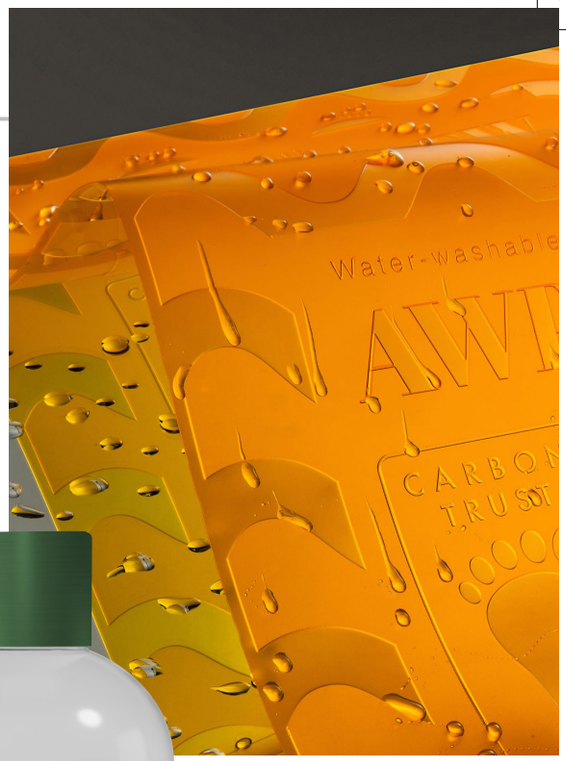
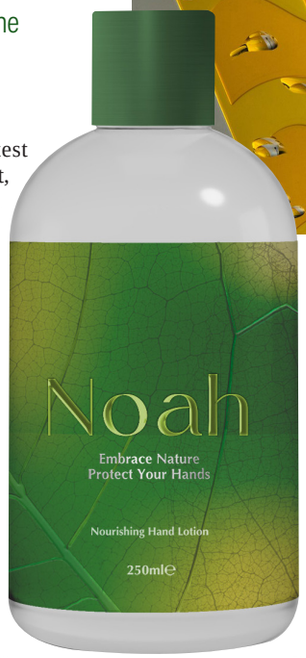
Sustainability on show

Rolls and rolls of label innovation faced **Dominique Huret** as she explored the aisles of the Brussels Expo for the recent Labelexpo Europe show





Above: *Asahi's AWP DEW plates are water washable and certified carbon neutral by the Carbon Trust*

Left: *A Royston label printed using Asahi AWP plates*

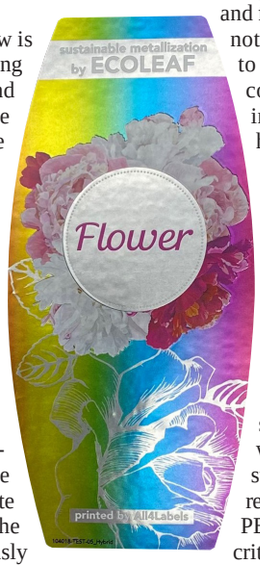
Below left: *EcoLeaf is an on-demand metallisation technology*

Four years is a long time in the labelling and package printing industry – and, it seems, for associated trade shows. Since the last Labelexpo Europe, which took place in 2019 before a Covid-enforced hiatus, converters and brand owners have been under steadily increasing pressure to demonstrate the sustainability of their labels and their production process. Reflecting this, a huge number of new eco-friendly solutions for equipment and materials were available to view in the eight halls of the Brussels Expo this September.

With Labelexpo Europe moving to Barcelona in 2025, organiser Tarsus was clearly keen to make the last Belgian edition a success and, despite the uncomfortably hot temperatures in the halls, there were plenty of 'cool' innovations on display.

Cutting-edge materials

A key takeaway from the show is that label substrates are evolving rapidly to meet legislation and brand mandates for a more circular economy. To demonstrate this, all major players are now offering substrates with various levels of post-consumer recycled material for the likes of label face papers, films and release liners.



In parallel, ongoing NPD has led to thinner materials that supposedly offer no compromise to the original performance characteristics. For reel-fed wraparound applications, Jindal Films used the show to highlight its Label-Lyte films, which, according to the company, have been continuously optimised since their launch.

