as fossil-based alternatives with a reported significantly reduced environmental footprint. Also, the printed area of the packaging has been reduced by 60% to improve recyclability and limit ink usage. The move contributes to a new milestone in TotalEnergies' ambition of producing 30% circular polymers by 2030.





# French packaging company develops glassine recycling scheme

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Autajon is a packaging company based in Montélimar, France, that produces labels and cartons. The company operates a glassine recycling scheme, the backing material to which labels are affixed and thrown away once the label has been attached to a product. The company says that the amount of glassine thrown away yearly amounts to around 50,000 tonnes. Autajon began recycling glassine in 2018. In 2019, 11 tonnes had been recycled. Currently, 45 tonnes of glassine is recycled across the group and various stakeholders. All Autajon Etiquettes sites now offer the glassine recycling service. This local partnership was set up in the Bordeaux region, with the ambition of national development in 2024, with the ambition to recycle 90 tonnes. The recovered glassine is converted into thermal and sound insulation, 98% of the finished product coming from recycled glassine.



# New PET bottle for dairy products can contain up to 80% PCR thanks to barrier

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Michigan-based Amcor Rigid Packaging is introducing the DairySeal line of packaging that features ClearCor, an advanced polyethylene terephthalate (PET) barrier. The ClearCor PET barrier technology is a concentrated capsulation of a barrier that enables more flexibility in resin options, including the use of PCR (post consumer recycle) without degrading the barrier performance. This technology positively impacts the overall performance of the barrier in the packaging and maintains recyclability. The DairySeal packaging line can be made with up to 80% recyclable material while maintaining superior taste and performance for the brand. DairySeal maintains its physical integrity during shipment and provides more sustainable benefits. It also allows for customisable design while meeting shelf requirements. The DairySeal line is available in 8 oz, 11 oz, 12 oz and 14 oz stock options, with additional sizes and shapes planned for future stock demand.



# Irish dairy moves to clear bottle caps to aid recycling

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Irish dairy processors, Lakeland Dairies, has announced the roll out of new clear caps for its 2-litre and 3-litre milk bottles. The lids will be included on the company's own brand, Champion, and other retailers' brands. The traditional blue, red and green coloured bottle tops cannot be easily recycled into food-grade packaging. Therefore, replacing coloured milk caps with clear caps makes recycling easier and helps reduce colour contamination with HDPE (high density polyethylene). A spokesperson for Lakeland said that as the blue, red and green milk caps need to be processed separately from clear packaging, the change allows Lakeland Dairies to improve the quality of recovered material from household waste and the new cap to be recycled back into milk bottles. Lakeland also said they take their sustainability responsibility, producing safe, healthy and nutritious milk extremely seriously.



# Mono-PET bottle and shrink film enables easier recycling

A five-way collaboration has resulted in a Mono-PET bottle and shrink film solution as part of the #SleeveConnect project. The colourless rPET bottle, supplied by French company BTC Concept features a high opacity white CPET (crystalline polyethylene terephthalate) sleeve printed with washable inks – a mono-material combination said to facilitate easy recycling for the whole bottle. China's SK microworks provided the CPET shrink film, which is then processed by EMSUR, based in Spain, printed with washable inks and coatings from Germany-based Siegwerk, and processed by Swiss machinery supplier Karlville. A range of finishes, including Soft Touch and Matt Effect, are available for the sleeve. It is also designed for compatibility with other developments in the recycling process, such as digital watermarks for sorting detection technologies. The #SleeveConnect project is being launched at the Karlville booth at LabelExpo Europe 2023. The production process for the new bottles will also be on show.





# New dropper is made from fully recyclable monomaterial

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Norfolk-based Vetroplas, in collaboration with its Italian manufacturing partner Eurovetrocap, has announced the launch of a fully recyclable single-material dropper. The dropper, 'Parigi', is made from PP (polypropylene). Unlike existing traditionally shaped mono-material alternatives, this is a brand-new design with strong visual impact and a push-button delivery system. The new dropper features an external PP collar with a matte finish, which houses the button and pipette. The round button is flat, with a contrasting gloss finish to indicate where to press. The button's functionality is achieved thanks to an innovative PP formulated to achieve the required elasticity. It delivers a 375µl dose. The complex structure has taken Eurovetrocap several years to develop but now has a unique new offering for 15ml and 30ml glass bottles, which combines unique aesthetics with 100% recyclability, making it ideal for high-end oils and serums.



# Plant-based energy brand chooses sustainable format for new instant breakfast offering

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Tribe, who claims to be the UK's number one plant performance brand, has announced the launch of a new protein muesli instant breakfast oat blend. The breakfast Protein Muesli Pots are packed in Greiner Packaging's sustainable K3 pot. The lightweight PP (polypropylene) cup is wrapped in a cardboard sleeve, which can be easily separated to enable the recycling of both components. Tribe's instant breakfast oat blend will be available in Tesco stores and in Raspberry Nut Crunch and Dark Chocolate & Hazelnut flavours. Packed with natural plant energy, gluten-free and suitable for vegans, each pot contains 10g of protein. Greiner Packaging's K3 tub is reported to save up to 33% plastic compared to other pots of the same size and is made with a minimum of 30% recycled PET (r-PET). The K3 cardboard wrap can be produced with virgin or recycled board.



# Yogurt drink maker replaces PET label with embossing

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French dairy giant Danone has announced that it is removing PET (polyethylene terephthalate) labels from its Actimel drinks to facilitate bottle recycling and reduce the use of plastic. The company started removing PET labels from its 100g bottles in August. The brand name, vitamins and allergens are now engraved directly by embossing on the small white bottle supplied by Graham Packaging. The bottles, made of HDPE (high density polyethylene), are therefore now fully recyclable. This elimination also makes it possible to reduce the quantity of plastic used by 107 tonnes per year, or the equivalent of more than 270 million bottles. The amount of plastic used in Actimel has already been reduced by 40% since its launch in 1994. Without its PET label, the small bottle becomes 95% recyclable, as the lid on which the flavour is now indicated is non-recyclable. The cardboard surrounding the bottles and bearing the regulatory information is also recyclable.



# Wash-off label adhesive receives Association of Plastic Recyclers recognition

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American chemical company Dow has announced that its Invisu 7007 wash-off pressure-sensitive adhesive has received recognition from the Association of Plastic Recyclers (APR). The adhesive meets or exceeds the most stringent Critical Guidance Protocol for recycling clear PET (polyethylene terephthalate) items with film labels and closures. APR's Critical Guidance Recognition is a widely recognized assessment of the recyclability of plastic packaging and is awarded to companies whose products solve sustainable packaging design challenges. Production efficiency remains crucial when processing labels, and film labels can compromise the recycling process if not properly separated from the labeled items. Washable adhesives have proven to be a suitable technology to enable clean separation of labels, thus achieving a high-quality recycling output. Invisu 7007 is a washable label adhesive with good adhesion and tack and a high solids content for high-speed processing on modern coating machines.





# High barrier paper packaging pre-approved for recycling in North America

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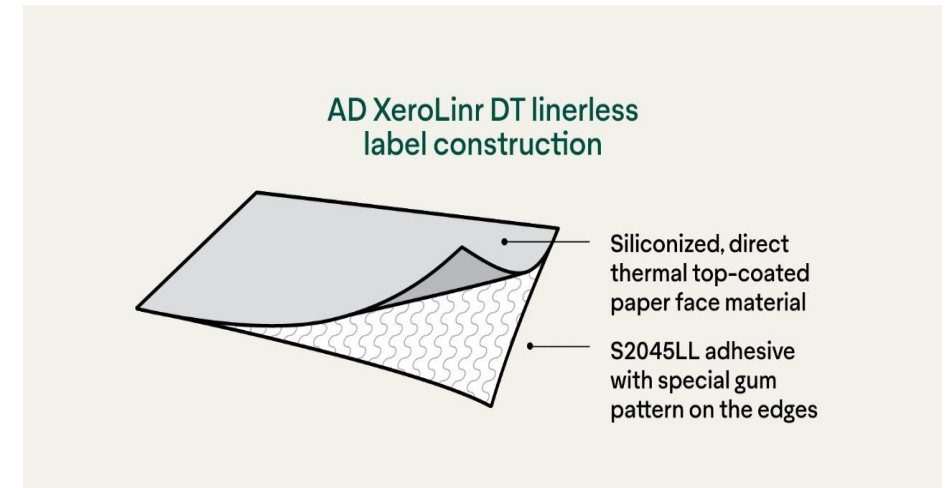
Global packaging manufacturer Amcor has announced the launch of AmFiber, a high-barrier paper-based product that How2Recycle has prequalified. This performance paper meets the repulpability standards for kerbside recycling, allowing brands to provide consumers with more sustainable end-of-life outcomes for packaging. AmFiber Performance Paper is a high-barrier laminate paper that is recyclable in most paper recycling streams, provides improved barrier and packer efficiency compared to the existing coated papers, and is also PVdC-free. Amcor's product portfolio includes options for confectionery, bars, cookies, cereals, dry beverages, and dry mixes. Format applications are ideal for cold-seal flow wrap and three-side seal sachets. AmFiber Performance Paper runs on existing flexible packaging equipment, achieving machine speeds comparable to plastic-based packaging. Consumers often seek paper-based packaging to deliver a more sustainable end-of-life outcome due to widespread kerbside paper collection and recycling.



# Linerless labels offer 30% CO2 and 40% water reduction

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Ohio-based label manufacturer Avery Dennison has launched a new direct thermal linerless solution for variable information labels. The new product, called AD XeroLinnr DT boasts a CO2 reduction of 30%, and a water-saving of 40%. With AD XeroLinnr DT, customers can expect to get 60% more labels per reel, meaning fewer reel changes, coupled with lower supply chain costs as there is 40% less weight to ship and fewer reels to ship. There is also a safety aspect, as there is no slip risk due to liners on the floor. The company says that with sharp images and excellent resolution for barcode scanning and readability, customers can use AD XeroLinnr DT for a variety of applications – from in-store retail to the growing industries of logistics and e-commerce, where the volume of parcels being shipped increases more and more every day.



# Insulated transit boxes are kerbside recyclable

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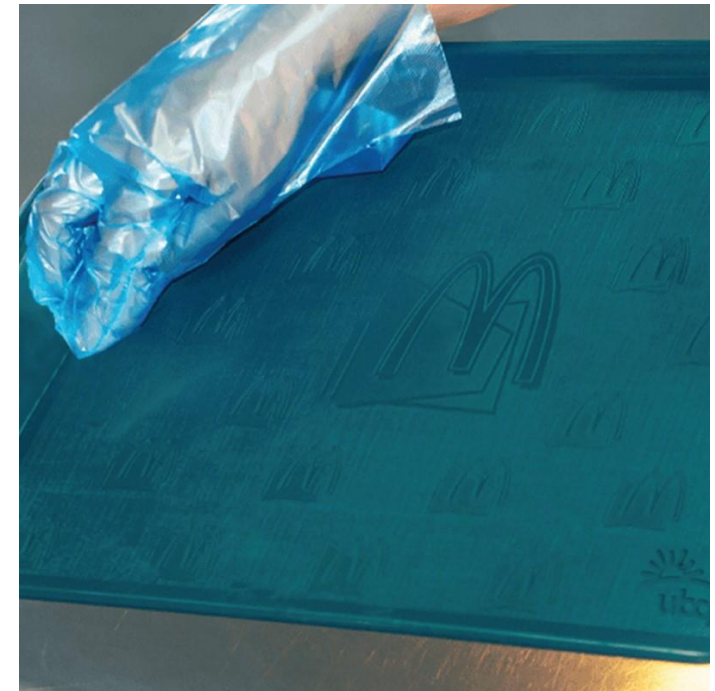
Sorbafreeze are suppliers of insulated packaging based in Scotland. The company offers three kerbside recyclable insulative boxes which can provide temperature-safe transit of goods for up to 48 hours. Their kerbside recyclable boxes are all paper-based, vegan-friendly and BRCGS-accredited, offering a sustainable alternative to plastics. The company's newest product is the Kerbcool box, constructed from corrugated cardboard with a pair of macerated paper liners creating a cushioned insulation chamber. Another of their offerings is Ecotek, a fully corrugated solution which is also kerbside recyclable. The final product is Enviropak, which is a corrugated outer box with paper insulation, and again is kerbside recyclable. Sorbafreeze's chilled packaging range is fully manufactured in-house, allowing them to create bespoke solutions. The company has its own corrugate factory, five-colour print capability and an in-house design team.



