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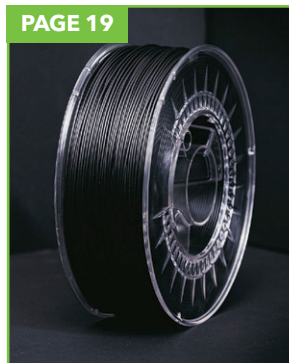
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New line for Taro Plast

Italian compounder Taro Plast is making a significant investment in a new state-of-the-art extrusion line for its Pibiflex and Riteflex co-polyesters at its production plant in Ferrara.

The expansion is part of the company's ongoing commitment to meet the growing demands of high viscous materials for extrusion and blow moulding applications in the automotive and industrial sectors, and will enhance production capacity and technological capabilities while allowing for increased efficiency, precision, and flexibility in the development of advanced polymer compounds.

"This investment represents a key milestone in Taro Plast's growth strategy," said Andrea Squeri, Managing Director, who added that the new line at Ferrara is "bringing the complete production process of Pibiflex copolyesters back to the original plant where it was born".

The line has energy-efficient features.

➤ <https://taroplast.com>

Meraxis gets its own compounding plant

Swiss distributor Meraxis is taking over parent Rehau Group's compounding plant in Velen, Germany on 1 January 2026. The 50,000 tonnes/yr plant produces PP, PE, and PVC compounds for automotive, medical, and furniture industries, which Meraxis currently distributes.

Meraxis offers a broad portfolio of materials, including standard thermoplastics, recycled plastics, bio-based materials, engineering thermoplastics and masterbatches. Compounds were already part of the portfolio, and with the integration of the Velen plant, the company said it is systematically pursuing its strategy of becoming a full-service provider.



Dr Stefan Girschik, CEO of Meraxis

"We can now offer our partners even greater expertise and flexibility from a single source and are less dependent on external sources," said Dr Stefan Girschik, CEO of Meraxis. "In addition to ready-made compounds made from ABS,

PP, PE, or PA, we can also produce compounds according to customer specifications. Combined with our in-house development department and our many years of experience, this step perfectly complements our expertise as an innovative solution provider."

The plant in Velen currently has a total of 14 compounding machines, and PP compounds for extrusion and injection moulding applications account for approximately half of its output.

Since 2019, Meraxis has operated as an independent division of Rehau Group and in 2023 it acquired Fournier Polymers.

➤ <http://meraxis-group.com>

Polykemi plans US expansion

Sweden-based compounder Polykemi says it has made steady progress in the North American market since it began production there in 2023 and has made plans for a further capacity increase in 2027.

"We're still quite unknown

in the North American market, but all the preparatory work we've done in the Polykemi Group in Europe and China has been a great help," said Johan Hugoson, CEO, Polykemi.

After opening in the US, Polykemi received inquiries

from a number of manufacturers of, for example, flood and stormwater protection. Hugoson said this had been unexpected, and the company quickly turned to the construction industry as a large new sector to supply to.

➤ www.polykemi.se

New Chroma Color acquisition in the US

Chroma Color has acquired Ferco Color, a custom manufacturer of colourants, additives, and specialty compounds based in Chino, California, US.

The transaction further strengthens Chroma's West Coast manufacturing footprint whilst broadening its portfolio of colourant and additive technolo-

gies, said the company. Terms of the transaction were not disclosed.

The acquisition underscores the company's commitment to expanding its geographic reach and enhancing product offerings to a wide range of customers, said Joe Herres, Chroma Color Corporation CEO.

Ferco Color currently serves end-markets including medical, food packaging, irrigation, aerospace, cosmetic packaging, and engineering materials.

In addition to colour products, Ferco also produces custom compounds.

➤ <https://chromacolors.com>

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Songwon plans new plant in Saudi Arabia

Stabilisers group Songwon is establishing a new, wholly-owned production facility for One Pack Systems (OPS) in Saudi Arabia (KSA), underlining a strategy to strengthen its position in the polyolefin industry and deliver high-quality, locally manufactured OPS products to KSA customers with shorter lead times.

Due for completion in 2028, the facility will produce a range of Songnox OPS, which are high-performance additive blends to support efficient polyolefin resin production.

By expanding local capacity and improving supply chain flexibility, the plant will allow the organisation to better serve the



fast-growing polyolefin market across the Middle East, said Songwon.

"The new strategically-located facility will complement our existing production network and enhance our ability to serve KSA customers effectively," said Christian Miglioli, Country Manager UAE & Leader

Sales Polymer Stabilisers – Middle East, Africa & India.

He said that by providing customers with greater access to Songnox OPS range, the KSA plant will open new opportunities for Songwon to meet evolving market needs and to deliver real value to its customers.

➤ www.songwon.com

Borealis XLPE boost in cables market

Borealis has announced two investments in cross-linked polyethylene (XLPE) production at its site in Stenungsund, Sweden. This will significantly increase capacity for insulation materials used in medium,

high and extra-high voltage power cables.

The first project is the construction of a new production unit for insulation grades used in medium-voltage power distribution cables, while the

second adds capacity for advanced XLPE grades used in high and extra-high voltage AC and DC cable systems. Construction is scheduled for completion in 2026.

➤ www.borealisgroup.com

Xenia enhances impact performance

Xenia Materials is introducing ST Upgrade, a new technology designed to enhance the impact resistance of its fibre reinforced materials which can be applied across a defined range of its formulations.

The company said ST Upgrade delivers a 'remarkable' increase in impact resistance, achieving an

average improvement of 60% compared with original formulations while simultaneously enhancing flexibility and elastic behaviour, with elongation at break increased by an average of 40%.

ST Upgrade can be applied to any polymer base, offering maximum design freedom and delivering

tailored solutions for the most demanding applications. These could range across the aerospace and motor-sport sectors, where lightweight and high-stiffness components are essential, to consumer goods requiring structural reliability, such as ski boots and other winter sports applications.

➤ www.xeniamaterials.com

IN BRIEF...

German compounder **Pentac Polymer** has acquired StanPlast, a plastics recycling company based in Traismauer, Austria. <https://pentac.de>

Closed Loop Partners has loaned **GreenMantra Technologies** over \$10m from its Closed Loop Infrastructure Group. The investment will be used to increase processing at its facility in Brantford, Canada, where it produces waxes and additives from recycled PE and PP.

www.closedlooppartners.com
<https://greenmantra.com>

Syensqo has announced that Ilham Kadri will step down as its CEO, effective 1 January 2026, and be succeeded by Mike Radossich, current President of Syensqo's Performance & Care and Other Solutions segments. www.syensqo.com

Dow has launched Dowsil 5-1050 Polymer Processing Aid (PPA), designed to address the growing demand for film packaging manufactured with PFAS-free PPAs. <https://corporate.dow.com>

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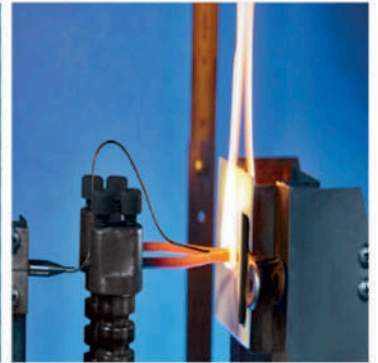
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Borealis starts rPO operation

Borealis said its new compounding line in Beringen, Belgium, for recycle-containing polyolefins is now fully operational. The company says the move is a significant step forward in helping customers meet their circularity and sustainability targets without sacrificing performance and reliability.

Using Borealis' proprietary Borcycle M mechanical recycling technology, the line combines post-consumer and virgin polyolefins into rigid polypropylene (PP) and polyethylene (PE) compounds that the company said meet the high standards required for demanding applications in mobility, consumer products, appliances and energy.

➤ www.borealisgroup.com

Gabriel-Chemie unveils expanded facility

Masterbatch producer Gabriel-Chemie Group has announced the successful completion and official opening of a €7m expansion and modernisation project at its Hungarian production site in Nyíregyháza.

With this investment, the company said it strengthens its position as a future-oriented partner in the masterbatch industry, and reaffirms its commitment to sustainable growth and long-term competitiveness. Production was uninterrupted throughout the construction period.

The production facility in Nyíregyháza is considered a central pillar within the Gabriel-Chemie Group, providing masterbatch products not only the Hungarian market but also other locations.

As part of the project, the production area was



IMAGE: GABRIEL-CHEMIE

The company has increased capacity at the facility in Nyíregyháza, Hungary

increased from 540 m² to 1,190 m² and storage space from 300 m² to 1,000 m². This expansion creates space for additional extrusion lines, increasing production capacity from 10 to 19 lines which will ultimately enable production of up to 2,500 tonnes/yr.

In addition to the building expansion, targeted investments were also made in energy-effi-

cient technologies, including a new cooling water system, a dust extraction system with fresh air supply, an air heat pump, and complete air conditioning. Another highlight in the context of sustainability is a planned photovoltaic system, which will make a significant contribution to sustainable energy supply, the company said.

➤ <https://gabriel-chemie.com>

New player in recycled polyolefins

GCR Group announced the launch of Rexelian during K2025



IMAGE: GCR

Automotive compounder GCR Group has launched Rexelian, a new company specialising in high-performance recycled materials headquartered in Sant Cugat del Vallés, Spain.

The new entity will operate as a standalone company while utilising infrastructure from GCR Group, which has more than 500,000 tonnes/yr of installed capacity across Europe. Rexelian will focus on developing recycled polyolefin compounds for mobility, appliances, and electronics applications.

"Rexelian represents a new generation of companies; agile,

technically driven, and fully aligned with the demands of the circular economy," said Antoni González, General Director of Rexelian.

The new company will target automotive OEMs and Tier 1 and Tier 2 suppliers with materials designed for interior, exterior, and under-the-hood components, while also serving the appliance and electronics sectors. Its integrated value chain extends from feedstock sourcing to compound production. The company is currently engaged in a range of pilot projects.

➤ <https://rexelian.com>

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Future mobility underpins progress for Mocom

Germany-based compounder Mocom, part of the Otto Krahn Group, is exploring the potential of applications emerging from forward-looking trends in the automotive sector. Addressing the current state of the plastics industry at a K2025 media event, Mocom CEO Jens Kaatzte noted that although the company is not currently facing any significant challenges, it is nevertheless choosing instead to focus on innovation, customisation, and identifying niche areas and key trends.

One aspect of the automotive industry gathering momentum, he said, is the need to improve the human-machine interface and improve connectivity whilst on the

move. Another pocket of growth is ambient lighting in vehicle interiors. Looking further ahead into the future, Kaatzte said that while the e-mobility trend may slow down, range and lightweighting will continue to be key factors, and suggested that many industry players are looking to China to set the pace.

An important development area for Mocom is the use of recycled materials. It is participating in the Future Sustainable Car Materials initiative, led by the BMW Group, working on mechanical recyclates that are technically reliable. In this, it has developed a PC+ABS recyclate, compounded with additives for improved impact strength.

In October, it was one of

the partners of Mercedes-Benz that won a Materialica Design + Technology Award for a sustainable underbody panelling part. By using the post-consumer recycled PP compound Wipaflex TV10BK, the CO₂ footprint of the component – based on material use – can be reduced by more than a third compared to virgin material.

