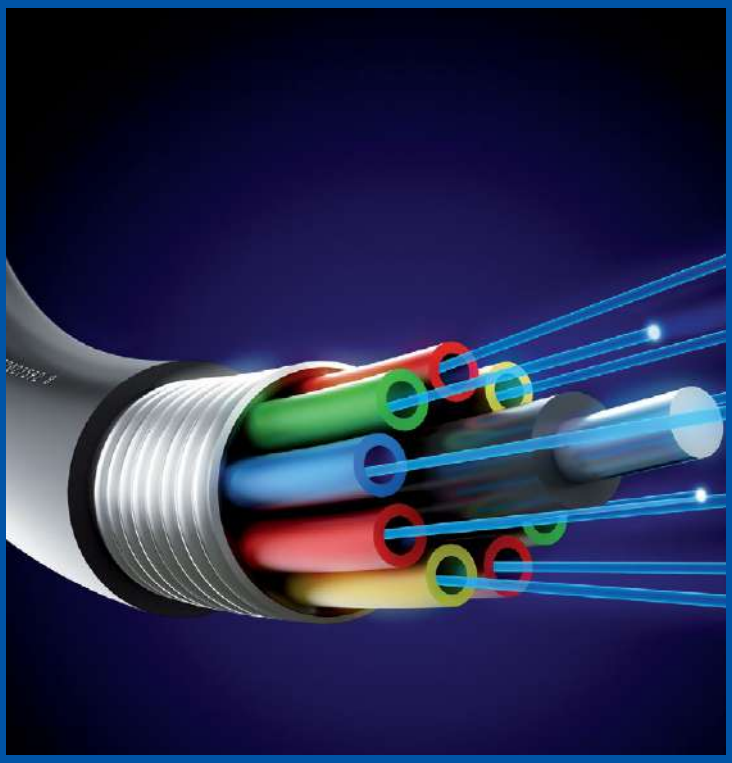
01/2026

VM VERLAG
Cologne /Germany

EXTRUSION INTERNATIONAL

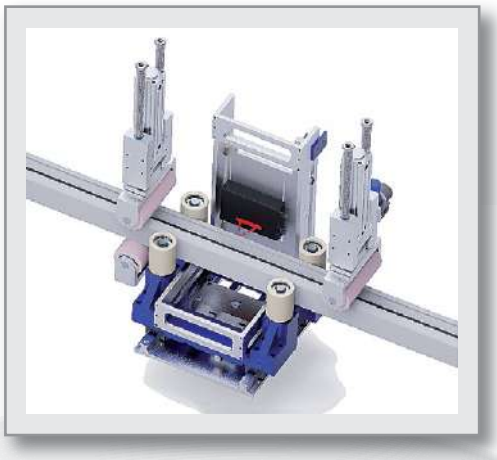


Regular RECYCLING Section ..... p. 39

STEIN BLUE-LINE
for a sustainable future

EXPERTS IN DOWNSTREAM

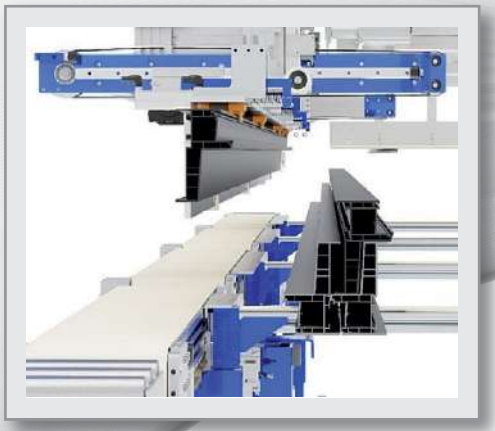
Stein Profile Stacker

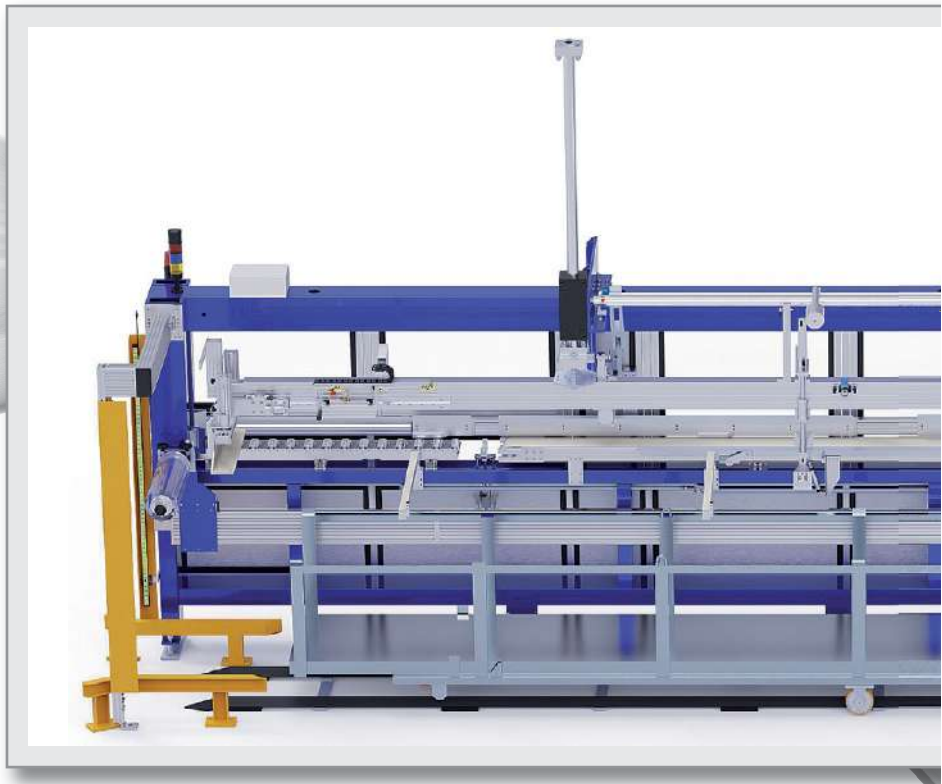


Profile length measurement during extrusion

Measuring sensors are used to determine the length of individual profiles before a profile layer is formed.

The measured length can be used to check and correct the cutting device of the extrusion line or for documentation (quality assurance) of the produced profile lengths.





Stacking of special profiles

Stein Maschinenbau offers technical solutions for stacking of heavy and large monoblock profiles.

Based on decades of experience, we can unusual profile geometries or special layer can be evaluated for their automated stacking.

Cassette spreader

With the help of a cassette spreader it is possible to realise the same packing density of the manual packaging.

Made in Germany

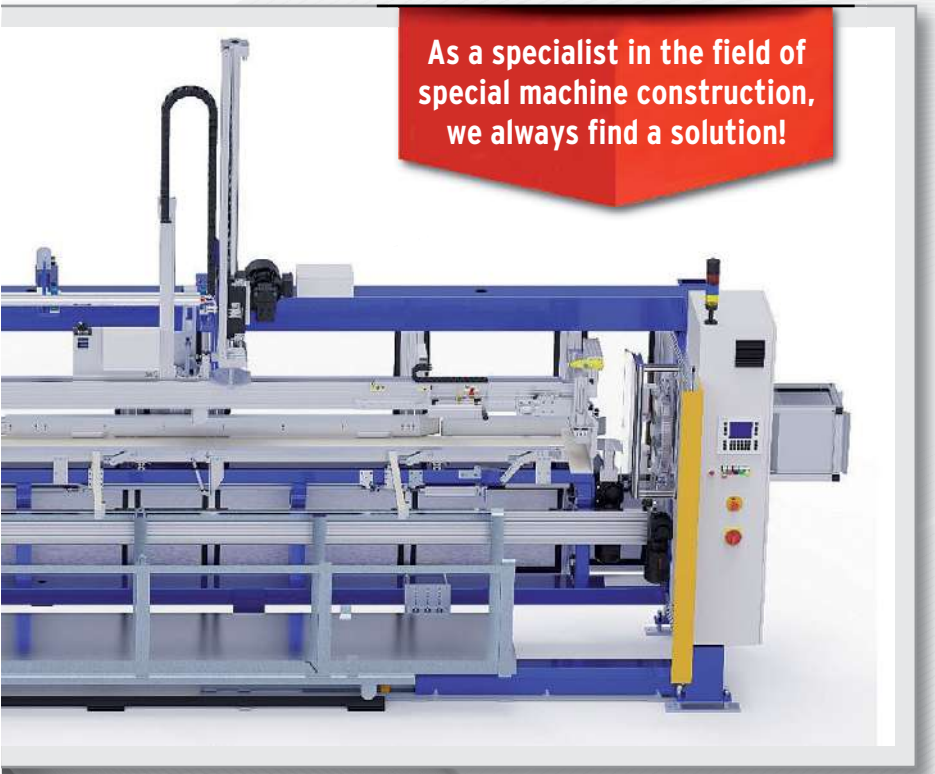
STEIN BLUE-LINE
for a sustainable future

EQUIPMENT FOR EXTRUSION

Stein Profile Stacker

Weight determination during extrusion

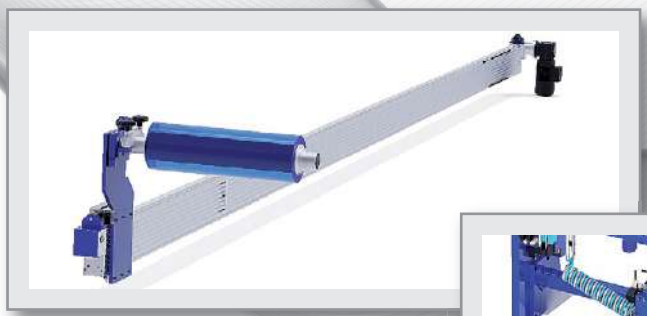
With the help of special weighing units, individual profiles can be weighed before a profile layer is formed.
The determined weight can be used to optimise the extrusion.

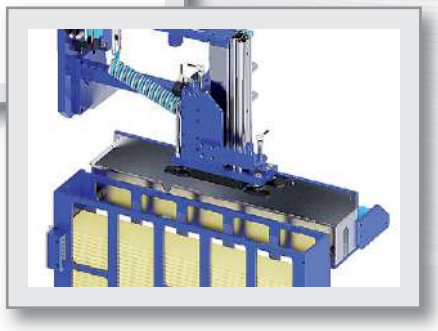


As a specialist in the field of special machine construction, we always find a solution!

Cassette handling

The handling system allows empty cassettes to be fed into the automatic stacker and the filled cassettes to be pushed out.





Profile interlayer

Endlessly laid as a foil between the profile layers or with individual strips laid on the layer.

STEIN

STEIN Maschinenbau GmbH & Co. KG

Wartbachstrasse 9
66999 Hinterweidenthal/Germany
Tel. (+49) (0)63 96-9215-0
Fax (+49) (0)63 96-9215-25
stein@stein-maschinenbau.de
www.stein-maschinenbau.de

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Since 1985, CONEXTRU and its founder, J. Dobrowsky, have been involved in thecontinuous development of new pipe heads. This means that over 3,500 pipe heads designed and built during this period are currently in operation worldwide

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NexKemia Petrochemicals Inc., a leading firm in manufacturing expandable polystyrene (EPS), has relied on ZSK twin screw extruders from Coperion since 2020. Focusing on innovative manufacturing processes and sustainability, NexKemia provides products for the packaging industry and as well as for building insulation

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Bernd Roegele, President of the Organizing Committee of Equiplast 2026, analyzes the current state of an industry moving toward more sustainable, collaborative, and technologically advanced models

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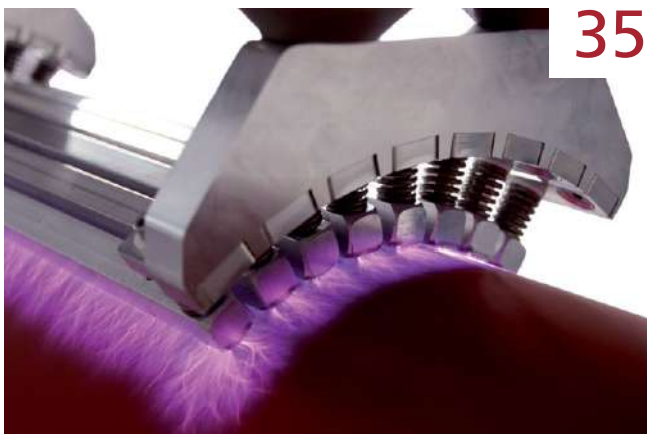
AIMPLAS, the Plastics Technology Centre, is leading the "BIOVALSA" project, an initiative that seeks to develop innovative processes for manufacturing sustainable bioplastics from agricultural waste and pruning residues

In today's fast-moving and volatile world of package printing, the market leader in surface treatment, Vetaphone, continues to pioneer its offering with a package of service and support to meet customers' expectations



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On April 21 to 24, 2026, the industry's acclaimed trade fair - CHINAPLAS 2026 will take place in Shanghai, PR China. As one of the global leading plastics and rubber exhibitions, this edition is expected to bring together more than 4,600 exhibitors from around the world

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Index of Advertisers, companies and fairs referred in this issue

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P.O.Box 501812, D- 50879 Cologne, Germany

EDITOR
Bettina Jopp-Witt (Editor-in-chief)
T. +49 221 546 1539
redaktion@vm-verlag.com

ADVERTISING SALES
Martina Lerner
T.+49 6226 971515
lerner-media@t-online.de

Tanja Bolta
t.bolta@vm-verlag.com
+49 15205626122

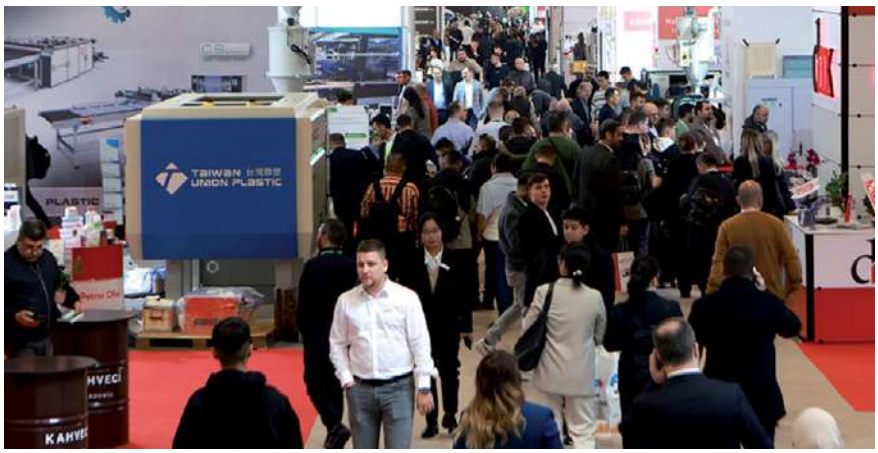
ADMINISTRATION
Alla Kravets
T. +49 2233 949 8793
a.kravets@vm-verlag.com

PRINTING
maincontor GmbH
Dr.-Gammert-Str. 13a,
63906 Erlenbach, Germany
T.: +49 937294810811
www.maincontor.de,
info@frankhohmann.com

SALES REPRESENTATIVES
China & Asia
octavia@ringier.com.hk,
T. +852-9648-2561
maggieliu@ringiertrade.com,
T. +86-13602785446

Tokyo PR Inc. (Japan)
T. +81 (3) 3273-2731
extrusion@tokyopr.co.jp

www.smart-extrusion.com



14. Euopean Thermoforming Conference
3 -5 March 2026
Strasbourg / France
www.thermoforming-europe.org

SOLIDS & RECYCLING-TECHNIK Dortmund 2026
18 - 19 March 2026
Dortmund / Germany
www.solids-recycling-technik.de

RePlast Eurasia
26 – 28 March 2026
Istanbul / Turkey
www.replasteurasia.com

World of Cables
13 - 17 April 2026
Düsseldorf / Germany
www.wire.de/weltderkabel

CO2-based Fuels and Chemicals Conference 2026
28 - 29 April 2026
Cologne / Germany
https://co2-chemistry.eu/

Plastics Recycling Show Europe
05 - 06 May 2026
Amsterdam / The Netherlands
www.prseventeurope.com

interpack 2026
07 - 13 May 2026
Düsseldorf / Germany
www.interpack.de

Interplas 2026
02 - 04 June 2026
Birmingham / United Kingdom
www.interplasuk.com

Equiplast
02 – 05 June 2026
Barcelona / Spain
www.equiplast.com

PLAST Milan
9 – 12 June 2026
Milan / Italy
www.plastonline.org

AMAPLAST: Appointment in Istanbul with a Lively Market

Plast Eurasia trade fair is scheduled from December 3 to 6

According to estimates by the local trade association PAGEV, in 2024 the production volume of the Turkish plastics processing industry exceeded 10 million tons, with a value of close to 53 billion US$, of which 7 billion was destined for exports. The growth rate of the sector over the last ten years has exceeded that of the national GDP.

