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UPDATE: BLOWN FILM DIES ● MASTERBATCH

NEW DEVELOPMENTS IN PRINTING EQUIPMENT



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Europe PVC recycling declined 9% in 2023

Recycling rates of PVC in Europe fell by more than 9% in 2023, according to VinylPlus.

For the year as a whole, it reported that nearly 738,000 tonnes of PVC waste were recycled in the EU-27, plus Norway, Switzerland and the UK – a fall of 9.3%. This represents around 24% of all PVC waste generated in Europe.

Of the total, 62% was pre-consumer waste – where factories reprocess their own waste internally – and 38% was post-consumer waste (where PVC is collected after use).

In 2023, pre-consumer recycling fell 10%, while post-consumer recycling fell by around 7%.

Comparisons are hard to make because product types were reclassified between 2022 and 2023.

However, recycling of 'flexibles' – including 'coated fabrics' and 'flooring' – appeared to decline by around 14% in 2023. Recycling of



IMAGE: VINYLPLUS

Schellerer: "The recycling system continues to be under scrutiny from regulators"

'rigid film' was stable at around 20,000 tonnes.

VinylPlus said there were several reasons for the decrease: competitive prices of virgin material, including imports; a downturn in building and construction; and the impact of European regulations on legacy additives.

Recycling and converting also declined across Europe, for both pre-consumer recycling – where lower production reduced the amount of waste

available – and post-consumer recycling, due to a decline in the construction industry. The flooring and pipes sectors registered the largest decline, especially in pre-consumer waste recycling.

Demand for recycled PVC (rPVC) fell more than 12% compared to previous year, said VinylPlus. Registered uptake of rPVC from converters was around 470,000 tonnes in 2023, a 16% fall.

The VinylPlus 2030 commitment has a target to recycle 900,000 tonnes/year of PVC by 2025, and 1 million tonnes/year by 2030.

"High inflation impacted the construction sector, putting recyclers in difficulty and reducing demand for recyclates in the EU," said Karl-Martin Schellerer, chairman of VinylPlus. "In addition, the recycling system continues to be under scrutiny from regulators."

➤ www.vinylplus.eu

Sales and profits fall at Cosmo

India-based Cosmo First saw reduced sales and profits in its latest financial year.

For the year ended 31 March 2024, the company posted a 16% fall in sales – to around Rs26 billion (around US\$312 million). At the same time, profitability (EBITDA) slumped by 42% to around Rs2.5bn (around US\$30m).

In the final quarter of the financial year, however, sales rose by around 2.5% – and EBITDA by 20%.

The improvement in profit was down to higher sales of speciality film, and improved domestic BOPP margins, said the company. However, BOPET margins remained negative, it added.

The first quarter of the new financial year (FY) will see BOPP margins remain steady, said the company. It also expects improved sales of speciality BOPP films and reduced costs.

➤ www.cosmofilms.com

'Record attendance' at Chinaplas 2024

Adsale, the organiser of Chinaplas, says it achieved a new record for both exhibitor and visitor numbers at the latest show in Shanghai.

It says that, as well as hosting 4,495 exhibiting companies, it attracted more than 320,000 visitors – almost 30% higher than its 2023 Shenzhen exhibition.

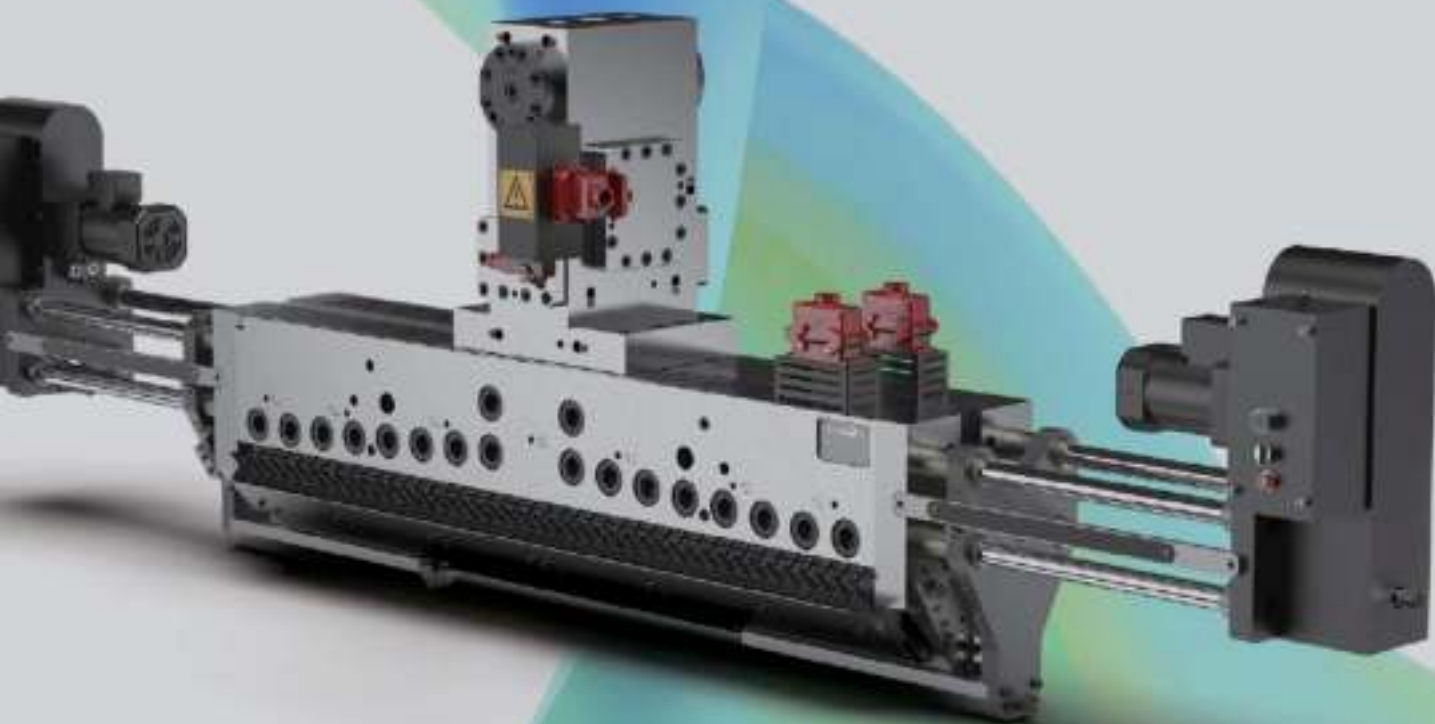
The number of overseas visitors exceeded 73,000, accounting for nearly 23% of the total.

"We have surpassed the number of exhibitors, total visitor count, and overseas visitor count of any previous edition of Chinaplas," said Ada Leung, general manager of Adsale.

➤ www.chinaplasonline.com



IMAGE: ADSALE



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IN BRIEF...

By increasing capacity at its plants in Heanor, UK, Steinfeld, Germany, and Zdzeszowice, Poland, **Berry Global** will increase the amount of recycled plastic produced across its European sites by around 6,600 tonnes/year - and raise the quality of the recyclate used across its flexible film solutions, it said. Many products made at Berry's European film facilities now contain more than 30% recycled content, it says.

www.berryglobal.com

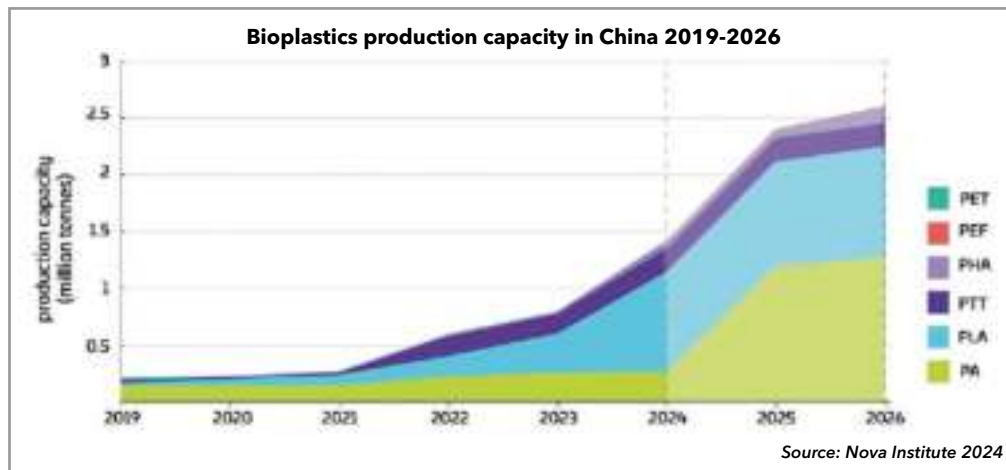
Eastman says it has achieved on-spec initial production and is generating revenue from its new molecular recycling facility in Kingsport, US. The company says it expects to ramp up production over the coming months.

www.eastman.com

Borealis has completed the acquisition of Bulgarian chemical recycler Integra Plastics, adding more than 20,000 tonnes/year of capacity.

www.borealisgroup.com

China bioplastic market set to treble by 2026



The Chinese market for bioplastics is expected to treble by 2026.