Mocom has also joined the ProEly project in Germany, which is aiming to develop recyclable plastic designs and scalable process technologies for cell frames used in alkaline water electrolysis for hydrogen production. Until now, cell frames in stationary electrolyzers have primarily been made from steel.

➤ www.mocom.eu

LB Group to buy UK Venator site

China-based LB Group has signed an Asset Purchase Agreement (APA) to purchase Venator Materials UK's titanium dioxide (TiO₂) manufacturing site in Greatham UK and associated TiO₂ assets.

Administrators from Alvarez & Marsal were appointed at Venator Materials UK on 22 October, following on from the earlier administration of holding company Venator Materials plc. The reason was "sustained financial pressures and challenging market conditions experienced globally in the TiO₂ manufacturing sector", said the administrators' statement.

With the closure of the Greatham plant, 273 employees were made redundant. LB Group said it "remains fully committed to completing the APA transaction and intends to restart operations at Greatham in the future, investing in its capabilities and integrating it into our global production network when conditions allow".

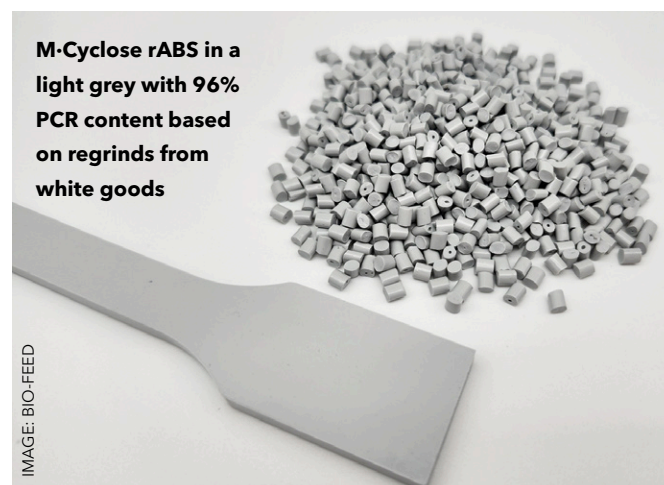
Operations at the Venator group's non-UK facilities are continuing. "All other entities in the Group remain under the governance of their respective boards who, together with the administrators, are assessing the wider position," said the administrators at time of publication in late October.

➤ www.venatorcorp.com

Bio-Fed launches new PCR line

Bio-Fed, a branch of Akro-Plastic which has developed various customised recycling compounds tailored to meet customer requirements, is launching M-Cyclose, a new ready-to-use product line containing a varying amount of post-consumer recycled (PCR) material.

The M-Cyclose UBQ product range provides more sustainable solutions for a wide range of non-food injection moulding applications, the specific sustainability aspect lying in the combination of various



matrix polymers and a filler material made from recycled household waste.

The M-Cyclose portfolio

also includes various PCR compounds based on rABS, rPP, rPMMA, rPBT, or rPET.

➤ <https://bio-fed.com>

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K Show still pulls in the crowds

K 2025, still the most prominent trade fair for the plastics and rubber industries worldwide, closed on 15 October after welcoming 175,000 visitors through the doors of Messe Düsseldorf in Germany.

In view of the current difficult economic climate and other factors affecting the plastics industry, many companies travelled to Düsseldorf with subdued expectations, said the organisers. But encouragingly, they described the prevailing mood across the fully occupied exhibition grounds as "good" as the industry presented itself as more resilient and forward-thinking than ever.

"K has demonstrated once again just how much innovative power and dynamism this sector holds," said Marius Berlemann, Chief Operating Officer at Messe Düsseldorf.

He said: "K is an indispensable compass in uncertain times and once again succeeded in confirming its role as the most important impulse provider and launch platform for the global plastics and rubber industry, where numerous companies have unveiled their innovations to the



IMAGE: MESSE DÜSSELDORF/CTILMANN

global public for the first time."

At this year's K Show, there were 3,275 exhibitors from 66 nations and over 175,000 trade visitors from around 160 countries. Official post-show figures indicated that 73% of visitors came from outside Germany. A particularly strong representation was seen from China (6,300 visitors) and India (6,400 visitors) with a total of 10,000 travelling from the

US and Brazil, said the organisers.

For machinery exhibitors, efficiency, precision, and resource savings were key themes, while materials exhibitors highlighted developments related to sustainability and megatrends like e-mobility. The emergence and incorporation of artificial intelligence (AI) was another prevailing theme at this year's event.

> www.k-online.de

SI Group makes market-led changes

SI Group is taking action to align its sales structure with key markets and pursue opportunities. The US-headquartered additives and intermediates company will focus on five key markets – Core Solutions, Fuel & Lubricants, Oilfield, Plastics, and Rubber & Adhesives – and is reshaping its sales from a strategic business-based model to a regional sales team structure globally.

At a K2025 press event, Paul Tilley, Senior Vice President, Sales & Business Development, said the

group is aiming to improve sales intensity by strengthening customer relationships and provide a more unified approach to market coverage across the Americas, EMEA, India and APAC. Plastics and Rubber & Adhesives are the two biggest markets for the group, which has also appointed new distribution partners in sales territories around the world.

SI Group has also closed two plants, one in China and another in the US (the latter is not plastics-related).

Robert Kaiser, Vice President of Strategic Marketing, said the closures were for reasons of competitiveness.

Varun Thakur, Senior Market Development Director, updated journalists about the company's products, including Evercycle recycling additives. Launched at K2022 for use with recycled PET and polyolefin packaging, there is now Evercycle EXP 0055 for PP automotive compounds with recycled content.

At daily technical presentations, experts discussed

these additives, and also SI Group's development of additives for PE water pipes that are free of Arvin substances (organic compounds which have been found in drinking water).

■ On 23 October, SI Group held the opening event at its European Innovation Centre in Four Ashes, UK. Its focus is on plastics and rubber application development, as well as analytical characterisation. It will serve as a collaborative hub for the group's customers.

> www.siigroup.com



Clariant expands in flame retardants and zeolites

Switzerland-based Clariant said the second production line for flame retardant (FR) additives at its Daya Bay facility in China will be fully operational in November. The company has made a CHF 100m investment to meet growing demand for FRs in Asia and globally, particularly in the e-mobility sector.

"We are supporting growing demand for flame retardants in several markets," said Mariano Suarez, Head of Marketing Additives at Clariant, at a press conference at K2025. In another example of the company's market support, he said it is also investing in the "talent pool" at its Shanghai Campus in China.

Clariant has expanded its Exolit OP family of FR additives with new grades shown at K2025. Specifically designed for PBT applications in e-mobility, the company said Exolit OP 1242 provides "exceptional"

hydrolysis stability, while Exolit OP 1266 provides a stable comparative tracking index (CTI) of 600 V even after extended storage periods. Both products meet the UL 94 vertical test with V-0 classification down to a sample thickness of 0.4 mm at dosing levels of 15-20%.

Clariant has also launched MFI Zeolites, described as "one of the most exciting developments in our portfolio" by Séval Schichtel, Catalyst Business

Development Manager, at the press event. Based on zeolite minerals, the Clariant products are designed to reduce odours and VOCs in car interiors as car makers use increasing amounts of recycled plastics. OEMs are evaluating MFI Zeolites and Clariant is also approaching compounders to expand their use, said Schichtel.

In its catalyst business area, Clariant unveiled a titanium-based catalyst solution for polyester

polymerisation. With China's clampdown on exports of antimony, which is the incumbent chemistry for this application, Clariant sees an opportunity for its alternative titanium solution. "Our titanium catalyst is the answer to the needs of the market," said Reza Sarbandi, Application Development Manager.

The AddWorks titanium catalyst is set to launch in 2026. It is designed to work across the entire polyester family, including PETG, PCT, PBT, PTT, PBAT, TPEE, and emerging polyesters like PEF, by acting as a highly effective transesterification/polycondensation catalyst.

There were other K highlights presented to journalists by Clariant, including Nylostab S-EED stabilisers for artificial turf, PFAS-free AddWorks polymer processing aids for film extrusion, and PolyMax 600 Series phthalate-free PP catalyst.

> www.clariant.com

IMAGE: CLARIANT



Clariant has installed a second flame retardants production line at its Daya Bay facility in China

Milliken launches new Millad PP clarifier

Milliken launched Millad ClearX 9000, a new generation of its clarifying additives for PP used in applications ranging across packaging, home storage and medical applications. The company says the additive "achieves ultra-clear PP using more efficient loading levels, reducing the amount of clarifying additives needed".

At a press conference during K 2025, Allan Randall, Global Product Line Manager at Milliken, said customers had asked for development of a

clarifier with lower loading levels because this leads to operational benefits.

Millad ClearX 9000 has lower extraction and migration rates in PP packaging and parts which is important for food-contact and medical applications.

It has received FDA food-contact approval in the US and approval is pending in other regions. Randall said that in testing for FDA approval, the new additive showed a 17x reduction

in migration versus the previous Millad NX 8000 clarifier.

Millad ClearX 9000 also has a recycling benefit. Its compatibility with other Millad clarifying additives gives producers the flexibility to optimise formulations for both virgin and post-consumer recycled PP. Tests indicated that when recycled in combination with PP clarified with Millad NX 8000, the rPP material shows a consistently low haze.

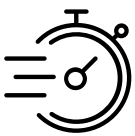
> www.milliken.com



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Coperion shows off new twin screw extruders

Two new twin screw extruders occupied centre stage at Coperion's main compounding stand at K2025.

The new ZSK 58 Mc18 twin screw model has a 58 mm screw diameter, achieves throughputs of up to 2,500 kg/h with low energy consumption and a high degree of automation. It has a high specific torque – 18 Nm/cm³ – which is directly transferred via the gearbox and the screw shafts onto the rotating twin screws in the process section, making it possible to achieve very high throughputs economically and energy-efficiently when processing products with torque requirement.

At the show, Coperion exhibited the ZSK 58 Mc18 with new screw elements that it has developed especially for processing fillers. These reduce wear in the melt zone while simultaneously increasing throughput. Kathrin Fleuchaus in the communications department said that new features that enhance efficiency include condition monitoring for the gearbox. This feature can also be accessed in C-Beyond, the company's digital platform for operational data.

A new feature of C-Beyond is the Lifecycle Manager, which is for predictive maintenance planning,



The twin screws of the new ZSK 58 Mc18 extruder were open to view at K2025

Fleuchaus said. The tool computes upcoming maintenance and repair tasks for all components of a Coperion extruder, based upon operating hours and performance, and reports them in advance. The Lifecycle Manager has already been used successfully on several pilot machines and Coperion says customers have been able to improve their machines' OEE significantly.

A new sustainability app in C-Beyond calculates a CO₂-equivalent reading during compound production, based on measurements in the extruder's main drive and all other electricity-consuming components.

A new STS 35 Mc11 was the other twin screw extruder on the Coperion stand. Designed for masterbatch production, it achieves throughputs of up to 300 kg/h. The closely intermeshing twin screws allow for an absolutely even distribution of the ingredients while ensuring effective self-cleaning in the process section, says the company.

The STS extruder was shown equipped with a Coperion AccuRate Series 602 volumetric feeder, a new unit that Coperion was able to demonstrate following its acquisition of Schenck Process FPM and its feeder product lines.

