04/2025

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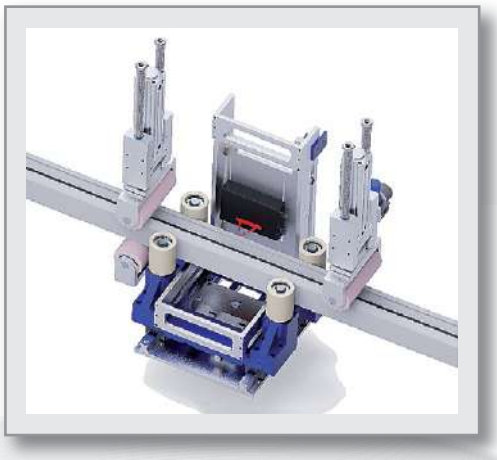
EXTRUSION INTERNATIONAL

STEIN BLUE-LINE
for a sustainable future

EXPERTS IN DOWNSTREAM

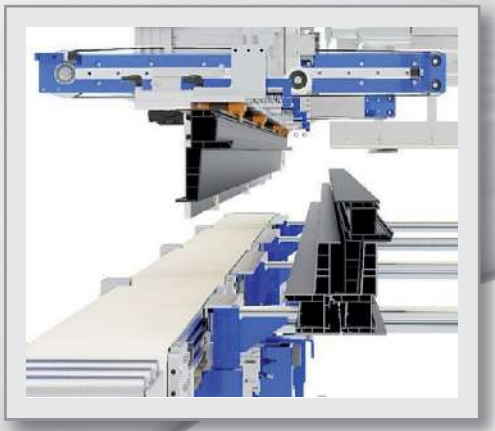
Stein Profile Stacker

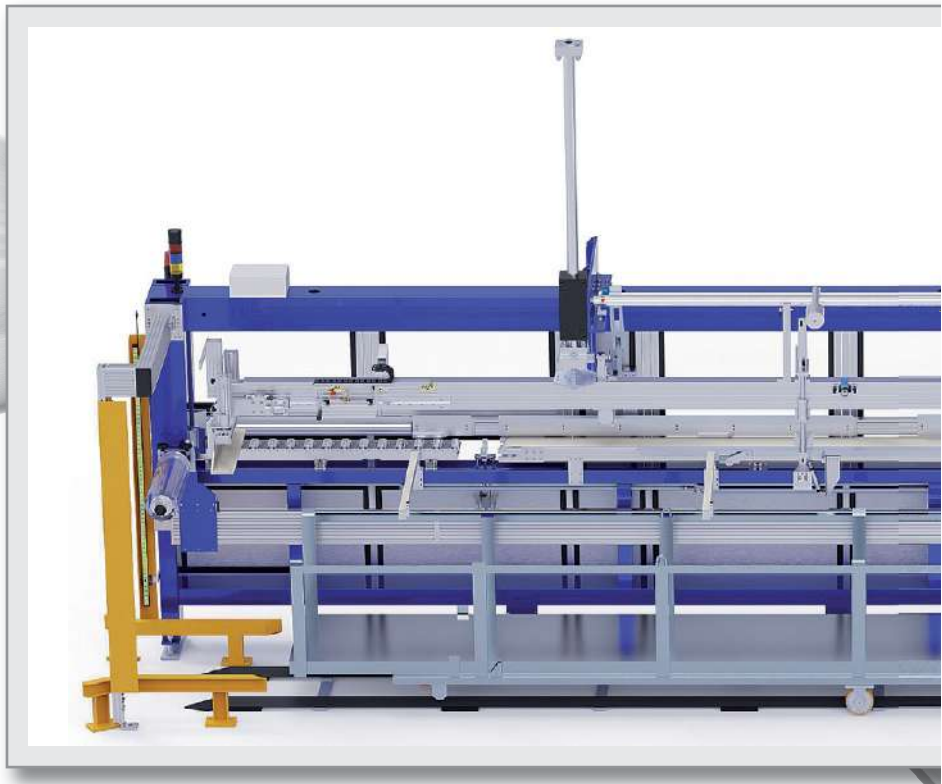


Profile length measurement during extrusion

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

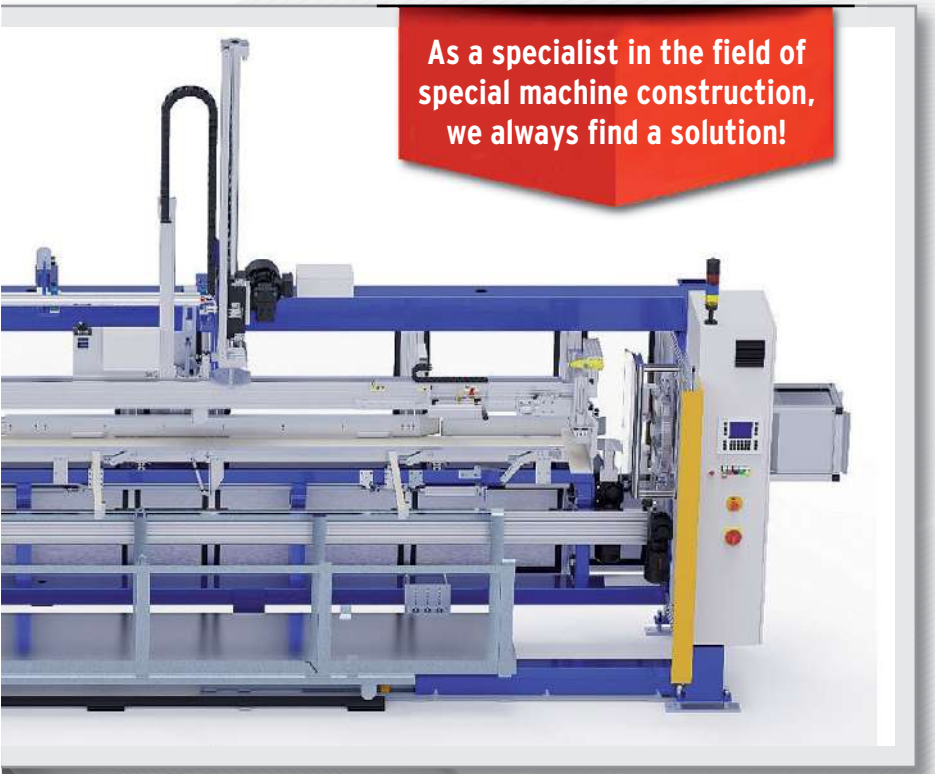
STEIN BLUE-LINE
for a sustainable future

EQUIPMENT FOR EXTRUSION

Stein Profile Stacker

Weight determination during extrusion

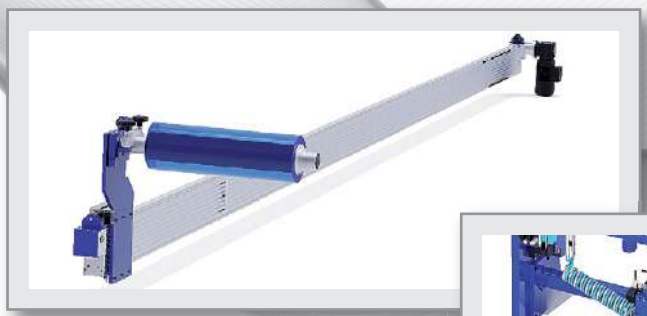
With the help of special weighing units, individual profiles can be weighed before a profile layer is formed.
The determined weight can be used to optimise the extrusion.

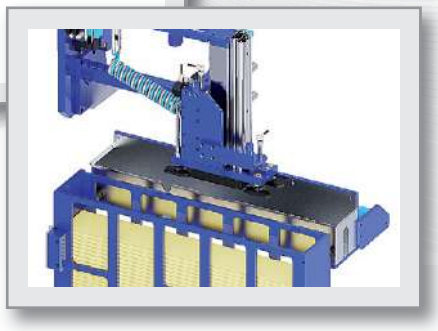


As a specialist in the field of special machine construction, we always find a solution!

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

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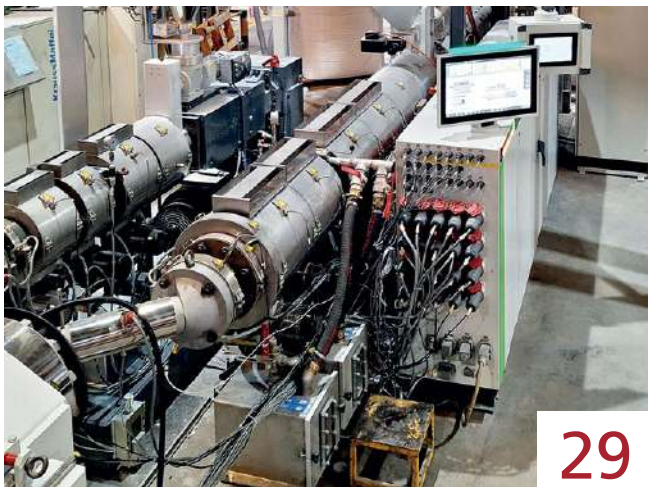

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The extrusion unit with direct dosing for the production of highly filled 3-layer PVC pipes is running: „Bahrain Pipes, one of the largest pipe manufacturers in the Middle East, was the first customer to choose our modern and sustainable machine solution“, Gernot Dorn, international Sales Director at battenfeld-cincinnati in Vienna, is pleased

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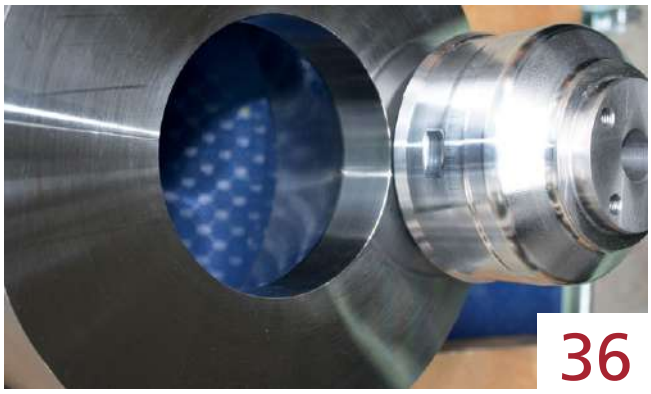
K 2025 from 8 to 15 October in Düsseldorf/Germany has set itself the goal of addressing the central issues of our times. One of its three Hot Topics reads “Shaping the Circular Economy”. Reason enough to shed some light on the current state of affairs in terms of circularity ahead of the world-leading trade fair of the plastics and rubber industry



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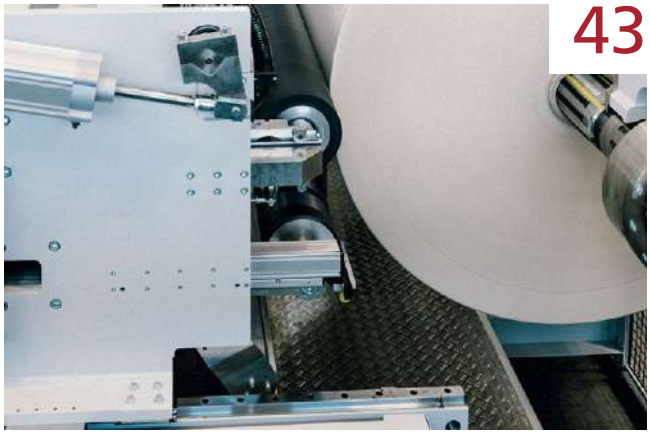
Actually it is very common in Germany to complain about the fact that it is extremely difficult to produce Articles under conditions which are competitive on the international market. The reason for that are the general regulation which exist in Germany

40

50 years of cooperation between ORA Machines and motan: What began in 1975 with initial discussions and a joint presence at the K trade fair developed into an exceptionally stable and fruitful partnership in plastics processing



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SML’s new turret winder W1300 comes fully equipped with powerful technical features and functions. Its ability to produce jumbo rolls with a mechanical diameter of 1,500 mm offers numerous benefits to manufacturers in downstream processes

44

Wind turbines are learning to swim. In the future, they will be installed far off the coasts, in harsh environments and in deep oceans. These floating offshore wind turbines will increasingly be used to take advantage of the strong and consistent winds, contributing to the energy transition. New dynamic high-voltage cables make it possible

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National Plastics Conference
22 - 25 September 2025
Orlando, FL / USA
https://e.plasticsindustry.org/

POWTECH TECHNOPHARM 2025
23 – 25 September 2025
Nuremberg / Germany
www.powtech-technopharm.com

K 2025
08 - 15 October 2025
Düsseldorf / Germany
www.k-online.de

SWOP 2025
25 – 27 November 2025
Shanghai / P. R. China
www.swop-online.com/en

Vinyl Week 2025
10 - 12 December 2025
New Orleans, LA / USA
https://e.plasticsindustry.org/

Swiss Plastics Expo
20 - 22 January 2026
Luzern / Switzerland
www.swissplastics-expo.ch

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

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

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

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

(Photos: Targi Kielce)

Plastpol 2025

Plastpol strengthened its market position as the largest industry event in Central Europe and one of the most important in the world. For four days, Targi Kielce's show was the presentation arena for machines, technologies, raw materials and services for plastics and rubber processing. Nearly 15,000 visitors learned about the offers of 600 companies from 30 countries; visitors and exhibitors come from all over the world – North America, through Spain, Germany, Hungary, the Middle East, to India, China and Japan. "Professional, business-insider visitor" are the key words, says Kamil Perz, Plastpol project director. Representatives of many industries, from household appliances, automotive and construction, to packaging, talked about specific projects, he points out.

The trade fair brings together market leaders, technological innovators and experts from around the world, enabling the exchange of knowledge, experiences and the establishment of strategic partnerships. Owing to its international scale and growing importance, Plastpol creates a platform integrating the entire industry – from raw materials, through machines, to finished products and industrial solutions – emphasizes Kamil Perz, Plastpol Project Director at Targi Kielce. "Plastics are in every area of our lives. The industry aims to reuse them, while maintaining the original parameters of the raw material. The recycling offer is playing an increasingly important role at trade fairs; strong emphasis is also placed on the needs related to energy saving and reduction of production costs. This topic will certainly also resonate at next year's 30th edition of Plastpol, which will last from 19 to 22 May", he recapitulates.