A report from Nova Institute in Germany predicts a compound annual growth rate (CAGR) of 49%. It expects the bioplastics industry in China to expand from around 766,000 tonnes in 2023 to more than 2.5 million tonnes in 2026.

"China's bio-based plastics industry is experiencing rapid growth which is largely driven by policy incentives," said the report.

One key policy, intro-

duced in 2021, was the 14th Five-Year Plan for the Development of the Bioeconomy.

The Chinese government has since introduced other policies and regulations to promote bio-based and biodegradable materials, including the Three-Year Action Plan to Accelerate the Innovative Development of Non-Food Bio-based Materials, in 2023. It aims to make non-food, bio-based products competitive with fossil-based products by 2050.

While policies like these

- and investment from private equity firms - have contributed to industry growth, they have also led to structural overcapacity, says Nova. In 2023, annual production capacity of PLA and PBAT was 1.5 million tonnes (while actual production was only 260,000 tonnes), and is expected to reach 3.6 million tonnes by 2025. However, the market size is only expected to reach 2.5 million tonnes, suggesting overcapacity in the biodegradable plastics market.

> www.nova-institut.de

Lower FMCG demand affects Uflex results

Indian flexible packaging major Uflex saw both sales and profits decline for its latest fiscal year.

For the year ending in March 2024, it reported sales of around INR135 billion (US\$1.6bn), a fall of nearly 9% compared to the previous year. This was largely due to lower demand in the FMCG sector, said the company. Despite this, signs of recovery emerged in the final quarter - with a 10% increase in sales volume translat-

ing into 3% revenue growth.

"In Q4, we saw an increase in sales volume despite a challenging environment," said Rajesh Bhatia, group CFO at UFlex.

Sales volume for the full year was just short of 600,000 tonnes - an increase of about 2%.

However, profitability (EBITDA) fell by nearly 20%, reaching around INR16bn (around US\$156m).

Ashok Chaturvedi, chairman and

managing director of UFlex, said: "This has been a year of consolidation. We are confident that our vertical integration strategy and new global capacities will help us deliver long-term value."

One element of this was to achieve "raw material self-sufficiency" by commissioning a 168,000 tonnes/year PET chip plant at Panipat, India - which will mainly be used to make BOPET film.

> www.uflexltd.com

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Top: Partly coated with anti-fog



Bottom: Stacked packaging, coated with anti-block

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Free registration opens for AMI plastics expos in Cleveland, USA

Free online registration has opened for the AMI Plastics World Expos, taking place in the US later this year.

The event, held for the fifth time in North America, brings together four focused exhibitions: **Plastics Extrusion World Expo**, the **Plastics Recycling World Expo**, **Compounding World Expo** and **Polymer Testing World Expo**. It takes place at the Huntington Convention Center in Cleveland, Ohio on November 13-14, 2024.

Visitors who register in advance will receive free admission to all four exhibitions - featuring more than 300 suppliers - and four conference theatres hosting technical presentations, educational seminars and business debates. Attendees and exhibitors will also have the option to buy tickets (US\$60 each) for a networking party at the Punch Bowl Social on the



IMAGE: AMI

Conference theatres will feature 100 expert speakers over the two days of the event

evening of 13 November.

"It will provide visitors with a great opportunity to meet and compare suppliers from around the world and learn from business leaders and technical experts in the conference theatres," said Jenny Amaru, expos business manager at AMI. "When we ran these expos in Cleveland last year, they attracted more than 5,100 visitors, including senior buyers and specifiers from leading extruders,

recyclers, compounders, OEMs and brand owners."

The four expos will occupy the two largest halls at the convention centre in downtown Cleveland. They will feature multiple manufacturers of extrusion, compounding, recycling and testing equipment, plus suppliers of polymers, additives and related services.

The exhibitor line-up already includes companies including: Advanced

Blending Solutions; AdvanSix; Ampacet; Amut; Aurora Plastics; Azo; Baerlocher; Barentz; Bausano; Bay Plastics Machinery; Birla Carbon; Brabender; Budenheim; Buss; BYK; C-Therm; Cabot; Chroma Color; Coperion; CPM; Dover Chemical; Dynisco; Entek; Erema; Farrel Pomini; Galata; Gneuss; Graham Engineering; Heritage Plastics; IMCD; Instron; Intertek; JSW; KraussMaffei; Leistritz; Maag; Milliken; Mixaco; Netzsch; NFM; NGR; Niche Polymers; Omya; Orion; Perkin Elmer; PMC; Sesotec; Steer; Steinert; Struktol; Syncro; TPEI; Thermo Fisher; US Extruders; Vecoplan; Wacker; Westlake; Windmoeller & Hoelscher; Zeppelin; and Zoltek; and many others.

A few booths are still available. To find out more about exhibiting at any of the expos, [CLICK HERE](#).

For a free ticket for the expos and conferences, valid for both days of the event:

<https://ami.ltd/Plastics-World-Expos-NA-Register>

NatureWorks wins funding from Thai bank

NatureWorks has secured funding of US\$350 million from a major bank in Thailand, for the PLA manufacturing plant that it plans to build in the country.

The funding from Krungthai Bank will support the construction of the plant and its ongoing operations.

"The funding will enable us to expand our international customer access to fully biobased, low-carbon biomaterials," said Erik Ripple, presi-

dent and CEO of NatureWorks.

The new facility is designed to be a fully integrated PLA complex, including production sites for lactic acid, lactide and polymer. It will produce the company's full portfolio of Ingeo PLA grades, with an annual capacity of 75,000 tonnes.

Suratun Kongton, chief wholesale banking officer of Krungthai Bank, added: "We've provided this financing

because NatureWorks is a leader in manufacturing biomaterials, and meets the requirements to drive our country's BCG [Bio-Circular-Green] model forward."

Biopolymers made at this site will be made from sugarcane from farms within a 50km radius of the Nakhon Sawan Biocomplex. It is scheduled to reach full production in 2025.

➤ www.natureworksilc.com

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North America Q1 machine sales fall

Sales of plastics machinery in North America have fallen in the first quarter of this year.

The Plastics Industry Association's Committee on Equipment Statistics (CES) estimates Q1 sales of nearly US\$262 million - around 25% down compared to both the preceding quarter and the same period in 2023.

Single-screw extrusion machines saw sales cut in half since the previous quarter, and down more than 23% year-on-year. Twin-screw extruder sales fell 7% compared to Q4, and by 17% year-on-year. By comparison, injection moulding sales were down one-third compared to Q4 and down nearly 25% year-on-year.

"It is common to see lower shipments in the first quarter of each year," said Perc Pineda, chief economist at the association. "Accounting for such seasonality, shipments decreased by 8.5% quarter-over-quarter."

Plastics machinery suppliers were aligned with the economy, he added.

However, the latest CES quarterly survey shows nearly 75% of participants anticipate steady or improved market conditions over the next 12 months. At the same time, nearly half (49%) expect an increase in quoting activity - compared to 17% of participants in the previous survey.

In Q1 2024, US exports of plastics equipment fell by more than 7%, while imports grew 7.0% from the previous quarter. Mexico and Canada remained the top export markets, together accounting for US\$191m in exports - just under 48% of total US plastics machinery exports globally.

"The US economy is poised for another year of growth, albeit at a slightly lower rate," said Pineda. "However, growth in housing is hampered by higher borrowing costs, which also applies to higher capital expenditure financing - including equipment investment in plastics manufacturing."

> www.plasticsindustry.org

Ineos plants will recycle PVC through 'dissolution'

Ineos has opened two PVC recycling pilot plants that will use dissolution technology to capture material that cannot be mechanically recycled.

The pilots, at its site in Jemeppe-sur-Sambre in Belgium, are part of its Project Circle initiative - which aims to have a 40,000 tonne/year recycling unit ready by 2030.

It will collaborate with two existing Belgian industry consortiums. One, Circ-PVC, covers the whole PVC

recycling chain; the second, Dissolv, plans to drive development for PVC waste from flooring, carpets and tarpaulin applications which cannot be recycled today.

"By working together, we can leverage our expertise to develop faster solutions and bring more recycled products to the market," said Luc Castin, sustainability manager at Ineos Inovyn.

> www.ineos.com



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Materials suppliers have developed formulations that allow stretch and shrink film producers to offer mono-material films, or ones that incorporate more recycle

Wrap artists: advances in stretch and shrink film

Materials development is fundamental to the development of stretch and shrink films. At last year's *Stretch and Shrink Film* conference - held in Charleston, USA and organised by AMI - delegates heard how sustainability helps to drive the development of thinner films, higher performance and alternative materials.

Fernando Guajardo, market development lead engineer at **Sabic**, said that trends such as sustainability and the need for stiffer, thinner stretch film dominate the market.

"We need to reduce plastic use by downgauging," he told delegates.

Sabic has developed a solution that can reduce pallet goods damage while using less plastic per pallet, he said. In addition, there is a more efficient wrapping process and higher tear resistance of the film - despite containing recycle.

A typical stretch film might use five layers of

mLLDPE in a 17-micron thick structure. Sabic's design is similar - but it includes a 'polyolefin enhancer' layer in the middle. The structure was evaluated on an ESTL simulator FTP 750, to measure ultimate strain, holding force and tear resistance in the cross direction.