At another stand and an outdoor area, the Coperion group showed more new technology; for example, the Coperion K-Tron K2-ML-D5-T35 feeder equipped with Electronic Pressure Compensation, a ZSK recycling extruder, and the Herbold Meckesheim SMS 80-200 Granulator.

➤ www.coperion.com

Adeka claims unusual award recognition

Japanese chemical company Adeka revealed at K2025 that it had achieved the feat of being awarded a Guinness World Record, the honour being granted to its new product Transparex in the category 'Most effective clarifying agent for polypropylene transparency 2025'.

The product's name is a combination of 'transparency' and 'transformation,'

with X symbolising unknown possibilities. Adeka claims Transparex promotes superior transparency and typically has better haze value than comparable products, along with enhanced mechanical properties. This makes it comparable to polystyrene and PET, and reduces additive usage which in turn lowers production costs.

The additive's versatility means it can be used in applications ranging from household goods and cosmetics to medical devices and automotive parts. It has also been FDA-approved for food contact applications.

At a K2025 press conference marking the European launch of Transparex, Hidetaka Shirozume,

President and CEO of Adeka, remarked how the global plastics industry is currently in a 'transformative' stage. "Companies are generally being more pragmatic," he said. "But this state of flux has spurred innovation, forcing them to rise to challenges and look outside the box to find solutions."

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Developers of black and white pigments for plastic compounds are acting in response to sustainability drivers and regulatory and market pressures. Jennifer Markarian reports



IMAGE: TRONOX

Battling the challenges in black and white pigments

Both black and white pigments provide colour and function in many plastics applications, such as protection from ultraviolet (UV) light, either alone or as part of a colour formulation. Tinting strength and undertone, which are related to material properties such as particle size and particle size distribution, are important characteristics. Environmental characteristics, including product carbon footprint (ie the energy used in producing the pigment) as well as recyclability and health and safety, are also increasingly important for colours and additives.

Companies in the titanium dioxide (TiO₂) market, widely used in white pigments for plastics, are facing some particular challenges. Some of those with operations in Europe have announced closures this year due to financial pressures. In March, TiO₂ pigment manufacturer **Tronox** announced that it would idle its 90,000 tonnes/yr TiO₂ plant in Botlek, Netherlands. CEO John D Romano said in the announcement that the move was “the result of an extensive review of our asset footprint driven by the ongoing global supply imbalance caused by

Chinese competition as well as an increasingly challenged operating environment over the last two and a half years. Idling our Botlek facility enables the optimisation of our remaining facilities and improves our overall manufacturing costs.”

Tronox said that demand had softened, mirroring broader trends, but that the company has leveraged its global network to ensure continuity for plastics producers. “Flagship high-performance products such as TiONA 288 TF and TiONA RCL-69 are now being imported into Europe, offering masterbatch producers reliable alternatives with proven performance. Additionally, the transfer of TiONA 8300 production to the UK has progressed rapidly, safeguarding supply of this durable product, particularly vital for the PVC segment.”

In October, administrators at **Venator Group** announced the sale of its Greatham, UK site and associated TiO₂ pigment assets to Chinese company LB Group due to difficult market conditions (see News [page 10](#)). Venator Group manufactures TiO₂ pigments and performance additives, operating

Main image:
Tronox
develops
pigments for
plastics at its
R&D center in
Oklahoma City,
US

IMAGE: ORION



The International Carbon Black Association each year recognises companies that have superior safety records at their manufacturing sites. Eight Orion plants won Gold Awards this year: Belpre, Ohio; Berre-l'Étang, France; Huaibei, China; Ivanhoe, Louisiana; Jaslo, Poland; Paulinia, Brazil; Ravenna, Italy; and Yeosu, South Korea (pictured)

internationally in the UK, Spain, France, the US, Malaysia, Germany and other international locations.

Regulatory shifts are also affecting the industry. In August, the European Court of Justice confirmed that titanium dioxide powders had been wrongly classified as suspected carcinogens, and that solid mixtures, such as masterbatches, had been wrongly required to display an EUH212 statement on their labels, said Anne Thüsing, head of Communications at **Eurocolour**, a European umbrella organisation for manufacturers of pigments, dyes, fillers, frits, ceramic and glass colours, and ceramic glazes in Europe.

The European Chemicals Agency (ECHA) subsequently updated its website and removed the harmonised classification of titanium dioxide, reported **TDMA**, a sector group of Cefic (the European Chemical Industry Council). "This follows the dismissal of the appeals on 1 August 2025 of the European Commission and the French Government by the European Court of Justice that upheld the judgment of the General Court that included finding that an error had been made in the Commission's assessment of the reliability and acceptability of the study on which the classification was based," TDMA said. TDMA received advice that the annulment is retroactive, taking effect from the date of adoption of the regulation in 2019. "This means obligations such as labelling and the inclusion of information in the safety datasheet are no longer required," TDMA said.

The EU TiO₂ classification change "removed a longstanding regulatory burden and offered a clearer path forward for pigment producers and plastics compounders alike," said Tronox.

On the other hand, changes in hazard classification and scrutiny of organic treatments used in

plastics-grade TiO₂ have caused the company to focus on future-proofing formulations. "For Tronox, this means selecting organics not only for technical compatibility but also for regulatory resilience and supply chain security. These considerations are now central to product development, supported by best practice sharing and deep regulatory insight," the company explained.

New white pigments

Tronox introduced two new products for the plastics market this year. TiONA 233, a semi-durable pigment for polyolefins and engineering polymers in applications such as packaging, agricultural films, and footwear, offers optical efficiency, dispersion, and UV resistance. TiONA 8890 is a neutral tone pigment designed for polycarbonate and engineering plastics, with an innovative organic treatment that provides excellent thermal stability, colour retention and impact strength, the company said.

The latest TiO₂ pigments for plastics from **LB Group** (formerly known as Lomon Billions Group) are made with a high-performance chloride process and are bright, blue-toned white pigments with optimised durability and processability. The Billions BLR-883 TiO₂ pigment for engineering plastics has excellent optical properties, minimal impact on melt flow rate and offers excellent degradation resistance in polycarbonate systems, said Julie Reid, Strategic Marketing Director at LB Group. "BLR-883 pigment also helps to prevent the yellowing and thinning of polycarbonate resin, helping to reduce impact on mechanical properties," she said.

The Billions BLR-885 TiO₂ pigment is intended for durable exterior plastics, such as window profiles and agricultural films. "It features a dense silica surface treatment that can absorb UV rays in plastic systems. This helps counteract the destructive effect of UV on the plastic matrix, thus reducing the photoactivity of the pigment and providing excellent weather resistance and colour stability in PVC systems," said Reid.

The new Billions BLR-887 pigment for masterbatches has a surface coating designed to provide lacing resistance and processing performance when used in highly loaded masterbatches, high-temperature extrusion coatings and cast films, and engineering plastics, the company said.

Black advances

Carbon black is widely used in many applications, including rubber and elastomers, printing inks, coatings, and thermoplastic compounds. In thermoplastics, some applications focus on

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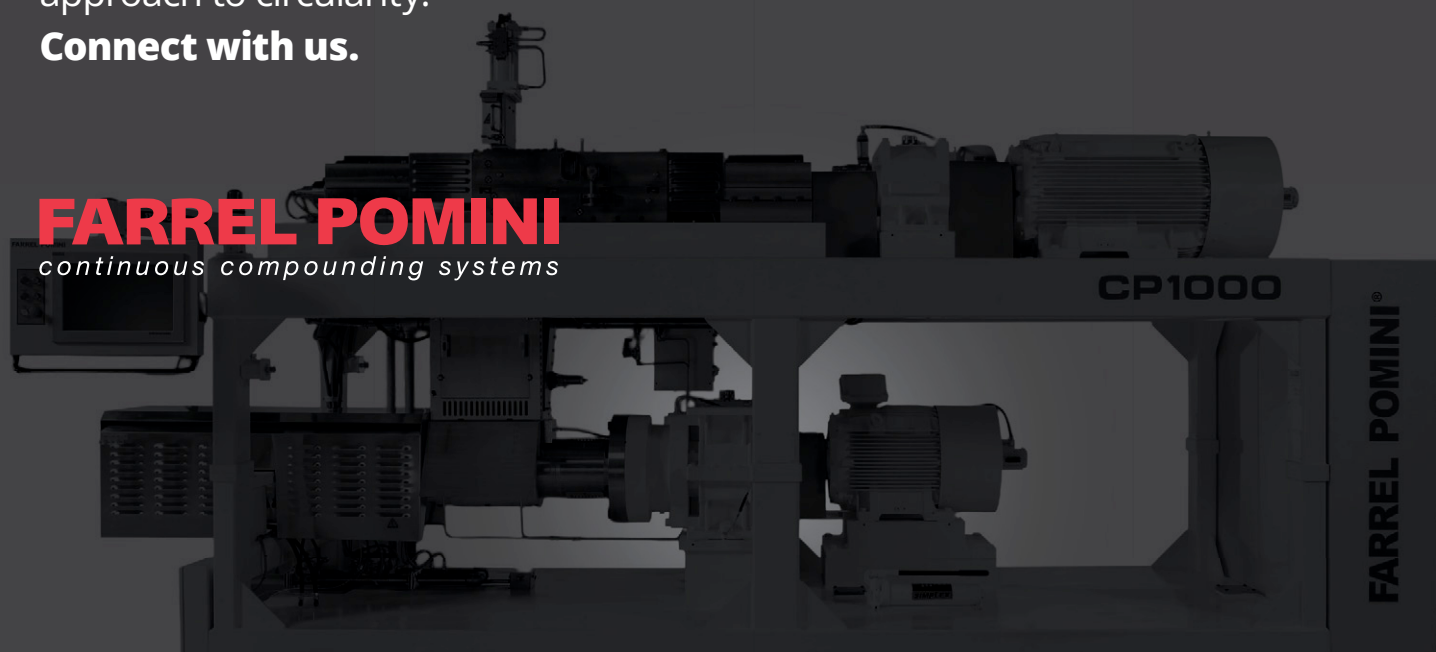
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conductive properties, and others are primarily looking at pigmentation, with dispersibility and colour tone as key properties.

Orion's latest for engineering plastic applications requiring high aesthetic quality is Printex chroma 500 Beads, which offers a balance of high jetness and dispersibility for a shiny, glossy finish, the company said. The company is working towards improved carbon footprint, and its new acetylene black plant in La Porte, Texas is expected to begin operations in early 2026. Thermally and electrically conductive additives produced in this plant will have only one-tenth of the carbon footprint of other commonly used materials, the company reported. Carbon black produced using the more traditional furnace black process can be made with renewable plant-based-oil, tyre pyrolysis oils and bio-circular feedstocks, the company added.

BKT Carbon produces carbon black at its facility in Bhuj, India, that has been used in tyres for its parent company, Balkrishna Industries. The company introduced itself as a global specialty carbon black supplier at K2025, noting that it was extending its offering to key markets with solutions for agricultural films, automotive components, wire and

cable, and others. The company plans to increase its annual production capacity in the next year.