Packaging accounts for 40% of production, with domestic demand up six points in the first half of 2025. The second largest application sector for plastics is construction, which is also expected to grow this year at a rate of around +4%.

According to calculations by the Amaplast Study Center - a trade association affiliated with CONFINDUSTRIA that brings together over 170 manufacturers - based on foreign trade data published by ISTAT, in the five-year period 2020-2024, the average growth in Italian exports of machinery, equipment, and molds for plastics and rubber to Turkey was +11%.

This excellent trend confirmed the country's position in the "top ten" destinations for Italian manufacturers' foreign sales, even though the first half of this year saw a sharp slowdown in flows compared to the same period in 2024.

It is worth noting that the majority of Italian supplies to Turkish converters consist of extrusion lines and related downstream equipment, as well as blow molding machines, i.e., high value-added systems, often customized to specific customer requirements.

However, despite the presence of a fairly significant Turkish manufacturing industry, less than a third of local technology demand is met internally and dependence on imports, at least as far as the most sophisticated machinery is concerned (primarily from Germany and Italy), remains high.

In this context, a dozen Italian companies are participating in the national pavilion coordinated for the first time by the trade association, covering an area of over 200 square meters. Numerous other Italian companies will participate independently or, above all, through the stands of their local agents or branches.

Once again, the Turkish exhibition will therefore be a showcase for Italian-made products in the sector, which ranks at the top of the world rankings of the leading countries manufacturing and exporting technology for plastics and rubber.

Furthermore, the Istanbul trade fair will also be an opportunity to present the 20th edition of PLAST-International Triennial Exhibition for the Plastics and Rubber Industry, the historic exhibition organized by Promaplast srl, the service company of Amaplast, which will take place in Milan from June 9 to 12, 2026, to the local and neighboring markets. Information on PLAST will be available at the relevant stand (n. 708B), also in hall 7.

www.amaplast.org
www.plastonline.org

Entire World of Plastics to Meet at the Fakuma in Fall 2026

From left: Annemarie Schur (Fakuma project manager at trade fair organiser P. E. Schall); Dr Friedrich Kastner (Owner of Dr Kastner GmbH and CEO and Managing Partner of NGA, COLLIN and BritAS); Nico Küls (Managing Director of technotrans SE); Andreas Wittur (Member of the management board at trade fair organiser P. E. Schall); Prof. Werner Koch (Managing Partner of Werner Koch Maschinentechnik GmbH); Dr Christoph Schumacher (Director of Global Marketing at Arburg); Bettina Schall (Managing Director of trade fair organiser P. E. Schall); Thomas Rätzsch (Management Board of Aurora Kunststoffe GmbH); Bernd Schäfer (Managing Director of Deifel GmbH & Co. KG Buntfarbenfabrik); Rüdiger Dzuban (Head of Communications and Marketing at ONI-Wärmetrafo GmbH); Susanne Zinckgraf (Head of Strategic Marketing at the Wittmann Group)

Preparations for the 30th Fakuma international trade fair for plastics processing have been launched: together with event promoters P. E. Schall, the trade fair advisory board is gearing up exhibitors and expert visitors for the industry highlight. The anniversary trade fair promises a five-day celebration of the plastics industry in Friedrichshafen on Lake Constance from 12th through 16th of October, 2026. Schall is already reporting impressive floor space occupancy and a high levels of international participation.

The trade fair is regarded around the world as an exceptional meeting place for the plastics processing industry. It's a trailblazing event in the fields of injection moulding technology, extrusion and thermoforming. "The anniversary edition of Fakuma is currently the number one topic within the industry," says Annemarie Schur, Fakuma project manager at trade fair promoters P. E. Schall. "We're delighted with the strong interest and the impressive levels of floor space occupancy we're currently enjoying. Current registration figures provide an excellent basis for everyone involved to once again stage a world-class, vibrant trade fair with an outstanding supplementary programme." New exhibitors are coming on board all the time, says the project manager, and thus Fakuma 2026 will build on the successes achieved in 2023 and 2024, with nearly 1700 exhibitors on hand in Friedrichshafen in each of those years.

"We want to celebrate the 30th Fakuma," assures Bettina Schall, managing director of trade fair promoters P. E. Schall. "Fakuma can look back with pride and look forward to the future with confidence, because it demonstrates practical relevance and innovative strength like no other event." With comprehensive solutions, complete systems and integrated technologies, Fakuma offers major benefits to anyone looking for answers to their everyday operating challenges in plastics processing. "Fakuma started out very small," remembers Professor Werner Koch, managing shareholder of Werner Koch Maschinentechnik GmbH and member of the trade fair advisory board. "I got started at the very first Fakuma in 1981. 39 exhibitors gathered in a single room back then, all of them pioneers. Our company really took off from then on. I received advantageous orders which resulted in long-term business relationships."

"The international trade fair for plastics processing can look back on 30 outstanding industry events with the top players from the plastics industry," says Bettina Schall, summarising the success story. "Our maxim as trade fair promoters, namely 'Trade Fairs Make Markets', applies in particular to Fakuma," emphasises the event organiser. "As a communications and technology platform, it's highly significant for the industry because suppliers and users can talk about specific projects and discuss solutions. Its high levels of practicality and operational relevance are a clear advantage and a distinctive hallmark of Fakuma."

Together with the promoters, the trade fair advisory board kicked off preparations for an exciting, thematically diverse and technically advanced Fakuma 2026 at a work meeting in mid-November. "Fakuma brings the world of plastics to life," notes Dr. Friedrich Kastner, owner of Dr. Kastner GmbH and CEO and managing partner of NGA, COLLIN and BritAS. "Fakuma is a hands-on trade fair in the truest sense of the word. Its holistic approach and integrative solutions for complete systems inspire expert visitors, who receive the special attention they need from the exhibitors. Direct contact with customers and face-to-face problem-solving discussions lead to constructive and lasting business relationships." Furthermore, Fakuma is an event with strong experiential and emotional factors, emphasises Dr. Christoph Schumacher, director of global marketing at Arburg: "Key players in the plastics industry gather at Lake Constance to celebrate their industry festival as a family."

A working trade fair and a hands-on exhibition where practical expertise is transferred from suppliers to users and solutions are discovered, answers are provided and projects are implemented through a mutual exchange of expertise – this is how the anniversary edition of Fakuma will showcase its unique advantages. "Things get done here," sums up Rüdiger Dzuban, head of communications and marketing at ONI-Wärmetrafo GmbH. "A trade fair is really the only way to show what a company can do. This is where expertise is presented. Companies can take the lead here and provide new impetus."

P. E. Schall

www.fakuma-messe.de

President of FIP appointed

Pierre-Jean Leduc

Pierre-Jean Leduc, President of Polyvia and President of DEMGY Group, has been appointed President of FIP, the leading trade show for Plastics, Composites and Rubber, to be held from June 2 to 5, 2026 at Lyon Eurexpo.

As head of DEMGY Group, a leader in high-performance plastics and composites processing, Pierre-Jean Leduc embodies an innovative industrial vision focused on decarbonization, material circularity and technological excellence. At the same time, as President of Polyvia, he represents and unites the French plastics and composites industry, which brings together nearly 4,000 companies, supporting skills development and the sector's competitiveness.

His career and commitment make him a key figure in the French and European plastics industry. A visionary, he has worked for many years to position polymers as key solutions for ecological and industrial transition, whether through lightweighting for all modes of transport, reducing carbon emissions, developing the circular economy, innovating in bio-based materials or inventing new manufacturing processes.

By accepting the role of President of FIP 2026, Pierre-Jean Leduc reaffirms his intention to highlight the expertise and innovations shaping the industry of today and tomorrow. He will contribute his strategic vision while promoting the major themes of the show: decarbonization, circular economy, reindustrialization, industrial sovereignty, training and workforce attractiveness, further strengthening FIP's role as a platform for transformation and a business accelerator.

Pierre-Jean Leduc, President of Polyvia and DEMGY Group: "Plastics and composites play a key role in France's industrial and environmental future. With FIP 2026, our goal is to demonstrate that innovation in our materials and processing methods provides concrete answers to the challenges of ecological transition while boosting the competitiveness and appeal of our industry. This edition of FIP perfectly illustrates the strength of our sector, driven by exemplary collaboration between Polyvia, the FIP show and ACDI, uniting innovation, value creation and collective mobilization of all stakeholders."

During the show, he will also take part in institutional meetings with public authorities, reinforcing his role as an ambassador and enabling him to directly convey the concerns and ambitions of manufacturers to political decision-makers.

The FIP Show
www.f-i-p.com

swop is now interpack China –

A New Chapter for a Strong Brand

(Credit: Messe Düsseldorf)

Shanghai World of Packaging (swop) has been part of the interpack alliance for ten years – a fact it now proclaims in its name. With its presence as interpack China, Messe Düsseldorf is strengthening its international brand family and sending a clear message on the importance of the Chinese packaging market.

To mark its anniversary, swop has repositioned itself strategically and will be continuing its success story as interpack China. The new brand identity was unveiled at the opening ceremony of this year's event. As interpack China, the trade fair is gaining ever more international importance – fuelled by the trust and innovative strength that interpack stands for worldwide.

"The interpack alliance is synonymous with quality, reliability and strong partnerships across the globe. interpack China highlights this connection and instantly adds recognition value," says Thomas Dohse, Director of interpack and interpack alliance. "As part of a global brand, interpack China brings together international and Chinese companies, granting exhibitors direct access to one of the most exciting and rapidly-growing packaging markets in the world."

The new name also strengthens the close co-operation maintained by Messe Düsseldorf (Shanghai) Co., Ltd. and Adsale Exhibition Services Ltd. with the global packaging industry. As joint organisers, the two companies will continue to host interpack China.

"This is more than just a new name. interpack China represents our even closer connection to the global pack-

aging ecosystem and our aim to bring international perspectives to the Chinese market," says Evian Gu, General Manager of Messe Düsseldorf Shanghai. "In future, we will be working even more intensively with partners from all over the world to develop potential in the areas of intelligent production and innovative materials together and to foster talent for the future of the packaging industry."

China's importance for the processing and packaging industry is tremendous. The country is not only a key player; in many ways it is also intertwined with the global packaging industry. As the "workbench of the world", China has enormous industrial manufacturing power and therefore a strong, integrated packaging industry.

Its high production density creates extensive demand for packaging materials and machines. From cardboard packaging and films to complex filling and labelling solutions, the packaging sector is growing in step with industrial production. At the same time, China is developing into one of the largest consumer markets in the world. A growing middle class and the boom in e-commerce are continuing to drive demand for safe, sustainable and intelligent packaging solutions.

The first interpack China will take place from 16-18 November 2026.

Messe Düsseldorf GmbH
www.interpack.de/en/interpack_alliance/swop_-_Shanghai_World_of_Packaging

AI Innovation Hub Showcases Latest Innovations at Plastics Recycling Show Europe 2026

Artificial intelligence will take centre stage at the Plastics Recycling Show Europe exhibition and conference at RAI Amsterdam on 5-6 May 2026. A dedicated AI Innovation Hub will showcase the latest AI-driven solutions in plastics recycling in an immersive experience, guiding visitors across the full value chain from feedstock and product design to collection, processing and material sourcing. Live demonstrations will include swarm-robot sorting technology from Antfarm and a phone-based AI material analysis solution from Safi.

The AI Innovation Hub will showcase the latest AI innovations in plastics recycling at PRSE 2026 (Photo from PRSE 2025)

Swarm Sorting Demonstration

Antfarm will showcase a major step forward in robotic waste sorting technology with its Swarm Alpha fleet of 6-10 robots that sort real-world waste streams including bottles, cans, and cartons.

Also launched at PRS Europe will be Antfarm Beta, a next-generation system designed to sort up to 10 times faster than Alpha. Antfarm Beta introduces a fundamentally different approach, with robots picking individual objects and placing them into onboard bins until full, enabling dramatically higher throughput.

The demonstration will also highlight Antfarm's real-time vision system powered by advanced AI models, enabling accurate material recognition as sorting happens. A live dashboard will provide clear insights into system performance, including material types sorted, picks per minute, and revenue metrics.

SébastienWillems,Co-founder&CEO, Antfarm said: "Compared to 2025, this year's demonstration represents a major step change in both the range of materials that can be handled and the overall picking speed, underlining rapid progress in system throughput and maturity. Visitors will be amazed by how far our swarm has come."

Phone-based AI Material Analysis Demonstration

Declan Clancy, Head of Product at Safi has outlined how visitors will be able to interact with its latest AI innovation: "You will be able to use AI on a phone to analyse a typical bale of recycled PET material. You will be able to see the AI working live and try it for yourself."

AI is revolutionising recycling by streamlining material selection, product design, and collection routes. It improves sorting accuracy, reduces manual labour, and optimises facility performance to cut costs and environmental impact. AI platforms connect recyclers with processors, optimise pricing, and support data-driven decisions, while blockchain ensures full traceability and transparency.

Visit the PRS Europe website to register to attend the exhibition and conference. Registration is free until 5 April 2026 and will be charged at €50 thereafter

www.prseventeurope.com/prse2026/en/page/visitor-registration

Equiplast 2026

Equiplast 2026 will lead the transformation towards a circular economy in the plastics and rubber industry, with an edition set to drive innovation in materials and processes, recycling and digitalisation. Currently, the trade show organised by Fira de Barcelona is close to being fully booked, with 95% of the planned exhibition space already reserved. It will bring together more than 400 exhibitors from 16 countries, a 12% increase compared to its previous edition, consolidating its position as the leading trade fair for the sector in the Iberian market and one of the most important in southern Europe.

From 2 to 5 June, Equiplast will open its doors at Fira de Barcelona's Gran Via venue, alongside Expoquimia, the leading meeting point for the chemical and process industries. Together, the two trade shows are expected to bring together an offering of more than 800 exhibitors and attract around 21,000 professionals. The plastics and chemical industries are working hand in hand to develop more sustainable and innovative materials and processes, driving the circular economy and delivering value across multiple sectors.

In this context, Bernd Roegele, President of the Organising Committee, highlights: "The plastics industry is facing decisive challenges in terms of sustainability and competitiveness. Equiplast will be the showcase where the sector demonstrates how it is transforming its processes to move towards a circular economy, incorporating innovation and technology for the benefit of society and the environment."

Greater offering and international reach

Equiplast 2026 continues to grow in both the number of companies and its international profile and will occupy Hall 3 at the Gran Via venue. In addition to Spain, the countries contributing the highest number of exhibitors include China, Germany, Italy, Portugal, Austria, Turkey, France and the Netherlands, among others. Almost one third of Equiplast's commercial offering will come from abroad.

Xavier Pascual, Director of the trade show, explains: "We are building an edition that will mark a turning point. Growth in exhibitors and exhibition space, together with internationalisation and the high quality of the event programme, reinforces Equiplast as the most relevant business platform for the plastics and rubber industry in Spain and southern Europe."

The most strongly represented sectors to date include machinery, equipment and automation systems; raw materials and additives; peripherals, parts and components; moulds and dies; and environment and recycling, the latter showing significant growth compared to the 2023 edition. Companies specialising in hardware and software, measurement, control and automation, semi-finished and finished products, as well as subcontracting and services, are also taking part.

Opening up new markets

At the same time, Equiplast will roll out an invited buyers programme designed to attract distributors and decision-makers from six strategic markets for the Spanish plastics industry: Mexico, Turkey, Morocco, Algeria, Colombia and Guatemala.

The initiative aims to generate tangible business opportunities by selecting buyers with specific projects from these countries. Mexico stands out for its export-driven growth in plastics-consuming sectors such as automotive, packaging and electronics; Turkey is undergoing a post-crisis recovery with renewed investment in industrial machinery; Morocco and Algeria offer opportunities in automotive, agri-food and industrial diversification; while Colombia and Guatemala are emerging markets with strong export potential.

In addition, Equiplast will be promoted in the European countries that traditionally contribute the highest number of visitors to the show, with the aim of increasing the international share of attendees to over 13% of the total.

Rethinking plastics

One of the main new features of Equiplast 2026 is the revamped Rethinking Plastics space, conceived as a knowledge and networking platform that promotes a positive vision of plastics within the circular economy. It will include conferences, round tables and case study presentations, an exhibition of solutions made from sustainable plastics, and a sector-focused communication area.