Targi Kielce
www.targikielce.pl/en/plastpol

"The Power of Plastics Forum" at K 2025

Only a few months to go until K 2025 will open its doors again from 8 to 15 October and welcome exhibitors and visitors from throughout the world. Machinery and equipment manufacturers traditionally account for the biggest group of exhibitors occupying two thirds of the exhibition area. Exhibitors showcase their innovative technologies in the halls as well as in six pavilions on the outdoor premises of K 2025. Thorsten Kühmann, Managing Director Plastics and Rubber Machinery at VDMA, one of the sponsoring associations of K, stresses: "Boasting an impressive 70% of international attendance among exhibitors and visitors K 2025 will be the most international plastics trade fair in the world. It is the guiding star of the plastics industry providing orientation for technology development, also in view of the highly dynamic sales markets worldwide."

(Photos: Messe Düsseldorf GmbH)

The Power of Plastics Forum: Green – Smart – Responsible

The Forum on the outdoor premises of K 2025 provides a good opportunity to hone in on the trade fair's motto and guiding topics and to illustrate the key role technology providers play in implementing the circular economy and digitalisation by means of practical examples. Important aspects here include:

- **Green:** Saving resources and reducing the carbon footprint through circularity.
- **Smart:** Digitalisation, automation and AI increase efficiency and feasibility.
- **Responsible:** Man is centre-stage – especially the young talents in the industry.

Kühmann: "The transformation towards a circular economy is in full swing, and machinery and equipment manufacturers play a pivotal role in it as enablers. They enable the production of recyclable products and the reuse of plastic waste to produce new, high-quality products. VDMA and its members zero in on the motto of K 2025 "The Power of Plastics! Green – Smart – Responsible" with absolute conviction and demonstrate the great potential of plastics that is unleashed by continuous technology and material developments. We need plastic products in nearly all application areas of our daily lives for people's well-being. They make a significant contribution to maintaining supplies and prosperity in our world while becoming more and more sustainable at the same time."

At the Forum amongst others plastic recycling and recyclate processing machines in operation will breathe life into "The Power of Plastics!". The VDMA members will present their technology highlights in the pavilions. Visitors can watch live how high-quality re-granulate is made from plastic waste or how recyclates are processed into attractive, highly functional and circular-ready products by means of various processing methods. At the same time, they will see how digital solutions in manufacturing also pave the way for the circular economy.

In addition, the VDMA pavilion will provide ample opportunities for networking and feature a daily, themed programme on circularity, digitalisation as well as young talents and careers.

Young Talents in machinery & equipment manufacturing

Trainees, students and career starters at plastics and rubber machinery manufacturers have joined forces and will jointly moderate the daily "Young Talents Time" in the VDMA Pavilion at K 2025. They will discuss with experts and project their image of the plastics industry of the future. The VDMA initiative EnSHEneer explicitly provides female mechanical engineering students with a platform for networking and making contact with technology producers. On Career Sunday over 50 women will get together at the VDMA Pavilion to exchange experiences, hold discussions and go on a tour of the trade fair.

Companies participating in the outdoor Forum:

- ARBURG GmbH + Co KG
- Coperion GmbH
- EREMA Group GmbH
- Lindner-Recyclingtech GmbH
- Vecoplan AG
- Wittmann Battenfeld GmbH
- VDMA e.V. Kunststoff- und Gummimaschinen

www.k-online.de

Barrier Laminates – *Expert meeting 2025*

The two-year conference at the SKZ-Modellfabrik Würzburg on 1 and 2 July 2025 offered a comprehensive insight into current developments and trends in barrier laminates. The focus was on new material solutions and innovative manufacturing processes for monomaterials. In addition, the performance of modern films was impressively demonstrated and precise measurement methods for permeation measurement were presented.

All those working on the future of barrier laminate films found access to the latest developments at this conference. The event provided valuable input on current trends in film extrusion and sustainable packaging concepts with innovatively produced polyolefin films. The two-day event also offered a first-class exchange with experts from the packaging industry. Karsten Schröder moderated the programme. Here is a brief summary of the presentations.

In his presentation, Dr Thomas Gröner from TG Pack Solutions demonstrated the effects of the Packaging & Packaging Waste Regulation PPWR on barrier packaging.

In his presentation, Florian Reiter from Borealis showed how the properties of monoaxially oriented polyolefin films can be significantly improved through targeted material selection and process control.

As part of his presentation, Hendrik Steen (Windmöller & Hölscher) presented innovative concepts for retrofitting MDO units for more efficient barrier film production. 5-layer PE blown film lines are particularly suitable for such a retrofit.

The presentation by Dr Benedikt Hauer from the Fraunhofer Institute for Physical Measurement Techniques IPM dealt with the metrological requirements for the inline quality control of ultra-thin inorganic barrier layers (< 50 nm) on polymer substrates.

Norbert Runn from Polytype Converting presented sustainable production targets with innovative technologies.

Marco Schmidt from Bobst Meerbusch presented the oneBARRIER concept as a sustainable solution for flexible paper-based packaging with a high barrier effect.

In a joint presentation, Thomas Lunz (Mondi Functional Paper & Films) and Marissa Schwinn (Traceless Materials) showed which possibilities recyclable barrier papers already offer today and what can be expected in the future. Mondi has all the technologies, including extrusion and dispersion coatings as well as metallisation.

In his presentation "Less is more - sustainability, life cycle assessment and consumer behaviour", Dr Phil Rosenow from the Fraunhofer Institute for Process Engineering and Packaging IVV emphasised that sustainability in packaging is not achieved by simply saving on materials. Underpackaging increases food losses, while overpackaging causes unnecessary environmental impacts.

In his presentation "Using bacterial cultures as a natural oxygen absorber for sausage products packaged in mono-PET", Andreas Dietrich, Weber Food Technology, pointed out that the oxygen in sausage packaging comes from the packaging process, the product and the inadequate barrier effect of mono-PET.

Examples of optimised packaging design by DfR (Source: Borealis Polyolefine GmbH)

Dr Ferdinand Somorowsky (Fraunhofer ISC) presented a fibre-based stand-up pouch with a barrier function based on bioORMOCER® hybrid polymers developed in the EU project InnPressMe.

In his presentation, Dr Philipp Okle from Amcor Flexibles Kreuzlingen AG showed the advantages of SiOx barriers for PP/PE-based, high-barrier and sterilisable packaging.

In her presentation, Dr Ulrike Helmstedt from the Leibnitz Institute for Surface Modification explained how UV radiation opens up new ways of producing transparent, flexible barrier coatings.

In his presentation, Christoph Zerwas from Ametek, Business Unit Mocon, showed new approaches to barrier measurement for flexible packaging. They are becoming increasingly important, particularly in view of the growing variety of materials and increasing requirements for accuracy and reproducibility.

In his presentation "Leak testing as a supplement to permeation measurements", Alexander Tovar from Inficon GmbH pointed out that permeation can only be measured correctly if the packaging is completely sealed.

Dr Kristina Eißenberger from the Albstadt-Sigmaringen University of Applied Sciences presented recyclable metallised multilayer films with an innovative protein barrier layer.

Karsten Schröder concluded the conference with a concise summary of all the presentations. It is time to think about packaging independently of the material. Depending on the application for which a packaging material is better suited, this may be paper, but for another application it may be (laminated) film or possibly even biomaterial. It is important to use the most suitable material in each case and not to think ideologically in one direction. This is what the PPWR demands and the big slogan is "Minimise"! In its compactness, the conference showed that minimal packaging is not a trend, but the future. Innovation, dialogue and collaboration are driving sustainable solutions and shaping the packaging world of tomorrow.

www.innoform-coaching.de
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Report Published

ELIX Polymers has published its 2024 Sustainability and Social Responsibility Report, reinforcing the company's commitment to a responsible, transparent business model in line with the Sustainable Development Goals (SDGs).

In its ninth edition, the report highlights key environmental, social and governance (ESG) developments, including the achievement of the Operation Clean Sweep® certification, which underlines its commitment to preventing the loss of plastic pellets into the environment.

In 2024, the company began a double materiality analysis, a key step in preparing for the requirements of the new European Corporate Sustainability Reporting Directive and aligning with the standards defined by EFRAG.

As part of its strategic evolution, ELIX Polymers has begun reviewing its sustainability roadmap to 2030, with the aim of adapting to new regulatory frameworks, moving towards climate neutrality (net zero) and reinforcing a solid, long-term sustainability vision.

ELIX Polymers reaffirms its leadership in sustainability with the publication of its 2024 Report (Photo: ELIX Polymers)

True to its purpose, ELIX Polymers promotes a development model based on continuous improvement, operational excellence and the talent of its team. Its goal is to generate a positive impact that transcends the industrial sphere, contributing responsibly to the progress of its customers, the environment and the entire community.

With the publication of this new report, ELIX Polymers reaffirms its willingness to lead by example, innovate with purpose and actively collaborate in building a more sustainable future.

The 2024 Sustainability Report is available in Spanish and English on the ELIX Polymers website:

www.elix-polymers.com/downloads/sustainability

Equiplast – *The Growing Trade Fair Will Showcase the Plastics Sector's Sustainable Commitment*

Equiplast 2026 is expanding and set to become the leading showcase for the sustainable transformation of the plastics and rubber industry. Organised by Fira de Barcelona, the event has already booked 80% of its planned exhibition space one year ahead of its opening, confirming strong interest from companies keen to present more circular, innovative, and efficient solutions. The event will run alongside Expoquimia, the international meeting point for the chemical and process industries.

From 2 to 5 June 2026, Equiplast will host more than 400 exhibiting companies in Hall 3 of the Gran Via venue – 12% more than in 2023, with nearly one-third coming from abroad – reaffirming its status as the leading plastics and rubber industry trade fair in the Iberian Peninsula and one of the most relevant events in Southern Europe. This growth reflects both high exhibitor loyalty from the 2023 edition and the addition of new firms. International participation is also growing steadily. After Spain, the countries contributing the most exhibitors to date include Germany, Portugal, Austria, China, Italy, and France.

A key new feature of Equiplast 2026 is the introduction of a reorganised exhibition layout designed to reflect the entire plastics and rubber value chain in a more integrated and qualitative manner. This segmentation will streamline the experience for professional visitors and enhance business opportunities across various segments. Equiplast 2026 will maintain its tradition of attracting a highly qualified audience with purchasing power – 46% of the top 50 Spanish plastics processors and recyclers by turnover attended the 2023 edition.

The most represented sectors currently include plastics processing machinery; automation equipment and systems; peripherals, parts, and components; raw materials and additives; and moulds and dies. Notably, the environmental and recycling segment is experiencing significant growth, underscoring the industry's increasing commitment to more sustainable and circular production models. This area will be strengthened by the presence of recyclers, waste management companies, extrusion and recovery machinery manufacturers, start-ups, and environmental consultancies, among other key players who are redefining the lifecycle of plastics.

Rounding out the show's scope are semi-finished and finished plastic products, specialised hardware and software, industrial safety and outsourcing services, and research and technology transfer centres.

Xavier Pascual, Director of Equiplast 2026, states: "As the leading trade fair in the sector in Spain, our mission is to highlight the innovation and circularity within the plastics and rubber industries, providing a valuable platform where businesses and professionals can connect, exchange knowledge, and showcase success stories and cutting-edge solutions that push the sector towards a more circular, competitive, and innovative future."

Equiplast 2026 will also see a major upgrade in its programme of activities with the evolution of the Rethinking Plastics space, which will serve as a hub for the latest trends and innovations in applied plastics across multiple industries.

For the first time, this initiative will include an area dedicated to presenting success stories of sustainable plastics use in sectors such as packaging, automotive, and construction. It will also feature conferences, industry roundtables, and networking sessions.

Equiplast 2026, in partnership with the Spanish Plastics Centre (CEP) and other Spanish industry associations, will also present an expanded new edition of the plastics sector report. This comprehensive study will offer an updated overview of the plastics industry in Spain, based on data from over 3,700 companies. For the first time, it will include comparative insights with the European context, providing a key tool to assess the real impact of the plastics sector and support its competitiveness.

Once again, Equiplast will run concurrently with Expoquimia, the international event for the chemical and process industries, which will present innovative and sustainable chemical solutions for improving manufacturing processes across various sectors – including plastics. Together, the two shows will feature over 800 companies and nearly 21,000 professionals, fostering a powerful synergy between two core industrial sectors that are closely aligned in areas such as new materials, chemical recycling, and sustainable transformation.

www.equiplast.com/en/

New Cooperation in U.S.

AMUT announced the appointment of EXTRUDAMERICA as its exclusive sales agency for AMUT's extrusion technologies in the mainland Northeast and Mid-Atlantic United States. This partnership marks a continued commitment by AMUT to strengthening its global sales network and delivering focused, local support to key regional markets.

EXTRUDAMERICA based in Wayne, New Jersey, brings decades of industry experience and a strong understanding of plastic extrusion applications in North American manufacturing. The company will support AMUT in connecting with processors across the territory by identifying customer needs, offering technical consultation, and guiding solution selection with professionalism and responsiveness.

Combining AMUT's 65+ years of engineering innovation with EXTRUDAMERICA's local insight ensures that processors benefit from proven European technology supported by a knowledgeable regional team. AMUT's extrusion systems are known for their performance in sheet, cast film, foils, profiles, waterproofing membranes, and stretch film production.

"We are delighted to be working with EXTRUDAMERICA in helping us grow and service our very valuable customers in the US," said Gordon Olsen, Director of Sales, AMUT North America. "The geographic area that is now represented by EXTRUDAMERICA on our behalf is a strategic target market for AMUT. With EXTRUDAMERICA's expertise and experience in the extrusion industry we are confident that our existing and potential customers will be well served by this partnership."

AMUT and EXTRUDAMERICA will work closely with customers at every stage of the extrusion system lifecycle – from initial concept and equipment specification to delivery, installation, and ongoing technical support. This partnership ensures that clients benefit from AMUT SpA's engineering expertise combined with EXTRUDAMERICA's local presence and application insight, creating a seamless, customer-focused experience from start to finish.

"This partnership is built on shared strengths," said Joseph Scuralli, President of EXTRUDAMERICA LLC. "Customers rely on us for guidance and support, but it's the combination of AMUT SpA's proven extrusion technology and our regional presence that delivers real value. Together, we offer tailored solutions that address performance, reliability, and long-term success."