Black PP formulations often use carbon black for coloration and UV protection. One ongoing challenge, however, is ensuring long-term heat stability.

Dominique Strässler, Global Market Segment Manager for Plastics at **Cabot Corporation**, said: "Conventional carbon blacks sometimes interfere with antioxidants – key additives that protect polymers from thermal degradation. These undesired interactions reduce the effectiveness of stabilisers, leading to premature aging, cracking, and loss of mechanical integrity."

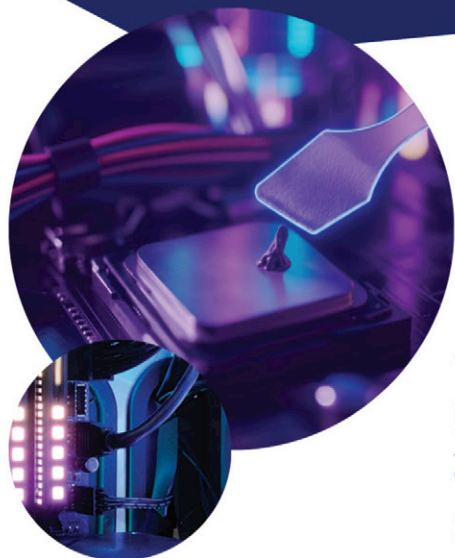
Cabot's Vulcan XTP50 specialty carbon black has engineered surface characteristics with lower chemical reactivity, which can reduce disruptive interactions with antioxidants and enhance the thermal aging resistance of PP compounds. In standardised VW44045 testing, compounds containing the specialty carbon black showed delayed onset of visual cracking and extended impact resistance after prolonged heat exposure, Strässler reported.

He said that the approach of tuning the surface characteristics of carbon black to optimise additive compatibility provides a technology platform that



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Right: Grafe is producing black masterbatch for PLA and PETG 3D printing filament

enables suppliers of automotive PP compounds to meet stringent durability requirements, and it also can help preserve performance in polyamide compounds containing flame retardants. "Similarly, in HDPE pressure pipe for high-temperature applications, where robust antioxidant stabilisation packages are essential for long-term performance, low-interaction carbon blacks can contribute to improved thermal stability and extended service life. This opens up new possibilities for designing high-performance, durable materials across a wide range of industries," said Strässler.

Alternative sources

Several companies are producing recycled carbon black (rCB) from end-of-life tyres. Earlier this year, Bolder Industries Belgium, an affiliate of US-based **Bolder Industries**, signed a €32m grant agreement with the EU Innovation Fund that will support the construction of Bolder's new facility in Antwerp, Belgium. The facility will have capacity to process more than 6 million end-of-life tyres annually to produce BolderBlack rCB and BolderOil pyrolysis oil. Installed capacity for BolderBlack at Antwerp will be nearly 18,000 tonnes/yr. Construction is due to begin in 2026.

Bolder's existing operating facility in Maryville, Missouri, US, is producing rCB commercially, and demand is growing, the company said. The company is constructing a second US facility in Terre Haute, Indiana. The company says Bolder-Black is validated for more than 3,000 commercial products, including thermoplastics, with the goal of reducing carbon footprint.

UPM Biochemicals is creating 100% bio-based fillers from wood that have a black coloring. The company's biorefinery in Leuna, Germany is expected to start commercial production this year. One of the products from the biorefinery, UPM BioMotion Renewable Functional Filler (RFF), can partially or fully replace traditional functional fillers like carbon black or precipitated silica in materials such as rubber, TPEs and thermoplastics, including for automotive interior parts, the company said.

Grafe's latest is three new standard black colour variants in masterbatches of either PETG or PLA carrier, designed for 3D printing. An additional PLA option is a masterbatch that meets the requirements for FDA approval for food contact.

"We want to give our customers who demand the highest quality the option of selecting a substrate [carrier resin] that matches the print material. This eliminates compromises in terms of layer adhesion, warping or flow properties. We also offer our customers this service for our standard



IMAGE: GRAFE

colour range," said Lars Schulze, Head of Colour Development and Material Sciences at Grafe. "PLA and PETG are the most popular materials in 3D printing and are valued both in industry and by hobby users."

NIR black

For plastics intended to be recycled, a concern is that plastics pigmented with carbon black can't typically be identified by near infrared (NIR) optical sorting technology in material recycling facilities. So there has been development activity in alternative black pigments that can be sorted. NIR-detectable blacks include those from complex inorganic coloured pigments (CICPs), manganese ferrites and some new bio-based blacks.

The latest from **Techmer PM** is HiTerra NIR Black, which has been independently verified for sortability, the company reported. The colorant is available for PE, PP, and PET formulations.

BioRegion Technology (BRT), based in Oregon, US, said its TruBlack bio-based pigment is IR reflective, with a 15-25% IR signature that allows plastics containing it to be sorted via NIR. The pigment is organically certified, 100% bio-based carbon made from lignocellulosic biomass from agricultural waste. BRT has recently worked with **Entek** to coat the pigment micro-powders with a polymer to create a high-density pellet that reduces dust during handling. Compared to powders, these pellets have increased bulk density and better throughput, and they are also easily dispersible. The pellets, made with a patent-pending process, have lower levels of carrier polymer (typically less than 15%) compared to the amounts usually used in a masterbatch. The company says any carrier resin can be used, including HDPE, PP, and PPgMA (poly propylene glycol monomethacrylate).

DataLase launched a single pigment masterbatch that creates both black and white laser markings on clear plastics, including PET, PP, PE and PVC. Liquid masterbatch dosing is recommended to minimise haze, with pellet masterbatch options also available.

"By enabling both black and white colour transitions from a single pigment and laser source, we're helping our customers achieve superior code visibility on clear plastics, while also supporting their drive for greater sustainability and efficiency," said Ally Grant, Chief Technology Officer at DataLase.

While laser marking is commonly known, a different technology called laser direct structuring (LDS) uses laser-sensitive additives, incorporated into a thermoplastic, to make conductive pathways for uses such as the antennas built into cell phones.

Mark Ryan, Market and Product Manager at **Shepherd Color Company**, explained: "Once a part is moulded, the surface is activated by a laser. The part is then processed through chemical baths and conductive pathways for antennas and other applications are developed." Shepherd Color specialises in the pigment additives used for LDS. "This continues Shepherd Color's history of pig-

ments that don't just provide colour, but also functionality, specifically under the Shepherd Technology designation. The work-horse pigment for this application is Black LD14, which was developed with specific physical and chemical characteristics to optimise the conductive plating properties," Ryan said.

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Widening scope for bioplastic materials

Bio-based plastics compounds combine renewable materials sourcing with conventional thermoplastic processing. Jennifer Markarian reports on market developments

Bioplastics can be described as bio-based polymers made from biomass (eg renewable, typically plant-based) sources rather than fossil-based carbon. As the market evolves, some innovators are seeking to harness additional naturally derived bio-based polymers, and others are expanding the types of available bio-based polymers from the growing number of chemicals being synthesised from bio-based feedstocks. Some bioplastics are suited for single-use, short-term applications, and some are suitable for long-term, durable applications. At the end of life, some materials may be compostable (under specified conditions, such as industrial or domestic), or they may be potentially recyclable.

Bioplastic compounds made with polylactic acid (PLA), thermoplastic starch (TPS) and the family of polyhydroxyalkanoates (PHAs) typically include a range of additives to improve processability, as the goal is usually to enable processing on equipment

designed for conventional plastics. These bioplastics have found success in various applications, with the ability to be processed using extrusion, injection moulding, and thermoforming, said presenters at AMI's Bioplastics 2025 conference in Cleveland, Ohio, US in August.

US consumers were reported to have a positive perception of compostable bioplastics. In particular, compostable plastics for packaging, food service, or bags to collect food waste are beneficial for diverting food residue away from landfills to composting (ie organics recycling), which reduces greenhouse gas emissions from food in landfills and fits the concept of a regenerative materials economy. In countries where incineration is used, compostable packaging is beneficial for diverting biowaste from incineration to organic recycling, said the European Bioplastics association. Compostable materials are specified for certain applica-

Main image: Erthos has developed bioplastic compounds for a variety of applications and processes, including injection moulding

Right: PHACT CB0400A from CJ Biomaterials is used in South Korea by the bakery chain Tous les Jours

tions in the recently adopted Packaging and Packaging Waste Regulation (PPWR) in the EU, and they are noted as a beneficial option in some US state extended producer responsibility legislation.

The potential to convert markets such as carry-out applications in food packaging, plates and utensils to compostable bioplastics is high, but conversion so far in the US has been low, said Mike Haubert, Managing Partner at **Mosaic Color and Additives**, which has developed custom compounds and colour and additive masterbatches for bioplastics. Progress has been made in closing the cost and performance gap between bioplastics and conventional plastics, Haubert said in a presentation at the Bioplastics conference, organised by *Compounding World's* publisher AMI. While in the past, bioplastics might have been three times slower to process, the efforts of compounders and processors have made bioplastics processable at only slightly slower rates, and the cost difference has also come down, he explained. Although compostable bioplastics have value for both beginning of life and end of life, retailers have been difficult to convince, he suggested.

Despite these challenges, industry efforts are ongoing to commercialise bioplastic compounds in more applications and to further optimise production processes. **CJ Biomaterials** PHACT CB0400A, a compound made from the company's amorphous and semi-crystalline PHA biopolymers, has been launched for plant-based plastic straws. The material had been used commercially in South Korea by the bakery chain Tous les Jours since 2023, and it recently rolled out the straws to the bakery's US stores. The component grades are certified as OK biodegradable Marine by TÜV Austria, commercially compostable by the Biodegradable Products Institute, and bio-based by the USDA BioPreferred program, said CJ Biomaterials.

PLA progress

PLA bio-based polymers are used in industrially compostable applications as well as in durable applications. **TotalEnergies Corbion**, which produces PLA at a facility in Thailand using sugarcane as a feedstock, announced a partnership with compounder **Benvic** to expand the use of TotalEnergies Corbion Luminy PLA in Benvic's Plantura compound portfolio, particularly for durable goods in automotive and electronics. TotalEnergies Corbion sees an increase in demand, mainly in Europe and the US, driven by the desire to reduce carbon footprint and move away from virgin resins. Mechanical recycling of PLA is occurring in automotive and electronics on a small scale in Europe, the



IMAGE: CJ BIOMATERIALS

company said. In addition, the company has pioneered chemical recycling of PLA through hydrolysis depolymerisation; this rPLA is being used in Europe in medical and cosmetic packaging.

TotalEnergies Corbion also announced a partnership with **Useon** to advance expanded PLA (EPLA) moulded products for foam packaging applications using Useon's direct bead foaming technology. EPLA can break down into water, carbon dioxide, and biomass under industrial composting conditions. "With EPLA, businesses now have access to a foam material that performs well and also aligns with growing regulatory and consumer demand for circular, climate-responsible alternatives" said Chen Zhiqiang, CEO of Useon.

In the UAE, **Emirates Biotech** continues to move forward with its new PLA production facility. Last December, it was announced that the plant will use Sulzer's licensed PLA technology. The facility will be constructed in two phases, and each phase will create capacity of 80,000 tonnes/yr. With construction starting this year, the plant is expected to be operational by early 2028.