# McDonald's franchisee uses plastic made from hard-to-recycle materials for restaurant fittings

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Arcos Dorados is reported to be the world's largest independent McDonald's franchisee, operating the largest quick-service restaurant chain in Latin America and the Caribbean. Following a successful trial with UBQ Materials, the company supplied restaurant trays in 2021, Arcos Dorados will now become the first partner to implement building components. The electrical conduits, connection boxes, and modular wood boards will be showcased in Arcos Dorados' São Paulo-based restaurant to showcase the sustainability initiatives of the company. UBQ Materials has created the world's first bio-based thermoplastic, UBQ, made entirely from residual waste, including all organics and hard-to-recycle materials, including packaging. The move helps Arcos Dorados work toward their ambitious targets, including reducing green house gas emissions by 36% in restaurants and offices and 31% throughout the supply chain by 2030. Every kilogram of UBQ replaces 1kg of oil-based plastic, diverts 1.3 kg of waste from landfills and incinerators, and prevents up to 11.7kg of CO<sub>2</sub>e emissions measured over a 20-year time horizon.





# New trigger spray is 100% recyclable with option to have 50% recycled content

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Australian packaging manufacturer Caps & Closures has launched EzySpray Boost, which the company says is a sustainable pre-compression trigger that redefines eco-friendly spraying solutions. Crafted from 100% PP (polypropylene) and featuring a screw neck with a non-removable option, its unique design offers various spray and lever options, catering to diverse needs. With a 100% all-plastic trigger pump, including the spring, it's easily recyclable. Boasting up to 50% recycled content, it promotes sustainability by reducing new plastic demand. Certified recyclable with PET bottles and 98% with PP bottles, it actively minimises its environmental impact. The EzySpray Boost combines intuitive on/off indication, good grip, and non-drip dispensing for a pleasing user experience. Customisable colour options and with printing and laser engraving create on-shelf differentiation. Its removable screw closure option supports convenient refills, reducing single-use plastic waste.



# Leading European pet food retailer moves to mono PE packs

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Based in Germany, Fressnapf is the largest European pet product retailer. The company has decided to move to a recyclable mono-material for its Maxi Zoo Select Gold dry pet food range. The range will be packed in PE (polyethylene) mono-material bags and pouches from multinational packaging supplier Mondi. They will now be packed in Mondi's FlexiBag Recyclable, BarrierPack Recyclable and Recyclable StandUp Pouches. These mono-material packaging solutions provide strong barrier properties providing protection from moisture, fat and odour and are strong and flexible to pack and store. As certified by Institute cyclos-HTP, the mono-material packaging is recyclable with other mono-polyethylene (PE) films using various existing recycling streams across Europe, helping to contribute to a circular economy. Pack sizes range in weight from 300 g to 12 kg, and total around 150 products. All packaging sizes offer long shelf life and ease of use for consumers.



# Chilean bakery ingredients supplier moves to 100% recyclable bag

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Food ingredients supplier Puratos Chile has launched new bags for its bakery and pastry premix products, made of 100% recyclable film and printed with 70% less ink. The new bags for premixes are available in two sizes, 10 and 20 kilograms, and have been made with LDPE (low-density polyethylene), a material typically used as a container for food products. Due to its composition, this polymer has less effect on the properties of foods. The artwork design also uses 70% less ink, translating into fewer chemicals and less energy in its manufacturing. The move to the LDPE bag occurs in the context of the objective of becoming a carbon-neutral company in all its operations in the year 2025, and also contributes to the advances of Law 20,920 on Extended Producer Responsibility in the country, also known as REP law.



## Refill Revolution (12)

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 startup 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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[French perfumier moves to bottle with refillable neck design](#)

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[French beauty house launches new refillable fragrance](#)

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# Packaging-free home delivery refill service on the island of Cyprus

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The Refill Van is a packaging-free, zero-waste delivery service for food and household items based in Cyprus. Customers arrange a day and time, and the van comes to the customer. On arrival, the customer brings out their containers, which are then filled with whatever the customer requires. The Refill Van has a wide range of food products, including lentils, beans, rice and pasta. Also, crisps, nuts, and dried fruits. They also stock herbs and spices. Personal care products are also available, such as soap, toothpaste powder and brushes, and a range of household cleaning products. Although customers are encouraged to bring their own containers, they can supply products in paper bags if required. Although the Refill Van services the Limassol and Nicosia areas mainly, they are considering additional towns and villages.



# French perfumier moves to bottle with refillable neck design

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Nice-based French perfume packaging supplier Coverpla has developed a refillable screw neck design for its Gala glass bottle, updating the fixed neck design. Essential Parfums, based in Paris, has adopted the new bottle as part of the company's 'sustainable' fragrance line. An accompanying series of 150ml aluminium refills will be sold in boutiques and online. Géraldine Archambault, founder of Essential Parfums, is said to have chosen the bottle, manufactured by Italian glassmaker Bormioli Luigi, for its affordability and minimal design, which sought to draw maximum attention to the product itself. A renowned French perfumer has signed each bottle. A spokesperson for Coverpla said that they were proud to have risen to their customer's challenge: switching to refillable bottles without changing the visual identity of the bottle to which consumers are faithful.



# Chilean startup provides reusable packaging for restaurants

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Con Devuelta is a Chilean startup that supplies a sustainable, reusable packaging service for restaurant delivery. The service works by subscription and is being touted as the ideal solution to help venues to comply with the single-use plastics law that will come into force in Chile in August 2024. After use, the customer returns the reusable container to one of their pink collection stations, after which they are taken to the Con Devuelta washing centre, located in Santiago. There they are cleaned and sanitized to ensure that they are in optimal conditions for reuse. The containers are expected to last for around 200 reuses, and CO2 emissions are reduced by 30% compared to conventional packaging. It is not clear how many reuses would be required to achieve this. They currently work with five restaurants in Santiago and plan to expand to cover sixteen by the end of 2023, and with an eye toward other regions.





# Consumer goods giant to trial first packaging refill point in Mexico

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Leading multinational producer of consumer goods, Procter & Gamble, is partnering with Chilean start-up Mercado Circular to bring to Mexico its first refill point for products in reusable packaging. The pilot scheme will allow consumers in Mexico City to have access to the circular economy model that reuses packaging to eliminate single-use waste from the entire chain. This generates a positive environmental impact, being more economical by eliminating the cost of packaging. It is reported that a Mexican consumer throws away more than seven kilos of plastic bottles a year, and together they generate more than 780,000 tons annually. The first refill point is already operating in Mexico City and is located at the Walmart, Sam's Club Santa Fe location and has refills of four P&G hair products from the Pantene, Head & Shoulders and Herbal Essences brands. Each bottle has a QR code to measure traceability and environmental impact.



# Cruise line to trial closed-loop packaging for spirits

Global spirit giant Bacardi is to conduct a three month pilot for closed-loop packaging of its rum designed specifically for the cruise industry, through a collaboration with Carnival Cruise Line and circular economy technology company Eco Spirits. The pilot will determine if reusable containers can serve Bacardi rum on Carnival ships, reducing single-use packaging by 95%. The container used will be Eco Spirits' Eco Tote 3.0SC Cruise Edition. Each Eco Tote reportedly replaces approximately four bottles of Bacardi Superior rum, and each one can be used, cleaned and refilled 100 times, creating a closed-loop system. The rum will be transferred from Eco Tote to serving format using Eco Spirits' Smart Pour technology, a digital spirit dispense system that pairs with Eco Tote. These Wi-Fi-enabled pouring units can dispense rum from an Eco Tote directly to the serving glass or cocktail shaker or refill a branded spirits bottle.



# Partnership brings reusable containers for food delivery to Los Angeles

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Two American companies have formed a partnership to offer reusable containers for food deliveries in Los Angeles. Gently, a last-mile logistics innovator, has teamed up with DeliverZero, who are a New York-based reusable takeout packaging systems provider. In the initial phase, select Los Angeles restaurants like Lazy Daisy and Planta will incorporate DeliverZero's reusable food containers into their online ordering process. Once the food is delivered, consumers receive a text from DeliverZero to initiate container pickup, which undergoes thorough cleaning for reuse. Gently powers the logistics network, including technology, vehicles, drivers and nano fulfilment centres, enabling sustainable same-day delivery and returns across major US cities. These reusable takeout packaging systems can potentially eliminate 54% of emissions typically associated with single-use containers, according to DeliverZero. Gently's all-electric fleet and fulfilment centres empower retailers to compete with big e-commerce players effectively in speed and service.



# Dutch reusable bag scheme replaces single use corrugated boxes

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Boxobag is a reusable packaging scheme based in the Netherlands that replaces disposable cardboard boxes. It works on a subscription service, starting from €1.50 (£1.31) per month. It works in the following way – the customer pays a one-time deposit and monthly subscription costs. Boxo supplies Boxobags and sealing tape or shipping stamps and provides periodic cleaning and repairs. Boxo bags are made from used big bags, and thanks to this wear-resistant material, Boxobags can be used as shipping packaging at least 500 times, meaning significant CO2 savings compared to disposable boxes. There are two types of Boxobags available in different sizes. Flip flap comes in medium: maximum size 37 x 25 x 11 cm, and large, maximum dimensions 50 x 36 x 13 cm. DryBag comes in medium: maximum size 50 x 30 x 12 cm, and Large: maximum size 60 x 35 x 15 cm.





# Reusable wine bottle scheme comes to Oregon

Oregon-based Revino provides wine bottle reclamation and sanitation services to local wine producers while building a robust local and sustainable glass supply network. Their process operates in an infinite loop, starting with bottle manufacturing and distribution, moving to consumption and redemption, and ending with bottle sanitisation and reuse. Through their RGBs (Returnable Glass Bottles), and certified quality washing processes, Revino empowers wineries to embrace sustainability and positively impact the environment. Revino's RGBs are designed to be reused multiple times without compromising quality or integrity. Their bottles reportedly offer emissions reductions of up to 85% compared to single-use bottles and can be refilled up to 50 times, breaking even on carbon emissions after the third reuse. The Oregon Beverage Recycling Cooperative BottleDrop Refillables programme has been working collaboratively with Revino since the inception of its reuse scheme. The business is excited to see the programme come to fruition within the local community.



# Spanish startup aims to eliminate single-use coffee cups

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Spanish reusable cup startup vasovenGo offers a simple service of reusable coffee cups for cafes and restaurants to eliminate the waste generated by single-use cups. The cups have no cost to the cafe, the closed circuit that is, or to the users; the scheme consists of a €1 deposit that the user recovers when returning it in any of the networks of affiliated cafes and/or in the points that are located within the closed circuit (schools, universities, companies, etc). The cups are biodegradable within two years, are made in Barcelona and are made of 60% rice husk. The main objective of vasovenGo is to help citizens recover the habit of reuse. Generating trends through design and offering an easy and analogue system is vasovenGo's strategy to compete against the convenience of single-use packaging.



# Luxury brand chooses glass for new lipstick

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French luxury fashion house Chanel has launched a new refillable lipstick that is housed in a glass case, a first for the company. The design was apparently inspired by the mirrors that lined the staircase in Gabrielle Chanel's rue Cambon apartment. Made by a Japanese glassmaker, it took four years to overcome the challenges associated with creating a glass lipstick case that is thin and durable enough for a product of its kind. A spokesperson for the company said that they didn't want an ounce of plastic in the lipstick, and to create a glass lipstick was a dream. Chanel worked with one of their manufacturers in Japan as apparently nobody else was capable of making it how the company wanted it, neither in France nor in Italy. Chanel 31 Le Rouge comes in 12 different shades and retails at £140.