Its programme of activities will address four key thematic areas: sustainability and the circular economy; recycling technologies; advanced materials and applications; and digitalisation and competitiveness. In addition, dedicated sessions will be held on topics such as biopolymers and biodegradability, chemical recycling of composites, energy efficiency, Industry 4.0 applied to plastics, regulation and industrial scraps, among others. The programme will also feature presentations of landmark projects showcasing the use of circular plastics in sectors such as packaging, automotive and healthcare.

www.equiplast.com
www.firabarcelona.com

Anniversary Celebrated

European Bioplastics concludes its 20th edition of the European Bioplastics Conference – two days of insightful presentations, panel discussions, networking, and market data analysis.

More than 320 participants gathered in Berlin and online to attend the 20th edition of the European Bioplastics Conference, EBC25. The conference took place in parallel with the launch of the new Bioeconomy Strategy and served as a platform to discuss policy, innovation pathways and research findings shaping the future of Europe's sustainable materials.

In their welcome address, Mariagiovanna Vetere and Franz Kraus, Co-Chairs of EUBP, welcomed the renewed Bioeconomy strategy and emphasized the importance of collaboration to advance the industry and expand its global outlook.

"It has been an important year for all of us, ending with the good news of the bioeconomy strategy launched in parallel with this conference. This represents a significant step forward in recognising the value of biobased, biodegradable, and compostable plastics," said Mariagiovanna. "The only way to move forward is by staying united," concluded Franz Kraus.

In her keynote address, Lorenza Romanese, Secretary General of European Bioplastics also emphasised the crucial need for alignment and active participation across the sector. "Alignment is speed. Alignment is strength. And alignment is the only way to reach the bottom of this challenging slope called Europe's bioeconomy transition. Alignment transforms energy into movement. In our sector, alignment is what will transform potential into results."

This year's programme featured a wide range of presentations, a panel discussion and bioplastics market overviews worldwide, covering topics such as the EU policy landscape, mass balance, biodegradability and biobased solutions, compostables and technical innovations.

The market data session confirmed that global biobased plastics production capacity continues to grow steadily. While significant potential remains for scaling and innovation, the new data highlights encouraging momentum for the industry.

A special panel marking 20 years of the European Bioplastics Conference reflected on the event's evolution and its pivotal role in shaping industry dialogue. Panellists noted that the first conference took place in Brussels, driven by the excitement around early bioplastics innovation, and expressed pride in seeing how the event has grown, matured, and continued to evolve over two decades.

This year, the conference featured 48 speakers, including leading experts, researchers, and industry stakeholders. Additionally, 47 companies, researchers and institutions showcased a high diversity of new products, materials, applications, and findings at the conference exhibition.

The next chapter of the European Bioplastics Conference, EBC26, is already underway: 1-2 December 2026.

European Bioplastics (EUBP)
www.european-bioplastics.org

Successful Triple

Finnish circular-economy pioneer Syklo Oy is relying on the expertise of Leistritz Extrusionstechnik to expand ist recycling capacities. The Nuremberg-based compounding specialist is supplying three cacade extrusion lines that significantly increase the efficiency of recycling HDPE, PP and LDPE from post-consumer waste streams and can boost Finland's plastics recycling capacity by up to 50%. In close collaboratin with technology partner NGR – Next Generation Recyclingmachinen, state-of-the-art systems are being created that set new standards in energy efficiency and material quality. At the new Circular Economy Hub in Hyvinkää, the three recycling extrusion lines process mixed post-consumer plastics from household and commercial waste.

At the heart of each line is the Leistritz ZSE twin-screw extuder with MAXX technology. In combination with NGR's C-GRAN cutter-compacter-extruder solution, the material is first compressed and homogenized before being compounded and refined using Leistritz's twin-screw technology.

„With the EU Packaging and Packaging Waste Regulation (PPWR) coming into force in August 2026, the requirements for plastic packaging are rising significantly – from mandatory recycled content to extended producer responsibility and stricter material specifications. For us, this means that recycling must become more efficient, more precise and even more sustainable. At the same time, recycled products must meet substantially higher quality demands," explains Teemu Koskela, CEO of Syklo.

„Thanks to Leistritz's innovative twin-screw technology and decades of expertise, we can now reliably meet these challenges. With Leistritz as our partner, we are fully prepared for the upcoming regulatory requirements and can offer our customers high-quality, color sorted and sustainable recyclates," says Teemu Koskela. He adds: „Another unique feature of our new Circular Economy Hub is the fully closed water loop on site: the wastewater will be distilled and reused in the recycling process. The separated sludge containing microplastics will be dried, preventing the release of any microplastics into water bodies."

Three expert companies – one goal: superior recyclate quality: Roberto Freire Matteucci, Daniel Nagl (Leistritz), Teemu Koskela (Syklo Oy), Josef Hochreiter, Stefan Lehner (NGR) (Pictures ©Leistritz)

High–quality, efficient, precise, sustainable

In the first stage of the recycling process, the material is optimally prepared fort he subsequent upcycling step in the Leistritz twin-screw extruder. This second compounding stage is crucial, as targeted additive dosing produces high-quality recyclates that can be used in demanding plastic products – such as PO films. Thanks to high-performance devolatilization, volatile impurities are effectively removed, which is essential for applications with high purity requirements.

Optimum melt quality, process reliability and high-quality recyclates even with fluctuating feedstock: Leistritz Inline Elongational Rheometer

Expertise driving the circular economy

The project exemplifies successful strategies for a sustainable future: high-quality recyclates with stable mechanical properties can be produced – tailored to the needs of a circular plastics industry.

The combination of recycling and compounding demonstrates how premium recyclates can be created even from highly variable feedstock qualities. As a result, stringent requirements for purity and mechanical stability can be met, for example for PO films or high-quality injection-molded components.

Syklo Group
www.syklo.com

Leistritz Extrusionstechnik GmbH
https://extruders.leistritz.com/en/start

33rd International Colloquium Plastics Technology in Aachen –

Innovation, Circular Economy and Practice-Oriented Knowledge Transfer in Focus

In times of economic uncertainty and global upheaval, it becomes evident how crucial innovation, new ideas and technological solutions are in actively shaping change. In 2026, the IKV once again invites participants to the International Colloquium Plastics Technology, offering a forum in which research and industry can jointly develop new pathways. The two-day colloquium will take place on 4 and 5 March 2026 in Aachen.

Focus on recycling and the circular economy

A key theme of the colloquium is the recycling of technical plastics and packaging – a cornerstone of sustainable value creation, resource conservation and the development of circular-ready products. Renowned experts from academia and industry will cover topics ranging from fundamental research to industrial application.

Expanded programme and new sessions

The 2026 colloquium offers a particularly diverse programme. Five keynote lectures, together with 16 parallel thematic sessions – each featuring three individual presentations – give participants the opportunity to create a customised agenda. While the thematic sessions address specific specialist topics and detailed questions for experts, the keynote lectures provide overarching perspectives and clearly convey the most important developments in the plastics sector in an accessible manner.

IKV 360° – Experience research live

Visitors will be able to experience IKV's laboratories and technical centres firsthand. More than 80 experimental stations and posters will demonstrate ongoing research projects and enable direct exchange with the scientists and engineers.

Industry trade show and networking

The accompanying industry exhibition, spanning around 400 square metres, will showcase the entire value chain of plastics engineering. It offers the ideal platform to initiate collaborations, discover new technologies and jointly shape the future of the industry. The opening of the exhibition on the evening before the event invites attendees to network and exchange ideas.

Awards and support for young talent

As in previous years, the Georg Menges Prize and the Reifenhäuser Sponsorship Award will be presented in 2026 during the colloquium. The Recruiting Speed Dating event will enable students and graduates to make direct contact with companies from the plastics industry – and offer companies the opportunity to find suitable candidates for internships, dissertations and entry-level positions.

IKV, the Institute of Plastics Processing
at RWTH Aachen University
www.ikv-colloquium.com
www.ikv-aachen.com

Women in Plastics Italy Celebrates its First Year of Activity

Women in Plastics Italy (WIPS-It) celebrated its first year of activity with the Annual Meeting held on 28 November in Desenzano del Garda, an event that brought together members, companies, professionals, and institutions to take stock of the association's first twelve months and share visions and new goals. The event was well attended, confirming the inclusive nature of WIPS-It: not only women, but also numerous men and companies took part in the day, demonstrating a collective commitment to a more equitable, open, and collaborative culture within the rubber and plastics industry.

Founded in October 2024, Women in Plastics Italy promotes the enhancement of female talent and an inclusive and sustainable culture within the plastics industry. The association now has 160 members and offers training courses, networking opportunities, collaborations with the academic world, and communication campaigns to spread an informed and responsible image of plastics and their role in society.

The 2025 Annual Meeting featured a packed program of presentations and discussions. The association reviewed its growth and focused on some of the activities carried out in its first year, also previewing some of the upcoming events for 2026, including workshops, training sessions, and opportunities for personal growth.

The institutional address by Hon. Martina Semenzato, President of the Parliamentary Committee of Inquiry on Feminicide, offered a significant contribution on gender equality and social responsibility, highlighting the importance of women's work and economic independence as essential tools to counter all forms of violence. The morning continued with an in-depth discussion on the gender gap and awareness as a lever for change.

In the afternoon, the focus shifted to the progress of the new WIPS-IT website on the topic of professional relocation. An additional panel dedicated to paths toward equality provided concrete examples from the business world, while the session dedicated to dialogue with young people and the academic world opened up perspectives on new training and collaborative projects. The day ended with a moment of synthesis, emotions, and final farewells.

Alongside the formal content, great importance was given to networking opportunities, which were a central element of the meeting. While lunch was an opportunity to symbolically celebrate the association's first birthday, informal exchanges were, as always, fundamental in fostering new relationships, sharing experiences, and building an increasingly solid network.

Registration for 2026 is now officially open

Individuals – both women and men – as well as companies, associations, and legal entities can join the association as supporting or associate members who wish to support the mission of WIPS-It.

All members are committed to promoting a culture of sustainability in order to spread a positive image of plastic, emphasizing its essentiality and value, and to creating an inclusive and respectful work environment that guarantees equal opportunities for all.

Women in Plastics Italy (WIPS-It)
info@wips-italy.it

Change in Management

Starting January 1, 2026, Stefan Moll took over the management of Mahlo GmbH + Co. KG, the world's leading provider of measurement and control technology for web-shaped materials. With this move, Mahlo is focusing on the long-term safeguarding of its market position and technological leadership. The current CEO, Rainer Mestermann, will leave the company after 14 years as part of a planned succession arrangement.

"Stefan Moll is an excellent choice as the new CEO for our traditional company," says Mahlo owner Ralph Greenwood-Mahlo. "We look forward to his expertise, fresh ideas, and perspectives."

Moll brings extensive experience in managing global machinery and plant engineering companies. In addition to international corporations, the new CEO is also familiar with the structures and characteristics of larger medium-sized family businesses.

With this change at the top, Mahlo is setting the course for sustainable growth and technological advancement. Stefan Moll will continue the chosen innovation path together with the management team and further strengthen the international market position of this traditional company.

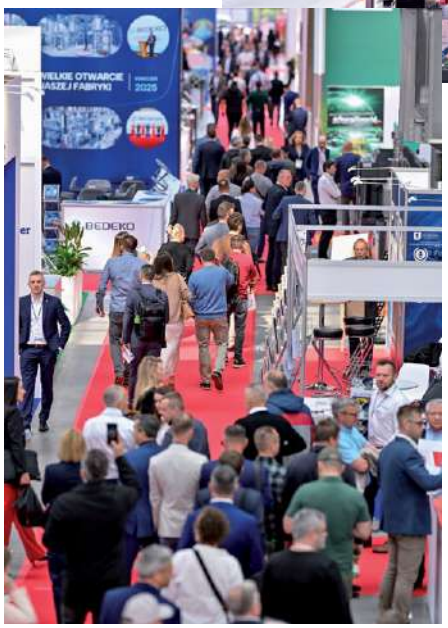
Stefan Moll

Mahlo GmbH + Co. KG
www.mahlo.com

Plastpol 2026 – *World-Scale Brands meet again in Poland*

The Kielce International Fair of Plastics and Rubber Processing has been one of the most important industry events in Europe for three decades; the expo continues to gain importance in the global market. The 30th expo from 19 to 22 May 2026 promises to be even more international. Companies and specialists from many parts of the world come to Poland's Plastpol.

Plastpol has come a long way – from a local exhibition in the 1990s to one of the most important technological and business platforms in Europe, which now brings together about 600 companies from over 30 countries, including Germany, Austria, Italy, Turkey, China, India, Saudi Arabia and the United States. Visitors from 50 countries of Europe, North America, the Middle East and Asia recognise Plastpol as a key point on the map of industry events.



The Plastpol trade fair is famous for presenting solutions from global industry leaders – from manufacturers of machinery and automated processing lines, to raw material suppliers, recycling companies, and entities servicing international supply chains.

In May 2026, companies from Europe, Asia, North America, and the Arab world will showcase innovative injection moulding, extrusion, and blow moulding machines, recycling lines and automation systems, automated production stations, and process support robots. Raw materials play an essential role: granulates, regranulates, dyes, and additives.

Poland's Plastpol trade fair is where business meets technology, and conversations translate into concrete actions. The 2025 expo witnessed contract signings for the purchase of injection moulding machines, recycling lines and raw materials. Demonstrations of machines working live played a special role in the decision-making process – manufacturers present the technology in conditions close to industrial ones for thorough assessment of performance and implementation.

The most cutting-edge technologies and products are recognised with prestigious prizes; the Targi Kielce Gold Medals are awarded during the gala Platinum Plast. The competition jury panel, composed of experts, awards innovative technologies that address global market challenges, such as automation, energy efficiency, and recycling.

The OMNIPLAST competition, which promotes specialist knowledge and competences in the industry, is an integral part of Plaspol; the Tworzywa.pl website is a co-organiser of the competition.

Targi Kielce (Poland)
plastpol.com

Presence in Southern Europe Strengthened

K.D. Feddersen Distribution is establishing a new subsidiary in Portugal, K.D. Feddersen Unipessoal, Lda. This strategic move underscores the plastics distributor's commitment to accelerating its European growth and expanding its market presence in Southern Europe.

With the opening of the new branch, the company is pursuing its goal of creating even greater customer proximity in the region with optimal local services. Customers in Portugal will benefit from K.D. Feddersen Distribution's comprehensive portfolio of high-quality engineering plastics, which is now available locally. An experienced local sales team will provide the customers in Portugal with expert local advice and address the specific needs of the Portuguese market.

The product portfolio of K.D. Feddersen Unipessoal, Lda includes high-quality engineering plastics from the renowned partners Celanese, Ascend, Trinseo, Teijin, Hyosung, Aurora, Skytech and BIO-FED, supplemented by the special application development services offered by our sister company M.TEC ENGINEERING GmbH.

To further strengthen logistics and delivery capabilities, K.D. Feddersen plans to set up a warehouse in the Porto metropolitan area. This will ensure faster product availability, higher service levels and flexible delivery within Portugal.

Pedro Aires, Country Manager Portugal (left) and Dr. Stephan Schnell (right), Managing Director look forward to a successful collaboration

This expansion marks an important milestone for the Feddersen Group and consolidates its position as a reliable partner for innovative material solutions in Europe.

K.D. Feddersen GmbH & Co. KG
www.kdfeddersen.com

Acquisition

The Brückner Group continues to pursue its growth strategy with the acquisition of the Hennecke GROUP, which will expand the company's global portfolio to include key

technologies for machines, plants, and systems used in the processing of polyurethane (PUR). These technologies are the perfect complement to the existing range of services and products and will provide access to new markets. As a global market leader with expertise in the field of reactive plastics, Hennecke brings additional material-based, high-tech solutions to the Group. This technology is suitable for use in many industries like construction, furniture, and refrigeration and creates new diversification potential.

The agreement between the Brückner Group and a fund advised by Capvis AG, Switzerland, as the majority owner of the Hennecke GROUP, was concluded on December 3, 2025.

Hennecke has an international network of sites in Germany, Italy, the US, and China, an industry-leading product portfolio of global, innovative systems and technologies with extraordinary economic and environmental benefits, and an excellent reputation in the plastics industry – especially outside of the packaging sector. This will ultimately allow the Brückner Group to tap into new product segments and reinforce its global base of expertise.