AMUT SpA
www.amut.it

EXTRUDAMERICA LLC
www.extrudamerica.com

K-Alliance

The plastics and rubber industry is dynamic, highly innovative and a key player when it comes to the circular economy, climate protection and digitalisation. In October 2025 over 3,200 exhibitors from throughout the world will present the world's most comprehensive ranges of forward-looking manufacturing, processing and finishing technologies at its No. 1 trade fair, K in Düsseldorf. At the latest K three years ago, the production units presented in live operation by machine manufacturers, raw material producers and processors at the Düsseldorf exhibition halls thrilled just under 178,000 trade visitors from 167 nations.

In addition to its leading trade fair serving as the innovation hub for the entire sector every three years, global players in the plastics and rubber industry require appropriate platforms for direct market entry in growth regions. So far Messe Düsseldorf had pooled its activities under the service brand Global Gate, which will now become the K-Alliance.

"The previous name especially emphasised Messe Düsseldorf's function as a door opener for entering promising sales markets," says Thomas Franken, Director of K who goes on to explain: "The designation K-Alliance now places a clearer focus on the strong partnerships and alliances that our constantly growing, worldwide network of trade fairs related to plastics and rubber stands for."

K-Alliance stands for the international strategy of Messe Düsseldorf, for our performance promise and customer-focused service. In the international exhibition business, it is key to create professional communication platforms for global players. Here, Messe Düsseldorf's portfolio ensures ideal offerings – both with K in Düsseldorf and around the globe. Our own events and strategic alliances with leading trade fairs for the plastics and rubber industry provide the sector with tailor-made opportunities.

At present, the K-Alliance comprises eleven trade fairs throughout the world. This year will still see Pack Print Plas Philippines being held from 18 to 20 September, and Plastics & Rubber Indonesia, from 19 to 22 November. Plastindia, Plastics & Rubber Vietnam, Chinaplas, plast alger (Algeria), Colombiaplast (Colombia), Plastics & Rubber Thailand and Central Asia Plast World (Kazakhstan) in 2026 as well as Arabplast (United Arab Emirates) will be held in 2027 again. The latest member of the K-Alliance is Saudi Plastics & Petrochem, which will be held from 12 to 15 April 2026 concurrently with Saudi Print & Pack in Riyadh (Saudi Arabia).

www.k-alliance.global

Amaplast Assembly 2025

The annual Assembly of Amaplast - Italy's national trade association representing some 170 manufacturers of machinery, equipment, and moulds for plastics and rubber processing, and member of Confindustria - was held on 24 June 2025 at Villa Borromeo in Cassano d'Adda.

During the Assembly, Massimo Margaglione was confirmed as President for the 2025-2027 term, alongside Gabriele Caccia and Barbara Ulcelli, who were appointed Vice Presidents.

In his talk, Massimo Margaglione illustrated the performance of the Italian plastics and rubber processing machinery industry, commenting on the results of the fifth edition of the National Statistical Survey carried out by the MECS-Amaplast Statistical Studies Centre. The survey focused on approximately 430 manufacturers (representing over 15.000 employees), who generated revenues exceeding 4.82 billion euros (+1.4%), with exports accounting for more than 74% of the total sum.

This performance is particularly reassuring considering the multiple ongoing geopolitical tensions, the complex legislative framework, and the occasionally disadvantageous decisions imposed by European institutions.

Vice President Barbara Ulcelli commented on the survey results concerning the structure of the association and, more broadly, the structure of the Italian plastics and rubber processing machinery industry, covering aspects such as geographical position, company size, and workforce. She also provided an update on ongoing negotiations for the renewal of the National Collective Labour Agreement (CCNL), represented by Federmeccanica, of which she is a General Council member.

Vice President Gabriele Caccia focused on topics concerning his field of work, including Amaplast's participation in industry fairs over the past year, the results of GREENPLAST 2025, and the preparations for PLAST 2026.

The guest of honor at the assembly was Professor Carlo Cottarelli, who delivered a lecture on the current global economy and its potential future developments with a special emphasis on Italy.

Industry Data

According to the findings of the fifth edition of the National Statistical Survey by the MECS-Amaplast Statistical Centre, the Italian plastics and rubber processing machinery industry closed 2024 with a 1.4% increase in turnover, reaching over 4.82 billion euros. This result surpasses the preliminary forecast published in March, which had an-

ticipated a slight contraction in production.

The stability of the sector can largely be attributed to the strong performance of exports, which increased for the fourth consecutive year. According to ISTAT data, exports increased by 1.5% compared to 2023, reaching a total value of 3.62 billion euros.

Exports, accounting for three quarters of total production, peaked in the final quarter of the year, particularly in December.

While more established markets such as the European Union and North America registered modest growth, other regions – despite accounting for smaller shares – proved to be more dynamic. Significant increases in demand were observed in the Far Est – especially in China and India – as well as in non-EU European countries (Turkey), Sub-Saharan Africa, and the Middle East.

Conversely, imports declined by 7% over the course of the year, ending just above 1 billion euros.

The macro-level data emerging from the latest National Statistical Survey outline an industry composed of approximately 430 manufacturers of plastics and rubber processing machinery, equipment, and moulds, collectively employing over 15,000 people.

Moreover, a direct relationship between company size and revenue-generating capacity can be observed. While most companies fall into the three smallest turnover brackets (up to 10 million euros), employing 72% of the sector's workforce, it is the larger enterprises that account for the majority (78%) of total industry turnover. As a result, as company size increases, so does average revenue per employee and focus on exports.

Vice President Barbara Ulcelli emphasized that the average revenue per employee in the sector stands at approximately 320,000 euros, significantly higher than the national industrial average. This figure rises even further within Amaplast companies, approaching 330,000 euros.

As far as end markets are concerned, the largest share of revenue comes from the packaging sector (roughly 29% food-related and 17% non-food). The packaging sector is followed by the automotive industry (nearly 16%), construction (12%), and medical applications (5%).

Industry Trade Fairs

In addition to information on the numerous international trade fairs Amaplast took part in over the past year, Vice President Caccia presented the outcomes of the second edition of GREENPLAST. The 2025 edition – held from 27 to 30 May as part of The Innovation Alliance alongside trade fairs such as Ipacklma, Print4All, and Intralogistica Italia – welcomed 200 exhibitors (75% domestic and 25% from 19 foreign countries) across 5,500 square metres. The event registered nearly 17,400 attendees, based on pre-registration and shared visitor tracking data across all fairs, all accessible with a single entry ticket.

The next edition of GREENPLAST is scheduled to take place from 28 May to 1 June 2028, once again in conjunction with Ipacklma and Intralogistica Italia.

With regard to upcoming fairs, Vice President Caccia noted that preparations for PLAST, the historic trade show organised by Amaplast-Promaplast, have already begun. The twentieth edition will once again take place at FieraMilano Rho-Pero, from 9 to 12 June 2026.

Global economy

In his speech, Professor Carlo Cottarelli provided an overview of the global economy – projected to grow by 2.8% in 2025, barring any additional shocks that may further exacerbate the uncertainty many businesses already fear. The US and China are expected to be the main drivers of this growth.

He then studied the trajectory of the performance of the Italian economy over the past few decades and pointed out the factors hindering its growth, including, first and foremost, the heavy tax burden, excessive bureaucracy, high energy cost, the sluggishness of the justice system, and the increasingly alarming demographic decline.

www.amaplast.org

Acquisition Successfully Completed

MAAG Group announced the successful completion of the SIKORA AG acquisition. The aim of the partnership is to leverage joint synergies in a targeted manner and to strengthen the position of both companies in the long term.

With the successful completion of the transaction, MAAG and SIKORA will now combine their expertise to leverage new technological and geographical synergies, aiming at offering innovative solutions while providing expanded global support to customers.

Ueli Thuerig, President MAAG Group

Dr. Christian Frank, CEO SIKORA AG

Ueli Thuerig, President MAAG Group, explains: "We are very pleased about this partnership. By combining our strengths and expertise, we are ideally positioned to create additional value for our customers, drive innovation in a targeted manner, and promote the long-term growth of both companies."

Dr. Christian Frank, CEO of SIKORA, comments on the closing: "We are proud to be officially part of the MAAG family now. This partnership goes far beyond standard cooperation – it is based on a shared commitment to innovation, entrepreneurial spirit, and sustainable action, which form the foundation for long-term success. It marks an important step in our shared future, opens up a wide range of opportunities, and strengthens our ability to develop innovative solutions. We look forward to working with MAAG to continue our success and growth in a sustainable way."

MAAG Group
www.MAAG.com

SIKORA AG
www.sikora.net

Plastics Recycling Redefined

"The technologies used in plastics recycling have evolved very fast. Over the past few years, we have repeatedly set milestones and have been a driver of innovation. At this year's K, we will again be presenting multiple new solutions designed to keep even more plastics in circulation," said Manfred Hackl, CEO of the EREMA Group, in his opening presentation at the K Preview Press Talk, which was held at the beginning of June at the company's headquarters in Ansfelden near Linz in Austria. EREMA provided a first glance of selected innovations that the company will be presenting at K 2025 in Düsseldorf.

Two new machine types will celebrate their début at K 2025:

• TwinPro is a high-performance twin-screw technology in which the proven EREMA Preconditioning Unit (PCU) is coupled directly to a twin-screw extruder. The new system is particularly suitable for the highly efficient homogenisation in

Kick-off for Edvanced Recycling: At the beginning of June, Manfred Hackl, CEO of the EREMA Group (right), and Gerold Breuer, Head of Marketing, presented the new campaign, with which EREMA is focusing on the full range of plastics recycling (Picture: EREMA GmbH)

just one step of complex film waste with low bulk densities.

• AGGLOREMA technology is particularly interesting for preparing feedstock materials for chemical recycling. This robust and energy-efficient system produces agglomerates with a high bulk density on a large scale from heavily contaminated post consumer material.

The focus is also on the increasing demand for recycled pellets made from post consumer materials in sensitive applications and secondary packaging. For example, EREMA is launching a more compact INTAREMA® TVE-plus® 2021 and, together with Lindner Washtech, is presenting the optimum match of washing system and extruder that achieves a balanced overall process. Live recycling demonstrations in the outdoor area will show how different waste streams are processed. Visitors can see the results for themselves in the exhibition of products at the Edvanced Recycling Centre, which range from technical components to cosmetic products and food packaging.

Digital solutions play a decisive role in achieving the circular economy and handling plastic waste material in a sustainable way. At K, the PredictOn family is growing to include AI-supported in-depth data analysis for monitoring the main drives, and a new Condition Monitoring System for the plasticising unit. Both modules can be seen in action at the show, where an INTAREMA® TVEplus® DuaFil® Compact is equipped with the latest intelligent assistance systems. The results can be seen live on the displays of the BluPort® online platform at the EREMA trade fair stand and at the outdoor Edvanced Recycling Centre.

"For a more circular economy in the plastics industry, recycling has to be consistently integrated along the entire value chain. Edvanced Recycling shows how we are working together with our customers to sustainably increase the proportion of recycled plastics used in new products," says Gerold Breuer, Head of Marketing at the EREMA Group. The year-long campaign focuses on the full range of EREMA solutions, from technologies proven in practice to innovative new products, with a first highlight at K 2025. "And yes, it really is spelt that way," adds Gerold Breuer, "because the E stands for EREMA. After all, advanced plastics recycling is inextricably linked to our name."

EREMA Group
www.erema.com

K 2025: Hall 9, Stand: C09
and at the Edvanced Recycling Centre: Outdoor area, CE03

Subsidiary in Latin America Founded

Lindner continues expanding its global market presence with the foundation of Lindner LATAM. Working with local partners, the company is driving innovative recycling solutions for waste processing and strengthening its customer service.

The recycling pioneer Lindner is making a visible long-term commitment to Latin America by founding the Brazilian subsidiary Lindner LATAM. This step represents not just a clear pledge to the region but also its dedication to customer proximity and local service. By making this move, the company is strengthening its presence in a market in which the interest as well as need for waste processing, alternative fuels and plastics recycling is steadily growing. Working with local partners, the company is forging ahead with innovative recycling solutions tailored to the region's needs.

Frederico Hartmann (right), Managing Director of Lindner LATAM, together with Michael Lackner (left), Managing Director of Lindner Holding, at the office of the newly established subsidiary in São Paulo, Brazil. During his visit to the LATAM region, Michael Lackner also met with local partners as well as long-standing Lindner customers (Copyright © Lindner Recyclingtech)

"Latin America is a dynamic market with great potential. Lindner LATAM gives us a basis for being closer to our customers and partners, working together on pioneering recycling solutions," says Michael Lackner, Managing Director at Lindner Holding.

Frederico Hartmann, who is based in Brazil, has been heavily involved in establishing and expanding Lindner's presence in Latin America since 2012. In May 2025 he became Managing Director of Lindner LATAM. His close connection to the market and his long-standing experience with projects in the region mean that Frederico Hartmann has a key role in establishing and further developing Lindner in the Latin American market.

Lindner Recyclingtech GmbH
www.lindner.com

Innovative PFAS-Free Polymer Processing Aids for More Sustainable Polyolefin Extrusion

Getting ready for the K 2025 trade fair in Duesseldorf, Clariant announced the launch of its new AddWorks PPA product line, a new generation of PFAS-free polymer processing aids designed specifically for polyolefin extrusion applications. This innovative solution addresses the industry's growing need for more sustainable alternatives to conventional fluoropolymer-based processing aids while maintaining strong performance standards.

The new range includes AddWorks PPA 101 FG, primarily focused on EMEA, Americas, and SEAP markets, and AddWorks PPA 122 G, targeted for Greater China and SEAP regions. Both products are readily commercially available, offering manufacturers a timely solution as regulatory restrictions on PFAS substances continue to tighten worldwide.

"Our new AddWorks PPA product line represents a significant breakthrough in sustainable polymer processing," said Diederik Goyvaerts, Global Business Development Manager for Polymer Solutions at Clariant. "By developing PFAS-free alternatives that match or exceed the performance of traditional processing aids, we're helping our customers stay ahead of regulatory changes while maintaining the high-quality standards their end-users expect."