"In the carbon footprint calculation, let's be clear: 30 per cent comes from the energy used for production and 70 per cent from the material itself," says Denis Rousseau, market development manager at Jindal Films. "That is why reduction is key. We developed the DL247 – the thinnest and lightest uncoated film in the reel-fed market, available in 33- or 38-micron. It ensures excellent performance while being 15 per cent lighter [than the market average], therefore offering significantly reduced plastics use for the same labelling surface. Also, good to know, our Label-Lyte and the Treofan in-mould labelling [IML] films can be upgraded in their most sustainable versions to reduce environmental impact, virgin plastics and fossil oil dependency.

According to Rousseau, the mass balance ISCC Plus certified films, which are bio-based, bio-circular or circular (via chemical recycling), can be used without any compromise on performance and food-approval guarantees. "Last but not least, we have developed expertise to incorporate mechanically recycled content in our films, both in post-industrial and post-consumer types," he adds.

For Taghleef Industries, new developments include bio-based PP films and ReLife films with recycled content. The show was also an opportunity to see products sleeved with the company's updated Shape360 TDS, a floatable shrink sleeve label film suitable for containers of various materials, shapes and sizes.

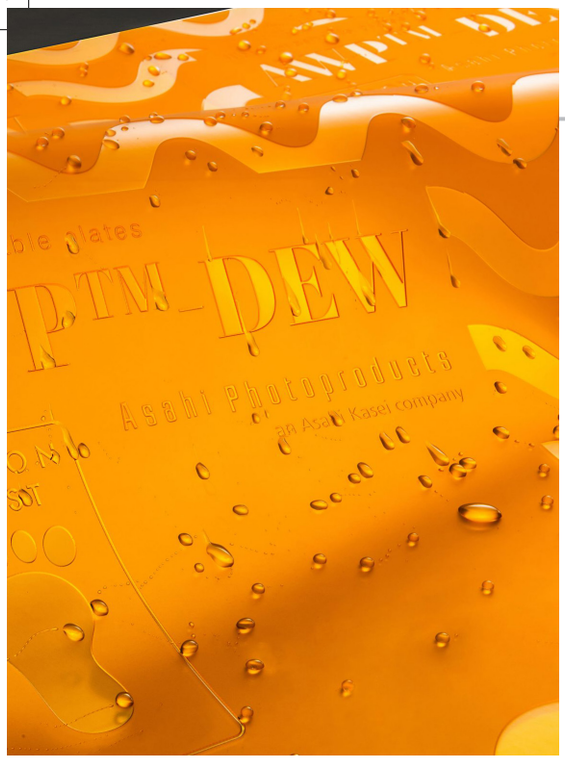
First introduced in 2021, TDS is a solution for PP and HDPE containers where a recoverable all-olefin package stream is in place. It is certified as recyclable by Interseroh and the European PET Bottle Platform. TDS has received critical guidance recognition by the Association of Plastic Recyclers for its recyclability with PET, coloured HDPE, and natural HDPE containers.

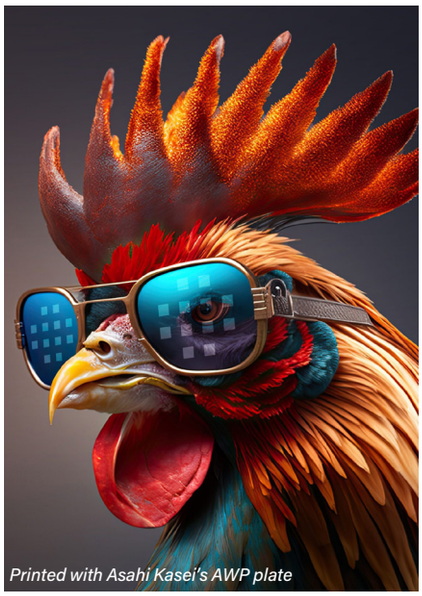
Taghleef's biggest news, however, was the announcement that it is to collaborate with SABIC (among others) on advanced IML technology. Taghleef has produced a BOPP film using a SABIC-certified renewable resin (from second-generation feedstock) tailored to the BOPP process. As well as being a fully recyclable mono-material packaging container, the company says added advantages include printability, and its die-cutting, anti-static and non-stick properties.