One key finding was that it allowed a higher elongation than an incumbent mLLDPE, resulting in the use of less plastic per pallet. In addition, a higher holding force in the 350-450% stretch range helped to raise pallet stability and reduce the risk of damaged goods. Tear resistance in the cross direction was also doubled.

Stretch alternatives

Grace Lancaster, product manager and sustainability analyst at **Lantech**, explained the company's ongoing efforts to find alternatives to plastic stretch film when requested by customers. ➤

Main image:
Stretch wrap is vital in ensuring that pallet loads remain stable



Above:
A 1% loading of Gerdau's Poly-G graphene can cut the thickness of shrink films by 25%

“Choosing alternatives to single-use plastic stretch films and evaluating environmental trade-offs is challenging,” she said. “They can come at a higher price, make compromises to quality and performance, or even be more damaging to the environment than plastic counterparts.”

The company has investigated a number of alternative materials to secure pallet loads, including paper, films containing 30% recyclate, and virgin film. These were assessed – using a test devised in-house – against criteria such as damage, cost and environmental impact.

The test showed the virgin films were the top performer for carbon footprint, weight and cost.

“Virgin films are consistent, high-efficiency performers,” she said. “PCR stretch films fluctuate and introduce implementation risks and significant source reduction is still possible.”

A key factor is that stretch film accounts for less than 1% of the total plastic on a pallet loads of bottles, for instance – yet plays a critical role in ensuring that there is no failure.

Source reduction can be handled by aiming to use the least amount of material per pallet – at the highest performance and lowest cost. Despite this, few brand owners monitor the amount of stretch used on each pallet.

“Stretch wrap is the only material on the pallet where the amount used is not predefined,” said Lancaster.

Tracking how much stretch wrap is used can be achieved automatically – such as with a plant line monitoring system – or with periodic ‘cut and weigh’ operations. One way to reduce usage is to invest in more modern wrapping machinery – which will wrap to the required containment force using less film. Another is to use higher quality film.

Graphene benefits

Graphene has been touted as a wonder material in

many applications – and has also been used to improve the physical properties of plastic films.

Ivan Ramires, product and sales manager at **Gerdau Graphene**, said that a 1% loading of its Poly-G graphene additive has helped to reduce the thickness of shrink films by 25%.

A conventional 21 micron stretch film will stretch by around 250% – but one that contains Poly-G stretches by about 350% for a 17-micron film. It means that 10 turns on a pallet will consume 76g of material, rather than 110g – a saving of 30%.

PET improvement

Emile Homsy, global leader for R&D at **Cargill Bioindustrial**, explained how bio-based processing aids helped to improve the quality of PET stretch films.

Its IncroMax 100 helps to extend necking and decrease stretching load in biaxially oriented PET film. When combined with silica, it can also improve slip performance in film up to 250 micron gauge.

“IncroMax 100 improves the output rate of polyesters in extrusion, while reducing energy consumption,” he said.

In addition, it shows improved flow results, through reduced stress of polymer through dies and gates, and allows extrusion at lower temperatures and pressures – for improved product quality.

In terms of sustainability, it offers improved flow properties – meaning a lower extrusion temperature and energy savings – as well as an increased output rate. In addition, the bio-based product is suitable for use bioplastics.

Shrink performance

In shrink film, an ongoing trend is to raise performance while reducing thickness. Bill Gauthier, technical service and development leader at **Baystar**, says that multimodal PE resins can help to satisfy this.

He presented details of Baystar’s FB2230, FB1350 and FX1001 polyethylene resins. Films made from these grades can achieve a transverse direction (TD) shrinkage of 5-20% with a blow-up ratio (BUR) of <3:1. All the materials are based on Borstar 3G technology.

A typical three-layer film consists of outer layers of FB2230 and an inner layer of FB1350 – with variants of this, depending on the desired clarity. (For instance, a metallocene-based grade can be added for higher clarity.) These films have a balance of toughness, stiffness and puncture resistance, he said – and can incorporate PCR into the middle layer.

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Right: Erema says its DualFil process can recycle supermarket stretch film very efficiently

metallocene grades - while those with PCR can retain 80% of original dart properties, he said.

Some benefits of the films include: lower hot shrink force, to prevent blow holes; higher cold shrink force, for better holding; and the ability to tailor optics and aesthetics.

Cast master

Lorenzo Paggi, areas sales manager at **Colines**, said that automation can help to boost production quality on cast film lines.

He cited the company's Mastermind - a virtual production assistant that automates many key tasks such as material selection and adjusting machine settings.

"There is a reduced need for 'superhero' style operators - meaning that less skilled operators can run the equipment," he told delegates.

Some advantages of Mastermind, he said, were automating the core OD changeover and making thickness changes (without stopping the line), spare parts management and warehouse analytics.

In one example, a core OD changeover was needed on a 2018 Allrollex line. This required 1-2 operators and took 20-25 minutes - during which

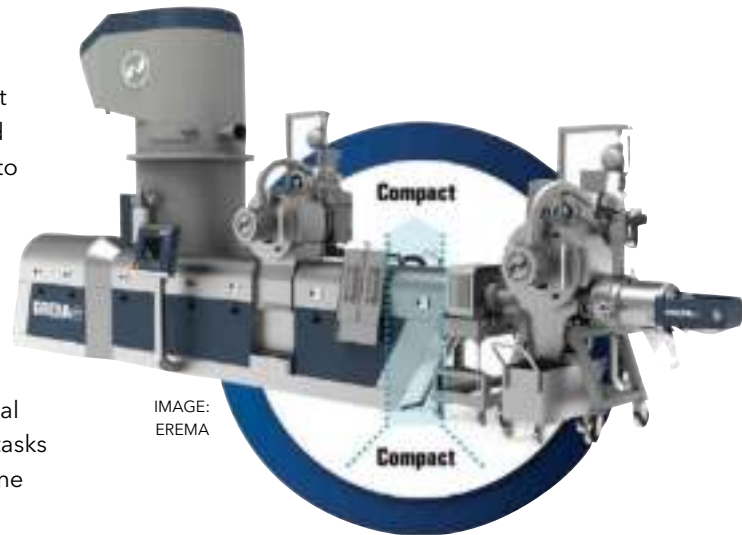


IMAGE: EREMA

time the machine was stopped. Using Mastermind, it took one operator almost no time to carry out the change - with the line still running at full speed.

Paggi pointed to a number of advantages: greater safety -- as they operator does not need to physically access the winder; increased uptime; no need for skilled operators - and freeing up one staff member for other tasks; and higher flexibility, allowing for a real multi-product machine. ➤



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Right: CJ Bio has introduced two PHA-based compounds for blown, cast and MDO film applications

In a second example, Italian flexpack manufacturer Plastotecnica made a product changeover on a seven-layer stretch film line. Using Mastermind helped it cut daily scrap from around 2800 lbs to 800 lbs - in both the production change and through die lip cleaning. Over the year, this amounted to nearly 700,000 lbs - around US\$400,000 in monetary terms.

Using Mastermind meant that operators no longer needed to adjust die bolts to adjust the die lip - reducing waste that had been generated before.

Pellet avoidance

Robert Wahlmueller, CEO of **Erema** North America, told delegates that the typical method of recycling waste material - using re-pelletised material - can be avoided. He said that the company's machinery can be incorporated directly into the production line. This allows it to gently melt production waste - such as edge trim - and feed it directly back into the production process.

This inline processing of edge trim means no degassing, no melt filter - as it is clean in-house material - and can have an output of 250-600 kg/hour.

However, post-commercial waste (from supermarkets) and post-consumer waste can also be recycled.

The main challenges of recycling post-supermarket film are humidity (due to outside storage) and contamination (such as from paper labels). Erema first pre-conditions this waste, which performs several functions - including cutting, homogenising, heating and compacting. This moves to a gentle melting process in a short extruder, which ensures that contaminants are not carbonised. These are taken through a two-stage filtration process.

The company says its DualFil process can consume around 10% less energy - and run around 18°C cooler - than existing double filtration methods. This helps to raise throughput by 5-10%, he said.

Double bubble

More recently, at AMI's European stretch and shrink film conference in Valencia, Spain,

Lin Kai Kai, sales manager at **Shantou Mingca Packing**, said the company had developed a non-crosslinked recyclable polyethylene shrink film, which uses **ExxonMobil** low-density Exceed XP material.

Lin explained that the film is a mono-PE solution created using double-bubble technology on a downward, water-cooled blown film line.

The film has been tested at ExxonMobil's



technology centre in Shanghai to assess its tensile properties, mechanical strength, haze, gloss and other attributes. It found a tensile strength of more than 100MPa, and an elongation that was greater than that of standard polyolefin shrink film and equivalent puncture performance.

It can shrink more than 70% on heating to allow shrink performance at lower temperatures (135-150°C). Thanks to this capability, it can offer potential cost savings due to the shrink tunnel - consuming less energy than what is needed with conventional solutions, says the company. In addition, it had relatively low haze (2.8%) and high gloss (up to 86 GU).

The company will make the film available in Europe, North America and China in 2024, then attempt to raise demand as high as 10,000 tonnes/year in 2025

PHA formulations

Hugo Vuurens, VP of business development at **CJ Biomaterials**, said the company offers a number of formulations to make shrink film from its amorphous polyhydroxyalkanoate (PHA).