# French beauty house launches new refillable fragrance

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To reduce its impact on the environment, the new men's fragrance from French luxury fashion house Yves Saint Laurent MYSLF, has a refill option. Once the customer's bottle is empty, it can be easily refilled in three steps. Firstly the customer takes off the cap and unscrews the pump. They then screw the refill onto the bottle neck, then unlock it by turning it to the ON position. The fragrance will refill and automatically stop when full. Lastly they turn the refill into the OFF position, remove it and screw the pump back in place. According to Yves Saint Laurent Beauté, the refillability of the bottle allows substantial savings in materials: glass, cardboard, metals, and plastic. MYSLF is available in two standard sizes, a 60ml bottle priced at £72, 100ml at £95. The refill bottle contains 150ml, and retails at £115.





# German cosmetics company wins gold award for innovative aluminium packaging

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Aroma Elite is a German manufacturer of natural cosmetics. The company recently won a gold at the German Packaging Awards for their “Combi-Box”. The Combi-Box is an innovative, practical, reusable aluminium packaging specially developed for the company’s solid natural cosmetic products. Individual Combi-boxes can be screwed together, while the use of aluminium promotes sustainability because the material is light, robust and 100% recyclable. This reduces CO2 emissions and protects the environment compared to conventional plastic packaging. Because the Combi-Boxes can be screwed together, it can also be used as a practical travel set and takes up less space when stored. The Combi-Box is also easy to clean by simply rinsing it under a jet of water. The company says that its goal is to offer sustainable, practical and, at the same time, aesthetic product packaging that has a positive impact on the environment.



## Paperisation (15)

The packaging industry is experiencing a substantial shift in materials, primarily driven by objectives centered around sustainability. The replacement of plastic remains a priority for many brands and retailers, as they seek alternatives that may provide a smaller environmental footprint or at least be more favourably received by consumers focused on anti-plastic. This month, we tracked 15 new initiatives in this direction.

ThePackHub continues to document numerous cases of brands and retailers transitioning primarily from plastic to paper-based alternatives. While some substantiate their moves with positive environmental impact data, not all changes can withstand rigorous environmental examination. The truth is that we're currently in a period of substantial transformation, where recyclable plastic is often replaced with different materials because consumers perceive it as the environmentally conscious choice. Most material changes typically follow significant investments in machinery and novel processes. These changes are made with a long-term view, and any backtracking seems far in the future.



# Paperisation

[Liquid carton manufacturer commits to developing 90% fibre pack](#)

[Global beverage giant switches from plastic rings for multipacks](#)

[Young Dutch online wine business chooses bag-in-box format](#)

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# Liquid carton manufacturer commits to developing 90% fibre pack

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Swiss aseptic liquid carton manufacturer SIG has committed to developing an aluminium-free, full-barrier aseptic packaging structure with at least 90% fibre by 2030, with an interim target of at least 85% by 2025. This initiative supports the company's ultimate ambition to make carton recycling possible anywhere in the world. Increasing FSC (Forest Stewardship Council) certified fibre content in its aseptic cartons and expanding aluminium-free solutions are key to SIG's strategy to increase the recyclability of cartons. SIG's commitments are a step in the company's journey to create packaging that gives more to the planet than it takes away. This means removing more carbon from the atmosphere than is emitted during the packaging's life cycle. This also means that it is made from recycled or renewable materials and is fully and easily recyclable anywhere in the world.





# Global beverage giant switches from plastic rings for multipacks

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As part of its sustainable packaging mission, global beverage giant PepsiCo has announced that it will roll out paper-based solutions to replace plastic rings across multipacks that have traditionally used plastic. PepsiCo will use paperboard wraps and paperboard clips for its multipacks instead of traditional plastic rings. This conversion will include US brands like Pepsi, Pepsi Zero, MTN DEW, Starry, Gatorade, amongst others. It will also include 7Up in Canada. The new paperboard designs will roll out in a phased, regional approach in the US later this year. This builds upon PepsiCo's progress in Canada where the transition to paperboard has already started. The company claims that the new packaging is easy to implement on shelf for customers, has a consumer-friendly branded design, is made from recycled materials and is recyclable.



# Young Dutch online wine business chooses bag-in-box format

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The Wine Pack is a young Dutch online business selling organic wines in a bag-in-box format. By not using glass bottles, the company claims that CO2 emissions are reduced by as much as 80%. The company's bag-in-box format holds three litres, the same as four bottles. This packaging is much lighter, and in terms of volume, it is also more compact. Wine bottles also have an impractical shape. A lot of space remains unused in a box of six wine bottles. It is, therefore claimed that with a truck, you can carry one and a half times as much wine in cartons as with glass bottles. Wine from a carton has another advantage: the wine stays fresh longer, which prevents waste. Tapping creates a vacuum in the bag containing the wine. This ensures that it can take you thirty days to consume the wine, significantly extending its lifespan.



# Chocolate box insert made from wet moulded fibres instead of plastic

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Swedish paper and pulp company Holmen Iggesund has created a chocolate box insert made from 100% renewable materials. The Choco box consists of an outer box and an insertable tray with several cavities for individual chocolate pieces at different levels. Iggesund Mouldable is a food-safe material composed of long and short fibres with a reported much lower CO2 footprint than its plastic predecessor. Replacing plastic trays with the new mouldable material would reduce the CO2 footprint in raw materials by 90%. Holmen Iggesund specifically brought tool manufacturer HP into the Choco box project. HP used 3D printing to make the wet moulding tool Goerner Formpack used to make the chocolate box insert tray. A spokesperson for Iggesund said that the company wants to improve the world of packaging and manufacture packaging with meaning and purpose that does not pollute and can be recycled.



# Carton format chosen for launch of Australian cocktails

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Australian beverage brand Mandatory Spirit Co has chosen aseptic cartons from global packaging giant Tetra Pak for its new ready-mixed cocktails. It is understood that the chosen format will allow the cocktails to stay safe and taste fresh without the need for preservatives while offering a long shelf life of up to 18 months unrefrigerated. The carton format is also said to be very durable, making shipping and transport more economical and sustainable. Tetra Pak claims that its 1L cartons have up to five times less impact on climate change than glass, and more than two times than traditional PET (polyethylene terephthalate) bottled beverages across its entire lifecycle. Consumers can recycle the used cartons at kerbside collection points where available, where they can be transported to saveBOARD recycling facilities and turned into sustainable building materials for homes and offices.





# Finnish chocolate maker chooses barrier board instead of plastic

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Finnish chocolatiers Kultasuklaa have chosen board for the packaging of their truffles. Chocolates are traditionally packaged individually in plastic wrappers or in plastic trays in a box due to their sensitivity to light, heat and air. The company's truffles now use fibre-based packaging from Metsä Board. The company chose MetsäBoard Prime FBB EB as the packaging material. This barrier board is suitable for direct contact with food and is manufactured at the company's Kyrö factory. The material is lightweight but stable, and its bright surface leads to reported excellent printing results in offset, flexo and digital printing. Thanks to its dispersion barrier coating, it also offers medium protection against grease and moisture. This meant previously used plastic components could be dispensed with, and the truffle packaging could now be easily recyclable. With its easy opening and closing of the lid, the new packaging offers safe storage even after opening.



# Beverage giant moves to paper outer packaging solution for bottles

Mondi, a global leader in packaging and paper solutions, has worked with Coca-Cola HBC Austria to develop a new, more sustainable banderole packaging solution. This serves as a replacement for the conventional plastic shrink packaging of 1.5 litre multipacks with carbonated soft drinks, which are manufactured by Coca-Cola HBC in Austria, and fixes them reliably. Mondi's Hug-IT solution holds six bottles together during transport, and consists of Mondi's Advantage SpringPack Plus, which has been named the strongest paper in the world by Guinness World Records. The Hug-IT band has high tensile strength and unparalleled stretchability, which means that the six bottles are reliably held together in an upright position during transport – from the factory to the retailer to the consumer. The development of the Hug-IT solution took three years, from conception through planning and testing to the finished product on the shelves.



# New anti-perspirant comes in 100% paper packaging

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London-based Smol was formed in 2018 to offer sustainable plastic-free cleaning products, starting with laundry pods and dishwasher tablets, in packaging that could be easily sent through the post. They have now moved into the personal hygiene sector, with their new “anti-plastic anti-perspirant”. Smol anti-perspirant deodorant comes in a clever “planet-friendlier” cardboard case, so there’s no plastic. The consumer pushes the stick upwards and uses their deodorant as usual. The paper-based packaging is designed to last as long as the deodorant, and because there’s no need for expensive refill systems, it can go in with the cardboard recycling in the kerbside collection. Replacements come via a subscription service, like their other products, with a pack of 3 anti-perspirants arriving exactly when required for £12, including free delivery. Like all Smol products, their anti-perspirant is cruelty-free and Leaping Bunny certified, and it’s also vegan.



# Patent pending paper alternative replaces PE stretch film

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Massachusetts-based Seaman Paper Company claims to be the leading global supplier of lightweight decorative tissue papers for retail packaging, consumer products and industrial lightweight papers. Its Italian offshoot, Seaman Paper Italia, has launched what it says is the first manual stretch wrap product made from 100% paper. The company's new product, which has a patent pending, is called Sea Stretch, and is an alternative to traditional plastic stretch film used to wrap and contain loads in shipping and storage. Seaman says that Sea Stretch is an ideal packaging solution for stretch wrapping and the protection of various irregular or elongated shapes. Sea Stretch is creped, which the company says makes it flexible, stretchable and highly resistant to tearing. The company says that crepe paper can be produced and recycled with less environmental impact than plastic wrap.





# Tech giant introduces its first 100% fibre-based packaging

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As part of its Apple 2030 commitment to achieving carbon neutrality for every product it produces, the technology company has announced that the packaging for its latest Apple Watch will be 100% fibre-based. The switch to fibre-based packaging for Apple's watches marks a step toward reducing reliance on traditional materials like plastics. A spokesperson for Apple said that the company had achieved an important milestone in making the world's most popular watch carbon neutral and will keep innovating to meet the urgency of the moment. The transition to fibre-based packaging also extends to the packaging of every iPhone 15 model, with over 99% of the material being fibre-based. This initiative aligns with Apple's accelerated efforts to achieve plastic-free packaging by 2025. Apple is also replacing leather across all of its product lines and introducing FineWoven, a new textile made from around 68% PCR (post consumer recycled) content.



# Label manufacturer adds wet-glue paper label for bottles to portfolio

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Belgium-based Sappi, a leading manufacturer of speciality papers, has announced that it is expanding its portfolio of wet-glue label papers with the new wet-strength, alkali-resistant Parade Label Pro WS, produced at its Gratkorn site in Austria. Parade Label Pro WS is a single-sided, double-coated label paper with a functional coating on its reverse side. It's reported that outstanding printing and finishing results can be achieved thanks to its excellent surface. The universal paper, also available linen-embossed, covers basis weights from 65 to 80 gsm and can be processed with the most common printing techniques like flexo, offset and gravure. It is suitable for high-quality labels for returnable containers in the beverage and food industry, such as returnable glass and PET bottles, rather than the current trend of self-adhesive labels. The paper also excels with its good lay-flat properties and versatile finishing options.



# Potato brand moves to sustainable fibre tray

Tasteful Selections is a specialty potato brand based in California. They have announced that it is moving its Organic Sea Salt & Herb Bite-size Potatoes to a sustainable fibre tray. The tray itself is made from a blend of bagasse and bamboo fibres, both of which are PFAS-free, ensuring no harmful substances exist. By adopting this packaging solution, the company says it is proud to contribute to a substantial reduction of 209 tonnes of plastic waste per year. The tray features a removable liner that improves the structure of the packaging while making cleaning easier. The fibre used in the packaging is recyclable, like paper, once the film is peeled off using the eco-peel tab. Later in the year, the company's full range of micro trays will incorporate this fibre tray.



# Plastic-free tamper-evident e-commerce box wins Worldstar award

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Tennessee-based International Paper (IP) has been awarded a 2023 Worldstar Packaging Award for their e-Commerce Secure Box, developed by the company's Spanish corrugated packaging team. The e-Commerce Secure Box features tabs that allow the closure of the container to be secure and tamper-evident. Once closed, it can not be opened without the closing flaps breaking on the sides and showing that the packaging has been “violated or opened”. In addition to these locking side tabs, the pack has three more front tabs; one (the middle one) is used for the first time, and the other for the second use. This package replaces all the plastic these types of boxes contain, such as strips of double-sided tape. The e-Commerce Secure Box has also been recognized as the best logistics and distribution packaging in the Spanish Liderpack Awards.