Over on Danish converter Synthogra's stand, a different type of container caught the eye. On display was a small pouch for sweets, made from SYN-BOPP transparent high-barrier top-coated film, 70 per cent of which is developed from used cooking oil. Available in 26- and 32-micron grades, the film is suitable for direct food contact and is designed for use in horizontal and vertical fill-form-seal flexible packaging machines as well as in overwrapping applications.

Synthogra chief executive Nanette Thomas saw Labelexpo as an opportunity to help customers develop their presence in the flexible packaging market. "As a supplier of flexible packaging material armed with digital and conventional press technologies, flexible material constructions, coating, laminating, ink and curing requirements, inline and near-line decoration options, and migration testing, we have knowledge to share with all our colleagues in the value chain," she explains.

In the context of raw material, energy and transportation savings, the resurgence in interest in liner-less labels was obvious at the show. A well-established technology in




Printed with Asahi Kasei's AWP plate

the logistics and industrial labels sectors, liner-less has still not made its way into the primary label market, but leading the way is Avery Dennison.

"Liner-less is significant for sustainability," says Steve Flannery, senior vice-president and general manager for Avery Dennison Materials Group EMENA. "Reducing the amount of material means also less energy during production, cost of transport and in recycling. This is essential. Unfortunately, neither consumers nor governments grasp the whole issue and label waste remains an industry problem, but we at Avery Dennison are passionate about it. For sure, it is a niche but more communication is needed."

The solution showcased by Avery Dennison was the ADLinrSave liner-less system targeted at the prime label market. This is a joint project with Bobst, the developer of the inline silicone coating head, and Harland Machine Systems, which produced the applicator.

"ADLinrSave and ADLinrConvert are our first generation of decorative liner-less solutions enabled by patented micro-perforation technology," says Wayne Middleton, senior liner-less segment lead for EMENA at Avery Dennison.

"In addition to largely reducing our label waste, they are easily integrated into existing equipment, and with up to 80 per cent more labels per roll. That means more efficient runs and fewer changeovers. These sustainable liner-less 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."

Finishing thoughts

When it comes to label decoration, Kurz Group has a well-established reputation in processes such as cold transfer printed, hot stamped, and digitally finished. For all these technologies, Kurz, along with its subsidiaries, works to optimise the carbon balance and to reduce material and energy consumption. Among other things, Kurz is a specialist in thin film and has reduced the carrier thickness of the transfer products from 12- to 10-micron in the hot-stamping process and to an even more impressive 6 microns in cold transfer.

In addition to material savings, other positive effects play an important role in finishing, such as the less frequent reel changes required, and the reduction of weight or waste. ▸

Crowning champions

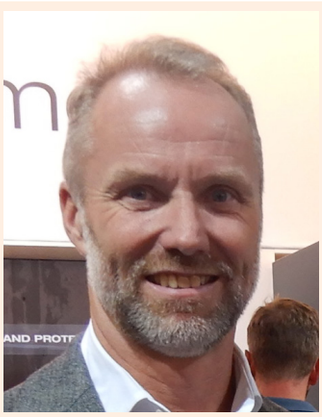
A highlight of Labelexpo Europe was the Label Industry Global Awards, which took place on the first evening of the show. The Sustainability Award, which recognises companies demonstrating progress towards a sustainable future for the global labels industry, was won by UPM Raflatac for its Ocean Action label.

"Our Ocean Action label is the world's first certified label material to fight ocean bound plastics pollution, or abandoned plastics waste recovered from areas up to 50km inland from waterways – defined as 'at risk of ending up in the ocean' by Zero Plastic Oceans," explains Eliisa Laurikainen, business development manager for UPM Raflatac.

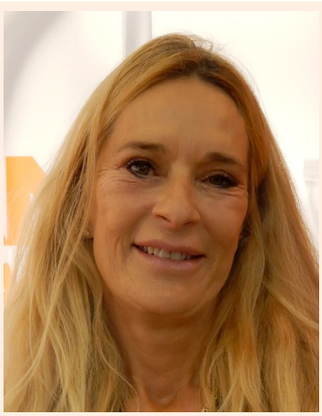
"The Ocean Action labels are made using a mass balance approach. The new label material is made possible by close collaboration with multiple partners in the product's value chain."