Dr. Axel von Wiedersperg, CEO of the Brückner Group: "With Hennecke, we've gained a highly specialized addition to our portfolio. Acquiring another market leader in technology enhances the Brückner Group's product range in a sensible way and provides Hennecke with access to innovation power and a global presence."

Thomas Wildt, CEO oft he Hennecke Group: "The merger will not only result in bundled technological expertise and a global market presence, but also allow us to form the basis for expanding our position in the international PUR market. This step represents a natural progression of our Hennecke Business System and the FOCUS2030 strategy for sustainable growth. Working with the Brückner Group, we'll be able to capitalize on innovation and growth potential much faster in the future."

Brückner Group SE
www.brueckner.com

SOLRESS Drives Safe and Sustainable Bio-Based Solvents from Second-Generation Resources

AIMPLAS is coordinating this project, which will produce five industrial solvents from post-consumer coffee grounds and lignocellulosic feedstocks. They will be tested in sectors such as paints and coatings, cosmetics, and industrial material processing.

The SOLRESS project officially kicked off on September 10-11, 2025 in Valencia, Spain, marking a major step toward the development of safer, sustainable, and high-performance bio-based solvents for European Industries. Funded by the Circular Bio-based Europe Joint Undertaking (CBE JU) with a contribution of €7 million under a total budget of €9.1 million, the project will run for 48 months under the coordination of AIMPLAS, Plastics Technology Centre.

SOLRESS aims to develop an integrated biorefinery system to produce five key industrial solvents -ethyl acetate, ethyl lactate, butyl acetate, 2-MeTHF, and GVL – from second-generation biomass waste, including post-consumer coffee grounds and lignocellulosic feedstocks. Designed to meet industrial purity standards, these bio-based solvents will be tested in sectors such as paints and coatings, cosmetics and industrial material processing.

The project's ambition is threefold:

• to replace the use of fossil, non-renewable raw material with sustainable bio-based feedstocks for key solvents;

• to provide Safe-and-sustainable-by-design (SSbD) alternatives to controversial solvents associated with high hazard and toxicity;

• to enhance the competitiveness and sustainability along the entire value chain.

Through the collaboration of leading industrial, research and innovation actors, SOLRESS will demonstrate how bio-based solvents can strengthen Europe's industrial resilience, reduce environmental impacts and create new opportunities across the chemical sector.

A multi-stakeholders project

SOLRESS is a collaborative project that unites expertise and innovation, bringing together 17 partners under the coordination of AIMPLAS: Bio Base Europe Pilot Plant, Bioeconomy for Change, StoraEnso, Kaffe Bueno, Solmeyea, Ghent University, HydroHM, the Agricultural University of Athens, Kansai Altan, TFC, Perseo Biotechnology, IVL Swedish Environmental Research Institute, CSIC, Dermopartners, Celignis and Galactic.

AIMPLAS
www.aimplas.es

Further Investment in UK Blow Moulding Announced

Nexus Packaging announced the next phase of development at the stateof-the-art factory in Glasgow. The 57.000 sq. ft. facility, completed in 2024, is home to nine all-electric Magie blow moulding machines. These are supported by the very latest compressors, chillers, blending systems and solar panels, forming one of Europe's most efficient and technologically advanced blow moulding operations. The company is now expanding further with an additional 20,000 sq. ft. of storage space and the installation of four new machines. These will focus on custom products, increasing the speed, flexibility, and ability to meet bespoke client needs.

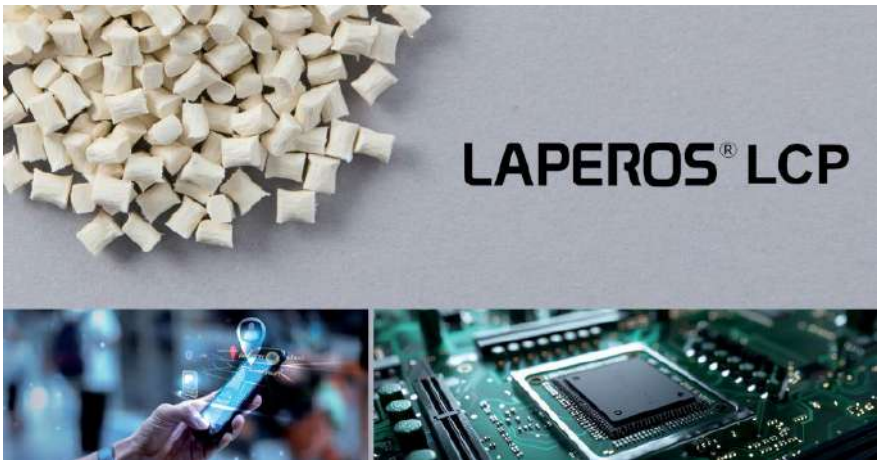
This expansion reinforces the ongoing commitment to developing the next generation of UK blow moulders. Alongside the latest technology, Nexus Packaging is building a team that combines the energy of young technicians and engineers with the wisdom of seasoned moulders, many of whom have returned from the original 1990s facility to help shape this new chapter.

Chris Wagner, Director - Nexus Packaging: "Over the last 25 years, a lack of investment in people and machinery has

shifted much industrial blow moulding production overseas. At Nexus, we're working hard to reverse that trend to bringjobs, innovation and pride back to British manufacturing."

Nexus Packaging
www.nexuspackaging.co.uk

Expansion



Polyplastics Group, a global leader in engineering thermoplastics, has expanded its LAPEROS® liquid crystal polymer (LCP) product line with the launch of the new LH and TF series materials which meet the electronics market's growing demand for higher performance and miniaturization.

These new LCP series grades will accelerate expansion into a broader range of applications and next-generation product development through two distinct approaches: versatility in meeting diverse design needs and high flowability.

The LH series has very well-balanced performance, combining flowability, mechanical properties, and heat resistance. The materials' adaptability allows them to accommodate a broad range of product designs, making them suitable for various electronic component applications.

The TF series is engineered for exceptional fluidity for better molding of complex geometries found in smartphones and precision electronic components. While maximizing flowability, the TF series also maintains excellent mechanical properties and a flexible molding window, providing materials that support miniaturization and high-density integration in electronic devices.

Polyplastics is leveraging Materials Informatics methods that utilize AI and data analysis to streamline materials development. By analyzing extensive material data accumulated over many years, the company derives optimal properties, enabling shorter development cycles and highly precise designs.

Produced in the Japan and Taiwan region, LAPEROS® LCP has an annual production capacity of 20,000 tons and holds a 34% share of the global market (according to Fuji Keizai 2025 report). The high-performance material has long supported advancements in the electronic components sector.

LAPEROS® LCP's exceptional properties, including mechanical strength, heat resistance, and coefficient of linear thermal expansion, are driving its adoption in next-generation, high-speed transmission uses, such as ultra-thin, fine-pitch connectors for smartphones and tablet devices.

Polyplastics Co., Ltd.
www.polyplastics.com

New Managing Director Appointed

The Meraxis Group has appointed Christophe Cario as Managing Director of Fournier Polymers. Since January 1, 2026, the experienced manager has taken the lead of the distribution company, which has been part of the Meraxis Group since 2023. Fournier is one of the leading distributors of standard and technical polymers and additives in Europe and North Africa. With this new appointment, Meraxis is consistently continuing to expand its presence in these markets and strengthening its product portfolio.

"Christophe brings exactly the right mix of market understanding, strategic vision, and technical expertise that we need for the next step for Fournier Polymers," said Dr. Stefan Girschik, CEO of the Meraxis Group. "With his experience in developing customer-oriented offerings and building international markets, we will further sharpen Fournier Polymers' profile as part of Meraxis. Our customers will benefit from a broader portfolio, which Fournier enriches primarily with technical polymers. At the same time, they will receive the full service that Meraxis offers."

"Meraxis stands for a broad range of products and services combined with application-oriented consulting, global logistics, and stable availability," says Christophe Cario. "I am very much looking forward to supporting the further development of the company and the entire group as Managing Director of Fournier."

Christophe Cario

Meraxis Group
www.meraxis-group.com

Expanded Hungarian Facility Opened

Gabriel-Chemie Group announced the successful completion and official opening of ist major expansion project at the Hungarian procuction side. With a total investment of around € 6.5 million, the company is sending a strong signal for growht, sustainability, and the long-term competitiveness of the Group.

Established in Hugary with ist own subsidiary since 2003, Gabriel-Chemie is further strengthening ist position as a rliable partner in the market with this investment. The modernized production facility ensures long-term success and continued growth fort he entire Group while reaffirming the company's commetment to the Nyíregyháza site.

The expansion has significantly increased the usable space across all areas.

Production capacities have also been substantially enhanced. The number of production lines can now be increased from 10 to up to 19, enabling an annual production volume of up to 2,500 tonnes in the future.

Beyond the building expansion, investments were also made in modern, energy-efficient technology, including a new cooling water system, a dust extraction system with fresh air supply, the transition to an air-source heat pump, and the installation of air conditioning in all offices.

A particular highlight is the planned photovoltaic system with around 250 kWp, which will make a significant contribution to sustainable energy supply in the future. With this, Gabriel-Chemie Group now operates its third site equipped with a photovoltaic system.

"With the completion of this expansion, we have not only significantly increased our capacities but also laid the foundation for the sustainable and future-oriented development of Gabriel-Chemie Group," explains Andreas Berger, Chief Commercial & Operating Officer.

Gabriel-Chemie Gesellschaft m.b.H.
www.gabriel-chemie.com

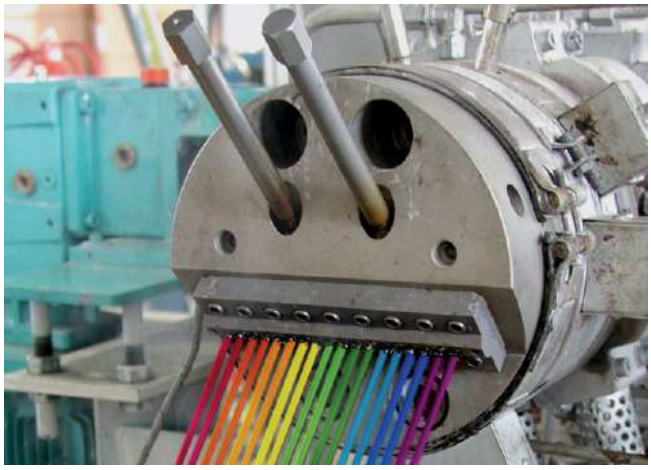
Quality Assurance in the Colouring of Recycled Plastics

Recyclates pose an enormous challenge when it comes to colouring plastic products. The SKZ Plastics Centre has responded to the demands of the industry by creating a course that teaches the basics and provides solutions.

Colouring plastics is considered challenging even with new materials – process parameters, materials and colourants must interact perfectly. However, in order to achieve precise colouring, e.g. due to OEM specifications or for corporate identity reasons, it is extremely important to be able to match colours accurately and consistently. With increasing requirements regarding the circular economy, the use of recycled plastics is also becoming increasingly important. This means that the challenge is growing: despite fluctuating material quality, foreign polymers and colour deviations in the input material, the visual and functional quality of the products must not suffer. To support companies in this demanding task, the SKZ Plastics Centre offers the continuing education course Quality Assurance in the Colouring of Recycled Plastics. Participants gain practical insights into current processes, tools and control techniques that enable stable colour quality even with fluctuating material properties of the recyclates. The course content includes:

- Current challenges in material and colour sorting
- The problem of black plastics and new approaches to solving it
- Colourants for the circular economy (e.g. alternatives to carbon black, masterbatch based on recycled materials)
- Modern measurement and control technology for process-oriented colour control and foreign material detection
- Ecological aspects of recyclate use

Practical demonstrations and video examples make the content tangible: participants experience measurement systems for colour prediction, material determination and automatic colour adjustment live in action, enabling them to efficiently transfer what they have learned into industrial practice.



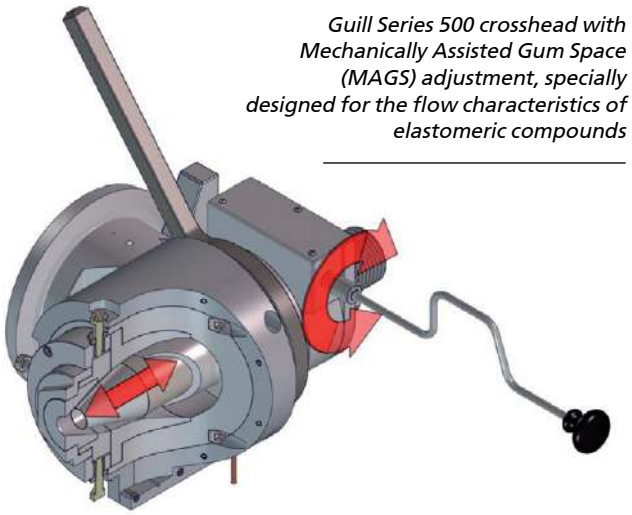
Extruder with different colour strands (fictitious) (Photo: SKZ)

„A fully circular economy can only succeed if the quality characteristics of plastic moulded parts are not compromised. This requires competent specialists who are able to accurately assess the technical possibilities and limitations. Our course offers concrete methods for this and presents practical solutions," emphasises Christoph Kreutz, expert trainer at the SKZ Quality Management Training Centre.

SKZ Plastics Centre
Christoph Kreutz
c.kreutz@skz.de

New 500 Series Rubber / Silicone Extrusion Crosshead

Guill Tool introduces the NEW 500 Series crosshead with MAGS gum space adjustment. The 500 Series is designed specifically for the flow characteristics and unique processing challenges of elastomeric compounds. One of the key features engineered by Guill on this new crosshead design is the mechanically assisted gum space (MAGS) adjustment system. This new method of gum space adjustment allows the operator to make an effortless adjustment from a single point using a common socket wrench. No more need to struggle with multiple nuts and bolts in order to adjust gum space, which leads to faster adjustments. The visual indicator on the core tube allows the operator to see how far the gum space has been moved, making those adjustments much more accurate and repeatable.



Guill Series 500 crosshead with Mechanically Assisted Gum Space (MAGS) adjustment, specially designed for the flow characteristics of elastomeric compounds

The hardware-free and patented cam lock design of the new 500 Series from Guill means no time is wasted unbolting and re-securing fasteners for disassembly and re-assembly. Only half of a rotation of the cam nut is required to loosen and automatically extract the deflector from the head body, which is another time saver. Also, with no un-

dercuts on the deflector, there are no material hang-ups when extracting the deflector, allowing for faster and easier cleaning and changeover.

The new 500 Series also features the latest Center-Stage concentricity adjustment system that significantly reduces pressure on the tooling, allowing easier and more precise concentricity adjustments without loosening the face bolts. Easy-Out inserts for the adjusting bolts also allow simple replacement of locked or damaged adjusting bolts, which further saves on repair and downtime.

Another innovative feature of this new rubber/silicone crosshead is a cast aluminum liquid-fed cooling sleeve that allows the user to switch out the cooling jacket in the event of a line obstruction, again reducing downtime compared to traditional integrated cooling systems.

The new 500 Series crosshead with MAGS gum space adjustment is a drop-in replacement on most existing NRM lines, however this crosshead design can also be adapted to fit any extruder design or line layout.

The addition of a newly designed flow inlet channel reduces the shear and heat that is generated as the materials are being processed. This leads to lower head pressures allowing the material to move through the head in a much more balanced and even flow.

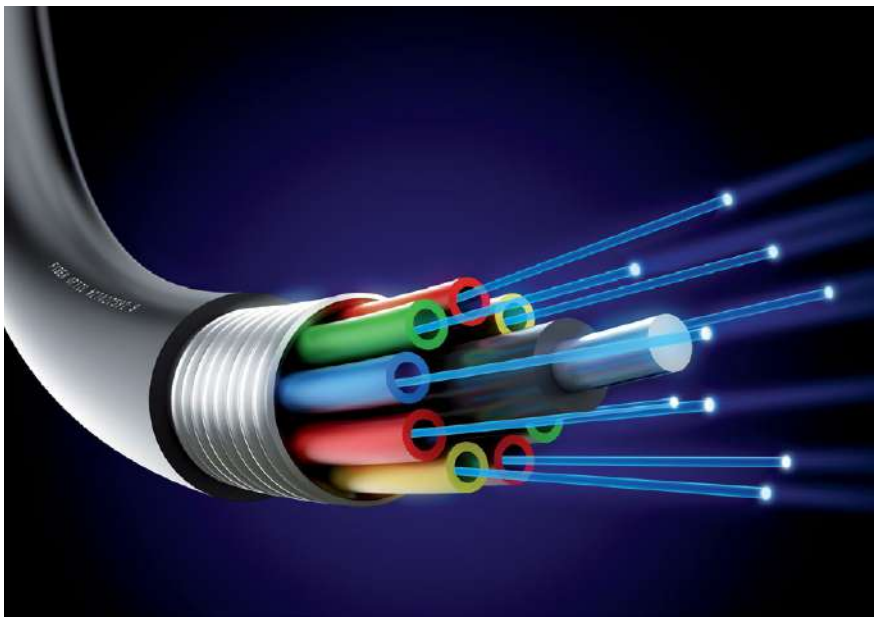
All crossheads supplied by Guill are furnished with a tool kit for assembly and disassembly as well as a detailed operator's instruction manual. The engineering team at Guill will gladly assist users in the implementation and operation of the new 500 series crosshead.