UAE-based start-up **Safa BioWorks** is currently validating its pilot-scale biorefinery, with an initial focus on lactic acid production. The facility has a 50,000 tonnes/yr capacity to convert local date palm waste into high-purity lactic acid, the key monomer for PLA polymers. This agricultural by-product has predictable availability and a low ash content (less than 3%), said Nima Vakili, Founder of Safa BioWorks, in a presentation at AMI's Bioplastics conference. The company is integrating blockchain into the process to provide batch tracking, quality verifications, and carbon accounting. Following the establishment of commercial-scale lactic acid production in the UAE,

Safa BioWorks plans to expand downstream into PLA polymer manufacturing and to license its technology in other date palm-growing regions such as California, New Mexico, and Arizona in the US.

New grade for BOPLA

The latest from US-based **Natureworks**, which produces Ingeo brand PLA polymers, is the Ingeo Extend 4950D grade for biaxially oriented PLA (BOPLA) film. The company said that BOPLA can be stretched up to seven times in the transverse direction on equipment originally designed for polymers such as PP. The resulting film would be useful for packaging applications that carry food residue and would be suitable for composting, such as condiment packets, snack and candy packaging, and lidding for coffee pods or creamer containers. The new material is designed for faster compostability than existing PLA grades, and is also produced more efficiently, which lowers its production cost.

"Brand owners and film producers are increasingly asking for lower cost biaxial films for compostable food packaging, and Ingeo Extend 4950D biaxial films are ideal to replace small-format food packaging made from persistent polymers such as polypropylene," said Roger Tambay, Chief Growth Officer for NatureWorks. "These packages are difficult to recycle due to challenges in sortation, or the inaccessibility of end-use markets for recyclates. Naturally,

small-format packaging films are a better fit for composting, not recycling, and with this new platform and the Ingeo Extend 4950D grade, we can meet this demand beyond niche applications or a single product line, achieving production at a scale that makes replacing fossil-based persistent plastics with compostable bio-based materials more

feasible than ever."

US PLA and PHA producer **Danimer Scientific** filed for bankruptcy in March, but in June was given new life through an acquisition by US-headquartered compounder **Teknor Apex**. The privately held Teknor Apex has a more than 100-year history of investing in sustainable materials, and its shareholders place a high priority on the vision of

being a sustainable company, it said. The company's venture-fund arm has been investing in sustainable-material start-ups in the past few years, and even before the Danimer acquisition viewed bioplastics as part of its long-term strategy. Now it expects bioplastics to be a big part of its growth over the coming decades.

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IMAGE: FRAUNHOFER WKI

Above: Film made from sugar beet pulp is thermoformed into 3D moulded parts such as single-use tableware in a pilot program at Fraunhofer WKI

products, and the assets is world-class,” said Don Wiseman, CEO of Teknor Apex. “Having existing, operating facilities already brings us past the hurdle of the capital cost to build a plant, and we see opportunities to further drive down production costs. We have an existing base and a strong funnel, and we’re ready to build that out and continue to reinvest in advancing the technology.” Applications for Danimer’s PHA include injection moulded articles for single-use.

Addressing production costs is key, because the cost of producing PLA and PHA-type bioplastics is still higher than that of the conventional, fossil-based materials (eg PP, PS) they could replace for single-use plastic applications. However, there is an existing base of customers that prioritise sustainability, and the potential for either regulation or consumer sentiment to further drive bioplastics use. Teknor Apex sees value in the better end-of-life profile for biopolyesters, with the ability to be composted or enzymatically recycled as a solution for plastic waste. “As an industry, we need to nurture the market at the right pace with continued investment. Small evolutions will lead to breakthroughs in the long-term,” suggested Wiseman.

“This partnership opens exciting doors to accelerate our R&D, scale our operations, and reach new customers and markets, while staying true to our core mission: replacing traditional plastics with materials the planet can embrace,” said Phil Van Trump, Chief Science & Technology Officer at Danimer.

Compound design

Toronto, Canada-based **Erthos**, which has been designing custom bioplastic compound formulations for more than nine years, recently launched its machine learning tool, the Zya AI platform, with the goal of growing the use of bioplastics. The platform

uses the company’s expertise as well as models based on fundamental material properties to predict optimised compounds that can meet cost and performance requirements specified by brands. Erthos recently announced a collaboration with **Colgate-Palmolive** to explore sustainable packaging innovation using the Zya materials discovery platform. The goal is to screen materials faster and accelerate market launch.

Colgate-Palmolive is one of the founding members of a new consortium launched last year that is looking to nature for new polymer technology. The Natural Polymers Consortium (NPC) was launched as a partnership between the American Chemical Society (ACS) Green Chemistry Institute and industry leaders, with the aim of supporting innovation in bio-based, natural polymers as an alternative to fossil-based, conventional plastics. The consortium hopes to add more members and to facilitate collaboration between scientists across industries, government, NGOs, and academia.

Starch is an example of a natural polymer, found in corn and other plants, that is used commercially in multiple ways. **Kuraray’s** Plantic thermoplastic starch (TPS), based on modified high-amylose starch, can be used as an alternative to polystyrene in food trays, and has found value as a barrier material in multilayer constructions, said Tom Black, Director of International Business for Plantic at Kuraray, in a presentation at AMI’s Bioplastics conference. As a layer in a multilayer PET construction, Plantic is compatible with the PET recycle stream, because it is water soluble and washes away in recycling, Black explained. Kuraray is working with the Association of Plastics Recyclers (APR) to test its material for third-party confirmation of recycling compatibility. TPS can also be used as a layer with other compostable materials to create compostable packaging.

Residue alternative

Researchers are also experimenting with some agricultural residues with polymeric structures to see whether they can be formed or moulded like traditional thermoplastics.

For example, at the **Fraunhofer Institute for Wood Research (WKI)** in Germany, research scientist Arne Schirp has been making compounds from sugar beet pulp (SBP), combined with natural polymers such as corn starch and pectin from beets. The aim was to make compostable, single-use tableware using “unmodified polymers that occur naturally in the environment,” which are allowed under the EU Single-Use Plastics Directive.

SBP, a large-volume residue from sugar production, is currently mainly used as animal feed and for

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Above: Test samples of Renol, a bio-based plastic which is a blend of lignin and a bio-based oil. Pic: Lignin Industries

energy production, Schirp said. "For the project, SBP was mechanically ground or run through a double-disc refiner. Next, compounds were pressed into thin thermoplastic sheets and 3D-moulded into plates (tableware) using a vacuum press," he explained. The plates needed to be suitable for home composting, and it was found that plates made from the SBP polymers decomposed faster than paper plates. The researchers also aim to test the material in injection moulding of single-use cutlery. The SBP project is part of the Bio4MatPro project, which is coordinated by the RWTH Aachen University and funded by the German Ministry for Education and Research.

Spain-based **Aimplas** is participating in several EU-funded projects to develop bio-based plastics for different applications. In the Bioprocess project, Aimplas is working to enhance the mechanical and barrier properties of bioplastics to produce films for flexible packaging. In addition, it is co-ordinating the Promofer project, which seeks to convert lignocellulosic biomass (such as rice or wheat straw) and agroindustrial waste (low-value starches, whey permeate) into a biodegradable bioplastic (PHBV) and 2,3-butanediol (to make polyurethanes). The project completed its first year in July, and next steps include scaling up the fermentation process.

Most recently, Aimplas announced participation in a 25-partner consortium, the Repurposing Olive Waste (OLIWA) project. Aimplas will investigate whether natural polymers (ie proteins and polysaccharides) can be recovered from olive waste (such as leaves, fruit skin, and olive mill wastewater) and used alone or in combination with other biopolymers to make bioplastic packaging materials.

Lignin development

Lignin Industries, headquartered in Sweden, is producing a bio-based, pelletised masterbatch for thermoplastics that is a blend of lignin and a bio-based oil, such as rapeseed oil. Renol is a drop-in, bio-based plastic that can run on existing equipment, said Christopher Carrick, Founder and CTO of Lignin Industries. One of the company's new products is Renol Flex for PP applications, where the lignin and bio-oil are blended with an elastomer additive, resulting in up to 60% higher impact strength and 40% reduction of carbon footprint compared to conventional PP in the end application. The Renol masterbatch is currently used in packaging such as e-commerce bags and

is also in late-stage trials in consumer electronics, home accessories, appliances, and the construction segment, and multiple launches are expected in the coming year, reported Carrick.

To make the masterbatch, the company extracts lignin from waste biomass and modifies it into a thermoplastic material, thereby making it mixable with traditional thermoplastics. Lignin is the more hydrophobic component in wood, which means that it has the least moisture uptake and the best candidate to mix with thermoplastics, compared to other components or waste streams such as wood flour or cellulose, explained Carrick.

"We handpick lignins to fit into a downstream value chain," Carrick said. "We have worked with more than 50 different types of lignin from different pulp and paper companies, operating with different trees and different processes. We have also worked with different agricultural waste streams, such as wheat straw, bamboo and rice husk lignins, with different processing ranging from pulping processes but also lignin residues when making bioethanol production."

Carrick said the company has several patents that cover the conversion of the lignin powder by the combination and functionalisation of natural oils, as well as patents on the formulation with Renol and other plastics, such as PE, PP and ABS, and the intellectual property on the use of additives to improve processing and mechanical properties of the final object or material. He said that lignin is the residue material with the lowest value when processing biomass, making it the best candidate from a price point of view to compete with fossil plastics.

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VinylPlus in Europe has reported a smaller decline in recycling by PVC manufacturers, along with progress being made in healthcare and other key markets. By Simon Robinson

Finding health in the vinyls recycling sector

The European PVC market was tough in 2024, but it looks like 25 years of effort to increase the level of recycling and circularity in the PVC sector paid off. The amount of PVC recycled in the EU 27, Norway, Switzerland and the UK fell but was down by only 1.7% in 2024 compared with 2023. This is considerably less than the 2.3% fall in production that PVC industry body **VinylPlus** estimated for the European bloc in 2024.

The figures from VinylPlus show that a total of 738,000 tonnes of PVC was recycled in 2023, and 725,000 tonnes in 2024. But the organisation's annual report paints a highly nuanced picture than the small headline decline.

In 2024, the whole EU plastics value chain was buffeted by headwinds caused by persisting issues in end markets and trade flows. The difficulties were not confined to physical polymer supply and demand balances. In its annual report VinylPlus added that the problems were made worse by "steep increases in energy and production costs"

which reduced investment in domestic raw materials and recycling.