# Innovative recycled carton board is FDA-approved for direct food contact

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PaceSetter Rainier is a new product from an international provider of fibre-based consumer packaging, Graphic Packaging. PaceSetter Rainier, while having many of the characteristics of a solid bleached sulphate (SBS) board, but with recycled content. It is reported that PaceSetter Rainier offers brightness and whiteness that exceeds traditional CRB (coated recycled board). This enables it to compete directly with SBS and folding box boards (FBB). In addition, it provides improved surface smoothness for enhanced printability and tactile performance for truly stand-out printed packaging. Unlike plastic and other packaging materials extracted from the earth, PaceSetter Rainier coated recycled board uses 100% recycled fibre content (minimum 35% post-consumer), starting with trees, a renewable resource. PaceSetter Rainier is also lightweight, and ideal for most consumer product folding carton applications, including healthcare, beauty, confectionery, dry goods, dairy, and more. It is also FDA-compliant for contact with aqueous and fatty foods.



# Recyclable alternative to plastic CD and DVD cases

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Sonopress is the CD and DVD replication business of Bertelsmann Printing Group, headquartered in Germany. The company has introduced a new packaging solution for DVDs and Blu-ray Discs that they say is particularly sustainable. According to a statement, the “CC-Pack” is made from 100% recyclable cardboard. The advantages of the new packaging are evident: using the existing artwork enables a cost-effective switch to sustainable packaging. At the same time, the lower weight of the cardboard sleeve compared to the plastic sleeve ensures savings in freight costs. DVDs and Blu-ray Discs have usually been packaged in plastic cases made of plastic (polypropylene or polystyrene), which are in theory, recyclable, but the majority end up in landfill. As well as being recyclable, Sonopress’s CC packs can be automatically packed in up to 120 units per box, significantly reducing storage costs in distribution and requiring less space in retail stores.



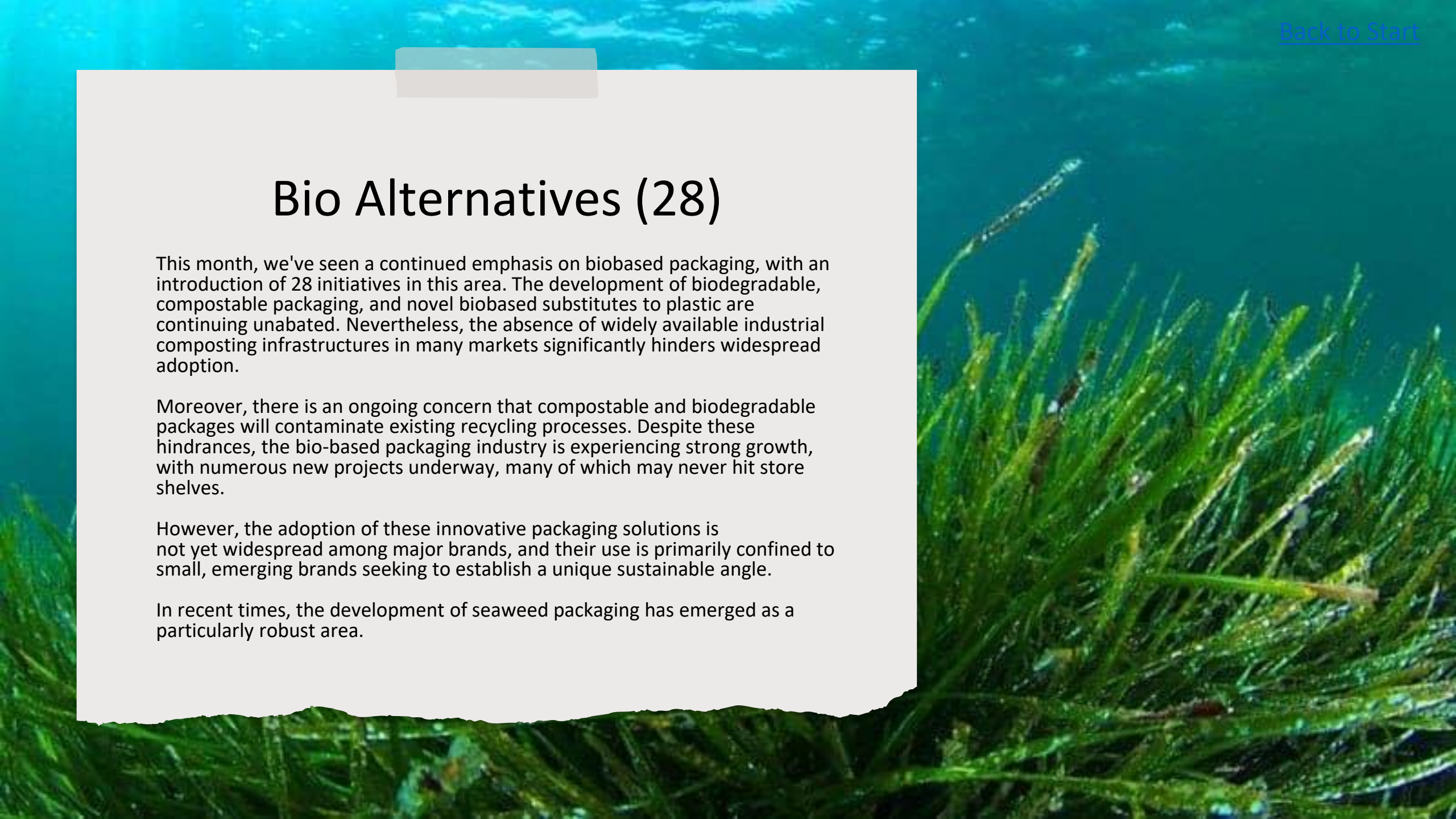
## Bio Alternatives (28)

This month, we've seen a continued emphasis on biobased packaging, with an introduction of 28 initiatives in this area. The development of biodegradable, compostable packaging, and novel biobased substitutes to plastic are continuing unabated. Nevertheless, the absence of widely available industrial composting infrastructures in many markets significantly hinders widespread adoption.

Moreover, there is an ongoing concern that compostable and biodegradable packages will contaminate existing recycling processes. Despite these hindrances, the bio-based packaging industry is experiencing strong growth, with numerous new projects underway, many of which may never hit store shelves.

However, the adoption of these innovative packaging solutions is not yet widespread among major brands, and their use is primarily confined to small, emerging brands seeking to establish a unique sustainable angle.

In recent times, the development of seaweed packaging has emerged as a particularly robust area.



# Bio Alternatives

[Finnish project looks to develop sustainable packaging based on cellulose](#)

[Prototype coffee jar lids made from avocado waste](#)

[Collaboration investigates bio-based and recyclable materials for cosmetics packaging](#)

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[Reusable bamboo straw granted patent](#)

[Cavitated BOPP IML film is thinner and has higher yield](#)

[Researchers develop biodegradable superglue made from soya bean oil](#)

[Molecule developed gives plastics durability similar to metal](#)

[Partnership brings compostable films to the US](#)

[UK startup using seaweed to produce bioplastic](#)

[Los Angeles bioplastics company offers 'drop-in' alternative to fossil-based plastics](#)

[Spanish university creates bioplastic from rice straw extracts](#)

[Companies join forces to bring bio-based skincare packaging to market](#)

[Researchers make biodegradable film from avocado peel](#)

[Canadian startup creates bioplastic from dairy industry waste](#)

[Innovative pouch format with built-in dispenser for herbs and spices](#)

[Chilean companies develop biodegradable sleeve for wrapping pallets of glass containers](#)



# Finnish project looks to develop sustainable packaging based on cellulose

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LUT University and the VTT Technical Research Centre of Finland are developing new sustainable packaging solutions with 34 industrial partners, including major companies such as DS Smith, Graphic Packaging, Metsä Board, General Mills and Unilever. In the Films for Future (F3) research project, a cellulose-based alternative will replace fossil-based plastic films in board-based packaging. The program is funded by the European Regional Development Fund. Packaging with biobased and biodegradable films will reportedly make recycling easier because they can be put straight into the cardboard recycling stream. Recyclability will also minimise the amount of waste and tackle littering. The new film material will also meet the demands of the EU's Packaging and Packaging Waste Directive, which deals with the shift to a circular economy and improving the quality of the environment. The companies involved can utilise the discoveries from the research in their products and businesses in due course.



# Prototype coffee jar lids made from avocado waste

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Colombian coffee brand Buencafé has produced a prototype coffee jar lid made from avocado stones (also known as pits). The new lid is the result of a collaboration between Buencafé and Biofase Colombia, producers of avocado-based biodegradable materials, and manufacturer of moulded products, Riduco. The composition of Biofase products is 60% avocado seed biopolymers and 40% synthetic organic compounds that help give them excellent mechanical and physical properties. One dried processed avocado stone can make two to three lids. This prototype solution is currently at a pilot stage at Buencafé, but it's a pioneering process for the country and will be the first of its production at an industrial scale. The material is biodegradable, with its decomposition occurring over two years. Buencafé ratifies its commitment to sustainable packaging and reducing its use of plastic by using this biodegradable material.



# Collaboration investigates bio-based and recyclable materials for cosmetics packaging

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The Inotech Group, based in Dubai, together with the Rosenheim University of Technology in Germany, have joined forces to investigate using renewable raw materials as filling and reinforcing materials for bio-based polymers. They will also investigate their influences on the component properties and processing and demonstrate the result on jars for the cosmetics industry. One of the aims was to implement an inlay designed for the cosmetics industry with a low weight and thus the use of materials and to protect it with a visually, olfactorily and haptically appealing and sustainable outer layer. The material combinations considered were designed to be separable or recyclable as a whole. The collaboration aims to produce a bio-based and biodegradable material combination with 30% natural fibre content by weight. Regional natural products such as wood and straw are being trialled as fillers.



# Avocados move to compostable plastic-free packaging

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Villita Avocados, based in Texas, has launched what it says is a first-of-its-kind compostable, plastic-free bag. Villita says that the new label is made of paper, and the netting is made from cellulose fibre yarn from FSC-certified (Forest Stewardship Council) eucalyptus wood. Villita says it is the first produce company to offer this kind of packaging in North America. Citing the 2023 Sustainable Packaging Report from Winsight Grocery Business, Villita said that 47% of consumers are concerned about the environmental impact of fresh produce packaging, and 37% of those who consider the environmental impact of packaging would be willing to pay more for sustainably packaged produce. A spokesperson for Villita said initial interest in the new packaging has been strong. The bags will become available for both organic and conventional avocados in late 2023.





# High barrier film material made from corn starch

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Tokyo-based Kuraray are manufacturers of Plantic, which is made from corn starch and can be used in recyclable and compostable formats, and which is reported to provide an excellent gas barrier to extend product shelf life. After use, it dissolves easily in water, thereby creating a circular economy. Plantic also keeps food fresh for longer, preserves its aroma and reduces food waste. Plantic is a high-performance film manufactured using up to 80% renewable raw materials. Due to its high gas barrier properties, this bioplastic can be used in packaging that seals in aroma and keeps out oxygen. Plantic is ideal for MAP packaging – for food with a short shelf-life. In addition, this renewable material is excellent for packaging dry foods such as coffee and tea and dry animal feed. Plantic contains no plasticisers or genetically modified raw materials and is less expensive than conventional materials.



# Upcycled coconut husks used to replace EPS fish boxes

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The Fortuna Cooler was invented in a fishing village in the Philippines, which began as a graduate school project to improve local fish packaging. The mission was to find an alternative to the industry standard EPS (expanded polystyrene) box used for fish and seafood. The solution the team came up with was the Fortuna Cooler. The cooler is insulated with upcycled coconut husk waste and lined with recycled synthetics. It is reported as more durable and insulative than plastic foam alternatives and competes on both price and performance. Thoughtful design ensures that it integrates into existing supply chains, which makes it easy for suppliers to replace EPS boxes. Fortuna Coolers also pack flat for easy shipping and storage. The company sources leftover coconut husks from small-scale farmers in the Philippines. This provides them with an additional income source and creates rural jobs, supporting agricultural communities.