Its PHA is produced by bacterial fermentation. The material - called PHACT A1000P - is biodegradable in home composting systems. When blended with PLA, it can lead to stronger films - with higher tear-resistance - that also degrade more quickly.

Two compounds - CA1270P AND CA1240F - are blends of PHA and PLA, used for blown, cast and MDO/biaxial film applications. CA1270P is a transparent, unfilled grade, while CA1240F



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contains calcium carbonate.

“PLA and amorphous PHA shows a good balance between stiffness, strength tear and puncture,” said Vuurens.

Compared to pure PLA film, the PLA/PHA films have a faster composting rate, higher output, improved flexibility and higher toughness, he said.

“MDO combined with CA1240PF leads to microporous films - resulting in reduced density,” he added.

Both compounds have been subjected to blown MDO processes (with up to fourfold stretch achieved).

Potential applications include shrink wrap and labels - as well as frozen food bags, hygienic films and other products.

High compatibility

Lucobit of Germany has developed a number of stretch hoods based on its Lucofin material - an ethylene butylene acrylate (EBA) copolymer.

Rinos Muchenagumbo, chief sales officer at Lucobit, said the material has good compatibility with a range of polymers, is recyclable and has good elongation and tensile properties.

He said there was an established structure for stretch hoods: two outer layers (each about 20% of the thickness) such as metallocene LLDPE containing antiblock, slip agents and stabilisers; and an elastomeric middle layer, comprising around 60% of the thickness, acting as the ‘stretch engine’, he said.

He said that a Lucobit stretch hood kept the same thickness ratios, but that it contained around 26% Lucofin in total - which helped to cut material costs by around 15%.

“Lucofin reduces melt pressure by 10-20%, meaning that output can be raised by 10-15%,” he said.

Typically, melt pressure reduces from 400 to 300 bar, bubble stability is retained and wall thickness variation is small (1-3%). He added that tensile strength can be increased and wall thickness decreased.

“Despite a slight increase in orientation, the film performed well with 13% less wall thickness,” he said.

He cited one US customer, who tested Lucofin-based stretch hoods on a shaker table to replicate transit conditions. According to the customer: “The stretch hoods lasted the entirety of the typical testing time without any major shifting. We also had some competitor films on the table at the same time and they failed almost immediately.”

■ The next edition of *Stretch and Shrink Film* runs in Charleston in the USA, on 3-4 December 2024. For more details, contact Angelina Ruocco on +1 610 478 0800 (angelina.ruocco@amiplastics.com).

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Discover the thriving market of polyethylene packaging with our comprehensive report on pallet stretch film, shrink hoods, and stretch hoods.

Despite the maturity of established countries, the demand for stretch and shrink film is growing worldwide. Developing regions are witnessing significant investment and growth in this sector, presenting lucrative opportunities for industry players.

In the past, the market for stretch and shrink films was primarily regional. However, the dynamics have shifted, and the future of the pallet stretch wrap market is now global in scope.

Report scope

The report examines material usage by polymer type, industry structure, and the way in which suppliers are reorganising. The major global stretch & shrink film producer profiles are provided, highlighting their market position, resin usage, and latest developments.

Polymers

LDPE, LLDPE (C4, C6, C8), Metallocene, mLLDPE, HDPE/MDPE, EVA/EBA, plastomers POE/POP, PCR, others.

Data points

The study quantifies the market from 2018 (historic), 2023 (reporting year) and provides forecasts until 2028.

Product Coverage

Individual analysis concentrates on the following film types:

- Pallet stretch film
- Pallet shrink film/hoods
- Pallet stretch hoods
- By type: machine film, manual film
- By technology: blown, cast



IMAGE: BOBST

Image control: latest in printing equipment

Recent innovations in printing include updated inspection systems, a takeback system for PET labels and installations of several high-speed, sophisticated flexographic printing presses

In the modern world of packaging, printing is a critical factor that helps to boost shelf appeal. The printing itself needs to be fast and accurate – and that must be checked using sophisticated downstream systems.

Saudi Arabia-based flexpack producer Al-Shamrani recently invested in a new **Bobst** Vision CI flexo press.

The model is designed to deliver high efficiency and performance across all flexographic production lengths, on a wide range of substrates. It is an ideal choice for converters looking for a reliable, cost-effective flexographic production tool, says Bobst.

“We bought our first Bobst machine – an Expert CI flexo press – in 2019,” said Ali Muhammad

Al-Mashmarani, general manager at Al-Shamrani.

“We’ve seen the stability and performance it brings to our production. Like many packaging converters, we’re keen to expand our capacity and shorten lead times without compromising quality. That’s why the Vision CI flexo press was the ideal choice.”

Al-Shamrani operates 24-hour shifts across five different departments, meaning there are lots of moving parts to consider when making an investment. There were two key drivers: to modernise production with the latest technology; and to increase production capacity.

The press features automatic opening and closing bearings, alongside a preload system. Ease of use gives fast machine start-up, user-friendly access to all print decks, and simple maintenance. >

Main image:
Bobst’s Vision CI flexo press is designed to deliver high efficiency and performance for all production lengths



Above: Kiliper has placed an order for its second flexographic press from Windmoeller & Hoelscher

“Since installing the machine, production capacity has seen a significant increase – so we can accept more jobs and increase sales,” he said. “We’ve also been able to attract new customers because we can meet new, more complex market demands.”

Higher productivity

Comexi has introduced its new F2 Origin, an advanced flexographic printer that is says will raise productivity.

The new model also boosts ergonomics and user-friendliness. It features a high drying capacity, allowing the use of solvent-free inks, and can be operated at a maximum speed of 400 m/min. Overall, the changes can make printing jobs more efficient. Its technical innovations, such as Genius Print, make start-up and job changes very fast, it says.

At a launch event, attendees saw how new Bellissima screening, by Hamilroad, provides a high print quality that is not dependent on specific colours. Although alternatives to solvent-based inks are increasing, solvent-based inks remain a significant part of the flexible packaging sector. The event showed how ECG printing can enhance colour range and cut printer downtime.

The complete process was shown at the event – from prepress and printing to the conversion stage in action. This included lamination, slitting, and reel handling in the final line. Sustainable solutions were presented, including the seven-colour ink series, Asahi water-washable carbon-neutral plates, UV LED XPS systems and Tesa’s Twin-lock sleeve system.

Comexi is also involved in a project that aims to use machine learning to detect and prevent errors in laminating machines.

The project, called Madam, focuses on modernising production processes to increase efficiency. The goal is to gain new knowledge in anomaly detection and develop solutions to anticipate and minimise defects. If successful, it will reduce waste, improve

product quality, optimise machines and increase productivity in flexible packaging production.

Data obtained in the project will be analysed to build a cause-and-effect model that anticipates machine stops. A data visualisation model will be implemented, followed by an evaluation of the system through machine testing.

The project is supported by a €220,000 grant from Spain’s Ministry of Industry, Trade and Tourism, in a total budget of over €280,000. The funding will allow the development of an automated model for anomaly detection and error prevention.

Extended flexibility

US-based flexpack manufacturer Kiliper has placed an order for its second flexographic press from **Windmoeller & Hoelscher** (W&H) – a 52in, 10-colour Miraflex II.

Scheduled for production later this year, this investment marks Kiliper’s commitment to expanding its flexographic printing capabilities. It already owns an eight-colour, 41in Miraflex II.

“The extra width and additional colour decks on the new machine will provide us with additional capacity and additional capabilities, both of which will allow continued growth,” said Tom Kiliper, owner of the company. “We’ll be able to take on more flexible packaging projects.”

It is important for the company to continue to offer short run offerings. Two years ago, it announced it had achieved 27 job changeovers in one 10-hour shift on its first Miraflex II.

The new Miraflex II has W&H’s fully integrated Vision web inspection system – with defect check, barcode check and PDF check – giving the machine operator real-time oversight and control of the job on press. For quick changeovers, the press will have Easy Set HD for automatic impression setting, Easy Reg M for automatic registration setting and Turboclean inking and wash-up system.

Sustainable systems

Leonhard Kurz, a specialist in thin-film technology and digital printing, is at the Drupa show in Germany – with two products that aid sustainability.

One is its KPS slim 2.0 cold transfer technology, with a thickness of 6 microns – which it claims is the thinnest transfer product on the market, cutting PET content in half. KPS slim 2.0 can save considerable material savings and allow more efficient handling, thanks to containing more length per roll.

“The introduction of thinner transfer carriers is an important step in our sustainability strategy,” explains Markus Hoffmann, member of the managing board. “We are continuously expanding our

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Right: Recosys 2.0 from Kurz is a take-back and recycling system for PET transfer materials

portfolio with products that reduce the use of materials and minimise environmental impact.”

It will also present its Recosys 2.0 recycling system, to recycle carrier materials. The technology enables optimum processing and reuse of PET carrier materials. Now, in addition to cold transfer, hot stamping PET transfer carriers can now be taken back and recycled.

With Recosys 2.0, Kurz says it is the first company in the graphics industry to introduce a take-back and recycling system for PET transfer materials. It relies on its logistics partner Gebrüder Weiss for return of the carrier materials. Gebrüder already delivers transfer products to customers across Europe - and is now responsible for collecting the used carriers.