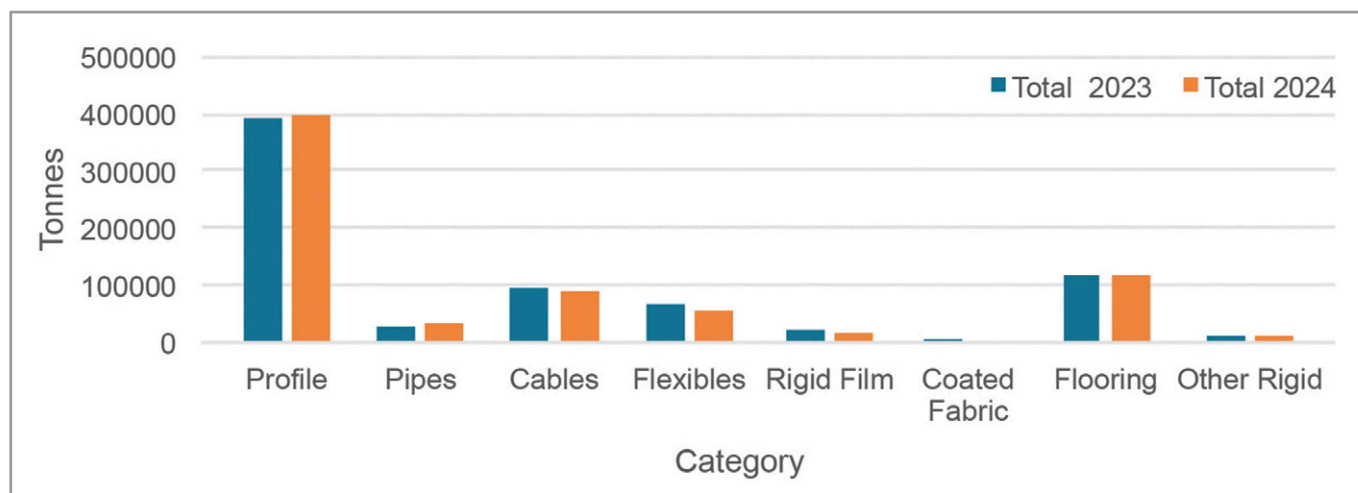
Karl-Martin Schellerer, VinylPlus Chairman, said that 2024 threw up "significant obstacles, driven by factors such as low demand for both virgin and recycled plastics, increased imports of non-EU plastic materials and reduced investment in the construction sector."

In September, VinylPlus was one of 28 signatories of a joint letter to EU policymakers about the plastics industry's predicament and putting forward six strategic recommendations to combat the pressing issues which it said are "suffocating the industry".

Despite the obstacles, Charlotte Röber, Managing Director of VinylPlus, said in the annual report covering 2024: "Recycled PVC volumes within VinylPlus remained relatively stable... an impressive achievement given the challenging market conditions impacting the whole plastics industry, both in production and recycling."

The volume of PVC profiles recycled increased

Main image:
VinylPlus is working to increase recycling of PVC from healthcare applications



PVC recycled in the VinylPlus framework comes from a number of waste sources

Source: VinylPlus

by 5,584 tonnes or 1.4% between 2023 and 2024. This sector accounted for 396,777 tonnes or 54% of the total in 2024. There were some other growth areas in applications which use proportionately less PVC than profiles. The pipe sector, for example, generated about 33,400 tonnes, or 4.6%, of rPVC in the VinylPlus framework in 2024, which was 9.8% or 2,987 tonnes higher.

But the story was different in other larger end-use segments, pulling the amount of PVC recycled in 2024 down. The volume of flooring, the second largest end use sector, fell from 118,000 tonnes to 117,000 tonnes. The volume of PVC recovered from the cable sector was down 5% at 92,000 tonnes, while at 54,000 tonnes the volume of material recovered from flexible PVC applications was down almost 20%.

This is explained partly by the decline in the building and construction sectors in 2024. This is the largest market for PVC products. The German, Belgian, Polish, French and Italian building and construction markets all shrank. So, in these key markets and other smaller markets there was less waste PVC available to be recycled. Sluggish demand meant that suppliers tried to sell older

materials first, while non-EU producers were also more successful at importing virgin and recycled PVC.

Schellerer said that “despite these challenges PVC waste recycling within the VinylPlus framework remained largely stable, even exceeding expectations” in 2024. “Many companies have enhanced their circular operations, enabling us to register recycling volumes close to those of 2023,” he said.

Pathways to growth

The goal is for recycled PVC to be seen as a different material to virgin PVC and VinylPlus would like to see a “growing demand for recycled materials, decoupling them from raw materials [price] volatility.” Luc Castin, Sustainability Business Manager, Ineos Inovyn, said: “VinylPlus would welcome legal obligations to collect plastics for recycling. We also encourage the adoption of measures to enhance the competitiveness of the European plastics value chain, creating a level playing field for EU and non-EU actors, and to revitalise industries such as building and construction.”

Looking at 2025, the group added that the lower price of virgin PVC poses a larger risk to small recyclers. But larger, integrated PVC product makers with their own pre-consumer waste streams will be more resilient.

VinylPlus said it is working at the European and global levels to ensure that business’s voice is heard in the UN’s (delayed) work towards a global plastics treaty. VinylPlus lobbied for the industry at the Ottawa and Busan treaty meetings with its counterpart the Global Vinyl Council.

VinylPlus has been driving PVC reuse through three pathways: improving collection and recycling; supporting chemical recycling and sorting technologies; and investigating how to detect, sort

Below: The 13th VinylPlus Sustainability Forum took place in Paris in May, attracting more than 200 delegates from 23 countries



IMAGE: VINYLPLUS



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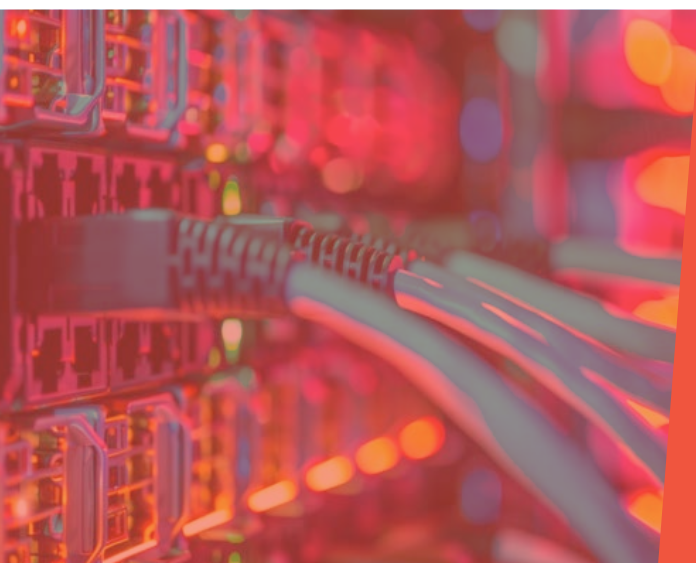
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and remove legacy additives from PVC products. This built on work the organisation has been carrying out for a number of years, and according to its annual review progress was positive along all three paths during 2024.

Effective PVC collection lies at the base of recycling work, because without collection there is nothing to recycle. VinylPlus' Röber explained waste collection "is a key vulnerability of every circular value chain". But she explained that "EPR schemes with the right incentives can increase collection and support recycling."

In 2024 VinylPlus' long-term partner **Rewindo**, based in Bonn, Germany increased the number of its recycling points and now has more than 90. This increased collection capacity and expanded partnerships helped to offset the fall in construction volumes to some extent.

In Poland, although the construction market fell too, there were some successes in increasing the partnerships for recycling, and **Metal-Plast** increased its low-cost recycling programme by 166%.

In the Netherlands, the **European Plastics Pipes and Fitting Organisation** has worked with the **British Plastics Federation's Pipes Group** on a study to understand how materials flow through the pipes industry. This is designed to lay the foundations for future collection, sorting and processing of plastic pipe waste. It also looks at the value chain including the costs of organising and financing.

Better collection

A German pilot was launched to increase the amount of PVC flooring collected both as scraps and as post-consumer waste. The scheme involved

two wholesalers setting up collection points in a number of their depots. This recovered 120 tonnes of PVC flooring which was ground in to particles. VinlyPlus said that this approach shows that using transport, which would otherwise return empty, to back-haul waste from wholesalers, can be an effective tool in waste PVC flooring recycling.

Other highlights in the flooring sector were trials to separate flooring made from PVC containing plasticisers. Here AI-based decision-making systems produced promising results. A separate study is also underway. This is examining the use of super-critical CO₂ or dissolution techniques to extract legacy additives from PVC formulations cost-effectively.

Meanwhile, in Italy, a memorandum of understanding was signed between 14 collectors to develop co-operative approaches to PVC collection and recycling. Plastic Consult carried out three studies on the PVC industry in the country. The first considered the state of the PVC supply chain; the second looked at the limits to the amount of rPVC that could be consumed in Italy; and the third explored the most effective applications for rPVC from building demolition.

Medical developments

The medical sector is a large market for PVC. In France, recycling single use PVC medical devices such as tubing and masks into new products for healthcare settings such as Lyon-based **Gerflor's** homogeneous flooring components.

In 2024, 23 hospitals were part of the VinylPlus Med programme with eight more due to come online this year. In November 2024, De Loods De

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Nekker, a Belgian PVC medical waste sorting system, opened and had processed 1m tonne by the end of the year.

Meanwhile in France, a number of hospitals are working with **Terra**, a circular economy specialist, and Medtronic studying the feasibility of recycling. Dialysis lines, soft PVC medical devices and rigid PVC video-laryngoscope blades, which are widely used in medical settings, could make a significant contribution to medical PVC recycling in the future.

Many doses of medication are safely delivered in aluminium/PVC blister packs and the VinylPlus PharmPak project aims to show in a study how effectively blister packs can be recycled. Larger scale trials at **Fraunhofer IVV**, Dresden, Germany, found that dissolution technology could be used with feed from blister packs to successfully make rigid films. These could be re-used in blister packs. Mechanically recovered materials from blister packs can be used in profiles and PVC pipes.

Plasticiser presence

Recycling is not about reusing material made yesterday with modern additives, materials with legacy additives will find their way into PVC waste streams for many years and VinylPlus continued to devise ways to manage legacy products in waste streams building on work of the past 20 years.

The European Plasticisers association commissioned a scientific study on the concentration of, and kinetics of the release of, plasticisers such as DINP, PIDP, DOA and DOTP which are currently being scrutinised by NGOs, the ECHA and other key European decision-makers.

Work to detect and sort legacy additives continued with **PVC4Cables**, EuPC and VinylPlus in the application of hand-held detectors using near-infrared hyperspectral technology (NFIR). There are plans to automate this by applying

artificial intelligence machine learning to the results to eventually detect and identify the different plasticisers used. A separate strand based on X-ray fluorescence in-line at a pilot plant got underway in the year. This will tackle PVC cables, pipes, profiles and flooring containing phthalates and lead stabilisers. NFIR is being used in the projects to detect not only phthalates but also medium-chain chlorinated paraffins and X-rays to sort out the lead-based salts used as stabilisers. Results from Phoenix RTD show that this approach is good.

Mechanical recycling is the main method of preparing PVC for reuse. But other methods such as chemical and thermal processes were actively pursued in 2024.

PVC is 43% hydrocarbon, and the Arcus project focussed on turning waste that could not be mechanically recycled into pyrolysis oil which could then be further processed by the petchem industry. A study by **Arcus Greencycling Technologies**, based in Ludwigsburg, Germany, found that "the pyrolysis oil produced from a mixed-plastic waste stream including 10% of PVC waste is of similar quality to an oil obtained without the addition of PVC". This is pure enough to be used in steam crackers contributing to the circular economy for plastics. The company won gold in the Inovyn Awards announced in October for advancing PVC recycling through pyrolysis.