# Researchers claim to revolutionise plastic recycling using salt

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Researchers at the School of Packaging at Michigan State University claim to have revolutionised chemical plastic recycling with table salt (NaCl). In the investigation, a polyolefin blend of high-density PE, low-density PE, linear low-density and PP, as well as metalised films, were used as testbed polymers. Pyrolysis was used, which is the heating of an organic material, such as biomass, in the absence of oxygen. Biomass pyrolysis is usually conducted at or above 500 °C, providing enough heat to deconstruct strong biopolymers. The research demonstrated that table salt offers effective and efficient pyrolysis of polyolefin blends and metalised films. The polyolefin blend was 100% converted to oil (86%) and gas (14%) products without any undesirable wax. Table salt outperformed the much more expensive catalysts under the given conditions. Collaborating with industry to integrate this approach into commercial pyrolysis reactors is something the researchers say they are eagerly anticipating.



# Spanish university creates sustainable packaging by combining biopolymers

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A team of researchers from the Polytechnic University of Valencia has created sustainable food packaging by combining biopolymers. The team has studied how different compounds of natural origin, with proven antioxidant and antimicrobial activity, can be incorporated into biodegradable polymer matrices with hydrophilic (such as starch) and hydrophobic (such as biodegradable polyesters) nature to obtain active materials for packaging. To ensure the preservative function of the material, these compounds must be released into the food in a controlled manner, acting against potentially present microorganisms or interfering with oxidative processes. The results obtained by the team demonstrate that biodegradable polymers have a high potential to obtain sustainable and ecological solutions for food packaging, using agri-food waste as a source of active compounds or reinforcing materials (cellulose) to improve their functionality and competitiveness in the market.





# Patented technology extends shelf life of blueberries

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Polish foodtech startup Fresh Inset have a patented tool for extending seasonality and reducing food waste. Vidre+ technology is a 1-MCP (Methylcyclopropene) system that begins release 1-2 hours after packing and gradually releases within the packaging itself over 30 hours via a simple-to-use sticker. 1-MCP is an ethylene action inhibitor in plant cells that binds with the receptor. The release of the product is triggered by humidity within the packed product. This technology restricts ethylene production, the gas and natural plant hormone that plays an important role in ripening and fruit softening/degradation. The results of trials conducted for the company on blueberries after using the 1-MCP delivery system indicated a slower ripening effect. Treated blueberries kept very good eating quality and firmness for 49 days. Untreated fruits began to soften after 21 days compared to 35 days for treated fruit.



# New crisp brand chooses compostable packaging

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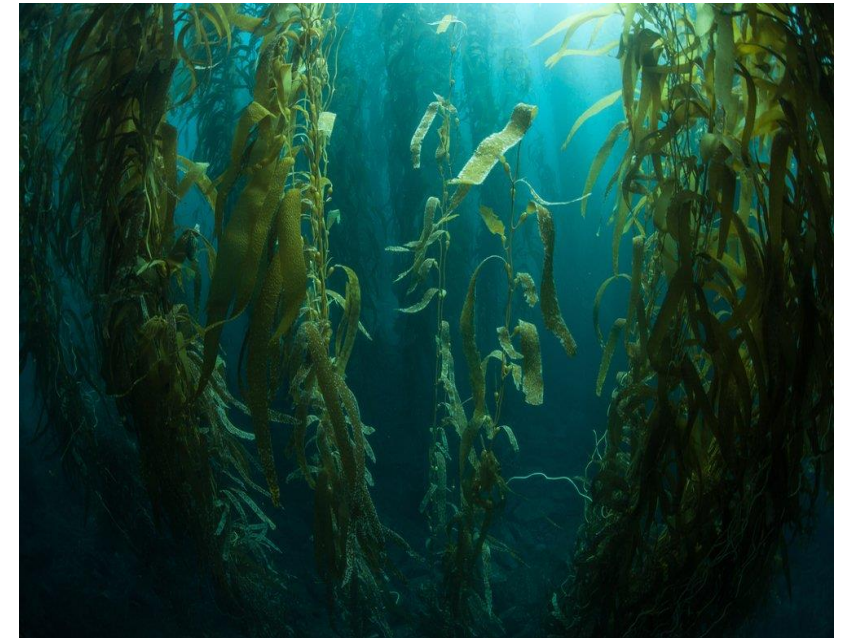
Smug, based in Shoreditch, is a recently launched snack brand by Merry Galelli. They worked with Yorkshire flexible packaging company Parkside for their first product, a hand-fried potato crisp. Smug will be packing their Cacio e Pepe flavour crisps in Parkside's Park2Nature, which can be disposed of in regular domestic compost heaps. Parkside added that the material will break down into water, carbon dioxide, and biomass in under 26 weeks. The material can also be sent for industrial composting, where it will decompose within 12 weeks. In addition, the pack incorporates Parkside's plant-based laminate applied in a duplex format, which offers an oxygen transmission rate (OTR) of below 1.0. A spokesperson for Parkside said that sustainability is playing an increasing role in the purchasing decisions of today's consumers, with home compostable packaging being ideal for fresh new brands looking to disrupt a highly competitive category.



# Prototype greaseproof fast food wrappers made using seaweed extracts

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Flinders University in Adelaide, and German biomaterials startup one • five are collaborating to use seaweed extracts to develop next-generation biopolymer coating materials that could solve packaging waste dilemmas for the fast-food industry. The new non-pollutive biomaterials are designed to replace conventional fossil-based plastic coatings used in grease-resistant fast-food packaging. Grease-resistant paper is typically coated with plastic and chemicals, such as polyfluoroalkyl substances (PFASs), also known as 'forever chemicals', but the new prototype coating meets the functional requirements of conventional grease-resistant packaging materials while also presenting a circular solution. A spokesperson for the university said that the seaweed extracts being used have a similar structure to the natural fibres from which paper is made. The novel specialist treatments boost the grease-resistance feature of the seaweed via simple modifications while not affecting the biodegradability or recyclability of the coated paper.





# Researchers turn waste plastic into graphene and hydrogen

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Researchers at Rice University, based in Houston, have developed a method of harvesting hydrogen and graphene from waste plastics. They say it not only solves environmental problems like plastic pollution and greenhouse gas production, but the value of the graphene by-product could offset the costs of producing hydrogen. In this study, the researchers exposed plastic waste to rapid flash Joule heating for about four seconds. Raising the temperature up to 3,100 kelvin vaporises the hydrogen in the plastic, leaving behind graphene, a light, durable material comprising a single layer of carbon atoms. Graphene is used in electronics, energy storage, sensors, coatings, composites, and biomedical devices as well as some packaging applications. The researchers say that a benefit of their flash Joule heating process is that the waste plastic doesn't need to be washed or separated and can be leveraged to produce negative-cost clean hydrogen from waste materials.





# Stickers for fruit and vegetables are certified compostable

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UPM Specialty Papers, based in Helsinki, Finland, has launched compostable food stickers for the fruit and vegetable market. UPM LabelCoat and UPM LabelCoat Prime label face papers have been certified industrially (EN13432:2000) and home compostable (NFT51-800:2015). The move is designed to meet new EU packaging regulations. The EU's Packaging and Packaging Waste Regulation proposal targets a 2030 deadline to ensure all packaging in the region is reusable or recyclable. There is also a requirement for sticky fruit and veg labels to be compostable in industrially controlled conditions. Both UPM LabelCoat and UPM LabelCoat Prime have a semi-gloss finish and are recommended for flexo printing, allowing tailoring with HP Indigo printing. In addition to fruit and vegetable stickers, UPM LabelCoat and UPM LabelCoat Prime can be used for various pressure-sensitive labelling applications.



# Beverage manufacturer supports university in captured carbon ethylene production research

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Coca-Cola Europacific Partners (CCEP) is supporting researchers at Swansea University who are looking at ways to produce ethylene using captured carbon rather than fossil-based feedstocks. The researchers are focussing on how carbon captured from industrial plants can be reused to make new plastic packaging. Ethylene is a key component in many kinds of plastics, including high-density polyethylene (HDPE), which Coca-Cola bottle caps are made from. CCEP are supporting Swansea's academics and their project partners for a three-year period with an undisclosed sum. The research will initially focus on developing an efficient CO<sub>2</sub>-to-ethylene conversion process. Then, attention will be turned to how best to scale this process. This new investment forms part of the Coca-Cola Company's ambition to end the use of virgin fossil-based plastics in packaging by 2030. It is mainly investing in recycled plastics to meet this goal.



# US gardening brand switches to PCR soil bags

American gardening brand Back to the Roots is moving its plastic bag packaging to 100% post-consumer recycled (PCR) plastic for its soil products packaging, which the company claims will be a first for the US gardening industry. The certified circular bags will be introduced for Back to the Roots Organic Potting Mix product range and will be rolled out in 2024. The new packaging for Back to the Roots is being developed with American flexible packaging and labels manufacturer ProAmpac. For this development, the gardening brand has already received certification for recycled material under the Global Institute of Sustainability & Carbon Certification (ISCC) PLUS programme. A spokesperson for Back to the Roots said that the move to PCR material was a giant step for the soil industry by helping to reduce the hundreds of millions of virgin plastic used yearly.



# Reusable bamboo straw granted patent

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The Botanical Survey of India (BSI) has received a patent for a bamboo-based reusable straw. The bamboo species used is *Schizostachyum andamanicum*, discovered on the Andamans and Nicobar Islands about three decades ago. The patent for a 'reusable straw and its manufacturing' has been granted. This particular species of bamboo is characterised by a thin, large, hollow erect culm (stem) with long internodes and has the potential to be developed into a straw. Work on the bamboo straw started at Dhanikhari Experimental Garden-cum-Arboretum, at the BSI Regional Centre in 2011. The patent application was made in 2018 and was granted earlier in 2023. One of the scientists said that during studies, they found that morpho-anatomical structure of the endemic bamboo was identical to modern synthetic drinking straws, which led to the idea for this novel invention. Straws made from the bamboo are already being used in India.





# Cavitated BOPP IML film is thinner and has higher yield

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Innovia Films, based near England's Lake District, has announced a thinner version of its Rayoform EUP film. The new film, Rayoform™ EUP50, is a cavitated BOPP (biaxially oriented polypropylene) designed for IML (in-mould labelling) applications. At only 50 microns and with a density of 0.55 g/cm<sup>3</sup>, EUP50 is a high-yield, high opacity, matt IML film. The BOPP material is in line with "Design for Recycling" recommendations given by RecyClass, which state that PP-based In-Mould Label technology is considered fully compatible with coloured PP recycling. The key to the success of EUP50 is the material science behind its formulation, which has ensured outstanding ink adhesion using UV-cured and conventional offset inks, even at extremely high sheet feeding speeds. A spokesperson for Innovia said that EUP50 is perfect for labels for small to medium-sized packaging in all food areas, whether moulding to polypropylene or polyethylene containers.



# Researchers develop biodegradable superglue made from soya bean oil

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Purdue University in Indiana researchers have developed a biodegradable superglue derived from soya bean oil that forms high-strength bonds that later dissolve. The team were inspired by previous research on the natural adhesives mussels use to bond to rocks. They discovered that they could add specific acids to soya bean oil to mimic the sticky chemical properties in the mussel adhesive. The new adhesive can hold most materials together just as well as standard epoxies, which take thousands of years to biodegrade. The team tested its soya-based adhesive with metal, wood and synthetic surfaces, finding that it generally created bonds of equivalent strength compared with petroleum epoxies. The soya glue was about 30% stronger than superglue for holding polished aluminium together. While heating at 180°C provided the greatest strength, 5 minutes with a commercial hairdryer made a strong enough bond for many industrial applications.



# Molecule developed gives plastics durability similar to metal

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New Mexico-based Sandia National Laboratories have developed a molecule to make plastics more durable by reducing temperature fluctuations within polymer chains. Plastics change and deteriorate more rapidly than other materials like metal and ceramics, which the study team sought to address. The project team modified a molecule to be incorporated into a polymer to change its properties easily. When added to a polymer, it causes it to contract less, having expansion and contraction values similar to metals. It is thought that the packaging industry could profit from the molecule. Packaging applications in which materials are exposed to temperature fluctuations throughout the storage duration would profit most from this technology, especially for longer timescales. Weight and material reduction, which the industry is consistently trying to achieve in packaging applications, could also be improved since less filling would be required to bind components together.