For a video of the new Guill 500 Series crosshead with MAGS gum space adjustment:

https://youtu.be/jeNovmMtcBs

Single–Point Concentricity Extrusion Tooling

Guill Tool & Engineering introduces a new single-point concentricity extrusion crosshead that uses micro-fine adjustment screws for precise concentricity adjustment. The precision of concentricity reaches 0.008" or finer per revolution. This single point concentricity adjustment is a unique Guill innovation for the extrusion of thin-walled jacketing and precision ID/OD tubing. One adjustment bolt controls 360° of adjustment.



Features of the single-point crosshead include a patented cam-lock deflector for quick changeovers, with a residence time of one minute at .5 lb/hr material flow, optimized usage with extruders measuring ½" and ¾", and a max die ID of .250."

Additionally, the Guill single-point crosshead offers great flexibility to its users. It not only accepts both vacuum and micro-air accessories, but is also ideal for pressure and sleeving applications. Fluoropolymer designs are available upon request.

For more information, please contact:

Guill Tool & Engineering Co., Inc.
Tom Baldock, Sales Manager
sales@guill.com
www.guill.com

Improving Properties of Capacitor and Packaging Films

ViviOn is the name of a new family of cyclic block copolymers (CBC), a fully hydrogenated polymer from USI Corporation, which now complements the product portfolio of the German distributor Dreyplas. In addition to high purity, all grades provide low density, high transparency, low water absorption, and a low amount of extractables. Depending on the microstructure, the mechanical properties range from rigid to soft. ViviOn can be used as a separate layer in multilayer films or as a blend partner with PE or PP. The wide range of applications extends from advanced film capacitors to packaging for food and medical devices to biodiagnostics, UVC disinfection, optics, and IC manufacturing.

Higher application temperatures for film capacitors

With a glass transition temperature of 147 °C, low dielectric constant, and low dielectric loss, the new ViviOn 0645 is tailored to the increased thermal requirements of high-performance polypropylene (PP) film capacitors. These use innovative semiconductor materials that enable more efficient and smaller electronic devices in areas such as power electronics, renewable energies, and e-mobility. Since they require more energy to conduct electrons, they operate at higher temperatures, voltages, and frequencies than traditional silicon. Compared to conventional capacitor films made of biaxially oriented polypropylene (BOPP), which have difficulty meeting these requirements, ViviOn 0645 increases the heat resistance and dimensional stability of corresponding capacitors to the required values.

Enhanced barrier effect with metallized films

Thanks to their excellent barrier properties, vacuum-metallized cast films are often used in multilayer packaging. However, the comparatively low stiffness and strength of substrates made of pure PE or PP can cause cracks to form in the ultra-thin metal layer applied to them when subjected to stress. This allows oxygen and moisture to penetrate the packaging, reducing the shelf life of the contents. Blends with ViviOn 8210XT offer higher stiffness without compromising flexibility, thus reducing the risk of cracking.

Capacitor films with ViviOn 0645 withstand higher temperatures than conventional PP films (left) (© Kuzmik_A/istockphoto). The rigidity of substrates with ViviOn 8210XT ensures the barrier effect of metallized packaging films (© asbe/istockphoto.com (m.), © 200mm/istockphoto.com (r.))

Depending on the application, this may also allow for the use of more material-efficient films with lower thicknesses. In addition, this CBC can be used to optimize the tear propagation resistance of the film, which is an important convenience feature for easy opening applications. ViviOn 8210XT comes with a "Recyclability of Packaging Material" certificate issued by cyclos-HTP Institute and is approved for use in food and pharmaceutical applications.

ViviOn™ ist a trademark of USI Corporation

DREYPLAS GmbH
www. dreyplas.com

PCR Across Full Container Range

Nexus Packaging announced that the company can now supply a variety of grades of post-consumer recycled polymer (PCR) across their full product range.

The latest generation gravimetric blending equipment that feeds their blow moulding

machines can precisely dose virgin polymer, PCR, pigment and regrind to enable the company to manufacture product with up to 100% recycled content.

The Nexus PCR offering comes in natural (translucent), ivory and grey colours. These can be further blended with pigments to offer an unrivalled level of choice to the customers.

Utilising the Latest Technology

Manufacturing Director Charles Wagner adds, "Our new factory utilises energy-efficient, all-electric blow moulding machines with extruders that allow for quick material and colour changes. As a result, short colour runs and custom PCR blending can easily be accommodated."

Nexus Packaging
enguiries@nexpack.co.uk

Market Study: Bioplastics

Will there soon be more plastics than stones? The triumph of polymers is unstoppable: The world's plastic consumption doubles approximately every 20 years; in the emerging markets of Africa and Asia, it is even expected to triple. Bioplastics are benefiting from this boom: There are "green" alternatives to plastics made from crude oil or natural gas for an increasing number of applications. To reduce the ecological footprint, even petrochemical products are increasingly being mixed with biomass. The latest and already ninth edition of Ceresana's bioplastics market report anticipates further growth: Market researchers forecast that the global bio-based and biodegradable plastic market size will reach around USD 12 billion by 2034.

The study in brief

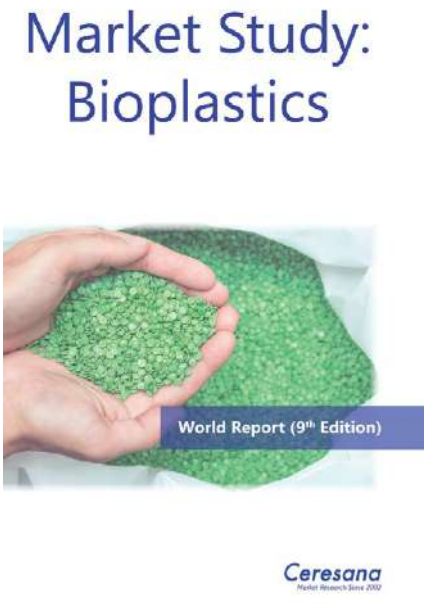
Chapter 1 of the new market study provides a comprehensive presentation and analysis of the global bioplastics market with forecasts up to 2034: The development of demand (in tonnes), revenues (in USD and EUR), and production (in tonnes) is shown for each region.

In addition, these application areas of bioplastics are examined individually: rigid packaging, flexible packaging (bags, sacks, pouches), other flexible packaging, consumer goods, automotive and electronics, other applications.

The production of bioplastics is broken down for the product groups: polylactic acid (PLA), starch-based plastics, other biodegradable plastics, non-biodegradable plastics.

Demand for bioplastics per region is also broken down for the various types of plastic, including: polyhydroxyalkanoates (PHA), polybutylene adipate terephthalate (PBAT), bio-polyethylene (bio-PE).

In Chapter 2, the 11 most important bioplastic sales markets are examined individually: France, Germany, Italy, Spain, the Netherlands, United Kingdom, USA, China, Japan, South Korea, and Taiwan. The following are shown in each case: Demand and revenues, demand for the individual application areas, and demand per type of plastic.



To give an overview of the bioplastic industry, chapter 3 provides useful company profiles of the largest bioplastic manufacturers, clearly arranged according to contact details, revenues, net income, product range, production sites, and profile summary. Detailed profiles of 60 bioplastic manufacturers are supplied.

https://ceresana.com/en/produkt/market-study-bioplastics

Status Report and Outlook of Pipeheads for Polyolefines *(Part 1)*

Since 1985, CONEXTRU and its founder, J. Dobrowsky, have been involved in the continuous development of new pipe heads. This means that over 3,500 pipe heads designed and built during this period are currently in operation worldwide.

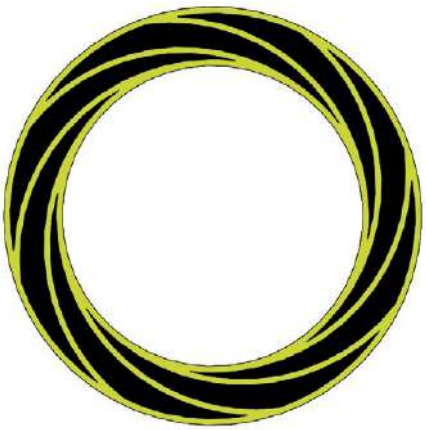
It all starts with the core component: the spiral distributor. It is the most effective melt distribution system available. It is the most widely used system in extrusion applications, including the production of smooth and corrugated pipes, as well as in blow moulding, blown film and cable production. CONEXTRU uses both helical and radial spiral distributors for pipe applications.

Two different spiral geometry designs are used for monolayer heads with high or low throughput. Both designs produce a spiral-shaped layered structure in the pipe with the least possible eccentricity. These geometries are also used for technical polymers such as PA, ABS, PVDF, PMMA and others. In addition to the standard spiral geometries, there are two more geometries for low-viscosity melts. These four basic geometries can be used to design a multilayer pipe head for all possible pipe layer constructions.

Technical background

The spiral distribution system requires the flow channel to be calculated. No other distribution system depends so much on calculations as the helical spiral. This calculation also requires the viscosity data of the polymer over shear rate. Geometry optimisation based on making small changes to a starting geometry. After each calculation run, the result to be analysed is the leak flow.

The leak flow curve shows the amount remaining within the spiral channel and the amount going out of the spiral channel into an axial flow. This curve, showing axial flow over channel length, is the leak flow, which should resemble a Gaussian distribution with a maximum in the middle. Once the best distribution has been achieved, the optimisation process is complete. The leak flow of the final spiral geometry is also calculated at high and low throughput rates. It is observed that the maximum position changes little at high and low throughput, meaning the quality of the distribution is independent of the output.



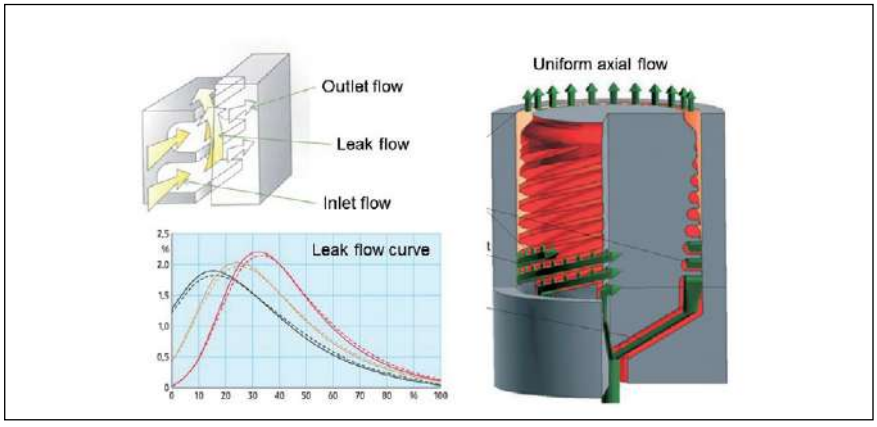
Pic. 1: Spiral shaped layer structure of pipe made by spiral distributor

Scale up

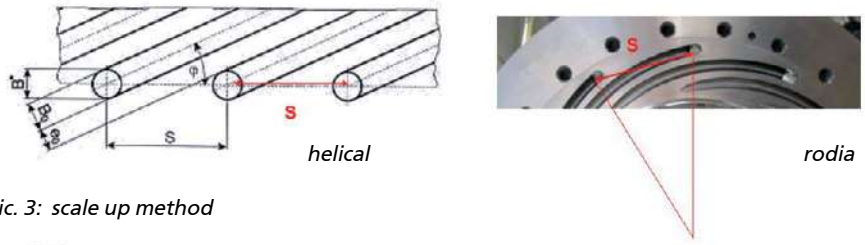
As the calculation is based on one channel along its length, a new pipe head is initially generated by the number of channels. Therefore, we can predict exactly how the distributor will behave in terms of melt distribution when it has X spiral channels.

At the same time, we can calculate the output based on the diameter because the throughput is proportional to the number of channels.If such a geometry defined, it will be used for all the heads, so there is no need to make this calculation for each new head.

Over the years, it has emerged that only four geometries are needed for mono and multilayer heads, for high and low output, and for high and low viscosity materials.In pipe extrusion, we work with poly-



Pic. 2: Function of helical spiral



Pic. 3: scale up method

mers that have a viscosity ranging from 5,000 Pas (adhesive for co-extrusion) to 300,000 Pas (PE 100 RC low-sagging). This is why different distributor geometries are needed.

One version of the helical spiral is the radial spiral. Conextru GmbH was the first company to apply this technology, which is known from blown film dies, to pipe applications. The geometry was naturally adapted for use with polymers in pipes. This is essentially a flat helical spiral distributor. Similar to the helical spiral, the flow in the radial spiral goes from the outside to the inside of the distributor plate. This geometry can easily be derived from the helical spiral. The mechanical design differs in that the distributor disc is much shorter in length, but larger in diameter, than the helical version. This distributor design is used for pipes of up to 110 mm and 2 to 7 layers. It can also be used as a single-layer addition of up to 10% of the main layer, with a maximum diameter of 400 mm. Conextru GmbH uses two types of radial distributor geometry, Pic. 4.

Pre distribution of melt

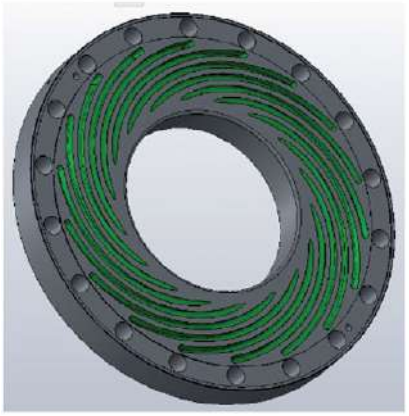
When designing a new head, which is mostly for a multilayer customer design, the number of channels is selected depending on the diameter range, polymer and output. Basically, nothing has to be calculated on the distributors anymore; the basic design is finished. However, we have extruder position adapters and a section that distributes a single flow into a number of channels, and it is obvious that each channel must receive the same quantity of melt flow, a process known as pre-melt distribution.

For this part, CONEXTRU carries out new calculations for each new design. For example, a PO 630 CR crosshead will be designed for a PP coating on a PE pipe with an output of 200 kg/h. In comparison, the same size of head for a steel pipe coating requires a 1200 kg/h output with PE 100. Clearly, the adapter design and pre-melt distribution will be different, but the spiral will be the same. For this rheological design work CONEXTRU uses formulas to calculate pressure as following:

- Shear rate based on output and geometry
- Viscosity according to the curve of the polymer (viscosity over shear rate
- Pressure based on geometry and throuput.

These formulas used to calculate the pressure. In principle, there are 3 basic geometries – see table below. This is very useful when it comes to long adapters or nozzles with circular cross-sections and narrow gaps. The melt is distributed from a circular cross-section into the number of channels. This is simple with an even number of channels because it is symmetrical. It is slightly more complicated with an odd number

Geometry	Shear rate (1/s)	Pressure drop bar
round cross section	GP = 4. VP*e/(3,142*R^3)	DP = 8*ETA*VP*L/ Phi*R^4
Rectangular slot	GP = 6*VP*e/(B*H^2)	DP = 12*ETA.VP/ (B*H^3) B>>W
Annular slit	GP = 6*VP*e/ (3,142*(Ra+Ri)*((Ra-Ri)^2))	DP = 12*ETA.VP/ (B*H^3) H<<D



Pic. 4: radial disc depending on the polymer and output

Pic. 5: PO 630 CR melt pre distribution

of channels, e.g. 3, 5, 7, 11, etc. In this case, the pressure calculation is adapted so that each channel builds up the same pressure at the same throughput. This is only possible if the geometry of the pre-distribution is changed accordingly. If this is well designed and finished, – in case of multilayer heads the next area which needs to pay attention is the area in which the melts flowing together.