The innovative formulations are completely free of per- and polyfluoroalkyl substances (PFAS), as well as inorganic, silicone, or polysiloxane materials. This composition ensures broad regulatory compliance, including suitability for food contact and food packaging applications, addressing a critical need in the packaging industry. Additionally, these PFAS-free solutions support recyclability requirements under the upcoming EU Packaging and Packaging Waste Regulation (PPWR), further aligning with the industry's sustainability objectives.

Manufacturers using the new AddWorks PPA solutions can expect significant processing improvements, including enhanced extrusion efficiency, effective elimination of shark skin defects, and superior film surface smoothness. The products also maintain neutral behaviour regarding optical and mechanical properties, with no negative impact on dyne level, sealability, or coefficient of friction – critical factors for downstream converting operations.

AddWorks PPA 101 FG features a 100% active fine grain composition that can be easily incorporated via host resin, masterbatch, or concentrate. Meanwhile, AddWorks PPA 122 G comes in a convenient masterbatch form for easy handling, requiring the same dosing level as traditional polymer processing aid masterbatches, simplifying the transition for manufacturers.

PFAS-free AddWorks PPA delivers efficient shark skin control for best-in-class film properties (© Clariant)

PFAS-free AddWorks PPA enhances extrusion processability (© Clariant)

The versatility of these new processing aids makes them ideal for a wide range of applications, including polyethylene blown and cast film extrusion processes commonly used in packaging, agriculture, and building & construction industries. Film converters will particularly benefit from the improved surface quality and processing efficiency these additives provide.

Clariant's introduction of the AddWorks PPA line reinforces the company's commitment to developing more sustainable solutions that address both regulatory challenges and performance requirements. As global regulations increasingly target PFAS substances due to environmental and health concerns, Clariant's proactive approach provides customers with future-proof solutions that maintain operational excellence while advancing sustain-

ability goals. It underlines Clariant's commitment to developing solutions that align with growing consumer and brand priorities for health, transparency, and sustainability. As demand rises for products that promote well-being and minimize environmental impact, Clariant provides innovative ingredients and materials that help brands meet evolving market expectations and regulatory requirements.

Clariant International Ltd
www.clariant.com

PFAS-free AddWorks PPA delivers efficient shark skin control, enhances extrusion processability, resulting in best-in-class film surface properties (© Clariant)

Shanghai World of Packaging 2025 Opens Doors to the Asian Packaging Market

There is a vital port of call for those seeking to gain a foothold in Asia: the Shanghai World of Packaging (swop). This is the ideal meeting-point for all those looking to make their entry into one of the world's most exciting areas of economic activity. Once again, in November, swop – the central hub of the Asian packaging industry – will provide first-class conditions for market entry, doing business and targeted exchange.

The international processing & packaging industry is set to convene at swop – an event organised by the interpack alliance – in the Shanghai New International Expo Centre between 25 and 27 November 2025. In excess of 950 exhibitors and more than 40,000 visiting professionals from over 100 countries are anticipated.

The trade fair not only provides the bigger picture concerning the industry's entire supply chain, but also brings together current trends, technological developments and market segments under one roof. In addition, as a member of the interpack alliance, swop benefits from the global network's international coverage and excellent industry representation – which is a clear competitive advantage for all participants with an eye to the Asian market.

Particular added value for international exhibitors is provided by the "International Pavilion" – an all-inclusive offering by the interpack alliance that combines the best possible trade fair presence with high visibility. What's more, exhibitors in the Pavilion benefit from targeted visitor routes that lead important purchasers straight to their booths.

With a diverse accompanying programme, swop 2025 once again delivers a strong impetus for the packaging industry's ongoing development in China. Current market trends, technological innovations and international industry dialogue are at the focus. Alongside proven formats such as the Smart Packaging Zone and Green Power Zone, the upgraded "FMCG Infinity Zone", in particular, will focus on creating an integrated packaging supply chain ecosystem for fast-moving consumer goods (FMCG) brands, inspiring creativity in packaging design. Featuring a wide range of exhibits – from packaging products and materials to comprehensive solutions and supply chain services.

One highlight this year, once again, is the "Women in Packaging" forum. It pays tribute to women's contribution in an industry undergoing changes, creates visibility and promotes international dialogue on equity, leadership and diversity in the packaging industry.

www.swop-online.com/en

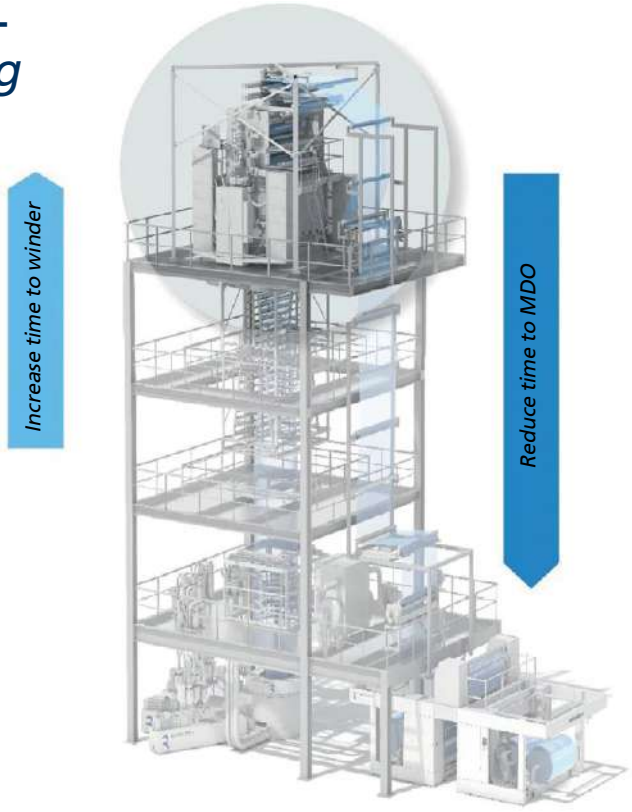
Blown Film MDO Technology – *Profitable Recyclable Packaging*

The demand for recyclable mono-material packaging is growing rapidly - driven by regulatory requirements and the increasing sustainability demands of major brand owners. At K 2025, extrusion line manufacturer Reifenhäuser Blown Film will be demonstrating how sustainable flexible packaging can be made economically competitive with the help of Reifenhäuser MDO Ultra Stretch technology: The key lies in the combination of reliable process stability and extreme downgauging.

Marcel Perrevort, CSO of the Reifenhäuser Group, says: "The technological path towards MDO mono-material films is set - now the race for profitability begins. Thanks to its unique technological approach, our MDO unit Ultra Stretch gives manufacturers a clear competitive advantage - while at the same time ensuring the highest quality and processability of the films."

Reifenhäuser Blown Film has succeeded in producing the world's first process-stable 18 µm MDO PE film with further downgauging potential. The technology behind it is called EVO Ultra Stretch - a patented MDO unit that is positioned directly in the haul-off of the blown film line, that stretches the film from the first heat. This makes the process particularly stable, which is otherwise often the limiting factor for material reduction. Ultra Stretch provides additional added value when using EVOH for barrier films. The barrier effect of the expensive raw material is enhanced by the stretching process, meaning that less of it needs to be used. Overall, this reduces production costs to a competitive level compared to conventional films, which is ultimately the relevant criterion for market acceptance.

Reifenhäuser Blown Film has already demonstrated the competitive production of recyclable packaging with an 18 µm MDO PE film with market-ready product samples (Pictures: Reifenhäuser)



Reifenhäuser EVO Ultra Stretch blown film lines enable the production of mono-material laminates (all- PE film) for fully recyclable flexible packaging

With MDO stretch units from Reifenhäuser, producers improve the mechanical film properties due to the orientation of the polymer chains in the stretch direction. This means that PET films, which usually ensure stability in film laminates, can be replaced in order to produce a recyclable mono-film composite. Mono-PE is the most common application for blown films in this regard. Stretching also makes the film thinner, which reduces material consumption. The standard thickness of MDO PE film is between 20 and 25 µm. The downgauging achieved in this way saves production costs and therefore increases profitability. A similar raw material consumption of previous PET-PE laminates is technically achieved with blown films - due to the different densities of the PET film and MDO-PE film - if the PET film, which is usually 12 µm thick, is replaced by a 16 to 17 µm thin MDO-PE film.

"The unique technical approach of EVO Ultra Stretch offers even more downgauging potential, which we will use in combination with special formulation developments for even thinner films in the future," says Marcel Perrevort. "At K 2025, we will set new benchmarks and show that recyclability and cost-effectiveness go hand in hand."

Reifenhäuser Blown Film
www.reifenhauser.com

K 2025: Hall 17, Booth: C22

Precise Fault Detection in Plastics Processing

Expert support: SKZ experts assist companies in selecting, developing, and integrating tailor-made measurement and testing systems (Photo: AdobeStock_613562329)

The SKZ Plastics Center presents modern solutions for high-precision detection of even the smallest defects in plastic products. Companies benefit from comprehensive support—from selection and adaptation to development and seamless integration of automated testing systems.

Despite careful monitoring of process parameters during production – whether in injection molding, extrusion, or additive manufacturing – undesirable quality deviations can occur. In many cases, manual rechecking remains the only way to identify rejects and avoid complaints.

However, selecting suitable testing systems is often complex: optical, tactile, and radiometric measurement methods offer different strengths and weaknesses. This is where the SKZ Plastics Center offers comprehensive, manufacturer-independent support. As a renowned institute with many years of expertise in non-destructive testing and plastics technology, SKZ supports companies throughout the entire decision-making process – from feasibility studies and comparisons of different technologies to the selection and integration of automated testing technology, including solutions developed in-house at SKZ. Free preliminary investigations and customized development services are also available for specific requirements.

With this offering, SKZ positions itself as a reliable partner for companies that want to improve their manufacturing quality in a targeted manner and detect errors at an early stage.

The SKZ Plastics Center
Pierre Pfeffer, p.pfeffer@skz.de

Film Manufacturing Processes – *Influence on Film Properties, Part B*

4 November 2025, Online (English)

This part is about flexible film production which has a significant influence on film properties. The maine processes, blown- and cast film production, are presented in detail. In particular, the influence of the processes on mechanical and optical properties as well as costs are discussed. Subsequently, stretching/orientation processes are presented, which bring further improvements of different properties. Typical examples are PP-BO, BOPE or PET-BO films, which are often used in laminates. In a final step technologies are discussed to enhance the barrier of polymer based films.

Innoform Coaching GbR
www.innoform-coaching.de/start

New 800 Series Hybrid Extrusion Tooling Announced

Guill Tool & Engineering announced the introduction of a new version of its popular 800 series, known as 800 Series Hybrid. In some extrusion applications that utilize crossheads and inlines, layers of the exact same material are applied multiple times, using a single die. This method is used to reduce the propensity for errors caused by gels breaking through a thin wall, weld lines, inconsistent wall thickness, plus material and process variations. Additional errors include difficult-to-process materials and demanding applications where there is zero fault tolerance.

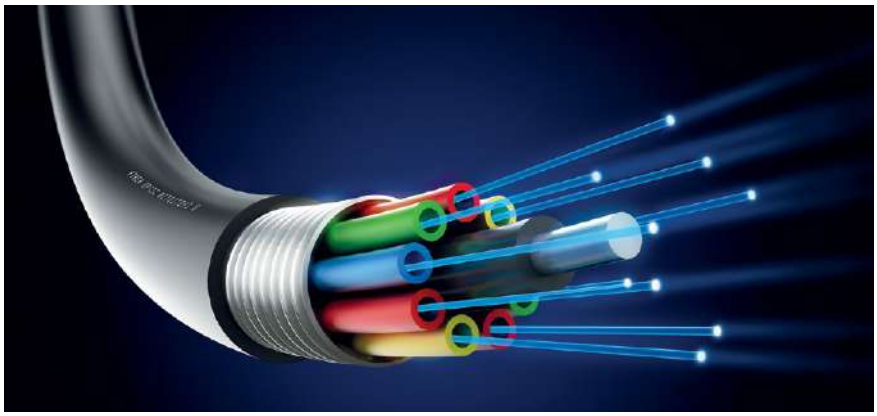
Seeking to design the next generation multi-layer die to overcome these challenges, the engineers at Guill looked for a way to incorporate this technology into an updated version of the 800 Series. This led to the creation of the 800 Series Hybrid. The inherent benefits of the 800 Series are retained, including compact design, low residence time and a common deflector bore that eliminates tolerance stack up. The challenge was to create a hybrid design that incorporates the benefits of layer overlapping, while reducing unnecessary complexity and making the technology more cost-affordable for customers. This was achieved by overlapping layers in each semi-deflector, using a single cone. The highly efficient design of the 800 Series Hybrid reduces cost and size, as opposed to other methods of overlapping layers.

Essential benefits of the 800 Series Hybrid include eliminating weld lines in materials through patented overlapping technology, producing a more consistent finished product; reduced sensitivity to changes in viscosity; reduced sensitivity to changes in line speed; myriad material and multi-layer application possibilities; works in all tubing and jacketing applications with a wide range of materials; low residence time; compact design and a low tolerance stack-up error factor, all resulting in improved concentricity.

The 800 Series Hybrid extrusion tool greatly reduces stagnation, because overlapping layers are more inherently balanced than single layers and also because each semi-deflector is "tuned to flush." Conventional deflectors must simultaneously achieve a balance between flushing, balancing and eliminating the weld line. There is less difference between the slowest moving material and the fastest moving material in the deflector channels, thus making the viscosity more consistent in the deflector.

Single–Point Concentricity Extrusion Tooling

Guill Tool 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:

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

New Extrusion Head

Guill Tool introduced The Bullet®, an extrusion head with fixed center design, multi-port spiral flow design and gum space adjustment, plus the added feature of no fastening hardware, so cleaning and restart are easier and faster than any conventional head on the market currently, according to company sources. Recently, the company began offering the next generation of this unique and patented tool, The Bullet II.