# Partnership brings compostable films to the US

Israeli sustainable packaging company TIPA has announced a partnership with Chicago-based specialty film manufacturer Charter Next Generation (CNG) in order to drive US production and adoption of compostable packaging. CNG will produce two films from TIPA's proprietary compostable materials: TIPA's newly launched Tipaclear 301 and its Tipaclear 319. Tipaclear 301 is exclusive to North America. The films can be used for baked goods, fresh produce, dry food goods, toiletries, toys and apparel. TIPA's applications include resealable bags, pillow bag packaging, open bags and compostable zipper bags. At the film's end of use, when placed in a compost bin, they disintegrate and biodegrade into nutrient-rich soil within months. A spokesperson for TIPA said that fashion packaging accounts for an estimated 40% of all plastic waste, and the company sees significant growth potential in fashion packaging. Through the partnership, TIPA aims to further solidify its foothold in the North American market for compostable films.





# UK startup using seaweed to produce bioplastic

Searo is a Cambridge-based startup pioneering unique natural polymers derived from seaweed-based ingredients. The founders have created proprietary technology resulting in a pure organic polymer that looks and feels like clear plastic. As well as giving the appearance of fossil-based plastics, the company's hyper-biodegradable packaging prevents food from rotting. Instead, it lets it gradually dry out over time by absorbing excess moisture, enabling users to transform the shelf life of food and opening new opportunities for the dried food to be used in cooking and animal feed. When it's home-composted, it biodegrades within weeks. In the ocean, it breaks down even faster and can be safely ingested by marine life. The company says its technology is compatible with existing production lines, offering manufacturers a 'plug and play' solution. The company supports seaweed farmers and champions sustainable and ethical farming practices.



# Los Angeles bioplastics company offers 'drop-in' alternative to fossil-based plastics

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Los Angeles-based Verde Bioresins Inc, is a bioplastics company specialising in sustainable product innovation and the manufacturing of proprietary biopolymer resins. The company's proprietary technology converts sustainable plant-based materials into a portfolio of PolyEarthylene biopolymers, each tailored to achieve specific physical and mechanical performance goals. PolyEarthylene resins are bio-based and can be designed to decompose on a highly accelerated basis due to the action of naturally occurring microorganisms such as fungi and bacteria, providing Verde with a true end-of-life solution. PolyEarthylene is not brittle or temperature-sensitive like most bioresins. It is also FDA Title 21 Food Contact Compliant. It is claimed that it will help reduce the ever-growing problem of new long-term waste, thereby mitigating future environmental damage. Verde claims that PolyEarthylene is suitable for durable goods manufacturing, can be dropped into current manufacturing applications, and is a high-performance alternative to petroleum-based plastics.



# Spanish university creates bioplastic from rice straw extracts

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Polytechnic University of Valencia researchers are developing biodegradable films and bags made with rice straw extracts. The team studied how different compounds of natural origin with antioxidant and antimicrobial activities behave in polymer matrices with a hydrophilic and hydrophobic nature and are also biodegradable. This is to discover if they are active materials for packaging. The biodegradable multilayer film was created to promote sustainable and ecological packaging in food. Also, the results show that the shelf life of food can be extended, especially for pork. They have also manufactured single-dose bags containing active extracts obtained from rice straw to package unsaturated oils, such as sunflower oil, to protect them from oxidation processes. Despite all the benefits these materials provide, they face a challenge: to scale up their production and decrease their cost.



# Companies join forces to bring bio-based skincare packaging to market

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CJ Biomaterials, based in Massachusetts, are the world's biggest producers of PHAs (polyhydroxyalkanoates). PHAs are a family of bio-based and biodegradable polyesters made by bacterial fermentation. The company has partnered with skincare company Riman Korea to develop packaging for Riman's Incellderm premium product range. This collaboration will harness CJ Biomaterials' patented PHA technology, combining it with PLA (polylactic acid) to produce packaging with reduced fossil fuel-based materials. The PLA-PHA composite will be employed as packaging for Incellderm's Active Cream EX, Dermatology First Package Booster EX and Vieton Oil Mist. These three products contribute to an annual sales volume exceeding 5.4 million units. The company envisions a gradual extension of CJ Biomaterials' PHA technology utilisation across a broader spectrum of its product offerings. Furthermore, CJ Biomaterials and Riman have plans to expand their partnership to develop 100% PHA-based solutions tailored explicitly for injection moulding applications.





# Researchers make biodegradable film from avocado peel

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Researchers at the South Dakota State University's Department of Dairy and Food Science have succeeded in making biodegradable cellulose films from avocado peel. Lots of previous research has found cellulose, an agricultural biomass, to have properties that make it a suitable replacement candidate for plastic. Cellulose is also widely available, with almost 700 billion tons produced annually. A large majority originates from fruit residue, like avocado peel, which is approximately 28% cellulose. For this project, the researchers extracted cellulose fibres from the avocado peel to create a powdered peel extract. A "green" chemical modification process then improved the properties of the extract and made the film more suitable for packaging. The films had both strong and transparent properties. The researchers say their avocado peel fibre films are strong and biodegrade within 30 days at 22% soil moisture. They also said their films were five times stronger than PE (polyethylene).



# Canadian startup creates bioplastic from dairy industry waste

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A startup formed from the University of Waterloo, Ontario, Canada has started making a bioplastic out of waste from the dairy industry. The company, called MetaCycler BioInnovations is using genetically modified microorganisms to convert dairy waste, byproducts from milk and cheese production, into PHA (polyhydroxyalkanoate). PHAs are a plastic-like material produced naturally by microorganisms, which is the basis of many of today's biodegradable plastic products. The company says that the bioplastic has flexible properties and could be used in a wide range of applications, including hard, brittle plastic-like materials that could, in theory, replace plastic straws. The straws would reportedly have the same feel and texture as plastic, but would be biodegradable in all environments, including marine. Making plastic-like biodegradable straws is just a small example of the impact MetaCycler's tech could have on the environment.



# Innovative pouch format with built-in dispenser for herbs and spices

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Lofoten Seaweed is a Norwegian female-led business passionate about bringing seaweed into the modern kitchen. They work with award-winning chefs, and their products are used in Michelin-starred and Bocuse d'Or nominated restaurants across Europe and beyond. For their seaweed-enriched spice blends the company chose Fimtech's Push & Dose pouch. The design of the pouch allows for seasoning products to be easily dispensed via the built-in membrane with holes. Squeezing the bag at the top and the membrane opens, allowing perfect sprinkling of the spice blend. Fimtech, also based in Norway, was awarded the ScanStar award in 2019 for the Push & Dose pouch. The format is said to be ideal for online, due to the low weight of the product compared to the usual glass jars herbs and spices come in.





# Chilean companies develop biodegradable sleeve for wrapping pallets of glass containers

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Two Chilean companies have collaborated to develop a heat-shrinkable, biodegradable and efficient sleeve to wrap pallets of glass containers. BioElements and Cristalerías Chile spent a year working together to develop an effective and sustainable solution for the packaging of bottles, jars and containers. The packaging uses BioE-8 resin developed by BioElements. Its rapid biodegradation, which can take between 6 and 20 months in various conditions, makes it stand out compared to conventional plastic, which, of course, can take many years to decompose. These properties have been certified in Chile, Peru, Colombia, Brazil, Mexico and the United States. Along with its efficient degradation, this option becomes a source of energy for microorganisms after use, due to its natural composition. BioElements highlights that this anaerobically biodegradable and non-biotoxic solution will enrich the packaging of Cristalerías Chile products, promoting sustainability and reducing the environmental footprint.





## Miscellaneous

The packaging industry is seeing a wave of innovative solutions aimed at improving efficiency, added functionality, and user-friendly design. Brazilian brewery Cervejaria Masterpiece and US can supplier Ball Corporation have launched the world's first beer can featuring the Aluminum Stewardship Initiative (ASI) certification seal, highlighting sustainable practices. MIT scientists have developed BrightMaker, a technology that embeds invisible, infrared-readable fluorescent tags in objects for tracking and security. Researchers at Case Western Reserve University are working on self-powered smart packaging to monitor perishable food conditions during transport. German smoothie maker True Fruits has introduced a bottle cap with a cannabis grinder, retailing for €25 plus postage. Meanwhile, General Mills is engaging young consumers with thermochromic packaging for its Yoplait Go-GURT product, which reveals hidden graphics when frozen. These innovations are typical of those that touch on various aspects of sustainability, security, and consumer engagement in packaging.

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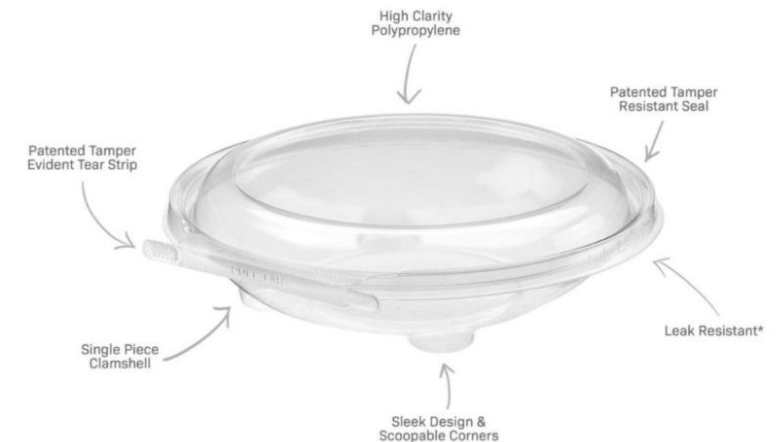
[Belgian startup offers organisations healthier drinks without disposable plastic](#)

[Partnership aims to remove potentially harmful hydrocarbons from drinking straws](#)

# New takeaway clamshell is tamper evident and resistant

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Inline Plastics is a packaging manufacturer based in Connecticut, USA. With Safe-T-Chef they have what they claim is the first tamper-evident and tamper-resistant product family made from PP (polypropylene) on the market. The new Safe-T-Chef line features include industry-leading tamper-evident and tamper-resistant technology, a smooth, modern design with scoopable corners, and high clarity polypropylene with a 360° view. Vented and non-vented options are available, with the non-vented options being leak-resistant. They are also microwave and dishwasher-safe. Safe-T-Chef comes as a single-piece clamshell design that allows for efficient inventory management. Automation is possible with compatible Inline Plastics equipment. Safe-T-Chef is available in 12 options ranging in shape (rectangular, square and round) and capacity (from 12 to 35 ounce sizes) are available. This combination offers a packaging solution for anything from individual or family-size side dishes to entrees or even multi-course meals.



# Innovation secures drums during transportation

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German packaging company Schütz has launched a new economical, non-returnable system for the reliable transport of steel drums. Called Drumfix, up to four drums – empty or full – can be securely fixed to a pallet. The Drumfix elements are mounted on the pallet with special screws. The design of the supports allows coupling with the lower bracket of the drums. A strap that surrounds the upper area of the drums provides additional support. In this way, they are optimally prepared for transport, whether full or empty. Stackability is unaffected. Drumfix easily passes special test situations, such as tilting the loading unit up to 45°. With this, the system meets all legal requirements and international regulations for securing loads and the provisions of EUMOS 40509. Schütz Drumfix offers a new, economical, non-returnable system for the reliable transport of steel drums.





# Supermarket trials removal of plastic on four fruit and veg products

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Aldi UK is trialling the removal of plastic packaging on four of its fruit and vegetable products to reduce packaging waste. Limes, garlic, lemons and oranges will be presented loosely in supermarkets in the East of England, East Midlands and selected London stores. In the North East, Cumbria, Yorkshire, South East, and selected London stores, customers can buy loose limes and garlic. A spokesperson for Aldi said that the company is committed to removing plastic packaging wherever possible and are constantly reviewing ways to make a difference and that by trialling these packaging-free product lines, they hope to help customers cut back on unnecessary plastic when shopping at Aldi. The company already offers loose produce options in several ranges, including potatoes, peppers and avocados. If rolled out across all stores, the move is estimated to remove a further 94 tonnes of plastic packaging per year.