The take-back system is currently limited to 1,000km around Kurz headquarters in Fürth, Germany - but the aim is to roll out the take-back system worldwide.



In addition, Kurz has announced a partnership with Grafotronic - an expert in modular label converting equipment - which builds on a series of earlier collaborations. The partnership will combine Grafotronic’s manufacturing capabilities in modular label equipment with Kurz’s knowledge in digital embellishment - with a view to enhance label printing and finishing.

Corona treatment

One of South-East Asia’s leading manufacturers of printed packaging has chosen **Vetaphone** corona technology for its Fuji Kikai laminator.

TPN FlexPak, part of the giant Thung Hua Sinn (THS) group, is based on a huge 130,000 sq m site in Chachoengsao, around a one-hour drive from Bangkok, Thailand.

“With brands like Nestlé and Kleenex to satisfy, only the best is good enough,” said Suebsak Koochaiyanon, assistant managing director.’



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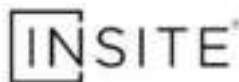


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IMAGE: ISRA VISION



Above: Isra will present inline inspection solutions for printing and packaging at Drupa

When it came to specifying a corona treatment supplier for FlexPak’s new laminator, Vetaphone was the preferred choice. The company now has three of its treaters onsite – two on the laminator and one on a blown film extruder. Used mainly for laminating 12-micron PET to 7-micron aluminium foil, FlexPak runs the line at 250m/min on predominantly 600mm wide webs, although the Vetaphone system is actually a 1.3m VE1C-D 1420 treater with six ceramic electrodes with an iCorona 2UL 8kW generator.

“Vetaphone treaters are easy to maintain,” he added. “The way the electrode cartridge slides out and back in gives the operator easy access for cleaning – which we can do offline if we want to. It has better electrodes, heat transfer and cooling and has reduced our overall costs.”

Print inspection

Canadian packaging specialist Winpak has used an inspection system from **Baldwin** to check the quality of its printed packaging.

Winpak’s expertise spans flexible and rigid packaging, lidding and machinery. Recently, the company recognised the intricate nature of packaging printing, especially when handling dense information for product labelling. A big challenge it confronted was that traditional manual inspection processes were time-consuming, prone to errors and increasingly untenable in a competitive market that demanded both perfection and affordability.

This challenge was not unique to Winpak and is a common stumbling block in the packaging industry – where the margin for error is nil, and there is huge pressure to deliver flawlessly.

Winpak invested in Baldwin’s Guardian OLP offline proofing and inspection system, and its Guardian PQV 100% inspection system. This combination has helped it to conduct thorough inspections, whether comparing file-to-file before press runs or analysing press samples against

approved artwork, ensuring that every product meets quality standards. The new system’s flexibility and precision were particularly beneficial, given the complexity and variety of Winpak’s packaging solutions.

This has revolutionised the way Winpak operates – cutting inspection times and costs and raising product quality. It also improved Winpak’s operational dynamics, customer relations and sustainability measures.

“It saved us thousands of dollars,” said Jim Imburgia, director of innovation at Winpak. “We cut our deliveries in half.”

Inline inspection

Isra Vision will present a number of inline inspection solutions for printing and packaging at the Drupa event in Germany.

The latest version of PrintStar Evo, its system for inspecting web material for flexible packaging, includes a new ‘static code reading’ function – making it possible to check the legibility of barcodes and QR codes. It reads the code and tells the operator whether it is legible – allowing appropriate action to be taken.

Enhanced camera technology ensures better detection of typical printing errors such as splashes and spots, missing ink, register errors, streaks and drags as well as dirt. It still includes its ‘MultiView’ functions in which multiple camera banks simultaneously carry out further inspection. This enables the detection of initially invisible production defects such as hazing, plus decorative varnish defects or cold sealing defects.

Another highlight is DualStar, which can inspect unprinted web materials, such as films, as well as printed materials. This is of particular interest to the converting sector, which needs a single inspection system on machines such as laminators, rewinders or slitters. Thanks to 100% inline inspection, DualStar can boost quality and reduce costs.

In addition, Epromi is a production management intelligence tool. It enables real-time monitoring of processes and inspection systems and in-depth analysis of the recorded production and inspection data.

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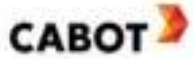
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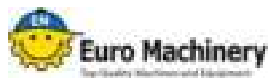
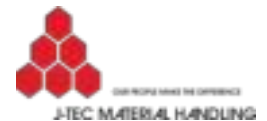
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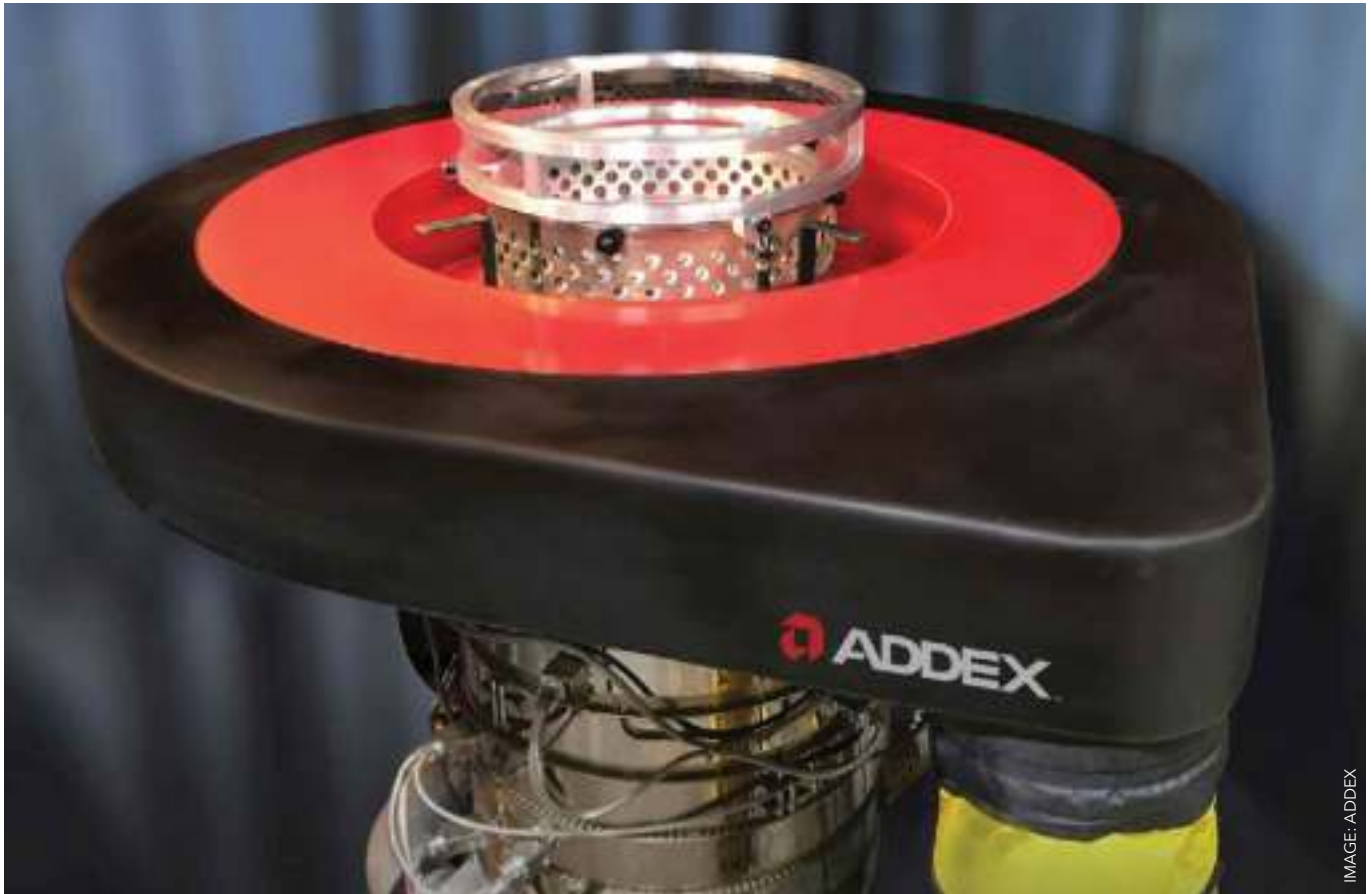


IMAGE: ADDEX

Blown away: latest in blown film dies

Advances in blown film dies - and related equipment - include a system that adds additional cooling above the frost line and a new design of single-inlet plenum

Well-designed dies help to ensure that blown film lines make film quickly and accurately. However, maximising film quality also requires other factors - especially efficient cooling - meaning that ancillary products such as air rings are vital to efficient film production.

Addex has developed a single-inlet plenum as a retrofit to existing blown film lines.

Historically, single-inlet plenums have featured only one blower hose, which facilitates an easier installation and creates space around the die. However, they have the reputation of being unable to deliver an even gauge profile. As a result, multi-inlet air rings have typically outperformed single-inlet plenums because they divide air flow

into multiple, closely spaced inlets with corresponding improvements in gauge control.