Melt merging area

Particular attention should be given to the dimensioning of the flow

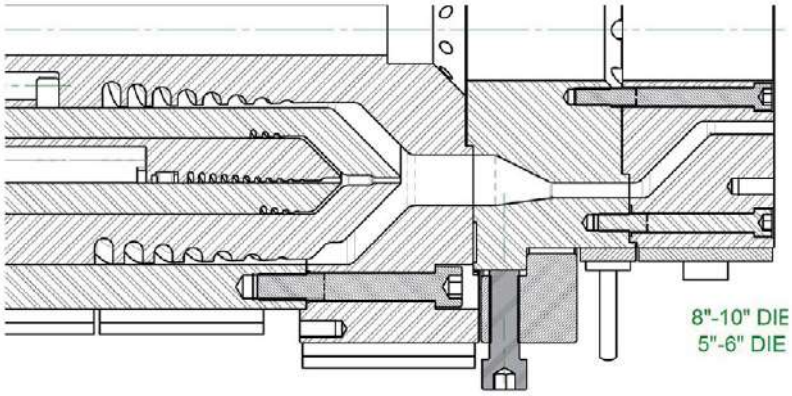
Pic. 6: PO 630 CR melt distribution

Pic. 7: layer ration 45/10/45 to 25/50//25

channel in the area where the melt streams meet – the melt merging area. For polymer composites made from the same material e.g. only PE or only PP or only ABS, the size of the gaps at the melt merging point can be adjusted according to the layer thicknesses. The configuration of the system is designed in such a manner that it is capable of accommodating a wide range of layer distributions. For instance, it should be capable of accommodating distributions such as 10/90 to 90/10 for a two-layer pipe or 5/90/5 to 45/5/45 for a three-layer structure.

For polymer structures of totally different materials and viscosities during processing like PE/ Adhesive/ PPS, PE/Adhesive/PA or PP/Adhesive PVDF the dimensioning of the gaps at melt merging must be optimized by calculation. Depending on the shear rate in the gap before melt merging, viscosity according the shear rate, layer thickness and throughput, the gaps in this area are calculated with the aim of achieving minimal differences in shear stress and flow speed at the moment of merging.

This ensures that there are no flow anomalies such as ripples in the boundary layer or long term waves or penetration of melt of one layer into the other layer (low viscosity penetrates higher viscosity.



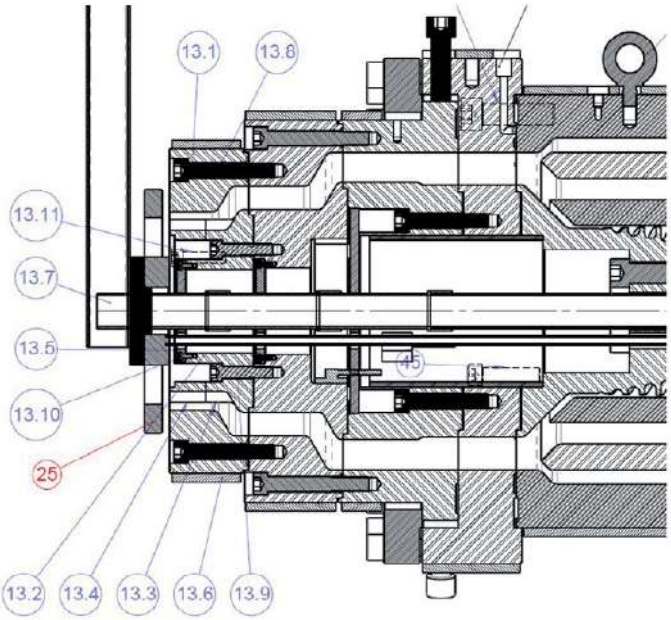
Pic. 8: Melt merging of PE/Ad/PA/Ad/PE

The result is the highest possible accuracy of the layer thickness distribution and eccentricity, as well as flexibility in the event of large changes in throughput ratios.

The analysis revealed that a wider gap better meets this requirement than a narrow gap. It was also found that the process of pulling the melt out of the the gap, like a draw down, leads to a better thickness distribution than squeezing the melt to generate the right thickness. The use of outdated tools is an indication of this.

After the melting point, the tool should have the shortest possible melt path to the final die sets. Long dies create pressure and shear stress, as well as a long residence time, so the new design aims to shorten the dies as much as possible. The new head design incorporates a centring unit with a master die after melt merging. This die covers a certain range. Further die and mandrel rings are mounted on the master die. These die set rings can be larger or smaller in diameter than the melt merging area. This system is called add-on dies.

Pic. 9: 3 layer die 400 with CSR and die set to 180 and mandrel mounting tool



By Josef Dobrowsky

CONEXTRU
Klosterstarsse 19, 3011 Irenental, Austria
Dobrowsky.j@conextru.eu

The 38th International Exhibition on Plastics and Rubber Industries

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Twin Screw Extruder Sets New Standards in Expandable Polystyrene Production

NexKemia Petrochemicals Inc., a leading firm in manufacturing expandable polystyrene (EPS), has relied on ZSK twin screw extruders from Coperion since 2020. Focusing on innovative manufacturing processes and sustainability, NexKemia provides products for the packaging industry and as well as for building insulation. Along with white EPS, NexKemia also produces EPS mixed with graphite, known as GPS (polystyrene mixed with graphite-enhanced polystyrene), as well as products containing up to 30% recycle. For manufacturing and product development, NexKemia uses Coperion ZSK twin screw extruders, which enable an environmentally friendly production and gentle product handling of white and gray EPS as well as the integration of recycled materials on a single production line.

Twin screw technology simplifies production process

Conventionally, white expandable polystyrene (EPS) is manufactured discontinuously within the scope of suspension polymerization, whereby the monomer styrene is polymerized in a batch process. Alternatively, continuous manufacturing processes exist whereby processing occurs with the feeding of additives and pentane in several successive process steps. Various combinations of twin screw extruders, single screw extruders or static cooling mixers are used. Coperion, in contrast, offers a technology for manufacturing EPS in a very simple, single-step process, using the ZSK twin screw extruder.

Particularly in the case of suspension polymerization, the chemical balance during the reaction must be maintained, as even minimal impurities or foreign materials can disrupt the balance and destabilize the process. As no reaction takes place in the extruder, but rather the substances are mixed, this does not pose a challenge to this manufacturing process. All ingredients are fed into the Coperion ZSK extruder via high-accuracy Coperion K-Tron feeders and processed into a homogeneous mass using precisely modified shear introduction and short residence time. This ensures a low thermal stress upon the material. Micropellet manufacturing takes place in an underwater pelletizer following the extruder, generating very small pellets (≤ 1 mm) with a very narrow particle size distribution.

Focusing on innovative manufacturing processes and sustainability, NexKemia provides products for the packaging industry and as well as for building insulation: white EPS, EPS mixed with graphite, as well as products containing up to 30% recycle (Photos: NexKemia Petrochemicals Inc., Mansonville, Québec/Canada)

Economical and sustainable manufacturing of innovative EPS products

Along with the novelty of single-step EPS manufacturing, the ZSK extruder also enables production of graphite-enhanced polystyrene (GPS) as well as products containing recycled material. When manufacturing GPS, free graphite, among other ingredients, is added to the product which reflects the heat radiation and thus offers higher heat insulation than white EPS. NexKemia's GPS products demonstrate a very low lambda value, representing a lower heat conductivity and thus very good insulating capacity.

NexKemia has succeeded, together with Coperion, in integrating recycled material into EPS manufacturing – on just one production line. The purified and compacted regrind can be fed directly into the ZSK extruder. Depending upon quality requirements, micropellets, and availability of the discharge material, recycling content of up to 30% or greater can be realized. The final

With the Coperion ZSK twin screw extruder efficient production of EPS microbeads is possible on a single machine

EPS product is outstanding, with equal physical properties to those of new products. Moreover, the process is superior to others with markedly lower airborne emissions, as well as a significant reduction in wastewater production.

"Using Coperion twin screw extruders, we have the ability to manufacture specialized products for various applications. Thanks to the excellent collaboration and process-technical support, we were able to realize new and environmentally friendly processes together for EPS manufacturing. This allows us to be true to our values of customer focus, innovation and sustainability", said Michael Hays, President of Integreon, parent company of NexKemia.

Coperion GmbH
Theodorstraße 10, 70469 Stuttgart, Germany
www.coperion.com

"Plastic circularity is an unstoppable reality already underway"

An interview with Bernd Roegele, presidente del Comité Organizador de Equiplast 2026

The plastics sector is undergoing a profound transformation driven by regulatory pressure, the commitment to a circular economy, and the digitalization of processes. In this context, Bernd Roegele, President of the Organizing Committee of Equiplast 2026, analyzes the current state of an industry moving toward more sustainable, collaborative, and technologically advanced models. All of this will be showcased at Equiplast, the leading trade fair for the Spanish sector, which will take place from June 2 to 5 at Fira de Barcelona's Gran Via venue.

How would you describe the current situation in the plastics industry?

We are living through a period of change. Plastics are under strong regulatory and social pressure, but they also represent an open field for innovation. Our industry understands that its future depends on designing more sustainable materials and processes, investing in the circular economy, and communicating the value of plastics as a material essential for manufacturing countless products. What's interesting is that the transition is already underway: today we see circular solutions that seemed impossible a decade ago.

What progress would you highlight in terms of circularity?

The growing incorporation of recycled plastics into new products demonstrates a real commitment to the circular economy, which is here to stay. At the same

time, mechanical and chemical recycling technologies have been developed that allow complex plastics to be recovered with high quality, making it easier to reuse them in value-added applications. Added to this is a strong focus on eco-design – products conceived from the outset to be easy to recycle and reuse – and the promotion of bio-based, biodegradable, or compostable materials, which reduce dependence on fossil raw materials and help lower the sector's carbon footprint.

What structural challenges does the plastics industry face today?

There are major challenges: technological innovation must remain constant; there is an urgent need to attract young, qualified talent; and the social perception of plastics is still largely negative. On top of that comes efficient raw material management and adaptation to an increasingly demanding regulatory environment. But above all, the biggest challenge is collaboration: no company can tackle the transformation toward sustainability alone. That's why trade fairs like Equiplast play a key role – providing a space to connect, cooperate, and put solutions into practice.

What role does digitalization play in this green transition?

It is absolutely crucial. Digitalization makes it possible to control and automate all processes for producing, transforming, and recycling plastics, minimize energy consumption, improve traceability, reduce errors, and ensure quality and proper use of recycled materials. Thanks to these tools, factories can be more efficient and productive – in other words, produce "made-to-order" plastics that are sustainable and aligned with real demand.

Do you think the social perception of plastics is changing?

Plastics have been unfairly demonized. And we have a lot of work to do to change that perception. For years, the debate has focused on waste, not on possibilities. Our role as an industry must be to demonstrate with facts that plastics are not the enemy, but a material with a life cycle that, when properly managed, can deliver great value. As I said earlier, the key lies in the circular economy: designing recyclable products, promoting reuse, and investing in mechanical and chemical recycling technologies. In Spain, recycling figures are already significant, showing that the sector is committed. Equiplast will be an opportunity to show that plastics are part of the solution, not the problem.

How is the Spanish plastics industry adapting to new European regulatory requirements, especially regarding recycled plastics and microplastics?

The industry is in an advanced stage of adaptation and has the technology to comply with increasingly strict regulations. It's a process being carried out responsibly, although not all companies move at the same pace and not all value chains yet have sufficient volumes of traceable recycled material. For recycled plastics, the challenge is scaling up while ensuring quality and traceability; for microplastics, closing operational and control gaps throughout the logistics chain to prevent losses. It's a process that requires significant effort, but it positions the Spanish plastics industry very well to become more sustainable.

What role does Equiplast play in this context of change?

Equiplast is the meeting point where this entire innovation ecosystem comes to life. At the 2026 edition, we want to present a complete picture of where the plastics industry is heading: more circular, more digital, and more interconnected. We want participating companies and professionals not only to see innovative technologies and materials but also models of collaboration and real commitment to sustainability.

What can we expect from the next edition of the trade fair?

Equiplast has been strengthened: it will feature more than 400 exhibiting companies – a 12% increase compared to 2023 – and nearly one-third will come from abroad, reinforcing its international character. In addition, we've redesigned spaces for activities with a practical focus: round tables, showcases of sustainable solutions, and technical conferences – all aimed at driving real innovation and applied knowledge.

How is the "Rethinking Plastics" initiative evolving for Equiplast 2026?

It will be consolidated as an open space for knowledge and debate. We want to show, with facts, that plastics can have multiple lives. There will be a showroom of products made with sustainable plastics, from which we'll select the winners of the "Rethinking Plastics" awards. And as a new feature, we're introducing a program of conferences on best practices and innovative projects in the sector, among other topics of interest to industry professionals.

Looking ahead, how do you envision the plastics industry in the next decade?

It will be a regenerative industry, where every piece of waste becomes raw material. Innovation will remain the driving force: smart materials, chemical and physical recycling, and processes with a neutral carbon footprint. But there will be another equally important factor: collaboration between companies, technology centers, and public administrations. The future of plastics depends not only on technology but also on a shared vision of sustainability among all stakeholders.

What message would you like to send to professionals in the sector?

Plastics have a future – and that future will be sustainable or it won't exist. We have both the responsibility and the opportunity to transform their role in industry and society. Equiplast aims to be the space where this transformation becomes visible, where the plastics industry proves it can be a driver of solutions, not part of the problem.

➠ **www.equiplast.com**

Project – *Innovate Processes to Manufacture Sustainable Bioplastics from Agricultural Waste and Pruning Residues*

Every year, the Valencian agricultural sector generates around 800,000 tons of plant waste, such as rice straw and citrus pruning waste. Currently, the methods for recovering this biomass are costly, as they require commercial enzymes that can represent up to 40% of the cost of the process, which limits its industrial viability. To solve this problem, AIMPLAS, the Plastics Technology Centre, is leading the "BIOVALSA" project, an initiative that seeks to develop innovative processes for manufacturing sustainable bioplastics from agricultural waste and pruning residues. The project is funded by IVACE+i Innovation and receives financial support from the European Union through the ERDF Comunitat Valenciana programme for the 2021-2027 period.

BIOVALSA will develop a new process that will enable the use of agricultural waste to manufacture bioplastics, a sustainable alternative to petroleum-based synthetics. This initiative aims to develop alternative routes for recovering value from rice straw biomass, thereby avoiding the use of costly chemical compounds. Specifically, the idea is to replace the usual treatments with others that allow the three fractions (cellulose, hemicellulose and lignin) that make up the lignocellulosic biomass to be recovered for use in various applications of interest to the bioplastics industry.

Cellulose will thus be used to produce lactic acid, a key compound in the manufacture of PLA, the most widely used bioplastic, while hemicellulose is expected to yield succinic acid, which is necessary for the production of PBS, another sustainable biopolymer with greater flexibility and heat resistance.

Finally, the antimicrobial properties of lignin make it suitable for recovery and use as an additive to prevent the proliferation of microorganisms, which increases the market value and expands the potential applications of these biodegradable and compostable materials.--

Collaborating companies and centres

Coordinated by AIMPLAS, which contributes its experience in both waste recovery and biopolymer manufacturing, "BIOVALSA" also brings together specialists from the University Institute of Food Engineering at

the Polytechnic University of Valencia (FoodUPV) and three other companies based in the Valencian Community. Bioban will contribute its genomic analysis capabilities to identify the most suitable bacterial strains for carrying out the treatments, while Viromii will study the economic viability of new processes for obtaining biocomposites. Finally, Prime Biopolymers, as the end customer, will be responsible for producing the biomaterials and analyzing applicability of the materials obtained during the project.

The project is in its first year of development, during which progress has been made in separating the components of rice straw using alternative methods that do not involve toxic substances. Different strains of bacteria and microorganisms capable of breaking down cellulose and hemicellulose to generate the lactic and succinic acids necessary for the production of bioplastics are also being tested.

BIOVALSA is aligned with the conclusions of the Strategic Specialised Innovation Committees (CEIE) on Circular Economy and Enabling Technologies, promoted by IVACE+i Innovación. In the first case, it responds to the development of materials and technologies for the production of high added-value products from waste and, in the second, it urges the application of biotechnology to improve processes and products. It also falls within the main axes of the Valencian Community's Smart Specialisation Strategy, S3, which is coordinated by the Regional Ministry of Industry, Tourism, Innovation and Trade.