# Corrugated laminating technology promotes reuse of heavy duty packaging

DS Smith Tecnicarton, based in Valencia, Spain, has announced the launch of MAX, a laminating technology that increases the resistance of packaging, optimises its stacking and promotes its reuse possibilities. With MAX, DS Smith Tecnicarton has superimposed up to ten layers of corrugated cardboard, standardised special folding slots and achieved an even larger and more resistant box format. The company's heavy-duty packaging, Magnus-IBCKraft, has a capacity of 1000 litres and a resistance of 10,000 kg. This bulk packaging is a sustainable and 100% recyclable alternative to traditional plastic IBC (Intermediate Bulk Container). With the technology of large laminates, the company has made it possible to make more special and ergonomic creases, translating into packaging that is easier to assemble and, in many cases, foldable. This saves space and facilitates the return of packaging in its reuse cycle, with a reuse of up to 10 times.



# Chinese supplier moves to wax coating for pomelos instead of plastic

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Onedayone Group is a Shandong, China, international fruit and vegetable operation. They are one of the largest suppliers of pomelos to Europe. To reduce their reliance on plastic, they sent their first shipment of pomelos with a wax coating from Xiamen in early September. Traditionally, most honey pomelo exports from China were coated with plastic film to protect the peels from damage during sea transport. It also helps to retain moisture in the fruit. Onedayone Group collaborated with Citrosol, a Spanish company focused on post-harvest technology and treatments for fruits and vegetables. This collaboration preserved the taste and aroma of the pomelos, minimized skin imperfections and prevented moisture penetration by replacing the plastic film with a wax layer. While wax coating is commonly used for citrus, such as tangerines and oranges, adapting the process to pomelos presented unique technical challenges due to their significant size.





# US company offers sustainable packaging solutions for brands

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Illinois-headquartered sustainable packaging company Cirkla aims to help different brands and companies achieve their sustainable packaging ambitions. It implements a three-step procedure – portfolio assessment, design and prototyping and global fulfilment. In the initial step, Cirkla uses proprietary life cycle assessment models to assess the environmental effect of the brand's packaging by prioritising stock-keeping units (SKUs). An in-house packaging team, according to Cirkla, then starts working on developing cost-efficient and alternative packaging solutions to address the functional parameters. Later, the company leverages its teams in China, India and the US to produce and provide packaging across multiple categories, such as pulp and paper, recycled polymers, moulded fibre, among others. The company recently secured \$3 million in pre-seed funding from Matrix Partners India and Stellaris Venture Partners. The round also saw participation from other angel investors.





# Automated blister pack solution for medicines launched

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Austria-based KNAPP is a world-leading technology partner for automation solutions. The company has launched a new blister solution, which automatically provides medications directly from the original packaging in a blister pack personalised for the customer. The D3 Daily Dose Dispenser blister solution supports custom blister manufacturers in preparing and repackaging medications. The process is fully automatic: the tablets are prepared directly from the original blister pack into a new blister carton, then sealed and receive a card with a printout of the patient's data and instructions on taking. The D3 Daily Dose Dispenser blister system is being used at the MicuraPharm demonstration centre in Klein-Winternheim, Germany. An easy-to-use design, batch tracking, serial number and expiration dates, exclusion of errors and maximum hygiene are just some advantages of the new D3 Daily Dose Dispenser.



# Coloured shipping label software allows elevated customer branding

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Japanese multinational electronics company Epson has introduced Label Boost software for coloured shipping label printing. The new software is compatible with most Epson ColorWorks printers and allows businesses to easily add full-colour coupons, targeted ads, secondary labels and dynamic content to shipping labels. The label printer manufacturer says the software creates new opportunities for businesses to leverage shipping labels for marketing, reduce material and labour costs and streamline operations. Businesses can use Label Boost software to apply secondary labels, such as regulatory or shipping-and-handling labels, or to highlight critical information, such as parcel count or expedited shipping, to promote accuracy and timeliness of delivery. Label Boost is compatible with ZPL-driven software used by many national couriers, and labelling solutions such as BarTender and Loftware. Businesses can automatically choose the messaging they want to attach based on a customer's location, delivery date or other key variables.



# Label maker launches thin booklet label that replaces instruction leaflets

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US-based CCL Labels claim to be the world's largest label makers. They have launched the EcoSlim booklet label, designed to replace instruction leaflets. EcoSlim offers space for all the important information about the product on many pages to browse through. Between the cover and base labels is a little booklet, which can be resealed, containing information that would otherwise need its place on the container. Due to its low paper thickness, multi-sided EcoSlim labels are often easier to label than correspondingly thicker ones made from conventional material. The weight savings and the reduction in quantity in transport are also reflected in CO2 savings. Aimed particularly for chemical and technical products with detailed operating instructions, hazardous substance labels, safety and hazard warnings, detailed product features are essential. Their inseparable attachment to the container is advantageous, sometimes even mandatory. The EcoSlim booklet recently won CCL the German Packaging Award.



# One-off whisky bottle to be auctioned for charity

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The Edinburgh-based Scotch Malt Whisky Society has created a one-off bottle that is to be auctioned off for charity, with the proceeds going to The Youth Action Fund. The project was led by Glasgow creative agency Stckmn, with paper manufactured by Lakeland papermaker James Cropper, which is infused with wood shavings from the original casks. This was then handcrafted by London-based Matter Agency. On the bottle, the liquid is represented by a ripple formation on the sculpture, inspired by the unrepeatable pattern of water in nature, with a droplet portal allowing a glimpse of the whisky within. Accompanying the traditional 700ml bottle will be a 100ml miniature allowing the buyer to sample the whisky. It shares the same design features as the main bottle, including the hand-dipped wax neck and foil embellishments. It also includes a hand-bound stitched and copper-foiled paper book documenting the concept, the journey and tasting notes of this release.





# New technology makes microwaved cheese sandwiches crispy

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Chicago-based Kraft Heinz is launching a pouch for microwave use that replicates products cooked in an oven by adding crispiness, marking a key step by the food and beverage giant as it works to accelerate innovation across its portfolio. The technology, called 360Crisp, uses material with strategic venting and varied heat points to ensure proper cooking throughout the food. It is designed to avoid problems that plagued previous heating systems used by other manufacturers where the crust was burnt and the inside was left cold after microwaving. In 2022, Kraft Heinz created a process it calls One Innovation Engine aimed at reimagining product development and incorporating breakthrough technologies. The first product, called Grilled Cheesies, are available in original and pepperoni pizza varieties, and aim to extend Lunchables beyond lunchtime and into additional snacking occasions. The product is set to roll out into select retailers beginning this month for \$4.99 (£4.03) per two-sandwich box.



# New plastic additive blocks UV degradation of foods

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Tosaf is an Israel-based developer and manufacturer of high-quality additives, compounds and masterbatches for the plastics industry. They have now launched a barrier solution called UV9389PE EU that ensures that clear packaging films offer a high blocking effect against UV radiation in the wavelength range from 200 nm to 380 nm, even at low thickness. This additive protects foods from discolouration vitamin and flavour loss due to the effects of artificial light to which they are exposed during storage, shipping and on the shelf. Therefore, Tosaf's UV blocker contributes to preventing food wastage due to premature spoilage. UV9389PE shows high efficiency even at very low dosages, as well as minimal influences on the behaviour during production and further processing of films. The range of applications extends beyond foodstuffs to other film applications where the protection of sensitive goods from UV radiation is required.



# Gin packaging converts into 'hotel' for bees

South African gin producer Inverroche has launched a limited edition version of its outer packaging called Bee&Bee, which after use, functions as a 'hotel' for bees. The packaging is made from eucalyptus wood, an invasive species in South Africa. The construction was made with the collaboration with Houtlander, a sustainable carpentry company, and the organisation Working for Water. The company says that the flavour of some of its gins is attributed to Fynbos, a South African shrub. Solitary bees are vital to the ecosystem, pollinating around a third of the world's food crops. Among them, Fynbos. Therefore, without these bees, which have suffered a 70% decline in their population, Inverroche gin would lose its characteristic essence and risk no longer existing. Each box has 112 holes, each capable of housing a solitary bee. So far, 6,000 boxes have been created, with the potential to house 672,000 solitary bees.





# UK supermarket to trial vacuum and flow wrap packaging for beef mince

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ALDI UK has announced that it is to trial vacuum and flowwrapped beef mince to reduce its plastic use. The changes have been calculated to decrease the amount of plastic used by up to 73%. The company also says that the changes are expected to increase the shelf life of beef mince – keeping products fresher for longer – without affecting taste or quality. The trial aims to understand which packaging customers prefer while helping the supermarket further reduce plastic waste. The new packaging removes the need for a paper lining, and no carbon dioxide is used in production, delivering further environmental benefits without affecting the quality or taste of the product. The vacuum packaging trial has gone live across select Northamptonshire, Leicestershire, Shropshire, Staffordshire, Warwickshire, the West Midlands and Worcestershire stores. The flow-wrap trial will be rolled out in the same areas in November 2023.

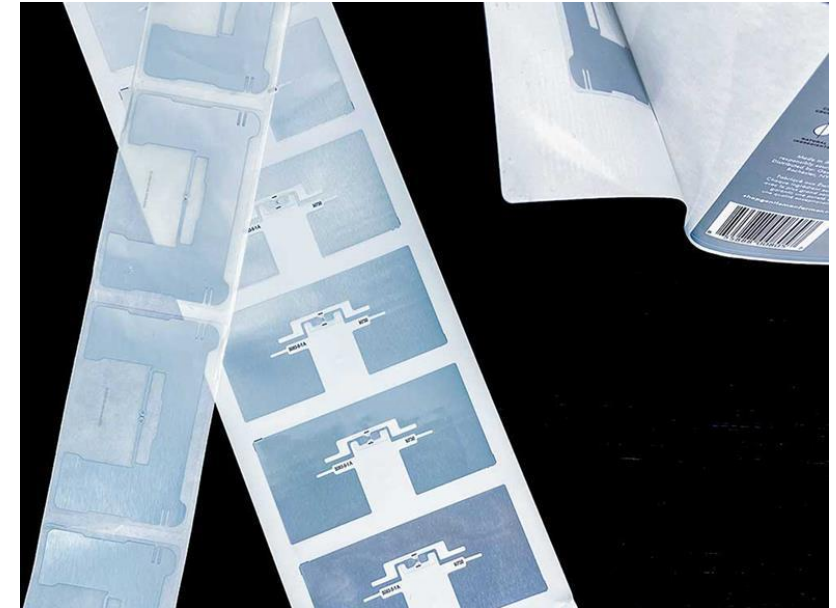




# RFID technology can now be integrated into primary labels

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Meyers Printing is a Minnesota-based producer of packaging, labels and retail displays. It says it has now created an RFID (radio frequency identification) label offering that can improve the quality, efficiency, and scalability of RFID label production. The company says that this new development eliminates the challenges most consumer packaged goods brands face with RFID labels around branding and shelf appeal, says the company. Meyers believes the greatest difficulty most CPG brands face with RFID labels is their lack of integration within existing labels, making purchasing separate Ultra High Frequency (UHF) RFID labels necessary. This new RFID label technology eliminates that extra step, saving brands time and money and improving inventory accuracy, according to Meyers. While Walmart already requires its vendors to use RFID labelling for home goods, sporting goods, electronics, and toys, the health and beauty industry's use of RFID labelling is expected to increase.



# New 'twist-to-lock' aerosols remove need for overcap

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Illinois-based Aptar Beauty is a manufacturer of primary packaging solutions and dispensing systems for the personal care and pharmaceutical markets. The company has announced the launch of a range of aerosol actuators that eliminate the need for an overcap thanks to an intuitive locking technology. The twist-to-lock technology means there is no cap to lose. It also means greater convenience and fewer material parts. According to Aptar, it is easy and intuitive to use: the actuators are locked and unlocked with a simple 'twist' gesture. An audible click indicates when they are properly closed. The new range comprises three actuators – Ringo, for shaving, hair styling or shower gel and foam products, Nora, for shaving or shower gel products, and Tina, for hair sprays, deodorants, sun or body sprays. According to Aptar, production will start in 2024.