In response, Addex has designed a single-inlet plenum with the performance of a multi-inlet plenum. The aerodynamic design employs dual counterflow channels which direct air flow in two opposing directions inside the plenum. These two counterflows of air join inwardly together to create a combined uniform flow of air to the lip set. The measured overall profile performance is better than with a conventional multi-inlet air ring and inlet effects are not seen in the film which is a major step forward in single-inlet plenum design.

Another advantage of a single-inlet plenum is a reduction in hoses - from as many as eight, down

Main image:
Addex has devised a single-inlet plenum as a retrofit to existing blown film lines

Right: W&H has overhauled a nine-layer die head for a Varex blown film line at film producer EK-Pack



IMAGE: W&H

to a single hose. This saves space on the plant floor, giving easier access around the die for maintenance and operation.

The company also combines the new single-inlet plenum design with its auto-profile external gauge control (EGC) system, providing an improved starting point (before control) and better end results.

“Running the single-inlet plenum with our EGC was a big shock,” said Gautam Jagannathan, software specialist and senior field service engineer at Addex.

When using a multi-inlet plenum, the pilot line normally has an expected starting point of profile variability – while there was a noticeable decrease with the new single-inlet plenum

“This means the EGC has less work to do since there is less to correct,” he said. “As an added bonus, we have hints that even bubble stability is improved, which we currently attribute to the removal of multiple mixing points found in conventional plenums.”

With an improved single-inlet plenum option, Addex sees strong demand from producers looking to make the switch for retrofits. Overall, processors are attracted to the upgraded single-inlet design because it outperforms the multi-inlet plenum in terms of profile control and the single blower hose allows for easier access to the die.

Production boost

DR Joseph says that its Instagauge TDK500 gauge control system can help to improve blown film production in a number of ways.

First, it can boost sustainable production. Accurate gauge control can cut material usage in blown film production through precise control of film thickness uniformity. This helps manufacturers reduce resin consumption.

In addition, it can lead to flatter film thanks to the use of sensors and feedback mechanisms to monitor and adjust film thickness. By minimising

thickness variation, producers can achieve higher product quality and meet tighter tolerance requirements and avoid issues such as uneven sealing or poor printability.

One consequence of this can be higher productivity. DR Joseph says the InstaGauge achieves target thickness with at least a 50% reduction in gauge variation – in as little as seven minutes. Lower lip lock is simplified with the TDK, which translates into less training and faster start-ups.

There is also an improvement in process stability by compensating for external factors that impact film thickness variation, such as die gap variation or ambient temperature. By auto-adjusting parameters, the system maintains stable production conditions, reducing the risk of defects and giving reliable, repeatable results.

The TDK500’s modular construction also allows for fast, simple lip set swaps to expand the range of blow-up ratios that the unit will support. This allows for greater production flexibility and the ability to meet diverse market demands on one line, with one air ring, says the company.

Die service

Film producer EK-Pack Folien is a regular user of the die head cleaning service from **Windmoller & Holscher** – especially since it bought its first Varex nine-layer blown film line in 2013.

W&H was given the task of overhauling the nine-layer die head for the line. The overhaul, which included a new coating, was designed to minimise downtime – mainly because the Varex at EK-Pack runs 24/7.

W&H had a nine-layer die head built for rental that closely matched EK-Pack’s configuration and also served as a suitable rental die head for other customers.

“In the end, we had almost no production downtime,” said Peter Stober, managing director of operations at EK-Pack. ➤

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IMAGE: SKZ

Above: SKZ is adding equipment including a five-layer blown film die from Collin Lab & Pilot Solutions

The few film widths that could not be produced on the rental line during the 17-week overhaul could be produced elsewhere through planning. The die head was put back into operation smoothly and on schedule.

In future, EK-Pack plans to keep entrusting W&H with its dies.

“The professional die head service offers a hassle-free package from the initial contact to the final documentation,” said Stober.

Asian demand

Reifenhäuser showed a number of blown film technologies at the recent Chinaplas 2024 event in Hongqiao, Shanghai - including Evo Aqua Cool water shock cooling and Kdesign’s Karat cooling rings

“China and the Asian market are demanding state-of-the-art machines to produce recyclable high-performance plastic films,” according to Eugen Friedel, director of sales at Reifenhäuser’s blown film subsidiary.

One example is its Evo Ultra stretch MDO unit, which allows blown film manufacturers to produce fully recyclable all-PE mono films, such as for barrier food pouches. Stretching gives the PE film enough stability to replace the usual PET film in the structure, while an EVOH content of around 5% provides the barrier.

Reifenhäuser also exhibited Kdesign technologies for blown films, which offer cooling, measurement and calibration technologies. The Karat cooling ring is known for its high performance, low film tolerances and easy handling.

With an output capacity that it claims is up to 50% higher than mid-range products - and 25% higher than high-end competitors - the Karat cooling ring helps increase productivity, while maintaining profile tolerances and film quality.

Cool running

UK-based **Vardar Systems** says that its dual directional flow (DDF) air ring technology can increase the productivity of blown film production by adding additional cooling above the frost line. This helps to reduce effects such as blocking - where the inside surface of the bubble sticks to itself at the nip during collapsing, making it almost impossible to open. It can also reduce the tackiness of the bubble’s outer surface.

The technology is particularly effective when the height of the blown film line is limited, so is provided as a retrofit to existing lines. It is also available on new Hosokawa Alpine machinery - and can be seen running in the Hosokawa Alpine’s technical centre in Augsburg, Germany.

The system is available in a variety of sizes, with web widths up to 4m.

The company says some of the benefits of DDF include: a non-contact concentric system that ensures even cooling around the circumference of the bubble; an average film temperature drop of 10-15°C; and a reduction in expenditure, with less need for expensive anti-block additives.

Research boost

Research organisation **SKZ** is adding a blown film extrusion line from **Collin Lab & Pilot Solutions** - which includes a five-layer blown film die.

The new equipment will enable practical training courses in blown film extrusion in the future. The machine will also be available as a sample line for training courses in the areas of quality management and quality assurance.

The plant is equipped with three high-performance extruders. The five-layer die head can also be operated as a three-layer die head. The maximum flat lay width of the line is 600mm. The line can be operated with different material systems and film thicknesses of around 50-250 microns.

“We are pleased to be able to include blown film extrusion in our advanced training portfolio,” said Andreas Büttner, group manager education material development, compounding and extrusion at SKZ. “Until now, we did not have this equipment available at SKZ.”

CLICK ON THE LINKS FOR MORE INFORMATION:

- > www.addexinc.com
- > www.drjosephinc.com
- > www.wh.group
- > www.reifenhauer.com
- > www.vardarsystems.com
- > www.skz.de
- > www.collin-solutions.com

In the mix: masterbatch for film and sheet applications



IMAGE: LYONDELLBASELL

Recent innovations in masterbatch include new grades for medical and packaging products, installing a stretching machine to test new formulations - and multiple capacity expansions

Masterbatch is a convenient way for film and sheet extruders - and others - to incorporate colours and additives into their products. From UV blocking and corrosion protection to laser marking and weight reduction, masterbatches can add a variety of properties to finished products.

LyondellBasell says the recent installation of a Karo 5.0 laboratory stretching machine from **Brückner** will help it to develop better masterbatch formulations for oriented film applications.

The new machine, at its US technical centre in Akron, Ohio, will help it to troubleshoot and test masterbatch solutions for film applications with higher accuracy and efficiency. In addition, it will create a closer match to masterbatch materials in real-world production processes, reducing the time

it takes to bring new products to market.

"The Karo 5.0 represents a significant investment in our R&D capabilities," said Tiago Piccoli, director of APS PAD for consumer and industrial markets in the Americas for LyondellBasell. "This will help us accelerate the development of new and improved masterbatch solutions."

It will also help customers quickly identify and choose the best masterbatch for their specific needs.

Features of the Karo 5.0 include: multi-cast film capabilities, enabling a wider range of masterbatch materials to be tested; stretch capabilities in both directions, to accurately simulate real-world production conditions; and monitoring of material characteristics to ensure optimal performance and quality control.

Main image:
A laboratory stretching machine will help develop better masterbatch formulations for oriented film

IMAGE: VOID TECHNOLOGIES



Above: Void's VO+ PE 1300 series voiding agents are used to create recyclable opaque films

UV barrier for food

Ampacet has introduced a new UV barrier masterbatch for food and industrial packaging.

It says that UVBlock 1496 offers a sustainable alternative to conventional UV solutions based on benzotriazole additives.

Light exposure, especially UVA and UVB, can damage food components such as fats, proteins and vitamins. Photo degradation can cause discoloration, off-flavours and odours and, ultimately, food waste. Non-food products can also degrade under UV exposure. To protect these products from UV degradation, UV barrier additives are often added to packaging.

Ampacet says that UVBlock 1496 is formulated without the intentional addition of substances of very high concern (SVHCs). It offers superior optical properties and good UV barrier performance in the low UVA and UVB wavelength range. In addition, it is approved for food contact applications in Europe and the U.S.

Conventional UV additives containing phenolic benzotriazoles have faced regulatory pressure due to environmental concerns, with some grades added to the European ECHA candidate list of SVHCs.

Green masterbatch

At Fakuma last year, **Sun Chemical** showed a number of its sustainable masterbatches.

Its Sicoveral B biodegradable masterbatches are designed to reduce environmental impact, with bio-degradable carrier systems that are aimed at applications requiring a shorter lifecycle.