AIMPLAS
www.aimplas.es

Increased Productivity in the MDO Process

With over 25 years of experience in monoaxial stretching, Hosokawa Alpine is the pioneer in MDO technology and has been regularly improving its process ever since. Today, customers benefit from the highest MDO film quality with outstanding processability and optimised flatness thanks to the vacuum technology introduced in 2021. The unique TRIO technology "Trim Reduction for Inline Orientation", coupled with vacuum technology, ensures significant material savings during the edge trimming process. Hosokawa Alpine now offers a quick-change system for stretching rollers to enable the processing of a wide variety of films. At the same time, the company is presenting new cleaning solutions. This significantly increases the flexibility of MDO film production and further boosts productivity.

Unique quick change of the stretching roller

Hosokawa Alpine has developed a unique process for changing the stretching roller that takes just 15 minutes. To replace the rollers, the protective grille of the MDO is opened and a rail is folded out of the machine compartment. The media feed-through and drive are disconnected at the touch of a button. The water is then drained automatically. As soon as the roller is released, it can be rolled down by an operator and the built-in crane can lift it out. "If a second roller is available, we can use the quick-change system to ensure permanent availability of the system and therefore maximum productivity," emphasises Bernd Bayer, Director R&D Blown Film Extrusion at Hosokawa Alpine. This gives the customer maximum flexibility in film production. This is because it is quick and easy to switch between vacuum and smooth rollers or other roller surfaces that are precisely customised to a customer's products.

At the same time, Hosokawa Alpine has also optimised the surface of its vacuum rollers. By rounding off the vacuum pores, the new vacuum roller can significantly improve the surface quality of HDPE films in particular.

The ultrasonic bath from Hosokawa Alpine cleans even heavily contaminated vacuum rollers and quickly makes them ready for use again

Cleaning solutions for MDO rollers

In addition to the quick roller change, Hosokawa Alpine will also be offering an integrated web cleaning system to remove deposited particles from the surface. The film tube is cleaned using an extraction system with vacuum nozzles. This significantly reduces contamination of the roller surfaces and extends the cleaning intervals considerably.

Additionally, an ultrasonic bath will be available for the deep cleaning of vacuum rollers. With ultrasonic cleaning at a temperature of 60 °C, even heavily soiled vacuum rollers are deep-cleaned and, depending on the degree of contamination, are as clean as new after approx. two to four hours.

In future, Hosokawa Alpine will also be using a doctor blade to scrape off initial impurities. "The new doctor blade scrapes off dirt on the roller surface and removes excess particles. An internal study has shown that this significantly optimises the cleaning process. And that in turn leads to an increase in service life," explains Bayer.

Hosokawa Alpine Aktiengesellschaft
www.hosokawa-alpine.com

Adapting to a Changing Market

In today's fast-moving and volatile world of package printing, the market leader in surface treatment, Vetaphone, continues to pioneer its offering with a package of service and support to meet customers' expectations.

According to Anders Dueholm, Support and Spare Parts Manager at Vetaphone, the best manufacturing suppliers take a 360° view of their customers. It's no longer sufficient to sell, supply and install technology, the responsibility goes further. This is especially the case with an ancillary process like surface treatment, which is often required, but less often understood.

"To many people involved in package print production, the corona treater is a 'set and forget' element in the overall line, and modern systems are more reliable than their predecessors – but all technology requires care and maintenance, and the corona unit is often forgotten until it causes a problem," he explained.

In a market sector where high-speed, high-tech, and high-cost technology works hard to keep pace with demand and at the same time show a profit, reliability and the reduction of expensive downtime are major considerations. And this is where a planned program of ongoing support makes all the difference because it builds customer confidence by ensuring consistent performance.

"Our Preventative Maintenance Contracts offer predictable costs for the user, including discounted parts and reliable technical support to resolve any issues. This support is provided locally in person or remotely on a 24-hour basis, and the service includes scheduled visits organized and carried out by fully trained staff," he added.

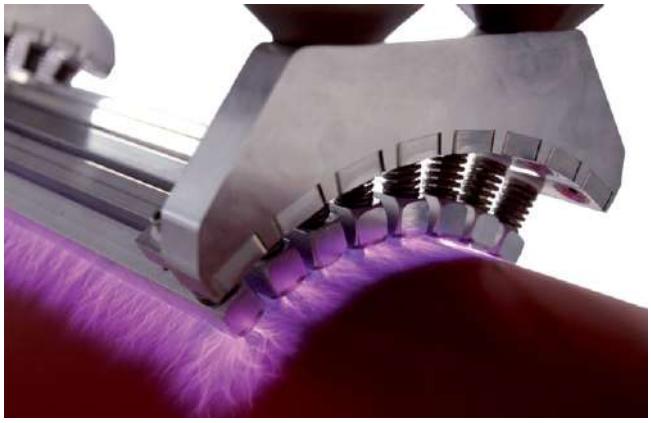
Vetaphone tailors its contracts to suit different requirements. For example, some users do not have their own in-house maintenance team, but some do, others are users with multiple units but are lacking in technical knowledge about corona, while some, known as 'high-end' users, require regular inspections to verify the operational condition of the equipment and its safety.

No single planned program could cover these varying needs, so Vetaphone builds in flexibility as appropriate.

From the user's point of view, the benefits are obvious: a reduction in emergency and expensive downtime, optimal and consistent performance of the corona system, 24/7 access to technical specialists for troubleshooting, and lower cost spare parts. "Many users only think about preventative maintenance once the warranty has expired, but this is a mistake. What all converters need is maximum efficiency, and this is best achieved by allowing production personnel to focus on production, not worry about maintenance," he said.

And the benefits work both ways. User feedback since launching the scheme has been extremely positive and enabled Vetaphone to identify the most frequent issues and be more pro-active in these areas, while overall it has provided the company with a better view of the general optimization of its technology. For a company, where ongoing R&D is an essential part of its DNA, all inputs from day-to-day commercial operations are valuable.

"We live in a world of complex technology and its influence on our daily lives is only going to increase. That's why it is important to ensure that we derive the maximum benefit from it, and this can only be assured with regular care and maintenance. So why not pre-plan it? It will save money and heartache at the end of the day!" he concluded.



Like most technology, corona systems need maintaining to perform at their best

Vetaphone A/S
Fabriksvej 11, 6000 Kolding, Denmark
www.vetaphone.com
support@vetaphone.com

Pipelines that Deliver

Expansion of LNG pipelines in the USA, new hydrogen networks in Europe and mega-projects in China, India and Southeast Asia – pipe producers and manufacturers of pipe processing equipment face no shortage of opportunities. All around the world, projects are springing up to meet the rising demand for energy, and especially for renewables.

Rising to the challenge: Pipeline steels must guarantee a long service life. High operating pressures put extreme demands on pipes – and their welds – as they transport the medium through the line. In addition to high operating pressures, they often also need to withstand high mechanical stresses and environmental factors such as extreme temperatures to prevent the pipeline from becoming a costly failure.

Best of both worlds: quality and cost-effectiveness

At the same time, the pipe industry has to combine premium quality with efficient, economical production – delivering the best of both worlds. And it does deliver – running full bore. Visitors to wire & Tube 2026 in Düsseldorf will discover how: through automation, digitalisation and artificial intelligence.

From 13 to 17 April 2026, the leading trade fairs wire & Tube in Düsseldorf will showcase trends and highlights from the global wire, cable and tube industries. The latest industry news and product updates can be found:

AquaDuctus, part of the AquaVentus initiative, will be built as a GW-scale offshore hydrogen pipeline in the German North Sea (Source: GASCADE)

www.wire.de
www.tube.de

CHINAPLAS 2026 – *Quality Growth Driven by Technology, Thriving Future Powered by Green Solutions*

On April 21 to 24, 2026, the industry's acclaimed trade fair - CHINAPLAS 2026 will take place at National Exhibition and Convention Center (NECC) in Hongqiao, Shanghai, PR China. As one of the global leading plastics and rubber exhibitions, this edition is expected to span over 390,000 square meters across 16 exhibition halls, and bring together more than 4,600 exhibitors from around the world to showcase breakthroughs in new materials, intelligent innovations and green transformations. The trade fair aims to strengthen the industries' upgrade towards high-end, intelligent, and green development, as well as the transition from "Made in China" to "Innovated in China".

Evolving with Time: Amidst the accelerated revolution in technology, energy and industries worldwide, the new quality productive forces, particularly in innovation and green low-carbon, have become crucial drivers of high-quality development. CHINAPLAS 2026 precisely captures these industry trends by gathering top global exhibitors to present cutting-edge products and solutions, thereby constructing an ecosystem of industrial innovation.

Breakthroughs in New Materials:

With rapid growth in downstream sectors including new energy vehicles, low-altitude economy, aerospace, rail transportation, humanoid robotics, wind power and photovoltaics, CHINAPLAS 2026 will focus on "driving application upgrades with material innovation" and feature the renewal of advanced frontier materials. Diversified modified plastics and special thermoplastic elastomers enhance the strength and electrical conductivity of plastics and rubber products, making them suitable for new energy vehicles' batteries and aerospace seals; high-performance engineering plastics offer resistance to both high and low-temperatures, as well as corrosion for high-end equipment; light and durable thermoplastic composites materials have become critical supporting materials for the low-altitude economy and humanoid robot industries.

Intelligent Evolution: Artificial intelligence and automation technologies are restructuring the manufacturing logic of the plastics and rubber industries, accelerating their transition into the "smart manufacturing era". At CHINAPLAS 2026, comprehensive intelligent manufacturing solutions reshaping the entire production chain will be showcased - from automated injection molding, extrusion and blow molding production lines, to industrial IoT-driven digital management systems, intelligent inspection and quality control platforms. These advancements enable enterprises to

improve production efficiency and optimize labor costs, further driving the manufacturing industry's leap from automation to intelligence.

Green Transformation:

In reaching the national carbon peaking and neutrality "Dual Carbon" goals in China, green and low-carbon solutions have become the crucial factors for high-quality growth. They have also laid the pivotal path for sustainable development of plastics and rubber industries. CHINAPLAS 2026 will introduce numerous innovative environmental and carbon reduction technologies and solutions, providing clear directions for enterprises to achieve green transformation. Efficacious boost with carbon reduction: additives produced with carbon capture technology can reduce carbon emissions during the plastic production process; Recycling: technologies in recycling oil and repurposing volatile organic compounds convert waste into valuable resources, fostering achievement of circular economy; Materials advancement: with key roles in enhancing the functionality of recycled plastics and bioplastics, the adoption of bio-based/ bio-degradable/ eco-compatible coupling and toughening agents into productions empower enterprises to expand their business into the green product markets, and achieve operational transformation to streamline their compliance with environmental standards.

CHINAPLAS 2026 not only achieves advancement in quantity, but also quality. As of now, number of booths reserved has far exceeded forecast, further expanding the exhibition area from the 2024 edition in Shanghai to a new record of over 390,000 square meters. The organizer has enriched the exhibitor spectrum by encompassing more pioneering technology companies and innovative plastics and rubber suppliers, delivering a unique experience to all visitors.

Two notable highlights of the trade fair are diversity and high quality of exhibitors. Renowned plastics and rubber enterprises from all over the world will gather to showcase cutting-edge technologies and exchange industry visions, connecting Chinese companies to international standards. With the emergence of the power in China's innovation, more than 1,400 "Shining Niche" companies (enterprises recognized by the Chinese government in a comprehensive range of fields including economic benefits, degree of specialization and innovation, level of excellence in operation and management, production chain, etc.) will demonstrate the unparalleled capabilities of China's plastics and rubber technologies.

Additionally, a series of concurrent events with experts are curated to unlock industry trends, promote multilateral interactions and forge high-quality development of the industries.

Global Buyers Converge, Leading to Exceptional Industry Growth:

As the "Prime Platform" for plastics and rubber companies' global expansion, CHINAPLAS has cultivated its roots in the international market for decades. It integrates industry resources, connects with the upstream and downstream sectors of the industries, and attracts premium buyers worldwide. CHINAPLAS 2025 drew 281,206 professional visitors from over 170 countries and regions, with 68,542 attendees from overseas and Hong Kong, Macau and Taiwan region of China, accounting for 24.37% of the total visitors, achieving a new milestone in internationalization.

CHINAPLAS 2026 will further demonstrate its capacity to incorporate with global resources. The organizer is actively engaging in international events to establish partnerships with overseas associations and buyers in the industry, strategically inviting top global buyers from sectors including automotive, electronics & electric, packaging, etc. By leveraging CPS+ eMarketplace, which is CHINAPLAS's O2O strategy partner, the trade fair offers seamless "online and offline" journey – buyers can access exhibitor information and schedule on-site meetings year-round via the platform, in turn, the platform precisely matches suppliers with various sourcing requests, converting online traffic to offline business exchanges, creating infinite trade opportunities for exhibitors.

Amid ongoing uncertainties in global trade, China's plastics and rubber industries are demonstrating competitive edge through "high-quality innovation". In addition to seeking cost-effective products, international buyers are also sourcing advanced intelligent equipment and green materials from China, seizing global market opportunities fueled by the country's robust manufacturing and innovation capabilities.

#1-2026

RECYCLING

Regular Section
in EXTRUSION INTERNATIONAL Magazine

Four-Year Innovation Project kicks off in the Netherlands

ALPLA is working on a future-proof solution for food-safe HDPE recycled material. The international packaging and recycling specialist is now evaluating the patented solvent-based process at a pilot plant in Heerenveen in collaboration with the independent technological institute NTCP. The innovation project, which is funded by the Dutch Ministry of Climate Policy and Green Growth, will run for four years. Just in time for the start of the PPWR 2030, the innovative solution will be scaled up to industrial production.

From 2030, packaging in the EU must contain a minimum proportion of recycled material. ALPLA and NTCP are working on a future-proof and affordable solution for plastic food packaging. The patented recycling technology is expected to deliver food-safe HDPE recycled material (rHDPE) on an industrial scale for the first time. Following several years of R&D with successful laboratory results, the two project partners have just started evaluating the solvent-based process at the NTCP site in Heerenveen.

Intensive testing of all process steps of the patented technology will be performed as part of a collaborative innovation project. The aim is to obtain approval from the European Food Safety Authority (EFSA) in the near future. The construction and operation of the pilot plant will provide valuable insights for scaling up the process. ALPLA has set up its own recycling company in the Netherlands for this purpose.

The ALPLA and NTCP project team is implementing a pilot plant for solvent-based HDPE recycling in Heerenveen (Photo: ALPLA/NTCP)

Recycling specialist ALPLA is launching a pilot project for the production of food-grade HDPE recycled material together with research institute NTCP (Photo: ALPLA)

Milestone for the circular economy

"To date, there is no certified process in the EU for the production of food-grade HDPE recycled material. Our highly efficient technology for cleaning and processing post-consumer recycled material could be a real game changer," explains Michael Heyde, Head of Technology Recycling Division at ALPLA. The company already produces PET and HDPE recycled material in its own recycling division at 14 locations worldwide, with 400 000 tonnes installed and projected recycling output capacity. ALPLA processes most of this material itself into packaging. The future industrialisation of this innovative technology should enable readily available food packaging made from rHDPE for the FMCG (Fast Moving Consumer Goods) market.

"This cooperation with ALPLA fits perfectly to the core activities and mission of NTCP as an independent knowledge institute, to facilitate and accelerate technology developments with frontrunner parties. We believe that new technologies are needed to completely close the plastics value chain while reducing the amount of waste," emphasises Martine Brandsma, NTCP's CEO.

The pilot project is being carried out with the support of the Dutch Ministry of Climate Policy and Green Growth.

ALPLA Group
www.alpla.com

NTCP (National Test Center Circular Plastics)
www.ntcp.nl

From Waste to Value – *Recycling Automotive Shredder Residue and Bio-Waste into High-Value Feedstock*

A new research study by ETH Zurich, in collaboration with BASF SE, has investigated an alternative route for mixed plastic waste streams from end-of-life vehicles: to recycle it alongside biomass. The results show: the recycling of one kg of automotive shredder residues with 3 kg of biomass reduces greenhouse gas emissions by more than 3 kg CO2-eq. as compared to their incineration for energy recovery. As the European Union prepares legislation on end-of-life vehicles, these findings have implications for policy makers.

The ETH study follows a gasification pilot project conducted by BASF and BEST GmbH/Austria mid of 2025. For the first time, the project in BEST's pilot plant combined the gasification of biomass together with plastic waste from automotive shredder residue.

Less waste, new feedstocks, emissions reduced

This study shows: Instead of incinerating plastics and biomass to generate electricity and steam, co-gasification produces steam and synthesis gas, a valuable feedstock for chemicals. Providing this novel circular raw material to the chemical industry reduces consumption of fossil resources, thus lowering emissions and keeping carbon in the loop.