The Bullet II allows quick tooling changes, as the tips remove from the back and the die removes from the front of the unit. The absence of fastening hardware eliminates leaking, as does the taper body and deflector design pioneered by Guill. Additionally, the new patent pending CAM LOCK® deflector retaining system offers these additional benefits to extruders and machine builders:

- It only takes ½ turn of the Cam Lock® to remove and install the Deflector and Tip
- No fastening hardware required
- Fast tool changes, threaded retaining ring for the die and threaded tip retainer
- Dies are removed from the front and tips from the rear
- Tooling retainers also provide gum space adjustment
- Hassle free air / vacuum connections
- Simplified cleaning
- Reduces downtime and lowers operating costs

High- and low-volume applications are suitable for this head and are accommodated with the simple, easy changing of just one component. A family of crosshead designs is available and users can specify the "caliber", that is, the max. die ID.

A vacuum chamber and kit for assembly and disassembly are included with the unit. Optional keyed tooling capability offers machine designers and end users quick orientation, so the overall unit design enables faster disassembly, proper cleaning and restart, allowing the line to become more profitable, more quickly.

For a video demonstrating:
https://www.youtube.com/watch?v=MpEdmCRtaqg

Portfolio Strengthened

Plastics distributor Ultrapolymers and Lavergne, a leading global manufacturer of high-quality post-consumer recycled (PCR) plastics, have entered into an exclusive Europe-wide distribution partnership. The agreement covers Lavergne's VYTEEN (rABS, rPC), VYPET (rPET) and VYSTYRENE (rHIPS) PCR product families. The raw materials used come from the recycling of electrical and electronic products, other recycling programmes and the collection of ocean-bound plastics (OBP). Ultrapolymers manages the storage and distribution of these recycled plastic resins in Europe through its regional sites.

VYTEEN delivers high-performance recycled Acrylonitrile Butadiene Styrene (rABS), known for its strength and versatility. The base polymer is made from post-consumer recycled plastics and offers performance comparable to virgin ABS, featuring excellent tensile strength, impact resistance, and dimensional stability. These ABS resins undergo rigorous quality control to ensure tight tolerances and consistent performance. Lavergne's advanced production processes guarantee each batch meets precise standards, making them reliable for high-precision applications. They offer excellent flow properties, seamlessly integrating into injection molding and extrusion processes for smooth, efficient production. VYTEEN ABS is available with a minimum of 85% post-consumer recycled content in various shades of black and grey. Beyond ABS, and depending on requirements, unreinforced and glass-reinforced PC grades, as well as glass-reinforced PC/ABS grades, are available with various levels of halogen-free flame retardancy.

VYPET is made from cleaned, recycled polyethylene terephthalate (rPET), closing the loop from used disposable bottles and film, and even ocean-bound plastics, to recycled thermoplastic polyester. Thanks to Lavergne's proprietary formulating and manufacturing capabilities, the VYPET products are upcycled into various polyester compounds (polyethylene terephthalate – PET, polybutylene terephthalate – PBT) for enhanced reuse. These engineered compounds are proven suitable for a wide range of applications, including the automotive industry, electrical and electronic components, and household appliances and furniture. Depending on the application, PET and PET/PBT grades reinforced with glass fibres are available, as well as fibre/mineral reinforced grades with different filler contents, including flame retardant grades.

Lavergne specializes in designing, developing, and manufacturing high-value sustainable alloys and composites, using 100% post-consumer recycled plastics (© Lavergne)

VYSTYRENE provides a sustainable, high-quality alternative to virgin HIPS (high-impact polystyrene). With a balanced ratio of impact strength and stiffness, VYSTYRENE is ideal for applications including general electronics, consumer electronics, and white goods, segments where the material is commonly recovered under the WEEE Directive. Made entirely from post-consumer recycled plastics, VYSTYRENE supports CO_2 emissions reduction while delivering durability and performance on par with virgin HIPS. These resins feature tight tolerances, reliable dimensional stability, and seamless compatibility with injection molding and extrusion processes.

Dieter Vogeleer, European Product Manager at Ultrapolymers, comments: "Sustainability is in the DNA of both Lavergne and Ultrapolymers. As one of the most experienced polymer distributors in the European market, we have extensive market coverage. With the addition of Lavergne's products, we can now meet almost all of our customers' needs as they move towards greater sustainability. Together we are doing our part to drive innovation and sustainability in the plastics industry."

www.ultrapolymers.com

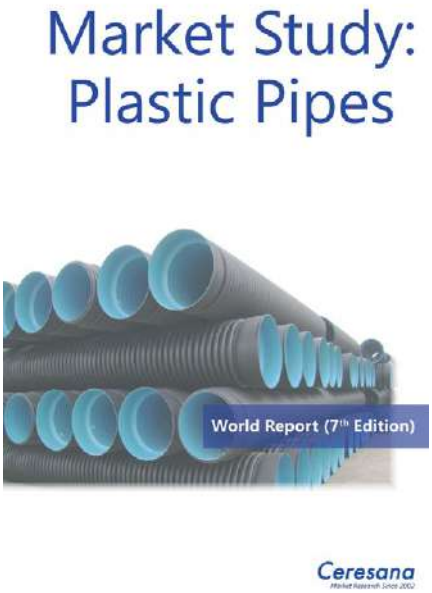
Market Study: Plastic Pipes

Distributors and manufacturers of plastic pipes are once again seeing a slight increase in demand. Ceresana has analyzed the global market for pipes, pipe components, and fittings made of PVC, polyethylene, and other polymers for the seventh time. The latest edition of the well-established market study shows that after two years of stagnation, sales of plastic pipes are on the rise again. Market researchers are also optimistic about the future: This branch of the construction industry is expected to grow by around 3.2% per year until 2033.

The study in brief

Chapter 1 provides a description and analysis of the global market for plastic pipes – including forecasts up to 2033: For each region of the world, revenue (in USD and EUR) as well as production of and demand (in tonnes) for plastic pipes are broken down.

Chapter 2 looks at the largest national markets individually: Sales, imports, and exports of plastic pipes in the 16 most important countries.



The production and demand volumes are stated separately for the different types of plastic: Polyethylene (PE), Polypropylene (PP), Polyvinyl chloride (PVC), other plastics.

In addition, demand (in 1,000 tonnes) and revenue (in millions of USD) are shown for each country, split by the individual application area: Sewage disposal, potable water supply, cable protection, gas supply, agriculture, industry, other applications.

Chapter 3 provides useful company profiles of the largest plastic pipes producers – clearly arranged according to contact details, revenues, profit, product range, production sites, and profile summary. Detailed profiles are provided by 66 manufacturers.

https://ceresana.com/en/produkt/plastic-pipes-market-report-world

Expanded Sales Network

Nordson Corporation's Polymer Processing Systems (PPS) division is strengthening its commitment to customers in Scandinavia by expanding its sales agent network for the BKG® product line. This move underscores Nordson's dedication to providing robust, localized support to its growing customer base.

The newly appointed agent, Northern Grafics, will now represent Nordson's BKG® melt delivery and pelletizing solutions across Denmark, Finland, Norway, and Sweden. This expansion builds upon an existing partnership, as Northern Grafics has been successfully representing Nordson's EDI® product line for extrusion and fluid coating die systems in the region since September 2024.

Northern Grafics brings a wealth of expertise as a representative for numerous leading manufacturers in the packaging sector. This deep understanding of the industry's needs will be invaluable in supporting Nordson's customers in Scandinavia, ensuring they have access to the latest and most efficient BKG® pelletizing and melt delivery technologies.

By expanding its network with a trusted and knowledgeable partner like Northern Grafics, Nordson PPS is reinforcing its position as a global leader in polymer processing solutions, providing customers with not only cutting-edge equipment but also localized support and expertise. This expanded network will enable Scandinavian producers to readily access the high-quality, customized solutions that Nordson is known for, further improving their operational efficiency and performance.

Northern Grafics
www.northerngrafics.com

Nordsons Polymer Processing Systems
www.nordsonpolymerprocessing.com

Shaping the Future of Plastics Testing Together

The long-standing collaboration with the leading testing technology manufacturer is being taken to a new level and further expanded with state-of-the-art technology. With the innovative CRB test and the LTM testing machine, SKZ is setting new standards in plastics testing – precise, sustainable, and forward-looking.

As part of the ZwickRoell Roadshow 2025, the impressive show truck stopped in Würzburg – a special moment for the SKZ. It brought with it a special award: the SKZ was officially named ZwickRoell's first partner laboratory.

For many years, SKZ has relied on ZwickRoell's reliable testing and measurement technology. The partnership now agreed takes this successful collaboration to a new level. As a certified partner laboratory, SKZ uses a wide range of state-of-the-art systems from the renowned manufacturer – for precise, reliable, and traceable test results in the interests of future-oriented quality assurance.

"This award is not only confirmation of our long-standing partnership, but also an incentive to actively shape the future of plastics testing together," says Dr. Marcus Heindl, Head of the Testing Laboratory, adding: "A big thank you to ZwickRoell for the trust they have placed in us – we look forward to many more joint projects."

An outstanding example of the close technical cooperation is the development of a joint case study on the Cracked Round Bar (CRB) test according to ISO 18489.

While previous methods such as the Full Notch Creep Test (FNCT) or the Pennsylvania Edge Notch Tensile Test (PENT) were considered industry standards, they have several disadvantages in practice. These classic methods are often time-consuming, environmentally questionable – especially when critical chemicals are used – and not always sufficiently informative for modern PE 100-RC materials.

Thermography makes it easy to quickly identify impurities in materials across large areas (Photo: SKZ)

The CRB test, on the other hand, offers a number of clear advantages:

It is internationally standardized according to ISO 18489, delivers significantly faster results, does not require the use of wetting agents, and enables much more precise statements to be made about the actual material performance under real-life conditions.

SKZ is one of the first laboratories in Germany to be officially accredited by the German Accreditation Body (DAkkS) to perform the CRB test – another milestone on the road to the highest quality and reliability in plastics testing.

The CRB test is already being successfully performed at SKZ using ZwickRoell's LTM electrodynamic testing machine. The decision to use this system was based on several compelling reasons:

The LTM testing machine is fully electrodynamic, eliminating the need for complex hydraulic components. It enables high-frequency testing with minimal maintenance. Thanks to its closed design, no additional climate chamber is required, which significantly simplifies operation.

Another advantage is its intuitive usability: Control is via ZwickRoell's powerful testXpert® software, which works on a plug-and-play basis, enabling quick commissioning and efficient process flows.

Conclusion: With the CRB test and innovative LTM testing technology, SKZ is setting new standards in plastics testing – efficient, sustainable, and technologically state-of-the-art. The partnership with ZwickRoell is a strong sign of innovation in action and underscores SKZ's commitment to actively shaping quality standards in the industry as a leading center of excellence.

The Plastics Center SKZ
Dr.-Ing. Marcus Heindl, m.heindl@skz.de
www.skz.de

Low-Dosage Masterbatches can be used in a Wide Range of Applications

Nonwoven products made of polypropylene (PP) with extra soft surfaces can now be produced efficiently and cost-effectively with the newly developed softening agents from masterbatch specialist Polyvel.

With an entire product family, the industry-renowned company supports fiber manufacturers and users in producing everyday products from PP nonwovens with a particularly soft feel. As the addition of small doses is sufficient, the masterbatch can be used very efficiently and cost-effectively.

The effects achieved with it range from simple, smooth surfaces to so-called "supersoft" products with an ultra-soft feel reminiscent of natural silk.

The process aids are suitable for all products with surfaces that are very soft to the touch and have a high-quality appearance. Manufacturers of hygiene textiles in particular rely on them. In addition, they find application in numerous other sectors, including the automotive and furniture industries, medical technology, the processing industry, and the construction sector. If required, Polyvel also offers to optimize the softening agents for customer-specific applications.

Extensive tests by neutral certification and testing laboratories confirm that the additives are also absolutely harmless in contact with human skin, for example in baby diapers. Their use in conjunction with food is equally safe. The processing aids are also PFAS-free and do not contain any substances on the SVHC list (Substance of Very High Concern) of the European Chemicals Agency (ECHA).

The new Polyvel softening agents for PP nonwovens enable ultra-soft surfaces (Image: Shutterstock, ID no. 2501286425)

During extrusion with the help of additive masterbatches such as Polyvel NH-P01, an extremely low dosage from 0.5% is sufficient to achieve PP nonwoven surfaces with a high degree of softness. This means that conventional plasticizers and the chemicals usually associated with them can be dispensed with.

The process aids are introduced during the production of the PP nonwovens. There, they prevent the fabric gels of the fibers from forming a brittle surface with a rough feel after extrusion. Instead, the dissolved additive in the PP nonwoven permanently migrates to the fiber surface. In this way, it creates a unique softness that people appreciate in many products.

Polyvel's product portfolio is wide-ranging and goes far beyond the newly developed softening agents for polypropylene.

Recently, customers have been focusing in particular on additives for processing bioplastics such as polylactide (PLA), which are in demand to add specific technical and functional properties to applications.

Polyvel Europe GmbH
www.polyvel-europe.com

Labs Offer Materials and Extrusion Testing

Guill Tool & Engineering, global leader in extrusion tooling, has expanded its lab capabilities to better serve the global extrusion market with the creation of Guill Labs. The labs include the company's state-of-the-art rheology lab and a facility focused entirely on the extrusion process.

Guill's existing rheology lab measures the flow characteristics of plastics and rubber to predict how a customer's material will flow through the company's extrusion dies before production. Tooling geometry is virtually optimized, and the project can be viewed in 3D CAD. Machines used include a rotational rheometer, scanning calorimeter, thermal conductivity meter and a new CT scanner.

The rotational rheometer quickly generates viscoelastic data for polymer melts, precisely capturing polymer melt properties. Test temperature ranges between ambient and 300°C. The lab's scanning calorimeter characterizes the thermal properties of a polymer sample, such as crystallization temperature, glass transition temperature and head capacity of the sample. Knowing these thermal properties permits the simulation of shear heating and hot and cold spots in the flow area. The thermal conductivity meter is used to determine the thermal conductivity of the polymer sample across a range of temperatures.

This in-house lab provides faster turnaround on test results, reducing delays during the design process and offering better control over the testing parameters. The result is a high-quality part delivered on time.

The new test extrusion facility features various pieces of equipment including two Killion 1.25" extruders, an RDN 2.0 PVS vacuum tank, one Keyence LS9000 dual axis laser gauge, two Dri Air ARID-X 10 30lb capacity driers, a custom-built tubing puller and an Accurate Thermal Systems FTBLL47 fluidized bath. In addition, the test lab permits single and co-extrusion capabilities with

Close-up of the IM-8000 Series, a dimensional measurement system

Design Engineer Jacob Marcure working in the rheology lab

Fluidized bath in the test extrusion facility

The rheology lab's scanning calorimeter

its tried-and-true die designs. Access to exotic extrusion processes such as rotary die extrusion of filament and tubular end-products are also available.