In addition, its Sicolen Eco and Sicoversal Eco grades also have bio-based carriers. They are made from renewable resources, offering an eco-friendly alternative to fossil-based products without compromising on performance.

The company also offers Sicolen R with a recycled carrier. These masterbatches maximise the recycling content in the final product, contributing to a circular economy, it says.

"Our range of technologies and our ability to innovate in response to market trends sets us apart," said Kai Sørensen, director of business management for colour materials at Sun Chemical. "This, combined with our broad portfolio capabilities, makes us the ideal technological partner."

More recently, the company showed a range of grades for plastics recycling at Chinaplas. These included Sicopal Black K 0098 FK, which has heat stability, global food contact compliance (including China GB 9685). It has been adopted in food packaging in place of carbon black to enable thorough waste-sorting. It also displayed Microlen Blue 7460 Eco, which is certified by EN 13432 and designed for bio-compostable plastics - adding to colouring options between PCN green and blue.

Film star

Film producer **Charter Next Generation (CNG)** has expanded its GreenArrow portfolio with a new line of cavitated polyethylene (PE) films - which were developed using a masterbatch from **Void Technologies**.

The new films, which meet growing demand for flow wrap and confectionery applications, use Void's patented VO+ PE voiding agent masterbatch combined with machine direction orientation (MDO) film processing.

The film structures are opaque yet compatible with existing PE recycling streams, making the packaging suitable for recycling.

Using VO+ masterbatch, CNG can produce

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thin-gauge voided MDO PE films that combine low density and high opacity. This creates a PE-based alternative to conventional PP-based substrates that often require biaxial orientation.

“Using Void’s VO+ technology enables us to achieve the high opacity, ease of processing, and recycle-ready performance we are targeting for these films,” said Brent Greiner, vice-president of technology at Charter Next Generation. “This helps our customers reduce their use of virgin materials and process their packaging in existing PE film recycling streams.”

The masterbatch is added to PE resin to create nano and micro-scale voids, reducing density and creating high levels of opacity via light scattering through the voided structure. The latest product is compliant with direct food contact standards in North America and Europe and has passed key recycling standards.

Void also offers its VO+ PE 1300 series voiding agents for recyclable opaque films. The resulting voided polyethylene (PE) film structures are compatible with existing PE recycling streams and meet the needs for a range of packaging applications such as laminates, wicketed bags, labels and flow wraps. It is being used to develop voided MDO HDPE films that combined low density and high opacity.

Medical range

Gabriel-Chemie has introduced a new masterbatch range for the medical industry, which is designed to meet the strict requirements of ISO 10993.

The new line features polyethylene (PE)- and polypropylene (PP)-based polymer carrier masterbatches, and was developed to help streamline bio-compatibility concerns.

The company says that the medical masterbatches will help to reduce product development times due to being a ready-made product range.

“This is reflected in the careful selection of raw materials that meet ISO 10993 standards,” said Diego Karpeles, corporate business development and innovation manager at Gabriel-Chemie. “Our product range also includes specialised laser-marking masterbatches.”

The medical masterbatches adhere to ISO 13485 certification, ensuring compliance with strict quality standards. The production process involves meticulous procedures, including isolated mixing, extrusion, granulation, filling, and storing. The range is not tested on animals.

The company has also expanded operations at two European plants - in Austria and Hungary.



Left: EcoCortec will start making bioplastic masterbatches with its corrosion protection additive in Croatia

Green compounding

EcoCortec has opened a new compounding facility in Croatia to make bioplastic masterbatches containing its VpCl corrosion protection additive.

VpCl masterbatch is used to produce patented, environmentally responsible films for corrosion protection. The VpCl embedded in the film vaporises and diffuses through an enclosed package, adsorbing onto metal surfaces inside. A thin layer then protects the metal against corrosion.

EcoCortec can now produce a variety of concentrated masterbatch products and integrate VpCl technology into biodegradable packaging.

“By completing the entire production process in-house, we are now less dependent on outside sources,” said Dijana Zrinski, general manager at EcoCortec. “By overseeing operations from VpCl masterbatch compounding all the way to extrusion, converting, and printing, we can achieve better quality control.”

CLICK ON THE LINKS FOR MORE INFORMATION:

- > www.lyondellbasell.com
- > www.brueckner.com
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MATERIALS HANDLING

Volumetric feeder helps to raise operator efficiency

Movacolor has launched its new MDS volumetric feeder, which it says gives plastics converters a cost-effective way to optimise materials handling and increase operator efficiency.

The feeder allows for reliable dosing, with the capability to handle a variety of materials – from granular to micro-granulate and free-flowing powder – up to 70°C.

By simplifying operations and minimising overdosing, it saves on material and process costs, says the company.

“We believe it will become the new standard for volumetric feeding across the plastics industry,” said Klaas Talsma, product manager at Movacolor. “We have developed a unique solution for this market

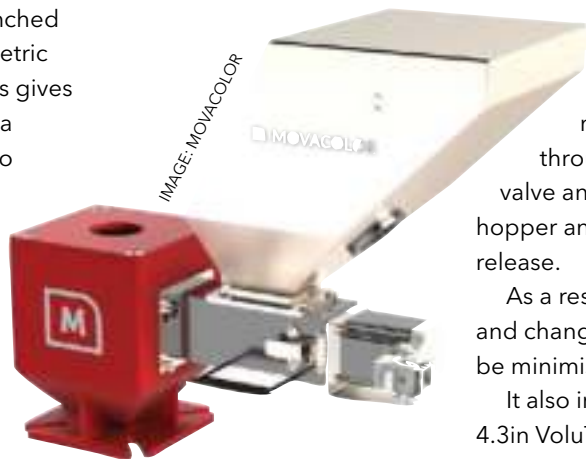


IMAGE: MOVACOLOR

segment,” he added.

It comes with an efficient stepper motor, a rigid dosing house, a stainless-steel hopper and a robust neckpiece. Optimal blend homogeneity is accomplished through inline dosing using a centralised insert within the neckpiece.

All the dosing tools from Movacolor’s MDS Balance range will be available for the new model, providing customers with the flexibility to choose the most suitable dosing tool for each process.

It allows a fast 60-second cleaning and material change through a discharge valve and easy motor, hopper and dosing tool release.

As a result, downtime and changeover time can be minimised.

It also includes a new 4.3in VoluTouch controller. This capacitive touchscreen controller can manage up to two units and is equipped with intuitive functionalities such as easy recipe management.

A wireless web interface allows for data and recipe transfer.

The MDS Volumetric Feeder is part of Movacolor’s modular dosing concept and can be combined with other units or specifically tailored to fit a specific production process, according to the company.

› www.movacolor.com

DATA ANALYSIS

Data services in extrusion

Citex Holding has created a new subsidiary called Idoo, which will offer data services to the plastics extrusion industry for creating and providing ‘product passports’ for extruded products.

The new company will look to improve efficiency and quality in plastics extrusion. By applying algorithms to large amounts of data, it says it will create transparency throughout the production process – helping to raise product quality and optimise material usage.

“This underlines our commitment to technological innovation,” said Ralph Klose co-CEO of Citex. “By combining expertise in data services with our experience in plastics extrusion, we will set new standards and lead the industry towards a more efficient and sustainable future.”

› www.idoo.global

THERMOFORMING

AI vision system helps to automate inspection

WM Thermoforming has introduced an AI-powered vision system, allowing automated in-line inspection of thermoformed products. As well as detecting flaws, the system helps to boost machine performance, says the company.

During manufacturing, it uses AI techniques to analyse the presence of tray defects. Acceptance or rejection criteria can be customised according to customer requirements. When defective trays are detected, the system identifies them on the HMI and activates an alarm. The trays are then removed from the line automatically.

› www.wm-thermoforming.com



IMAGE: WM THERMOFORMING

TESTING

New way to assess surface temperature

Atlas Material Testing Technology has introduced the Atlas S3T system for accelerated artificial and natural weathering testing.

Designed for the flagship Weather-Ometer Ci4400 and Ci5000 instruments, it allows continuous measurement of the specific surface temperature of individual samples during live testing.

Surface temperature drives the rate of photochemical reactions in weathering. To date, says Atlas, measuring surface temperatures has not been feasible for multiple samples in

laboratory weathering instruments. This means that surface temperature is often neglected during testing or only roughly estimated based on standard reference temperatures.

An integrated, contactless IR pyrometer sits at the heart of the system, accurately measuring the surface temperature of each specimen. It can operate continuously during the complete exposure.

Atlas says the system allows for better reproduction of natural conditions, such as heat uptake and colour distribution, as well as better control

of test parameters to avoid of specimen overheating.

There is also continuous tracing of the specific sample temperature, allowing immediate detection of property changes – such as darkening – without disrupting the test.

Investigating specific sample characteristics – such as activation energies of photochemical degradation reactions for cool pigments, IR-reflective coatings and heat and light stabilisers – is also possible, says the company.

➤ www.atlas-mts.com

PRINTING

LED-UV for print curing

Baldwin is showing three of its new printing technologies at the Drupa exhibition, including its Unity LED-UV curing technology.

The system reduces power usage by 60% over traditional UV curing methods, it says, having high-powered LEDs and quartz optics for a consistent, complete cure at full press speeds.