"Closing the carbon loop by plastics recycling is not only beneficial for the climate but also crucial for conserving resources, an essential step toward a plastics industry that operates within planetary boundaries," says André Bardow, Professor from ETH Zurich.

However, to replace fossil feedstocks with alternatives made from plastic waste streams and bio-waste, a supportive legal framework is needed that acknowledges mixed plastic waste as recyclable and sets long-term targets to society for this replacement.

"Ambition in target-setting rather than opt-out and review clauses should be the baseline for policies that allow industries to reach ecological goals. Furthermore, sector-coupling and collaboration across industries is essential to speed up emission reductions," states Prof. Catharina Bening from ETH Zurich.

But while legislation already supports gasification of bio-waste - leading to first investments in maritime and aviation fuel - there is no comparable support for recycling plastic waste streams via gasification. "It is simply not efficient to operate separate gasification plants for bio-waste and for plastics waste streams. Instead, we call for policy to enable a multi-purpose of the plants through an audited, flexible mass balance approach," concludes Martin Jung, President of BASF's Performance Materials division.

Using one million tons of plastic waste from end-of-life vehicles reasonably

The volume potential for non-fossil feedstock from automotive plastic waste is significant. Research estimates that over one million tons of automotive plastic waste is being either incinerated or landfilled in Europe every year. While there are opportunities to sort out more plastic waste (e.g., for mechanical recycling), there always remains a residual mixed plastic waste stream. The research results show that the recycling of this plastics waste, alongside biomass, is possible in a multi-purpose asset and results in lower CO_2 emissions than via incineration for energy recovery.

Due to the high quality of the new circular raw materials stemming from this waste, the manufactured new materials, e.g. plastics, have the quality of new goods and meet the demanding requirements of high-performance plastics, as they are particularly needed for safety-relevant automotive components.

Emissions in this text always refer to greenhouse gas emissions measured in CO_2 equivalents (CO_2-eq) on a cradle-to-gate basis.

BASF SE

www.basf.com

Standardised Recycling Machine is Well Established on the Market

The K 2022 show saw the launch of the ReadyMac. Three years later, with a new look and an additional configuration for post consumer materials, the standardised recycling machine made to stock celebrates its success on the market at K 2025. The sales figures have continued to grow. So far, in the current financial year, which ends in March 2026, as many machines have already been installed as in the whole of the previous year.

The ReadyMac teams up high quality recycling technology with an attractive fixed price and immediate availability. Customers gain the advantage of a standardised machine that can be used universally for multiple film and regrind applications. The heavy duty version with EREMA laser filter is especially suitable for processing post consumer waste streams and is available at a fixed price of EUR 440,000. The second version, equipped with an SW RTF® screen changer system, is a flexible all-rounder for processing medium contaminated feed material for an investment of EUR 375,000. Both configurations are equipped with an efficient multipurpose extruder screw and achieve throughputs of 500 kilograms per hour.

Since its launch, the ReadyMac has continuously gained in market presence. Demand has increased in particular following the relaunch at the end of 2024 and the introduction of the ReadyMac 500 HD in early 2025. During the current financial year 2025/26, the number of new machines commissioned has already reached double digits. Besides customers in Europe, companies in regions such as South Africa and Latin America have also chosen to rely on ReadyMac.

"The feedback from the markets shows us that we are onto a winner with the ReadyMac", says Michael Köhnhofer, Head of Business Unit ReadyMac at EREMA. "Our customers appreciate the combination of quick and easy availability at an attractive price, and proven EREMA quality. This is something that appeals to many companies at a time when each investment needs to be evaluated very carefully."

Michael Köhnhofer, Head of Business Unit ReadyMac at EREMA, is delighted with ReadyMac's success. Made to stock, these recycling machines are available in two versions: with a laser filter or with an SW RTF® screen changer system (Photo Credits: EREMA GmbH)

Manfred Hackl, CEO at the EREMA Group, sees the ReadyMac as an optimum strategic addition: "With the ReadyMac we are aiming to reach customers who are looking to enter plastics recycling with a reliable machine that is available quickly, rather than a custom-built solution. As a result, we have yet again strengthened the portfolio of the EREMA group of companies."

The success of the standardised machine is based on the proven extrusion system from EREMA featuring TVE technology and the patented Preconditioning Unit (PCU). Ultimately, EREMA has made reliable recycling technology more accessible to a wider circle of companies. On top of the attractive fixed price and short delivery times, customers gain the advantage of the proven EREMA after sales service package with rapid spare parts supplies and worldwide support.

EREMA Engineering Recycling Maschinen und Anlagen GmbH
www.erema.com

From Waste to Value

Borealis is a proud partner of Project ELECTRO, a cutting-edge EU-funded initiative driving Europe toward a climate-neutral, circular plastics system. The project brings together top universities such as the University of Ghent, research institutes, and industry players to develop electrified, high-efficiency recycling technologies capable of turning low-quality waste into premium raw materials.

(Copyright: Borealis)

Turning Low-Value Plastics into High-Value Building Blocks

Project ELECTRO aims to reshape the future of recycling by developing electrified thermochemical processes that transform mixed and hard-to-recycle waste – including multilayer packaging and contaminated plastics – into high-purity olefins such as ethylene and propylene.

By using renewable electricity instead of fossil-based energy, ELECTRO targets up to a 90% reduction in greenhouse gas emissions, matching the ambition of the EU's circularity and decarbonization agenda.

As a leading consortium partner, Borealis heads the work package focused on enabling circular feedstocks for efficient steam cracking.

Linking Innovation to Real-World Waste Through Project STOP

Borealis also connects Project ELECTRO with Project STOP – its internationally recognized waste management initiativeco-founded by Borealis and Systemiqin 2017. Household plastics collected in Indonesia through Project STOP are used in ELECTRO's research, allowing the consortium to test the viability of chemical recycling on challenging, low-value waste streams.

"At Borealis,we'recommitted to scaling circular solutions through innovation and strong partnerships. Together with our ELECTRO partners, we'reproving how electrified chemical recycling can turn challenging waste streams into valuable resources for a circular economy," says Manjunath Patil, Senior Engineer Innovation & Technology at Borealis.

"Project ELECTRO combines top-tier scientificexpertisewith real-world testing. Our collaboration with Borealis – and the integration of material from Project STOP – show cross-sector innovation can unlock scalable solutions for both industry and society," saysKevin Van Geem, Professor at Ghent University and Project ELECTRO coordinator.

Borealis Group
www.borealisgroup.com

Innovative Technologies to Promote the Circular Economy

The Rotoplex granulator from Hosokawa Alpine. The classic has been continuously developed for 60 years to make it suitable for new applications

Hosokawa Alpine has developed a new solution for the sustainable recycling of textile waste. The Augsburg-based machine and plant manufacturer is thus setting standards in textile shredding and making it possible to reuse textile waste efficiently and in a resource-saving manner.

Sustainability in action

Since 1 January 2025, the EU Directive on the collection of used textiles has stipulated that used textiles must be collected separately in order to promote their recycling and reuse. The aim of this regulation is to strengthen the circular economy. Recycling companies therefore need efficient solutions and processes to not only shred textile waste, but to prepare it for recycling. Hosokawa Alpine has developed such a process. The textile bales are first shredded and then pneumatically conveyed to the Hosokawa Alpine Rotoplex to be defibred. In the next step, a classifier separates the fibres into two fractions: clean fibres for recycling and contaminated textile waste that can be disposed of.

A classic with a new application

At the heart of Hosokawa Alpine's process is the Rotoplex granulator – a classic in the portfolio of the Augsburg-based mechanical engineering company and a machine, which is celebrating its 60th anniversary this year. "We are continuously developing the Rotoplex to adapt it to new applications. This is how we combine its robust design with the latest technology", says Michael Meyerle, Sales Manager Recycling Technologies at Hosokawa Alpine. The solid, durable cast housing guarantees a long service life and is optionally available with water cooling. Optimum throughput is achieved thanks to pneumatic suction, while the specially developed rotor design increases output by up to 50% compared to the standard version. "The Rotoplex is capable of shredding up to 400 kg of textiles per hour", says Meyerle. "This conserves valuable resources and sustainably closes production cycles". ATEX certification with radio identification for maximum safety is also available on request.

Hosokawa Alpine Aktiengesellschaft
www.hosokawa-alpine.com

New Filter Designed for Complete Scraper Cleaning

FIMIC, a global reference in automatic melt filters for plastic recycling, announces the launch of its latest innovation: FCS Filter, a breakthrough solution designed to solve one of the most common issues recyclers face in filtration – contaminants stuck inside scrapers.

In plastic recycling, new materials streams (previously being incinerated) now end up in the recycling world. New materials mean new and more contaminations, such as PET/PA fibers, aluminum foils, metal powders, sand, or fine particles that often get trapped inside the scraper channels of melt filters, causing increased downtimes and requiring frequent screen changes (typically every 2 to 3 days) to clean the scraping elements. To overcome this issue, what the industry truly needed was a technology capable of ensuring complete and reliable scraper cleaning together with an effective discharge of the filtered contaminants.

FIMIC's answer is the FCS - Forced Cleaning Scraper, a new filter design equipped with a mechanical piston that performs a fast, effective, and forced cleaning of the scraper channels. Unlike traditional solutions, thanks to this mechanical action, the scraper cleaning is independent from inlet pressure, guaranteeing consistent performance under all working conditions.

Key benefits of FCS Filter

- Complete cleaning of scraper channels, extending machine working time
- Inlet pressure no longer crucial for effective cleaning
- Efficient discharge of contaminants even in highly contaminated streams
- Specific solution for difficult contaminants such as plastic fibers, aluminum foil, fine sand, metal powders and small stones

The FCS Filter is designed for the same filtrations, throughputs, and materials as RAS filters, with no particular limitations, but is especially suited for streams with high levels of fibers, aluminum, or fine particulate where standard RAS scrapers struggle to discharge properly.

The FCS filter is available in four different sizes – FCS 400, FCS 500, FCS 600, and FCS 700 – designed to meet the needs of different recycling plants. With this range, FIMIC provides a reliable solution for complete scraper cleaning and effective contaminant discharge across various production scales.

With the FCS Filter, FIMIC wants to go beyond conventional solutions and offer recyclers a way to finally overcome the issue of incomplete scraper cleaning. This innovation guarantees longer machine uptime and greater process reliability, even with the most challenging contaminants.

FIMIC Srl.
www.fimic.it

New Research Project Launched

With the "CloseT" research project, the SKZ Plastics Center is working with the Fraunhofer Institute for Manufacturing Technology and Applied Materials Research IFAM to develop an innovative process for recycling mixed waste textile fibers. The aim is to develop an industrially viable, continuous chemical recycling process using solvolysis.

Until now, old textiles have mainly been recycled thermally, which irretrievably destroys valuable polymer resources and prevents the opportunity for sustainable reuse. The "CloseT" project focuses on chemical recycling using solvolysis. This involves chemically recycling mixed old textile fibers in a continuous process using a twin-screw extruder. The reaction products obtained in the recycling process are to be used directly as raw materials in plastics processing. "We want to create a sustainable alternative that not only conserves resources but also opens up new

value chains," explains Dr. Hatice Malatyali, project manager at SKZ.

Suitable synthesis routes are first developed in the laboratory and then transferred to the continuous process. One focus is on the efficient separation of mixed fibers such as cotton and PET. Cellulose acetate is to be produced from the cellulose fibers obtained, while the degraded PET fractions are repolymerized to rPET. "With this project, we are making an important contribution to reducing textile waste and strengthening the circular economy," emphasizes Prof. Dr. Andreas Hartwig from the Fraunhofer Institute for Manufacturing Technology and Applied Materials Research IFAM.

SKZ Plastics Center
Theresa Forster
t.forster@skz.de

Sampling of reaction products from the continuous chemical recycling process (Photo: Luca Hoffmannbeck, SKZ)

PET Recycling

MAS introduces the iQonicTwin HyperPET, an innovative platform for PET recycling designed to meet the highest standards for food-contact applications while unlocking new business opportunities. The flagship HyperPET solution integrates MAS's proven co-rotating conical twin-screw extruder with a Solid-State Polycondensation (SSP) process based on infrared radiation and vacuum, eliminating the need for nitrogen, to deliver exceptional intrinsic viscosity (IV), color stability, and minimal acetaldehyde (AA) formation at reduced energy consumption.

MAS is partnering with PET recycling specialist Christian Schiavolin to integrate his proven solution into the innovative MAS iQ Series. Through the iQonicTwin HyperPET solution, MAS is working closely with him to solidify further its position as a leading provider of comprehensive plastics recycling and upcycling services.

iQonicTwin HyperPET: Pre-Extrusion SSP

In the HyperPET configuration, polycondensation occurs upstream of extrusion:

1. RPET flakes are pre-heated and dried in a crystallizer.
2. The MOBY reactor applies infrared radiation under vacuum, reducing moisture and adjusting IV to the target level for bottle-grade applications.
3. Stored heat reduces extrusion energy needs and increases throughput.

While traditional food-grade PET recycling relies on "bottle-to-bottle" processes, HyperPET extends capabilities to future "tray-to-bottle" recycling. This allows for the processing of both bottle and PET tray regrind, either alone or blended, thereby expanding the feedstock pool and reducing reliance on post-consumer bottles.

Operational and Economic Benefits

The MAS iQ HyperPET solution offers:

- Stable, high-quality pellets with consistent IV, color, and low AA
- Compliance with the strictest food-contact regulations
- Reduced OPEX thanks to energy savings and operational simplification
- Greater sourcing flexibility, improving ROI

Flexible Capacities

iQonicTwin HyperPET is available in three capacities, making it suitable for both pilot lines and industrial-scale applications.

MAS also now offers a rPET SSP solution and a rPET Regran solution, which are part of the new innovative MAS portfolio.

M-A-S Maschinen- und Anlagenbau Schulz GmbH
www.mas-austria.com

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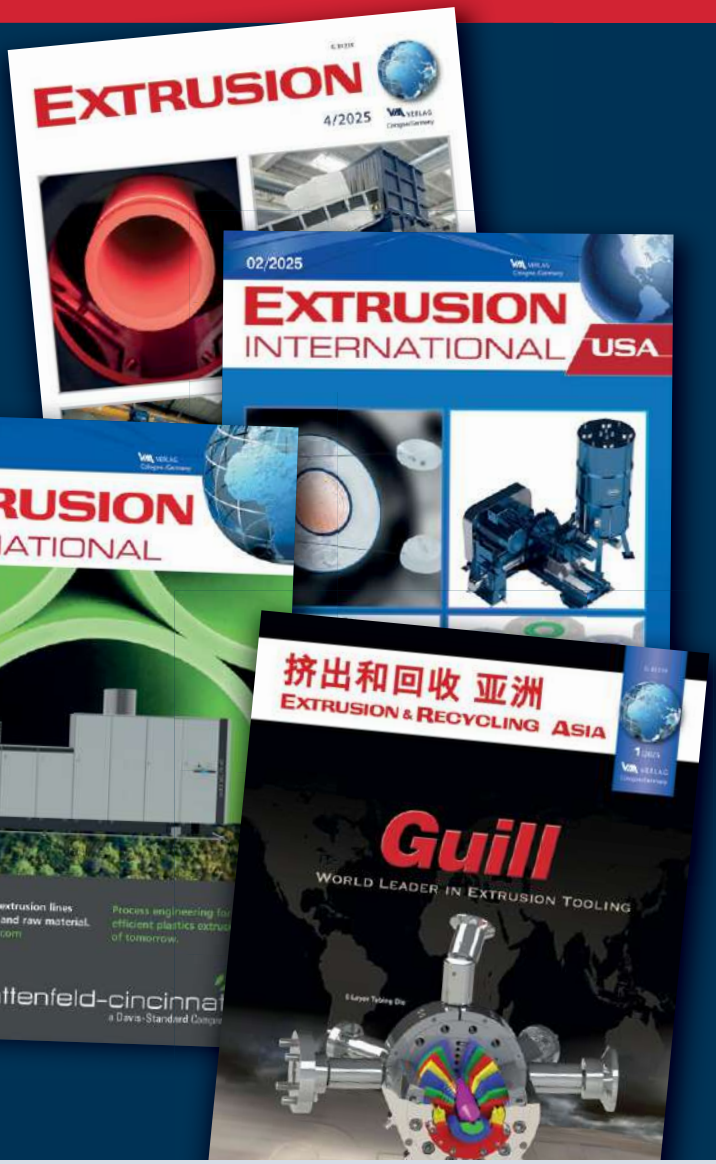

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