Supporting extrusion trials, the test lab also offers extrusion training, die cleaning services, sample inspection, and end-product testing. Guill's fluidized bath has a 50°C-605°C temperature range and a working volume of 15.7" x 47."

Customers can test materials, dies and actual extrusion run time… all on Guill premises.

Guill Tool & Engineering
Tom Baldock, Sales Manager, Extrusion
10 Pike Street , West Warwick, RI 02893, USA
tbaldock@guill.com

First Extrusion Line for Highly Filled PVC Pipes in the Middle East Delivered

The extrusion unit with direct dosing for the production of highly filled 3-layer PVC pipes is running: „Bahrain Pipes, one of the largest pipe manufacturers in the Middle East, was the first customer to choose our modern and sustainable machine solution", Gernot Dorn, international Sales Director at battenfeld-cincinnati in Vienna, is pleased. The key feature of the combination of parallel twin-screw extruder twinEX and co-extruder conEX is the permanently installed gravimetric dosing unit on the twinEX. It allows the direct processing of chalk - without premixing. This saves energy, minimizes wear, ensures reliable dosing and provides flexibility in the use of materials.

Bahrain Pipes manufactures pipes and system solutions for various applications. These include pipes for hot water, cold water and gas supply, pipes for sewage systems and pipes for data transport systems made of PE, PP-R and PVC. More than 20 extrusion lines are in operation at the production site in Manama, Bahrain, for the production of small and large pipes, coiled pipes and corrugated pipes. A large injection molding machine park completes the extruded pipes with its own fittings to create complete systems if required. The company, which was founded in 1996, therefore has enormous expertise and a broad portfolio and has a good reputation not only nationally but also internationally. Bahrain Pipes selected the innovative extruder solution with dosing station from its long-standing machine supplier battenfeld-cincinnati primarily because of the material cost savings combined with increased flexibility. "The customer has upgraded an existing pipe line with our extruder combination and is now able to produce 3-layer pipes with a highly filled middle layer," explains Gernot Dorn.

High filler contents are of great interest for the production of PVC pipes, as the material costs still make up the lion's share of the production

Plant manager P. Koneshwaran with technicians from battenfeld-cincinnati Austria GmbH, from left to right: Omar El Shami (Technician), Youssef El Shami (Technician), P. Koneshwaran (Plant Manager Bahrain Pipes), Philipp Steininger (Technician)

Twin screw extruder twinEX and coextruder conEX with permanently installed gravimetric dosing unit

costs. Chalk contents of up to 65 parts (ppH) are quite common. However, the high contents do not make the production and dosing of the typically used premixes very easy. On the one hand, the high chalk content leads to increased machine wear due to its abrasiveness, both in the heating/cooling mixer and in the conveying lines, and on the other hand it can lead to demixing before being fed into the extruder, which in turn leads to reduced material homogeneity. These disadvantages are a thing of the past with the new dosing unit. Pipe manufacturers such as Bahrain Pipes can now use premixes with a low chalk content and feed the remaining quantity directly into the extruder. On the one hand, the standardized premix reduces wear in the heating/cooling mixer and, on the other hand, allows higher overall outputs, as high chalk content enables longer mixing times and smaller quantities due to its large surface area. At the same time, the standard mix in combination with the dosing unit enables product-specific recipes to be configured on demand directly on the extruder. To ensure a smooth process, the dosing unit is equipped with a closed chamber in which the chalk is kept in constant motion to prevent bridging and to guarantee dust-free operation. It is fed directly into the main extruder, the twinEX 93-34R. This is equipped with a specially adapted and wear-resistant screw geometry and ensures perfect homogenization of the middle layer. The conical conEX NG 54 twin-screw extruder ensures shiny and absolutely smooth inner and outer layers for the up to 250 mm wastewater pipes produced in Bahrain. To the customer's complete satisfaction, the line has recently been running at an output rate of 750 kg/h.

battenfeld-cincinnati
www.battenfeld-cincinnati.com

Bahrain Pipes (BP)
www.bahrainpipes.com

The First 100 Days

When Michael Behrens was appointed CEO at Vetaphone at the end of 2024 it marked a significant milestone in the company's long and illustrious history. Established in the early 1950s when plastic packaging was growing in popularity after the Second World War, Vetaphone was the brainchild of Verner Eisby, who is universally acknowledged as the inventor of what we have come to know as 'corona surface treatment'.

Management of Vetaphone subsequently passed to Verner's two sons, Frank and Jan, and the company, which remains in family ownership, has grown to become a global market leader in industry sectors from extrusion to printing and converting. Throughout its history the company has continued to pioneer surface treatment technology and as it looks to expand its capabilities and product portfolio into the 21st century, it has made a significant management change at the top with an outside appointment.

Industry publicist Nick Coombes spoke with the new CEO Michael Behrens after his first 100 days in office to find out what his plans are for the future.

NC: What attracted you to the job of CEO at Vetaphone?

MB: Vetaphone is a technical company that has a full value chain, from engineering to 24/7/365 support, and is exporting its technology and expertise all over the world. That was important to me because my experience comes from this kind of company. I also liked the fact that it is a family-owned business, and continues to be so, with the short decision times that this structure allows. Background research showed me that the company has consistently grown and has a professional Board of Directors already in place, so I knew that I was looking at an ambitious enterprise with a commercial mindset and great values. Finally, I learned very quickly that Vetaphone is a premium brand within the Corona and Plasma surface treatment markets, and I found that very appealing.

NC: What were your impressions of Vetaphone before you joined?

MB: My first impression was of the company's HQ. It's a very striking building that is well-known in the city of Kolding, and says much about the quality of the company and its products. I was born and raised here, and still live in Kolding, so the name Vetaphone has been around for as long as I can remember. Over the years I have seen how the company has added more office and production space and began to hear more about the its growth and development through my professional network. But I never knew exactly what they were producing, nor did I know the Eisby brothers before I came for interview.

NC: Has this changed after 100 days in the job?

MB: Obviously, I now know what the company does, which is a big help! But seriously, the Eisby brothers were very transparent and honest during their thorough recruiting process, and these are values that I truly appreciate. The picture they painted of Vetaphone is very much what I have experienced in my first 100 days. We seem to share the same values, and 'take' on people, and have a management style that is well aligned. It makes discussions easy to the point that we were communicating on the same frequency from the first day. You could say it was pretty much a perfect start.

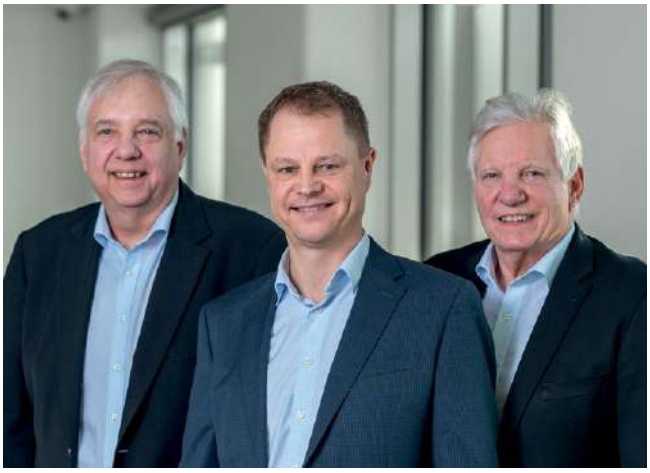
NC: What do you see as the main challenges both internally and externally?

MB: Internally, to maintain the current culture and great camaraderie, but also ensure that we stay agile and alert to market changes so we can respond to them quickly. This will need more structure in the way we run the business and I'm keen to build a strong winning attitude – a culture of success and expectation. My own style is one of combining soft facts with hard facts, and hard facts is an area where we are already improving. It's not quite an iron fist in a velvet glove, but statistics can neither be ignored nor denied – it's the hard reality of the tough commercial environment in which we operate, and only the best and strongest will survive.

Externally, we need to make sure we develop strategic partnerships with our existing and new customers. Vetaphone has unparalleled knowledge and expertise in surface treatment so our approach is more consultancy work than just a matter of selling the product. It's not enough to know that you need surface treatment, you need to know why, and how it works if you are going to get the best out of what is highly sophisticated technology, so education has always been a central part of our business ethos. Knowledge is power, so our duty is to empower our customers. This we can do with the help of our worldwide agent and service setup, which we believe brings added value to our customers, wherever they are located.

NC: That sounds like a lot of change?

MB: The business environment is constantly changing – if you stand still, you go backwards. While we'll need to make changes to grow the company even more, I want to reassure our customers that nothing will be lost to them in terms of expertise, commitment to ongoing development, and service – and, for the time being at least, the 'Vetaphone family' touch that customers have come to know and appreciate will continue. It's been the rock on which our success has been built – so, as the saying goes: if it ain't broke, don't fix it – but we all know nothing stays the same forever and the key point is finding a way to grow the business with happy customers.



Michael Behrens is the first CEO in the company's history to be an outside appointment – he is seen here with Jan and Frank Eisby, whose father, Verner founded the company in the 1950s

NC: What do you think are the main assets you bring to the company?

MB: Having worked in international sales for most of my career, I have a commercial mindset, and I believe it is very important for every CEO to talk directly to customers, maybe not every day, but as often as possible. How can you define and refine your management policy if you're not up to date with what's going on in the outside world? We don't operate in a vacuum – all our R&D is in direct response to the changing demands of the marketplace, and I need to know what they are. I have a sportsman's mindset from my career as a national team golfer – I am structured, and I constantly want to improve things. Vetaphone has a very strong brand identity in the market, but I know that the competition is tough and that we must improve every day to keep that unique position.

NC: And finally, how important is it to maintain the Eisby family connection?

MB: To my mind it's very important, at least in the early years, because of their unrivalled knowledge and experience in surface treatment. Although both Frank and Jan have stepped back from frontline management, they still have active roles to play in day-to-day company life here as owners and Board Directors. Frank is now heading-up a new Business Development Unit, while Jan is playing a valuable part in developing the Vetaphone Academy Educational Unit. There will be Eisbys at Vetaphone for a long time yet, I can assure you!

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

Plastics and Circularity – Caught Between Necessity and Potential

K 2025 from 8 to 15 October in Düsseldorf has set itself the goal of addressing the central issues of our times. One of its three Hot Topics reads "Shaping the Circular Economy". Reason enough to shed some light on the current state of affairs in terms of circularity ahead of the world-leading trade fair of the plastics and rubber industry.

The world is experiencing a raw material crisis: more than 100 billion tons of raw materials are consumed annually but over 90% of the raw materials used are not recycled. An alarming ratio flagged up by the European Investment Bank (EIB). Rising CO_2 costs, volatile raw material prices and geopolitical insecurities put additional pressure on companies to manage resources more carefully.

Circularity is considered the decisive lever for achieving a sustainable future. An analysis by management consultancy Material Economics shows that Europe could save 450 million tons of CO_2 equivalents through closed material cycles by 2030 – this corresponds to 8% of the current emissions. In the long term, the Ellen MacArthur Foundation forecasts that up to 45% of emissions could be avoided by a closed-loop circular economy.

This transformation also holds enormous economic potential: according to estimates by consulting group EY, the use of secondary raw materials reduces energy consumption by 20% to 90%, saves large amounts of water and could save European firms up to EUR 465 billion in material costs per year. The International Labour Organisation (ILO) also expects seven to eight million new jobs to be created worldwide by the transition to a circular economy by 2030. More and more use cases show that circularity makes not only ecological but also economic sense. For instance, the German Cabka Group annually produces pallets and crates from some 150,000 tons of recycled plastics by their own accounts – proving thereby how waste can be turned into valuable products.

The plastics industry plays a pivotal role in this transformation. In 2023 413.8 million tons of plastics were

produced worldwide, according to Plastics Europe, but the share of recycled materials continues to be low: only 8.7% of plastics were recycled – most of them by mechanical recycling – whereas the lion's share was incinerated or landfilled. This is happening even though recyclates hold an enormous potential. Their production requires markedly less energy than the production of new products from fossil raw materials, thereby substantially reducing CO_2 emissions. On top of this, their use increases supply security – a factor of rising importance in times of geopolitical crises.

However, recycling is technically demanding – and often more expensive than producing new plastics. After all, post-consumer plastics have to be sorted, cleaned and prepared with great effort. In addition, the legal requirements are strict, high-quality recyclates scarce and many processes energy-intensive – all resulting in higher production costs compared to new plastics. "But nobody wants to pay higher costs," stresses Ulrich Reifenhäuser, Chairman of the K Advisory Board. "Plastics are so successful because they are so much better than other materials. But the transition to the circular economy costs money. This cost issue will not be overcome without regulatory requirements."

However, the responses to the question of how the transition to a functioning circular economy will work vary from country to country.

While other nations focus on voluntary commitments and market-oriented solutions, Europe regulates by law. Strategies such as the "Circular Economy Action Plan" (CEAP) and regulations such as the Packaging and Packaging Waste Regulation (PPWR) and the Single-Use Packaging Directive (SUPD) drive the transition to circularity by means of recycling rate, mandatory recyclate content and Extended Producer Responsibility (EPR). The PPWR shows how this works: since 2025 single-use PET bottles have to contain a minimum of 25% recycled plastic and this percentage will go up 30% by 2030. For manufacturers such as Coca-Cola or Nestlé this means rebuilding their supply chains, sourcing high-quality recyclates, adapting production – otherwise they run the risk of a sales ban. The SUPD is also having an impact: in Lithuania the return rate of PET bottles shot up from 34% to 92% after the introduction of a deposit system – in as little as two years. Companies face major challenges in the process: the limited availability of high-quality recyclates, the technical complexity of changing over to a recycling-friendly design – not forgetting the short deadlines set for complying with these often complex requirements.

Chemical ingredients are also increasingly moving into the focus of the EU. Especially disputed is the handling of PFAS since a ban could make recycling considerably more difficult – because plenty of waste plastics would then be classified as contaminated and eliminated from the circular economy. Wolfgang Große Entrup, Director General of VCI, therefore warns against a blanket ban: "With each individual substance banned in the EU the risk grows that more of our industry players move to less regulated regions. This, however, does not solve the original problem."