Its design allows for greater flexibility with the substrate's position relative to the cure unit. A compact design enables easy integration into existing press setups. It has the flexibility to switch between LED and conventional UV curing without the need for specialised tools, said the company.

➤ www.bwconvertingsolutions.com

SURFACE TREATMENT

Static eliminators raise neutralisation performance

Fraser Anti-Static Techniques has launched a new series of static eliminators, which neutralise electric charge on the surface of plastic products.

The X-Series claims to take electrostatic control to a new level, with all products having "in-built reactive intelligence, automatically adjusting the ionisation output of the bar as required", according to Fraser.

The company says that the X-Series eliminates static more effectively than its previous Neos range of devices.

"Our team of engineers has been developing and testing these products so we can deliver exceptional performance to customers," said James Cater, CEO of Fraser Anti-Static Techniques.



The X-Series has a new user interface and visual indication displays showing the operating mode and level of charge detected in real-time. The low-profile footprint means it can deliver powerful static elimination in compact areas.

Electrical connections are identical to existing installations, minimising downtime and allowing for an easy upgrade.

There are four models in the range. X-33, the most

powerful, is aimed at long-range static control applications where high-power static neutralisation is needed.

X-20 is an 'all-rounder' for applications where consistent performance and reliability are needed. X-12L is a medium range, 12kV bar for increased distance static elimination.

And X-12F is a short-range static eliminator, for rapid, close range applications.

➤ www.fraser-antistatic.com

Download these new product brochures

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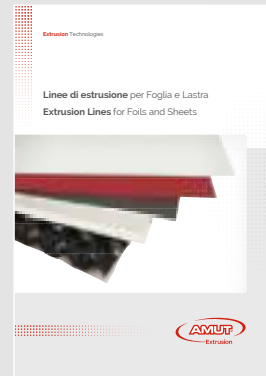
DIING KUEN: BLOWN FILM



In this brochure, Taiwan-based Diing Kuen provides all the specifications of its blown film technology to produce mono, two three, five and seven layers.. The film lines are divided into four categories: HTRL horizontal top rotating; EBLR vertical top rotating; BFL fixed; and other types.

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AMUT: FOIL EXTRUSION LINES



Built on more than 50 years of plastics expertise, Amut's range of extrusion lines for production of foil and sheet covers a broad range of applications. They can produce mono or multi-layer sheet as thin as 150 microns and as wide as 3.3m at rates up to 4 tonnes/hr or more.

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COLINES: BARRIER FILMS



This new brochure from Colines focuses on extrusion lines for the production of barrier films for vacuum and modified atmosphere packaging to preserve foodstuffs and medical products.

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BRUCKNER: BOPP/BOPE FILMS



Brückner Maschinenbau says its BOPP/BOPE film lines offer benefits including high stiffness and sealing strength, excellent transparent barrier, outstanding puncture resistance and linear tear opening behaviour. Find out more in this brochure.

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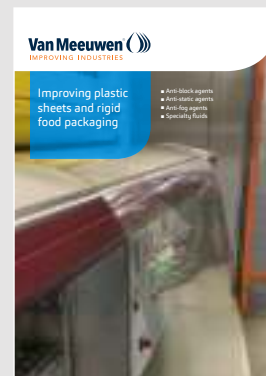
HAN KING



Han King, based in Taiwan, has produced this brochure outlining its machines for blown film extrusion, covering five-layer film, three-layer co-extruded film, agricultural film, geomembranes; plus other products in stretch hood, lamination and bags.

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VAN MEEUWEN: ADDITIVES



Van Meeuwen's functional additive range for plastics film and sheet producers includes anti-blocks, anti-statics, anti-fogs and specialty fluids. Suitable for plastic packaging applications, products comply with EU food contact regulations.

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If you would like your brochure to be included on this page, please contact Claire Bishop claire.bishop@amiplastics.com. Tel: +44 (0)1732 682948

A. Hatzopoulos

Head office:	Thessaloniki, Greece
General Manager:	Christodoulos Naziris
Founded:	1931
Ownership:	Private
Turnover (2023):	€115 million (around US\$125m)
Employees:	Around 440
Profile:	A. Hatzopoulos, founded in 1931, is a supplier of high-end flexible packaging solutions and services, which it exports to 33 countries. It creates packaging for a range of food and non-food applications, including meat, dairy, liquid foods, chemicals and pharmaceuticals.
Product lines:	The company offers a range of printed packaging with high shelf appeal - which can include properties such as a high barrier and strength. Its specialist services, such as lamination, printing, slitting, laser scoring and lacquering, help it to develop a wide variety of packaging. As an example, for meat products it offers flowpacks, lidding films - in clear, white or antifog - films for stand-up pouches and retortable film. In pharmaceuticals, it offers cold-sealed films, strip packs, sachets and lidding films.
Factory locations:	The company has two production facilities - both in Thessaloniki - fitted with everything from pre-press equipment through slitting and laser scoring to adhesive lamination and cold-seal technology. It recently took employees through a cold-seal training course from Bobst, as it has three gravure lines from the company.

To be considered for 'Extruder of the Month', contact the editor on lou.reade@amiplastics.com

Film and Sheet FORTHCOMING FEATURES EXTRUSION

The next issues of Film and Sheet Extrusion magazine will have special reports on the following topics:

July/August 2024

Bioplastics
Plastic pouches
Downstream machinery
Plastics World Expos Europe preview

September 2024

Multilayer packaging
Thermoforming
PVC plasticisers
Laboratory extruders

Editorial submissions should be sent to Lou Reade: lou.reade@amiplastics.com

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Film and Sheet May 2024

Film and Sheet Extrusion's May edition takes a look back at the NPE 2024 show and its key exhibitors related to extrusion. The issue also features new developments in waterproof membranes, sheet materials and materials handling technology.

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Film and Sheet April 2024

Film & Sheet Extrusion's April 2024 edition has features looking at sustainability issues in agricultural film, advances in slitter-rewinder technology, and innovations in organic solar cells. Plus a preview of the US NPE plastics show.

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Compounding World May 2024

The new May 2024 issue of Compounding World has articles about innovations in bio-based fibres and fillers, compounds for 3D printing, developments in the wire and cable sector and new compatibiliser additives. Plus a preview of the NPE 2024 exhibition.

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Plastics Recycling World May/June 2024

The Plastics Recycling World May-June issue has a cover feature on the growing number of developments in post-industrial recycling, plus articles on compatibilisers and new shredding technology demonstrated at the NPE 2024 show.

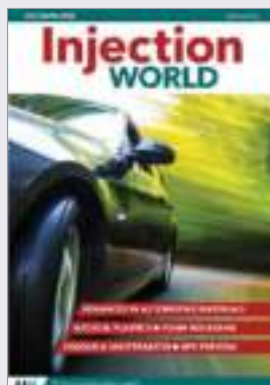
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Pipe and Profile Spring 2024

The Spring 2024 edition of Pipe and Profile Extrusion magazine has features looking at the latest polyolefin pipe materials, melt filtration, and process control developments. Plus, a preview of the US NPE plastics show.

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Injection World May/June 2024

The May-June 2024 issue of Injection World has features on automotive materials, colour and masterbatch, medical plastics and foam moulding technology. Plus there is a preview of NPE 2024 giving a guide to key exhibitors in injection moulding.

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GLOBAL EXHIBITION GUIDE

2024	4-7 June	FIP, Lyon, France	www.f-i-p.com
	11-12 September	Plastics Extrusion World Expo Europe, Brussels, Belgium	https://eu.extrusion-expo.com
	23-27 September	Colombiaplast, Bogota, Colombia	https://colombiaplast.org/en
	24-26 September	Fachpack, Nuremberg, Germany	www.fachpack.de
	24-28 September	Taipeiplas, Taipei, Taiwan	https://www.taipeiplas.com.tw/en/index.html
	26-28 June	Central Asia Plast World, Almaty, Kazakhstan	https://plastworld.kz/?lang=en
	8-10 October	Plastprintpack West Africa, Abidjan, Ivory Coast	www.ppp-westafrica.com
	8-11 October	Plastex, Brno, Czech Republic	www.bvv.cz/en/plastex/
	15-19 October	Fakuma, Friedrichshafen, Germany	www.fakuma-messe.de
	13-14 November	Compounding World Expo US, Cleveland, US	https://na.compoundingworldexpo.com/
4-7 December	PlastEurasia, Istanbul, Turkey	https://plasteurasia.com/en/	


AMI CONFERENCES

24-26 June 2024	Rigid Packaging North America, Cincinnati, USA
25-26 June 2024	Multilayer Flexible Packaging North America, Chicago, USA
23-24 July 2024	Agricultural Film North America, Tampa, USA
17-18 September 2024	Bioplastics, Cincinnati, USA
8-9 October 2024	Polyolefin Additives, Barcelona, Spain
5-7 November 2024	Waterproof Membranes, Düsseldorf, Germany
19-21 November 2024	Biax Film, Bangkok, Thailand
26-27 November 2024	Thin Wall Packaging Europe, Cologne, German
3-4 December 2024	Stretch & Shrink Film North America, Charleston, USA
10-11 December 2024	Recycling Flexible Packaging, Vienna, Austria

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