# Online wine tasting kits are lightweight and easy to ship

ecoSIP, from the Online Tasting Company based in Leighton Buzzard, UK, gives consumers an easy and practical way of tasting new wines. The company says that ecoSIP delivers huge practical advantages for getting wine samples into the hands of more customers so they can experience them. A complete tasting pack of 6 x 100ml samples come in an aluminium-based sachet and weighs less than 150 grams (5.3 oz), ten times lighter than glass bottles and their packaging. They also are around 3.5 times smaller, so more fit on each delivery vehicle, leading to significant savings in costs and shipping emissions. Weighing as little as 2.5g (0.1 oz), ecoSIP packs can be as much as 70 times lighter than glass containers. The company says that aluminium was chosen as it has one of the strongest oxygen barriers, with no cap or cork to act as a weak point.



# Aseptic packaging for ambient probiotic yoghurt hailed a 'game changer'

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Aseptic packaging solutions provider SIG has collaborated with AnaBio Technologies, an Irish company that is a global leader in micro encapsulation technology. Micro encapsulation involves coating fragile bioactives in a microscopic protective coat enabling them to survive the stresses of processing, storage, and digestion. Together the companies are presenting the first global launch of a long-life probiotic yoghurt. Until now, it has not been possible to incorporate probiotics into aseptic beverage packaging due to their inability to survive common heat treatments used in processing. The combination of AnaBio's encapsulation technology and SIG's aseptic filling technology overcomes these restrictions, enabling food and beverage companies to produce probiotic beverages containing live probiotics that are packed in carton packs and spouted pouches, and can be kept at room temperature for extended periods without refrigeration. The companies say that this game-changing development creates a new product category: probiotic beverages packed in aseptic carton packs.





# New linerless labels reduce carbon footprint, water use and waste

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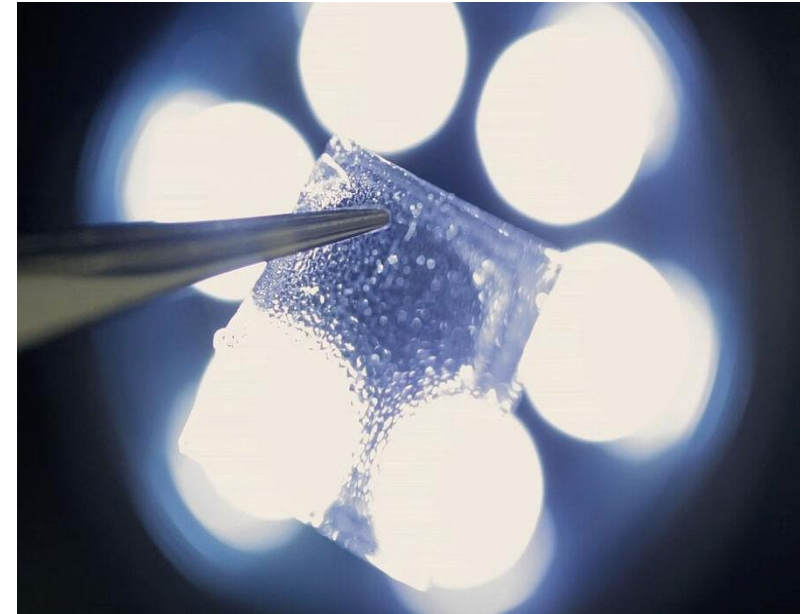
Multinational manufacturer and distributor of pressure-sensitive adhesive labels, Avery Dennison have announced that it is to launch its first generation of decorative linerless solutions to reduce carbon footprint, waste and water used in packaging production. Featuring patented micro-perforation technology, AD LinrSave and AD LinrConvert are designed to greatly reduce label waste, decrease CO2 and water footprint. The company says that AD LinrSave and AD LinrConvert are easily integrated into existing equipment and with up to 80% more labels per roll it means more efficient runs and fewer changeovers. They also say that these more sustainable linerless labels can easily and accurately be applied on a wide range of packaging types used in sectors including food and beverage, wine and spirits plus home and personal care. The new labels will be showcased at Labelexpo 2023, in Brussels in September 2023.



# Speciality label company buys ultra-thin battery tech startup

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CCL Industries, based in Canada, who are leaders in specialty label, security and packaging solutions for global corporations, has announced that it is buying Imprint Energy, a Californian company specialising in ultra-thin batteries. CCL purchased the company for US\$27m, which includes the entire intellectual property suite and the R&D team responsible for the innovations. Imprint Energy, located in Alameda, California, is a startup technology company with proprietary technology for ultrathin, non-hazardous and non-toxic printed batteries for IoT (internet of things) devices, sensors and wearables. These product lines will become an integral part of CCL Design. A spokesperson for CCL said that the company had been closely watching the development of Imprint Energy's unique battery technology for some years, and that they were very pleased that the founder would be joining CCL to develop this exciting market further.



# German company launches sustainable alternative to foil decoration on labels

German coating producer ACTEGA has announced the launch of a new product that has been designed to enable the production of high-quality labels and packaging with greater visual impact. The company says that ECOLEAF is a sustainable alternative to traditional metal decoration. This innovative technology makes it possible to significantly reduce the environmental impact of metallic decoration on labels and packaging, while maintaining the aesthetics and quality standards required by brands. Completely eliminating the need for foils, ECOLEAF focuses on a process of applying and curing precise amounts of metallic pigment to create eye-catching label embellishments while facilitating critical reductions in costs, materials and production times. Based on the company's initial calculations, a carbon footprint reduction of more than 50% was observed compared to using the hot and cold foil. ACTEGA will be demonstrating ECOLEAF live on their stand at Labelexpo Europe 2023 in Brussels during September 2023.



# Sustainable food-to-go packaging solutions on show

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Coveris, a leading European packaging manufacturer, is set to showcase its newest forward-thinking, sustainable packaging solutions at lunch! 2023 at ExCeL London. Products on show will include their BarrierFresh MAP (modified atmosphere packaging) skillet to keep sandwiches fresher for longer by controlling pack atmosphere supporting food waste reduction targets. They will also be presenting its eco-efficient food service solutions including EnviroPac Bagasse, a renewable and sustainably sourced alternative to EPS packaging. Other high-performance packaging solutions, such as Coveris' dual-ovenable, hot-hold HEAT range, will also be displayed. Coveris' stand will also showcase a range of award-winning Notpla-coated food cartons, developed by Notpla. Made from seaweed and plant extracts, Notpla's award-winning barrier coating is applied to a sustainably sourced board to create a food-safe barrier function and reportedly naturally breaks down in 4-6 weeks at the end of life.





# Brazilian winery develops ceramic alternative to glass bottles

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In what is claimed to be a first for the country, Brazilian winery Cárdenas has announced the launch of two of its wines in a ceramic bottle. The project began shortly after the COVID-19 pandemic, when the company found there was a shortage of glass bottles due to increased consumption. Because of this the company decided to explore other potential materials, including stainless steel, aluminium, and plastic. After two years of development, the brand launched Cárdenas Amphora Wine Merlot 2016, in a white amphora bottle, and Cárdenas Amphora Wine Tannat 2017, in a black amphora version. In the first launch batch, there will only be 2,800 packages. The oval shape of the amphora, with organic curves and no corners, was designed by Renato Cárdenas “to represent rebirth, renewal, prosperity and family”. The bottle features a hollow handle which acts as a heat exchanger for which an innovation patent has been registered.



# Brazilian motor oil producer trials bag-in-box format

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Motor oil manufacturer Mobil Brazil has announced the launch of Mobil Boxx. This bag-in-box format, the company says, is designed to make oil changes more efficient, economical and sustainable. The new packaging, with a capacity of 20 litres, has a resistant plastic bag to store the lubricating oil and an easy-to-use tap, allowing more precise control of the oil flow and reducing spills and waste, facilitating the work of mechanics and simplifying the process to end consumers. The cardboard box accommodates the bag, gives strength and protection to the packaging, and facilitates storage and transport. The new format is said to reduce the use of plastic by up to 85%, compared to traditional 1-litre bottles. The new packaging is available as part of a pilot project and will be distributed by Mobil's authorised partner in the interior of São Paulo, West Brazil.



# Brazilian nail manufacturer uses graphene in its packaging

Gerda, the largest Brazilian steel-producing company, has moved the packaging for its nails to a material that contains graphene. The new package uses 1% Poly-G, the first masterbatch with graphene dispersed in polymers. Among the benefits of the new packaging, according to Gerda, are stand-out gains in the mechanical properties of packaging, enabling a 25% reduction in thickness and an increase in packaging resistance, with a consequent reduction in losses in the packaging process, by approximately 39%; in addition to reducing the consumption of raw materials, electricity and greenhouse gas emissions for its production. The new packaging was developed integrated between the long steel areas of Gerda Graphene, a company of Gerda Next, Gerda's new business arm. The packaging also features a QR Code with access to Gerda's business platform and interactive content with information about graphene and how Gerda Graphene is developing new applications for this technology.



# New security label gives obvious visual indication if tampered with

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Securikett is an Austrian company that offers brands tamper-evident seal stickers and labels. Their latest product is a new security closure label to deter refilling of containers. The company uses its HighContrast technology on security closure labels for the tamper-proof sealing of packaging with screw caps or hinged closures. The development is suitable for tubes, jars, and plastic containers. When closures are unscrewed or flipped open, the label is destroyed across its integrated punching; this ensures that the opening is visible and the label cannot be stuck back down or reused. The security seal will curl away from the package if the label is cut open along the closure cap. With conventional seals, this type of opening is often not immediately visible to the naked eye. However, with this seal, it is obvious at first glance.





# Belgian startup offers organisations healthier drinks without disposable plastic

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Belgian start-up Dripl has developed a drinks machine that can dispense soft drinks at any time while avoiding transport of water, as soft drinks can often contain 90% water. Dripl's mission is to promote healthier drinking without disposable plastic packaging and hope to establish a new status quo. The Dripl Refill Point will filter tap water, chill it, make it sparkling and finally mix it with one of four natural flavour concentrates. By keeping track of all consumption data, Dripl's vending machine not only lets the business owner find out which are their employees' favourite flavours but also optimises order quantities and estimates the positive impact the company is having on the planet. The Dripl team has convinced over 100 organisations in Belgium and the Netherlands to opt for a packaging-free Refill Point. As a result, the use of over 400,000 bottles has already been saved.



# Partnership aims to remove potentially harmful hydrocarbons from drinking straws

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Welsh sustainable packaging company Transcend Packaging has announced a partnership with German speciality lubricants manufacturer Klüber to cut mineral oil aromatic hydrocarbons (MOAH) and mineral oil saturated hydrocarbons (MOSH) from its paper straws production process. There are calls from industry organisations to tighten standards regarding these substances in packaging manufacturing processes. MOAH and MOSH are under scrutiny because they may cause health issues. It is believed that MOAH may be carcinogenic, while MOSH is known to accumulate in the liver and lymphoid system, causing inflammation. The partnership with Klüber allows Transcend to continue to evolve the production process and address demands from some of the world's largest food and drink brands to eliminate traces of mineral oil residue now, as well as making its products compliant for future legislation, which will likely come into effect across Europe and the UK.



# About Us

ThePackHub is a UK-based packaging innovation consultancy that provides packaging solutions to brand owners, retailers, and packaging suppliers. They offer technical support for packaging projects of all sizes, with a strong reputation for assisting start-ups to multinational organizations.

ThePackHub manages a comprehensive innovation database called The Innovation Zone, featuring over 7,700 packaging innovations worldwide, with 25 new initiatives added weekly. They have a vast network of packaging contacts across the industry that helps inform much of their consultancy work. Additionally, they have published several packaging reports, covering sustainability, packaging trends, supplier guides, seasonal packaging, and more. ThePackHub hosts face-to-face seminars that provide insight from expert speakers and 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, Starbucks, Walgreen Boots Alliance, Marks & Spencer, Lidl, Muller and many more.



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