Accounting for 53% of global plastics production Asia is the main player – and the main source of plastic waste. While some countries pursue ambitious recycling strategies, others lack the basic infrastructure.

For a long time, China was the biggest importer of plastic waste, now the country is recharting its course. By adopting its "National Sword Policy" the country has stopped the imports of unsorted plastic waste and is now driving the expansion of own recycling structures. The 14th 5-year plan focuses on modern collection and sorting systems and promotes both mechanical and chemical recycling. By 2035 the industry aims to be largely decarbonised and have transited to closed material cycles. This strategy is accompanied by the "Circular Economy Promotion Law", which obliges companies to take back and safely dispose of specific products, and the establishment of the state-owned "China Resources Recycling Group" with the aim of centrally controlling the transformation.

Japan and South Korea are among the pioneers in circular economy – not least due to clear political objectives and early-adopted legislation. In Japan the "Container and Packaging Recycling Act" has already obliged companies since the 1990s to participate in return and recycling systems. This is supported by the "Plastic Resource Circulation Act" adopted in 2022, which promotes recyclate use and prescribes detailed recycling plans for plastic products.

South Korea pursues a systemic, technology-driven approach via its new "Act for Promotion of Transition to a Circular Economy Society" (APTCES): binding recycling rates, clear requirements for sustainable product design as well as targeted regulation for hard-to-recycle products. In addition, companies wanting to place new recycling technologies on the market, are temporarily exempted from restrictions.

Unlike Europe, these two countries are banking on clear responsibilities, hands-on implementation and targeted innovation funding rather than detailed regulation. This approach is supported by high social acceptance and responsibility assumed across the board when it comes to waste separation and saving resources, for example.

In India the "Plastic Waste Management Rules" (PWMR) oblige companies to take back plastic waste. Despite this important step insufficient infrastructure and the varying regional applications of the rules remain a major challenge for a nation-wide implementation. Similar problems exist in Vietnam, where an EPR law was introduced in 2022. It holds manufacturers and importers accountable for seeing to the recyclability of their products.

In Thailand the "Plastic Waste Management Roadmap 2030" pursues the aim of recycling or energetically using 100% of plastic waste by 2027. There are local initiatives in Indonesia but there is no comprehensive national strategy. One objective is to drastically reduce the plastic waste that ends up in the sea by 2040.

Despite the progress made in these countries the regional fragmentation of waste management and the lack of infrastructure continue to pose a major challenge. Raising people's awareness and stronger indus-

try involvement will make or break the success of these measures.

In North America circularity strategies are heavily fragmented. The US is pursuing an approach that comprises both state initiatives and private business measures. 33 US states have established EPR programmes, which oblige manufacturers of single-use packaging to financially participate in waste management. By 2032 100% of packaging is to be recyclable or compostable, and 65% of one-way packaging be recycled. Other states, however, lag behind. There is also another reason why plastic recycling in the USA only has a low uptake compared to the rest of the world, despite modern recycling technologies: "There is neither a national nor a state-wide recycling programme that would cover at least a complete federal state. Instead, individual cities and municipalities decide whether, how and which waste they collect and sort," explains the German federal economic promotion agency, Germany Trade & Invest (GTAI).

Canada pursues a more comprehensive approach to promote the circular economy. The government has introduced the "Federal Plastics Registry", a national registry for plastics to collect data about the production, use and disposal of plastics. It is designed to increase transparency and make for more effective plastic management. The "Action Plan on Zero Plastic Waste" aims to reduce plastic waste and establish a circular economy for plastics. It includes measures for reducing single-use plastics and promoting reuse and recycling. Beyond this, a gradual approach is pursued to reduce plastic waste by banning single-use plastic products and introducing EPR.

In South America the circular economy is still in its infancy – some 90% of waste ends up at landfills and recycling is only of secondary importance. Chile, Colombia and Brazil have national return and circularity schemes such as Chile's "Ley REP", Colombia's "Basura Cero" initiative or voluntary industry solutions in Brazil. Uruguay banks on consistent waste management with its Integrated Waste Management Act (Ley 19.829) and promotes packaging recycling. Despite various advances and initiatives, however, infrastructure remains insufficient in many South American regions and success will depend on further state investment, international cooperation and stronger awareness raising among the population.

Summary & Outlook

The circular economy is both an obligation and opportunity alike for the plastics industry. Europe pursues a strictly regulatory approach, Asia combines state regulations with technology offensives while in the Americas the spectrum ranges from ambitious requirements to a patchwork of isolated measures or confidence in the invisible hand of the market.

But every circular economy model has its pitfalls: regulation creates clear rules but can lead to excessive bureaucracy and lack of investment – a risk that becomes increasingly perceivable in Europe. "To avoid a slowing down of the transformation we urgently need measures to make investment in the production of circularity-ready plastics more attractive, reduce red tape caused by excessively long approval procedures to name but one, and to return to a level-playing field with our international competitors," warns Virginia Janssens, Managing Director of Plastics Europe.

Market-based approaches promote innovations but do not guarantee nation-wide implementation. Centrally controlled strategies produce fast progress but run the risk of becoming inefficient. One thing is clear: without higher recycling rates and more recyclates the circular economy remains a patchwork. Those learning from each other can combine strengths and compensate for weaknesses.

Messe Düsseldorf GmbH
www.k-online.com

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GWDS –

the Best and without Doubt also the most Economic Solution to Optimize the Wall Thickness Distribution of the Parison during Blow Moulding

Actually it is very common in Germany to complain about the fact that it is extremely difficult to produce articles under conditions which are competitive on the international market. The reason for that are the general regulations which exist in Germany. It is easy to hold the politicians responsible for that. They intend to reduce the bureaucracy, but they do not stop to pass new regulations. Under these conditions at least the industrial managers should use all technical solutions which are existing to strengthen the international competitiveness.

The past has shown that even engineers have problems to use innovative solutions. This especially in case that only few other companies have already proved that the solution is really of great value. A good example for that is the innovative GWDS (Gross Wanddickensteuerung) technology which is patented since the year 2011. It is an advantageous solution to optimize the wall thickness distribution over the circumference of the parison during the extrusion blow molding process. The new technology stands in competition to the PWDS (Partielle Wanddickensteuerung) which has been developed and has also been patented about 50 years ago. This technology still keeps a world-wide monopoly position. As the patent protection has lapsed long ago several companies have already copied the solution and offer it in the market.

What is the difference between the two technical solutions?

The PWDS is a very complex solution where the die is dynamically deformed while the parison is discharged.

In many cases also the core is deformed statically. In the early days the wall of the die was shifted by hydraulic pistons. In the meantime often servo drives are used to shift the wall. Whereas the wall of the core is positioned by adjusting screws which are placed around the circumference of the core. It is necessary to implement special software to the machine controller additional to the software which is part of the basic machine. This is necessary in order to shift the die dynamically. Special steel alloys are necessary that allow as well for the dynamic as also for the static deformation of the wall of the die and the core. Important components have to be maintained in regular time intervals. Furthermore the danger exists that a part of the complex PWDS system fails in spite of a regular maintenance. This inevitably causes a machine stop for a certain time.

In contrary the GWDS solution needs only a solid die and a solid core. Consequently it is no longer necessary to deform a steel with high forces. Naturally it is also not necessary to implement additional software to the computer of the machine. What is of great advantage for the companies which produce blow molded articles is the fact that a solid die and a solid core need not to be maintained and that they can nor fail during the production and cause a machine break down.

How do the two different solutions work?

The PWDS system alters dynamically the size of the flow channel gap between the die and the core at defined positions locally limited while the parison is extracted. In order to achieve that two or maximum four actuators are mounted to the die in an angle of 180 or of 90 degrees. The wall of the die can consequently be pushed or pulled at four defined positions. The size of the flow channel is continuously modified right and left of the point where the actuators are positioned. The wall follows its natural bending behavior. Additionally the wall of the core can be pushed to the outside with the help of the adjusting screws. By adjusting the wall of the core the wall thickness of the parison is influenced over its entire length.

The GWDS solution is based on a know how and an experience which has been gathered when running experiments to produce pipes. During special experiments it was found out that it is possible to push the core out of the die without that that has critical influences on the quality of the pipe that is produced. But in the first moment this knowledge does not help when extracting a parison. This because it is state of the art in extrusion blow molding to design as well the end of the die as also that of the core conical. Most experts still postulate: "That's how it was always done and that has proven to be successful!" The core of a conical die cannot be pushed out of the die as the core would hit the die or the flow channel gap of the die would get much too big.

But what is said against using a cylindrical die apart from the fact that dies for extrusion blow molding always have been conical. The core of the die can be pushed out of the die in case the die is designed cylindrical and in case the core is smaller in diameter than the die. Then the area of the core which is positioned outside of the die can be profiled in any necessary way according to the needs of the article which has to be produced. As long as the profiled area is outside of the die it is not part of the flow channel. So the wall thickness of the parison is not at all affected by the profiled core area. The parison simply glides over the profil end of the core without being modified in its wall thickness as it is formed by the end gap of the flow channel. In case it is necessary to alter the wall thickness of the parison the pin is simply pulled up and the profile becomes part of the flow channel. As a consequence the wall thickness of the parison alters according to the gap of the flow channel which alters over the circumference.

Picture 2: Comparison of the results which have been obtained using a conventional conical die (on the bottom) and those that have been reached using a cylindrical GWDS die (on the top)

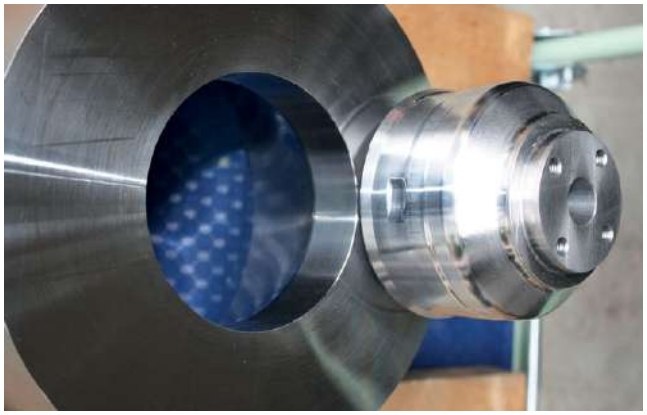
Comparison of the processing possibilities of the two solutions

The PWDS system is limited in its use. It can only be used in a middle die diameter range. The smaller the diameter of the die gets the stiffer it becomes. That is why there actually exists a border diameter of 50 mm under which a die is too stiff that it can be deformed in a necessary way. This is the reason why even today all blow molded articles have more or less wall thickness differences in their bottom region which are not intended. This applies to the great amount of articles which are used in packaging applications and which are produced using die diameters which are smaller than 50 mm. Dies having a diameter that is bigger than 800 mm get that expensive that it does not make sense to use a PWDS system due to economic reasons.

In contrary to the PWDS system there exists no die diameter limit to use a GWDS solution. That is why the wall thickness distribution of all small blow molded articles which for instance are used in packaging can be further improved in their wall thickness distributions. The wall of small bottle is actually thick at the ends of the welding line and thinner perpendicular to the welding line. No PWDS system can be used to reduce such wall thickness differences in the bottom region of the articles. Many experts still postulate it is caused by the blow molding process and it is unenviable!

When using a GWDS die and a profiled GWDS core the wall thickness distribution of every article can be improved that is produced by extrusion blow molding. Consequently also the wall thickness distribution of small bottles can be easily optimized so that the wall thickness in the bottom region gets aligned. In order to achieve that only the end of the core has to be designed oval and has to transition further up continuously into an ideal round geometry for the body of the bottle. This reduces the wall thickness where no stretching occurs. However the wall thickness in both regions perpendicular to the weld line is increased. The wall of these regions is more and more stretched until the cooled wall of the mold is reached. An even wall thickness can also be reached in the bottom region of a blow molded article when using a GWDS die in case the relation between the main and the secondary axis is dimensioned in the right way. In the amount the influence of the weld line diminishes the core is more and more pulled up during the extraction of the parison. This then results also in a good thickness distribution in the transition region of blow molded articles.

Picture 3: GWDS die which is cylindrical at its end and a profiled GWDS core that is severely profiled in an a very limited area



But restrictions exist even regarding the possibility to optimize the wall thickness for articles which are produced using a die which has a diameter that is suited for a PWDS system. This especially because in many cases the die cannot be deformed in a way which is optimal suited for the article that has to be produced. The actuators of the PWDS system must be positioned in an angle of 180 or of 90 degrees. This does not match with the geometry of most technical articles which have to be blow molded as only few articles have a symmetric geometry. Furthermore also the possibility to match the flow channel geometry with the requirements of the individual article is also limited. The reason is that the wall of the die can only be deformed in a steady way. Sharp differences of the flow channel gap which are necessary for many technical products can therefore not be realized.

As an example a 6 liter fuel tank is shown in Picture 1. The customer required a wall thickness of 1 mm at the end of the thread which is marked by the red line. In order to reach that the flow channel gap has to be increased dramatically at an extremely limited area. Picture 2 shows on the bottom the wall thickness distribution, the weight (G) and the cycle time (t) of the tank that has been produced with a conventional conical die system. On top the result is shown that has been achieved with a predominantly cylindrical GWDS die solution. Picture 3 shows the cylindrical GWDS die and the profiled pin which has been heavily profiled at a very small region. It is absolutely impossible to realize such a heavy locally limited change of the flow channel gap when using an expensive PWDS system. As the tank was produced using an accumulator head the GWDS core has still a short conical end region. This is to close the flow channel gap while the accumulator of the head is filled with melt.

As already mentioned the wall of a PWDS system can only be deformed steadily. This is the reason why it is absolutely impossible to profile the flow channel gap of a PWDS system in a way that the wall thickness distribution of the tank can be significantly improved.