Dealing with chlorine

The other component of PVC is chlorine. The VinylPlus RecoChlor programme turns PVC waste streams into energy and either sodium chloride – RecoSalt – in a dry process or, in a wet process hydrochloric acid. The salt process uses sodium hydrogen carbonate to scrub chlorine out of the gas generated by the process. Switzerland is mandating FLUWA technology at all of its municipal waste-to-energy (WTE) plants in 2026. This process uses the hydrochloric acid released during

IMAGE: PVC4CABLES



Above: Legacy additives in waste PVC applications, such as cables, are the focus of research work in the PVC4-Cables initiative



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New platform for vinyls in healthcare

VinylPlus Healthcare is a new platform in Europe integrating the activities of the now-closed PVCMed Alliance while continuing the recycling efforts of the VinylPlus Med and VinylPlus PharmPack programmes.

"VinylPlus Healthcare was created to bring together expertise and efforts from different initiatives, ensuring a more coordinated and effective approach," said Ole Grøndahl Hansen, Project Leader of VinylPlus Healthcare.

"With this platform, we hope to foster a more nuanced debate on vinyl in the healthcare sector - one that recognises both its technical benefits and its evolving sustainability profile," he said.

One of its first activities was to commission Aimplas in Spain for a



study on recycling flexible PVC which is widely used in medical devices. Findings from the study confirm that flexible PVC can be mechanically recycled up to six times without compromising its technical properties.

These findings reinforce vinyl's key role in a circular healthcare economy, said VinylPlus Healthcare. The use of PVC leads to reduced waste, optimised resource efficiency and maintaining the highest standards of patient safety, it said.

incineration to recover heavy metals from fly ash.

While that seems encouraging, there are hurdles to clear if the process is to be used across the EU. Firstly, only about 30% of Europe's WTE plants have scrubbers and only a few currently purify hydrochloric acid to technical grade material needed for the RecoSalt process. There is little political or economic support for the process and would involve extra costs to introduce as a retrofit.

Laminated composites containing PVC can be hard to recycle, but a project got underway at **Centexbel's** facility in Grâce-Hollogne, Belgium. This was scheduled to conclude in a pilot plant this year, but it proved more difficult to get started than expected and deadlines have been pushed back. It is based around the Australian PVCS separating technology which delaminates polymers from composite structures to help further recycling.

Designing for recycling and reuse is driven by the EC's Standardisation Mandate, which supports the European Strategy for Plastics in a Circular Economy. Last year the EPPA led development of "Design for recycling of PVC based profiles for construction products" in CEN Technical Committee 249 WG21. This standard stresses the need for recycled content, recyclability and product quality. At the same time a similar standard for floor coverings including those made with PVC was launched. And in the world of thermoplastic pipes used to supply water or in construction projects, a similar set of guidelines is due to be launched this year.

The environmental impact of PVC extends beyond the materials themselves. The impact of energy used to make the raw materials, the polymers, compounds, processing, installation and sometimes use need to be considered.

Carbon Minds, a consultancy, carried out lifecycle analysis of six different PVC uses to see

where there are chances to make greater water and energy savings along the value chain.

In France, for example, the **Syndicat National de Extrusion Plastique** started work to develop a decarbonisation road map aimed at reducing carbon emissions from PVC profiles used in construction. After monitoring indicators, the process will set out short- and medium-term goals.

The sustainability footprint of additives is also being addressed by VinylPlus and its additive partners. These are working to ensure that not only do additives meet current standards, but continue to be safe, high performing products that meet the needs of the foreseeable future.

The Additive Sustainability Footprint methodology was used in a training programme with 15 additives companies in 2024. As well as understanding how to drive innovation for sustainable use of additives, the participants were given advice and insights from sustainability advisors to help them obtain VinylPlus Supplier Certification for additive producers

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Mixing matters: making advances in technology



Chris Saunders reports on the latest developments in mixing equipment in the search for optimal homogenisation

As demand increases for higher performance, more sustainable, and more cost-efficient plastics, mixing technologies are being forced to keep pace. Recent developments aim not only to improve blend uniformity, but also reduce energy consumption, integrate recycling, and accommodate novel materials.

A recent study published in the International Journal of Environmental Science and Technology introduced a new mixing technique designed to better distribute wood fibres using single-screw extruders by separating the fibres and the polymer during the melting stage to avoid heat degradation. This reduces thickness swelling and water absorption. The study (Waleed Hassona et al, Faculty of Engineering, Tanta University, Egypt) reported on tests applied on specimens produced using the new mixing technique with different fibre:polymer weight ratios, which found that at a 70:30 mixing ratio, a reduction in water absorption of about 70% and 67% for densities of 1,100 and

1,250 kg/m³, respectively, was attained.

At K2025, **Mixaco**, a family-managed company located in Neuenrade, Germany, introduced the Infinity Mixer which it described as 'a new standard in mixing innovation.' By generating target distortion and re-circulation patterns in a controlled environment, the company says the Infinity Mixer is able to deliver increased shear efficiency and faster mixing, which reduces overall process time. Other benefits include faster cooling thanks to improved flow dynamics, quicker homogenisation, and superior dispersion quality.

The mixer offers two distinct working principles. In the co-rotating mode, both tool packages move in the same clockwise direction. The overlapping flows generate intense particle movement, delivering high-shear rapid mixing and high dispersion. In the intermeshing zone, the combined tip speeds can reach up to 80 m/s, ensuring maximum efficiency and performance. When operated in counter-rotating mode, the tool packages turn in

Main image:
Promix's P1 cooling mixer combines the functions of a highly efficient static mixer with those of a heat exchanger

opposite directions enabling particularly gentle mixing.

Through an association with **Sumitomo (SHI) Demag**, Japanese company **Moriyama**, known for its deep understanding of kneading processes, also had a presence at K2025. A Moriyama mixer on display at the Sumitomo (SHI) Demag booth was developed by German metal forming specialist Leifeld in collaboration with Japanese SHI subsidiary Nihon Spindle Manufacturing. Exceptionally easy to clean and maintain, Moriyama mixers enable rapid material changes and are among the most flexible and efficient solutions for blending materials. Fully compliant with European standards, they have been embraced by the SHI Group as a reflection of a commitment to quality, innovation, and global collaboration. Included in its range are the flagship Dispersion Mixer, the Mix-Labo, the Small Capacity Dispersion Mixer specially designed for small batch processing, and the Reduced Pressure Dispersion Mixer.

Flexibility

In recent years there has been significant progress in the design of twin-screw technology, with the latest examples incorporating optimised screw geometries, better thermal control, and improved feeding systems to ensure consistent mixing. One company making recent advancements is **Ajax Equipment**. Founded in the UK in 1970, it specialises in bespoke, custom-built solids handling and processing equipment, which the company feels gives it added flexibility and a considerable advantage over contemporaries selling 'off the shelf' machinery. "We have developed twin screw continuous mixing technology for combining powders and granules prior to extrusion and other melt processes," said Managing Director Eddie McGee. "These are low energy use and very efficient with small footprint and can be far easily cleaned compared to conventional batch mixers. Ajax mixers have been used in automotive plastics, large scale plastics production, and for extremely impermeable plastic film industries."

Ajax is best known for its continuous mixers, which it has been supplying and modifying for a number of years. As the name implies, they are designed for uninterrupted production and allow for continuous material inflow, blending, and discharge, avoiding the quality

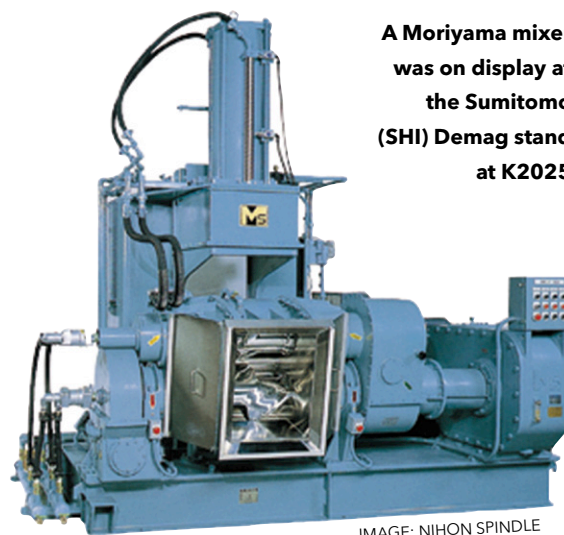


IMAGE: NIHON SPINDLE

A Moriyama mixer was on display at the Sumitomo (SHI) Demag stand at K2025

issues often associated with traditional batch processing. The latest examples employ screw augers with proprietary LynFlow ribbon or paddle flights, which provide efficient, low-shear mixing to ensure homogeneity with minimal damage to delicate ingredients.

US manufacturer **Ross** has applied its development work to mixing innovations, one example being the Ross VMC-300 which launched earlier this year. Engineered for applications requiring advanced mixing capabilities, for example composites, it combines three independently driven agitation systems in one unit, integrating anchor, high-speed disperser, and axial flow turbine technologies to effectively manage complex and viscous formulations. Constructed with stainless steel, the VMC-300 has a 300-gallon working capacity and operates under full vacuum up to 29.5-inch Hg and internal pressure up to 15 PSIG at 300°F. The flat-bottomed mix can include a jacketed sidewall and bottom rated up to 140 PSIG for heating and cooling, while the vacuum cover features multiple ports including various process connections.

The three-wing anchor agitator spins at 36 RPM with a 30 HP explosion-proof motor, featuring heavy-duty triangular cross-section design with helical flights and hinged Teflon scraper assemblies that systematically wipe the vessel surfaces. The high-speed disperser reaches speeds of up to 1,150 RPM with a 50 HP explosion-proof motor and features two 10-inch disperser blades for improved dispersion. The high-speed axial flow turbine system uses



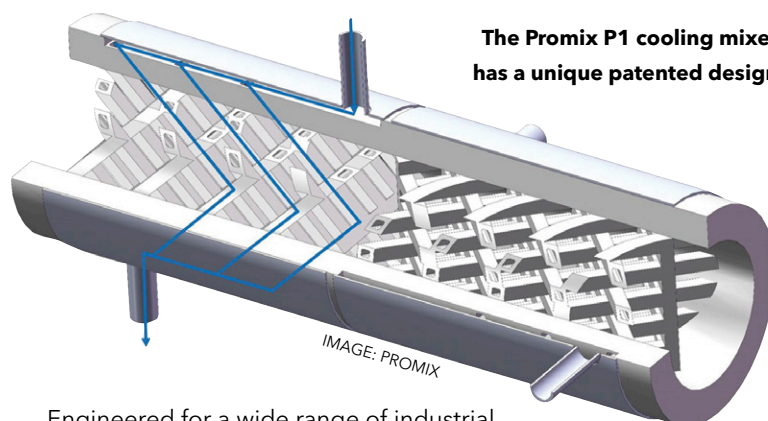
IMAGE: ROSS

Right: The Ross Custom Coaxial Mixer for complex formulations

a 50 HP explosion-proof motor to drive two 14-inch three-blade turbines for intense blending and circulation. The dual post lift system has a 10 HP electrohydraulic power unit and pneumatic lift locks to automatically secure the mixer, while the user-friendly control system includes a touchscreen for monitoring and adjustment of agitator speeds, loads, product temperature, vacuum level, and cycle timer, and variable frequency drives ensure precise speed control for all three agitators.