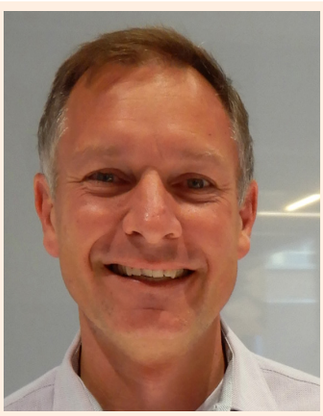
Another award winner was Lintec Corporation, which received the Innovation prize for the supplier or converter (of more than 300 employees) that has developed a specific innovation in 2022.

"We launched MMP Mono Material Polyester (PET), designed for application to PET containers," says Soichiro Fujinaga, technical manager at Lintec Europe. "Both film and adhesive are manufactured from polyester, reducing the risk of contamination if the labels are not removed before the washing and grinding process. A special top coating also enables the labels to be de-inked in an alkaline washing process."


Kurz's global business development manager for cold transfer, Christophe Dujardin


Eliisa Laurikainen, business development manager at UPM Raflatac


Nanette Thomas, chief executive of Synthogra


Steve Flannery, senior vice-president and general manager of Avery Dennison Materials Group EMENA

"It is essential for us to live up to our pioneering role in the field of sustainability and to support our customers in optimising their own processes and products in this regard," says Christophe Dujardin, global business development manager for cold transfer at Kurz. "Another further development is the takeback and recycling system for PET transfer materials, launched by the Kurz Recosys 2.0 recycling programme. The lacquers are removed from the PET film and Recopound, our post-industrial compound, is created."

The recycled injection-moulded granulate is said to save up to 40 per cent carbon dioxide compared with virgin material, while being suitable for the production of stable and durable plastics products, and decorated to a high quality. "We are the first company in the world to introduce a system like this in the plastics industry, and L'Oreal has already asked us to save rPET granulate for its production," Dujardin adds.

Actega, a manufacturer of speciality coatings, inks, adhesives, sealants and compounds, shared its significant developments for EcoLeaf, an on-demand metallisation technology. The EcoLeaf unit now runs at 70m/min on digital inkjet lines and 80m/min on flexo lines. The company says medium- to high-run jobs across all types of existing production lines can now integrate EcoLeaf and benefit from improved sustainability while delivering the high gloss and quality usually achieved with traditional foil processes.

Springfield Solutions, part of All4Labels, is EcoLeaf's first digital partner and uses the unit in addition to its existing digital embellishment service.

Come hell or high water

Pressure-sensitive adhesives producer Henkel Adhesive Technologies showcased sustainable pressure-sensitive products to improve food safety, container recycling and waste management. Among its portfolio, Aquence provides a solution for wash-off pressure-sensitive adhesive for labels.

"Ninety-nine per cent of the adhesives used today are composed of petrochemical products, and it is no secret that mineral oil will be banned soon," says Ricard Pujolar, Henkel's technical director for labels. "Look at France, which just postponed the implementation of the ban. We at Henkel have decided to prepare future solutions, and one of them is Aquence, a water-based acrylic adhesive, especially designed for olefinic labels (BOPP and PE). It targets PET bottles on account of the labels being food-contact approved, wash-off efficient, easily separated, and having a lower wash off temperature (65 deg C) with no degradation of the flake stream during recycling."

Asahi Photoproducts also believes in the benefit of water in the washing process of flexographic platemaking. The majority of platemakers today still use solvent wash platemaking technologies, which can often generate unwanted odour in the working environment, but parent company Asahi Kasei has developed a roadmap towards a 'solvent zero' solution that will help make platemaking more sustainable and create a more pleasant environment for operators.

Asahi's AWP DEW plates are water washable and certified carbon neutral by the Carbon Trust, while the company's AWP CleanFlat plates are currently in the final stages of the trust's approval programme. Asahi claims that due to their precise registration, both plates are ideal for expanded colour gamut (ECG) printing. Printing with ECG colours allows for a broader colour gamut and typically includes CMYK plus orange, green and violet.

In addition, to increasing the sustainability of its platemaking solutions, Asahi has developed an innovative water recycling system for its AWP plate processing equipment. The unit features proprietary filtering technology that reduces waste water by 75 per cent and detergent usage by 50 per cent. In a standard ten-hour per day plate processing operation, the system can process up to 38 sq m of plates. This further increases sustainability in flexographic operations.