The company also recently announced the completion of a custom Coaxial Mixer. Through an innovative concentric-shaft configuration, this advanced system effectively blends, disperses, and homogenises materials by combining two synergistic agitation technologies, the coaxial design enabling processors to handle a wide range of rheologies while offering a range of different flow patterns. The agitation system consists of a heavy-duty two-wing anchor with triangular cross-section and a pitched-blade propeller assembly, each powered by a 15 HP explosion-proof motor with the outer agitator producing speeds up to 25 RPM while the inner shaft turns the propellers up to 191 RPM. The NEMA 12 control panel has two 15 HP VFDs built in with an ethernet/IP option for remote control, plus displays for speed, amperage, and percent load.

This custom-built mixer has a 1,100-gallon working capacity, engineered for full vacuum operation to 29.5-inch Hg and internal pressure up to 15 PSIG at 300°F. Product temperature is controlled via heating/cooling media passing through a two-zone stainless steel half-pipe jacket, and a 4-inch pneumatic flush tank ball valve facilitates a smooth discharge.



The Promix P1 cooling mixer has a unique patented design

Engineered for a wide range of industrial applications, the Ross line of High Shear mixers is customisable for atmospheric, vacuum and pressure conditions, and considered ideal for solid-liquid mixing, particle size reduction, homogenisation, and emulsification applications. For example, the Ross HSM-100LH-3 is equipped with a 2.5-inch diameter rotor/stator head that allows particles to be sheared and expelled at a high velocity into the surrounding mix, breaking up agglomerates and producing fine dispersions. The 10-gallon capacity stainless steel mix vessel is designed for operation under vacuum conditions up to 29.5-inch Hg and includes a 50 PSIG stainless steel jacket for heating/cooling, as well as a vacuum cover assembly with built-in sight/charge ports. The dished bottom features a centrally located flush tank ball valve with tri-clover connection which promotes easy and complete discharge.

Static mixers

Static mixers like the SMB Plus from **Promix** have the capability to homogenise melts and liquids. Based on the SMB mixer structure, the patented P1



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IMAGE: MARUKI SANGYO



Above:
Recycled plastic
production
underway at
Maruki
Sangyo's main
plant in
Toyama, Japan

cooling mixer combines the functions of a highly efficient static mixer with those of a heat exchanger in one component. A heat transfer fluid flows through the mixing elements inside the mixer leading to a very effective heat exchange in the smallest installation space. The latest applications of this technology include increasing the throughput of a PET sheet extrusion line and enabling the use of an underwater pelletising system for sticky, low-viscosity hot melts.

"The line speed of a PET sheet line is limited by the temperature of the melt after leaving the die, as well as by the power of the extruder," the company said. "If the temperature is too high, the surface becomes uneven or the cooling track before winding is too short. Neither of these issues can be easily resolved. The P1 cooling mixer enables the temperature of the melt to be reduced to a minimum before the die, ensuring a perfect sheet even at a higher output. The latest tests show an increase in output of up to 20% with the same quality."

Producing pellets with hot melts that have a low melting point and low viscosity can also be described as challenging. A simplified method involves using a melt pump after the reactor to cool the hot melt in a P1 cooler. This allows the material can be cooled by 60°C or more. Due to the mixing structure of the P1, the material is homogenised during this stage, resulting in a high-performance hot melt in one step.

New collaborations

More companies are seeing the value in collaborations. **Periplast**, a Portuguese outfit with over 40 years of experience in extrusion equipment, recently announced a strategic partnership with **Extruder Experts**, a German company which manufactures components and spare parts for co-rotating twin screw extruders. All its components are compatible with leading brands and it uses materials carefully

selected according to the wear and corrosion resistance requirements of specific applications. Through this partnership, Periplast provides personalised technical advice, and its team is being certified by Extruder Experts to provide a new on-site wear measurement service. This approach enables more efficient, anticipated, and planned maintenance, increasing equipment reliability and performance. The partnership also provides access to high-quality components, with delivery times and prices more competitive than if a customer were to use original parts.

Polymer processing component manufacturer **Xaloy** has acquired **Ultimate Twin Screws (UTS)**, based in Ontario, Canada, and said it is combining its strengths with UTS's specialised knowledge in twin screw design and production to form Xaloy Canada Corporation. "This acquisition reinforces our commitment to serving customers with the broadest and most innovative solutions in the industry," said Andrew Brickman, chairman of Xaloy. "By adding twin screws to our portfolio, we strengthen our ability to partner with customers in solving their toughest processing challenges."

In the constant quest to improve efficiency, many companies are exploring solutions driven by artificial intelligence (AI). Real-time monitoring has become more sophisticated, with sensors accurately tracking temperature, shear, pressure, and more, while digital controls allow for dynamic adjustment of process parameters to maintain consistency and reduce scrap. **NEC** and **Maruki Sangyo** recently conducted an AI-assisted demonstration experiment to improve material development. By entering the desired characteristics and colour, the system presents the most appropriate proposal according to the fluctuating inventory of plastic waste. In the demonstration test, it was confirmed that the compounding and colour mixing plans presented by the system were accurate enough for practical use, and that it can reduce the time required to determine pigment combinations by up to 50%.

CLICK ON THE LINKS FOR MORE INFORMATION:

- > www.mixaco.com
- > www.sumitomocorp.com
- > www.spindle.co.jp/ms-moriyama
- > www.ajax.co.uk
- > www.mixers.com (Ross)
- > www.promix-solutions.com
- > <https://periplast.pt>
- > <https://extruder-experts.com>
- > <https://xaloy.com>
- > www.nec.com
- > www.maruki-plastics.co.jp



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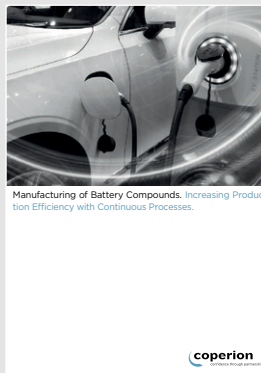
FEDDEM: COMPOUNDING TECHNOLOGY



In this company profile brochure, Feddem presents its compounding technology portfolio, including FED-MT co-rotating twin-screw extruders, plus FSB feeder, FSV side vacuum, and FSE side venting units.

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COPERION: BATTERY COMPOUNDS



In this brochure, Coperion and Coperion K-Tron provide details of their technologies for manufacturing high quality battery compounds.

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TA INSTRUMENTS: ANALYTICAL SOLUTIONS



An extensive range of polymer analysis solutions from TA Instruments enable R&D and processing staff to characterise materials at resin, compounding and converting operations, as shown in this 32-page brochure detailing technologies, applications and case studies.

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CABOT: SPECIALTY CARBON BLACK



This brochure from Cabot details the company's range of Vulcan specialty carbon blacks for formulation of low moisture absorption electrically conductive plastics for applications such as ESD packaging.

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KLK OLEO: GREEN ADDITIVES



KLK OLEO provides a series of products for industrial application. PALMOWAX and PALMESTER provide a green lubricant solution to polymer processing. TEMEST, PALMERE and PALMERA as green ingredients for PVC additives/plasticiser.

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Switzerland's Sukano offers a full range of bioplastic masterbatches and compounds to allow processors to maximise the performance of bio-based resins such as PLA and PHA and to simplify and speed up processing.

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Compounding World October 2025

The October issue of Compounding World contains a cover story on the commercialisation of nano additives, previews of the K2025 show and Compounding World Expo, and features on additives and alternative processing technologies.

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Compounding World September 2025

In addition to the cover story on advances in pigments, the September issue of Compounding World provides a K2025 guide for compounders about machinery and equipment exhibitors. Other features cover stabilisers and thermal compounds.

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Injection World October 2025

With the plastics industry's biggest event, K2025, taking place in Dusseldorf, the October issue of Injection World highlights developments to be seen at the show related to medical moulding, E&E materials, energy management and more.

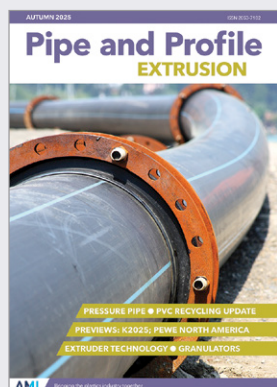
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Plastics Recycling World October 2025

Plastics Recycling World's October 2025 edition includes features on the latest recycling line technology, odour reduction additives and previews of exhibitors at K2025 and AMI's Plastics Recycling Expo in the US in November.

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Pipe and Profile Autumn 2025

Pipe and Profile Extrusion's Autumn edition has a cover feature that looks at what's new in high pressure pipe, and features on PVC recycling, new granulators and extruder technologies, plus previews of K2025 and the US Plastics Extrusion World Expo.

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Film and Sheet October 2025

The cover feature of this issue is about developments in biax film, while other articles are on recycling and extruder technology, plus there are previews of the K2025 show and Plastics Extrusion World Expo in the US.

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GLOBAL EXHIBITION GUIDE

2025	12-13 November	Compounding World Expo N America, Cleveland	https://na.compoundingworldexpo.com
	4-7 November	Ecomondo, Rimini, Italy	www.ecomondo.com
	3-6 December	PlastEurasia, Istanbul, Turkey	https://plasteurasia.com
2026	9-12 January	Plastex, Cairo, Egypt	www.plastexegypt.com
	20-22 January	Swiss Plastics Expo, Lucerne, Switzerland	https://swissplastics-expo.ch
	5-10 February	PlastIndia, New Delhi, India	www.plastindia.org
	4-6 March	Asiamold, Guangzhou, China	www.asiamold-china.com
	10-12 March	JEC World, Paris, France	www.jec-world.events
	11-12 March	PlastExpo Nordic, Helsinki, Finland	https://pfsptec.messukeskus.com
	26-28 March	RePlast Eurasia, Istanbul, Turkey	www.replasteurasia.com
	30 March - 1 April	Plast-Alger, Algiers, Algeria	www.plastalger.com
	31 March - 2 April	Plastics & Rubber Vietnam, Ho Chi Minh City	https://plasticsvietnam.com
	13-17 April	Wire, Dusseldorf, Germany	www.wire-tradefair.com
	21-24 April	Chinaplas, Shanghai, China	www.chinaplasonline.com
	22-23 April	PlastTeknik Nordic, Malmö, Sweden	www.plasttechniknordic.com
	29-30 April	Textiles Recycling Expo, Charlotte, NC, USA	www.textilesrecyclingexpo.com

AMI CONFERENCES

11 November 2025	Performance Polyamides, Cleveland, OH, USA
11 November 2025	PFAS North America, Cleveland, OH, USA
11 November 2025	Polymers in Flooring, Cleveland, OH, USA
18-19 November 2025	Cables Asia, Bangkok, Thailand
1-3 December 2025	Fire Resistance in Plastics, Düsseldorf, Germany
2-3 December 2025	Polyolefin Additives, Cologne, Germany
9-10 December 2025	Flexible Packaging Innovation & Recycling, Vienna, Austria

For information on all these events and other conferences on film, sheet, pipe and packaging applications, see www.amiplastics.com

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