Comparison of the economics of the both solutions

By far the biggest difference between the two solutions exists in regard of the cost of purchase, the cost of production and the operational cost. Picture 4 demonstrates that impressively. On the left side is shown a complex 3DX system of S. B. Enterprise Srl. It is one of the many PWDS copies which in the meantime are offered on the market. The system uses maximum four servo drives to push or to pull the deformable wall of the die in order to alter the die gap at those locations. The very reverse is the GWDS solution which is shown on the left side and which needs only a solid die and a

Picture 4: Comparison of an complex Italian 3DX system of S. B. Enterprise Srl which is nearly a 1/1 copy of a PWDS system on the left side, with a simple, solid GWDS die and core mounted on a head (right side) (Photo S.R. Enterprise Srl)

solid core to alter the die gap at every wanted position over the circumference of the die.

It is clear that only the cost to purchase the single parts and to assemble the PWDS system are much higher than the cost of a simple solid GWDS die and a profiled solid GWDS core. It is also clear that the GWDS solution does not require maintenance in regular intervals and that there exists no danger that the GWDS solution can fail and cause a machine stop. That is the reason why the GWDS solution stands head and shoulder above the PWDS solution.

Attempts to establish the GWDS technology into the market

Initial intensive attempts to convince German companies which produce blow molding machines, to take over the GWDS technology and to offer it to potential customers failed. It is clear that it is possible to earn much more money by selling an extremely complex PWDS system than can be earned by selling simply a solid die and a solid core. Furthermore there exists a very close and long lasting relationship between the company which offered the PWDS system and the machine producers. Additionally a further obstacle exists. It affords a certain experience and know-how to design and to profile GWDS dies and cores according to the needs of individual articles. So it would have been necessary to invest some affords to become acquainted with the new technology.

The next attempt was to ask companies which produce blow molded articles wether they are interested to improve the quality of their products and in the same time to reduce the weight of the articles. But by doing this it was clear that the company produced the article mostly since a long time. Using a conventional die the produced articles and the customers were content with the quality of the products. So why dismantling the existing die and spend money to buy a new die? This especially as there exists nearly no experience with the completely new innovative GWDS die solution which contradicts the knowledge that has been gathered over decades by several generations of engineers. In spite of this poor starting position some companies dared to retrofit their blow molding heads in their production machines with a GWDS die and a GWDS core. But for a long time no company could be found that decided to retrofit a head that had been equipped with a PWDS system. So GWDS dies were attached exclusively to heads which were not able to vary the wall thickness of the parison while it is discharged.

The weight of the articles could be reduced by retrofitting the heads in nearly in all cases in a two figured percent range. Also the cycle time could be reduced significantly by avoiding thick wall regions in the articles. Those results were then presented to machine producers. But again no German machine producer could be convinced to offer the advantageous GWDS solution to the customers. In the year 2024 for the first time the chance came up to retrofit a head that used a copy of a PWDS system with a solid GWDS die and core. As in the meantime since many years the patent protection for the PWDS system has lapsed several companies like the Italian S.B. Enterprise Srl have copied the PWDS solution.

A machine producer had equipped his head with a copy of a PWDS system. But he did not manage it to reduce the weight of the article in the intended amount. That is why he decided to dismantle the expensive "PWDS" system from the head and to attach instead a solid GWDS die and a solid GWDS core (right side of Fig. 4). As well the GWDS die as also the core was profiled according to the needs of the article which was to be produced. The weight of the article could be reduced by 5 percent while still fulfilling all required implicational tests. Nevertheless no European machine producer could be found which decided to profit from the advantageous GWDS solution. May be this will change when in October the GWDS solution will be offered during the coming 2025 K-show hall 13/B77 in Düsseldorf.

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50 Years of Partnership – *An Established Connection with a Future*

Picture 1: The ORA machines workforce

Half a century – 50 years – of cooperation between ORA Machines and motan: What began in 1975 with initial discussions and a joint presence at the K trade fair developed into an exceptionally stable and fruitful partnership in plastics processing. A connection that was driven by technological progress, mutual trust and a common vision: to offer plastics processors reliable, efficient and innovative solutions – from material supply to finished application.

The Beginnings – ORA Machines on the Way to Industry Expertise

Founded in 1949 by Lambertus van Ballegooijen in Brussels, ORA Machines was created in a time of economic upheaval. The founder – a native of the Netherlands – recognized the great potential of the emerging plastics industry after the Second World War. ORA started selling machines for injection moulding technology in the 1950s and quickly established itself as a recognised partner for the Belgian market.

Even then, the focus was not only on the sale of machines, but also on technical service – an unusual and forward-looking step for the time. Until the 1960s, ORA was mainly active in the metalworking sector, but soon shifted its focus completely to plastics processing.

1975 – The beginning of the cooperation with Colortronic

In the 1970s, ORA was specifically looking for a strong partner in the field of peripherals. This search led to a decisive meeting with Colortronic in 1975 – the start of an intensive collaboration. The agreement to represent Colortronic in the Benelux laid the foundation for a long-term partnership.

At the same time, Diederik van Ballegooijen – son of the company's founder – joined the company. He took over the management in 1977 and consistently expanded ORA's portfolio: peripheral devices, project engineering, training and service increasingly became the focus. In the mid-1980s, the company moved to a newly built, modern company building in Heverlee, Belgium, which is still the company's headquarters today.

Picture 2: The company's original logo has been used since its inception

Picture 3: Trade fair stand in the 1980s

Expansion, specialization and new impulses

In the 1980s and 1990s, ORA Machines grew continuously. The expansion of distribution rights – including brands such as KrausMaffei, Rapid, and GWK (now technotrans) – strengthened the company's position as a system provider. The thermoforming sector and the packaging industry also came more into focus.

In 1997, the company building was expanded again: on more than 3,000 m², it now offers enough space for offices, a large warehouse, a modern workshop and a showroom. The motto "from the first sketch to the last screw" reflects the claim to deliver not only components, but also well-thought-out, ready-to-use complete solutions.

Pieter van Ballegooijen joined the company in 1996 and initially founded his own company in 2001 before returning to the ORA umbrella in 2006 with the opening of a branch in Amersfoort (NL). Since then, ORA has also been represented in the Netherlands with a full-fledged team and service location.

motan-colortronic – A milestone for both sides

2010 marks a turning point: the takeover of Colortronic by the motan Group leads to the founding of motan-colortronic gmbh. ORA Machines becomes the official and exclusive distributor for motan-colortronic in Belgium, the Netherlands and Luxembourg. This meant not only the expansion of the portfolio, but also stronger technical integration and many new customer contacts.

Bringing together the existing customer bases and the close exchange on a technical and strategic level creates strong synergy effects. The combination of motan's and ORA's expertise makes the offer particularly attractive for plastics processors in the region.

Continuity, innovation and new generations

After around 40 years with the company, Diederik van Ballegooijen handed over the management to his brother Pieter in 2015. Under his leadership, the cooperation with motan will be further strengthened. At the same time, ORA continues to expand its portfolio, including automation technology from AGS, conveyor belts and separation technology from MTF Technik, as well as innovative solutions from Nolden Regler and Groche Technik. Fanuc injection moulding machines have also been part of the range since 2019.

Picture 4: Open House in Herverlee 2016

Picture 5: Philippe Philips, one of the two managing directors

Picture 6+7: The extensive warehouse guarantees a quick response to inquiries

Future topics such as energy efficiency, digitalization and sustainability are becoming increasingly important: Since 2022, ORA has been relying on LED lighting, has installed charging stations for company vehicles and is gradually switching to electric mobility. The way of working has also been changed – largely paperless and digital in order to conserve resources and work more efficiently.

2022 was also a year of upheaval: after the sudden death of Pieter van Ballegooijen, Philippe Philips and Sébastien Busseniers take over the management. Both stand for continuity and a fresh perspective at the same time. Together with the experienced team, they work to develop the company further – with a clear focus on customer service, technical excellence and partnership on an equal footing.

Looking ahead – with the next generation

ORA Machines now employs 16 people in Belgium, 9 in the Netherlands and 6 specialized service technicians. (Picture 6+7)

Today, sales, commissioning and technical support include products from: motan, Swift by motan, Colortronic, Fanuc, Technotrans, Rapid, Mecasonic, AGS, Groche Technik, MTF Technology, m-systems, Nolden Rules.

With the next generation of the van Ballegooijen family, which is already integrated into the company and passes through all areas of the company, the future is secured. In addition, the construction of a modern, energy-efficient company building is planned for 2026 – a further step towards the future. (Picture 8+9)

Conclusion: A partnership with depth

The 50-year cooperation between ORA Machines and motan is more than a business relationship – it is a long-standing partnership characterized by shared values, technical excellence and entrepreneurial foresight. A first trade fair encounter turned into a success story that continues to set standards today – and will continue to provide new impetus in the future.

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Picture 8+9: Tests are carried out in the technical center on customer inquiries

New Turret Winder for Cast Jumbo Rolls

SML's new turret winder W1300 comes fully equipped with powerful technical features and functions. Its ability to produce jumbo rolls with a mechanical diameter of 1,500 mm offers numerous benefits to manufacturers in downstream processes.

"Our new W1300 turret winder was designed for the winding of CPP, CPE, mono-oriented and barrier films of absolute premium quality. With winding speeds of up to 450 m/min and end film widths from 2,400 to 3,900 mm, the new winder boasts everything necessary to ensure high-volume production", Alexander Bruckmüller, the Product Manager at SML, confirms.

Efficiency in subsequent processes

Thanks to the winder's large mechanical roll diameter of 1,500 mm, the running times of the individual rolls can be extended quite significantly. Extending the production runs primarily leads to a boost in efficiency in subsequent processes, such as printing or metallising. The following example demonstrates quite clearly the tremendous amount of cast film contained in a jumbo roll of 1,500 mm: When cast film with a thickness of 25 µm is wound onto a roll with a diameter of 1,200 mm, this roll contains 45,000 running meters of film. A jumbo roll with a diameter of 1,500 mm has 70,000 running meters of the same film – this is an increase of more than 50 %!

Adjusting the hardness of the film roll

The W1300 winder can be adapted with ease to different production requirements. Two operational modes are available: Depending on the film, the winder either can work in gap mode or in contact mode. Before the film hits the contact roller, it runs over a continuously adjustable satellite roller, to control the air intake between the individual film layers and to adjust the hardness of the film roll. Winding is possible either with or without winding shafts. The inlet section of the winder is prepared for the installation of a post cooling roller.

Roll change with auxiliary contact rollers

Two different cross-cutting units are available for the winder W1300: One is a full-width twisting knife for thinner films and the second one is a flying knife for thicker films and oriented films. During a roll change, driven auxiliary contact rollers are engaged in order to keep the condition of the film at the roll in perfect condition up to the very last layer. A handling system is available both for shaftless winding and for winding with shafts. During shaftless operation, rolls can be also handled with an overhead crane.

Suitable for retrofits

The standalone nature of the winder makes it easy to install it on third-party cast film lines since it comes with its own control system and electrical components.

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Dynamic Cables for a Dynamic Offshore Market

Wind turbines are learning to swim. In the future, they will be installed far off the coasts, in harsh environments and in deep oceans. These floating offshore wind turbines will increasingly be used to take advantage of the strong and consistent winds, contributing to the energy transition. The enablers of this development? New dynamic high-voltage cables.

Offshore wind energy is already riding the wave – "it is set to grow worldwide, having recorded the second-highest number of new installations in 2023," explains the Global Wind Energy Council (GWEC). In 2023, the wind industry installed 10.8 GW of new offshore wind capacity, bringing the total global capacity to 75.2 GW. The amount of new capacity added was 24 percent higher compared to the previous year.

Offshore market for the energy transition

The GWEC projects that this growth rate will continue until 2030, if the political momentum lasts. The GWEC expects Australia, Japan, South Korea, the Philippines, Vietnam, Brazil, Colombia, Ireland and Poland to be the next markets for offshore wind expansion. According to the GWEC, 410 GW of new offshore wind capacity will be installed over the next decade. This rapid expansion must be based, among other things, on increased cooperation between industry and government. And manufacturers of cable machines and cables are happy to make their contribution to this.

Nezzy² in the Baltic Sea during storms – the Nezzy² floating wind turbine (1:10 model) from EnBW and aerodyn remains stable even during storms. The aim of the research project is to develop new offshore technology which involves the wind turbines floating on the surface of the water (Photo credit: Jan Oelker)

Huge offshore potential of the deep sea

An important piece of the puzzle for the offshore success story lies in harnessing the strong winds far from the coasts. Conventional offshore wind farms have so far been unable to take advantage of these inhospitable areas far from dry land, where the ocean is more than 60 metres deep, and which account for 80 percent of the total sea area.

This is unfortunate because, as the cable system manufacturer Nexans explains, "stronger and more consistent wind speeds translate to a more reliable source of energy".

The aim is to exploit the enormous potential of the deep sea in the future. Floating offshore wind turbines are now seen as a beacon of hope for sustainable energy supply, as highlighted by the German Federal Ministry of Education and Research, for example. Unlike conventional turbines, which are firmly anchored to the seabed, floating systems are more flexibly tethered to the seabed with mooring lines.

Dynamic cables for floating offshore installations

Cable system manufacturers such as Nexans have also long been focusing on wind power in the deep sea. "From 2031, floating wind turbines will account for more than ten percent of annual offshore wind installations, a remarkable achievement given the rapid expansion of offshore wind energy as a whole," the company explains. Cables, which are needed to transport the energy back to the shore, are "a crucial link for the future of floating wind power". This demands robust, dynamic high-voltage cables that capable of withstanding the harsh conditions at sea: A dynamic cable moves in the water and on the seabed, following the rhythm of the floating wind turbine.

In 2021, Nexans achieved "an important breakthrough" with the qualification of the first dynamic 145 kV cable for water depths of 1,300 metres. This cable was selected for the Jansz-lo project, located about 200 kilometres off

the coast of northwest Australia, and considered a "pioneer in floating offshore wind projects," according to Nexans. The company is responsible for manufacturing and installing the 140-kilometre submarine cable.

Offshore boom drives surge in orders

The offshore sector is booming: wind turbine manufacturers and suppliers, including the cable industry, are securing an increasing volume of orders. For example, Vattenfall: the company has signed a contract with Vestas for 112 latest-generation offshore wind turbines, each with a capacity of 15 MW. These turbines will be deployed in the Northern Lights 1 and 2 offshore wind projects in the German North Sea off the island of Borkum, jointly owned by Vattenfall and BASF. From 2028, they will be capable of producing electricity for the equivalent of 1.6 million households. According to Vattenfall, some of the tower elements will be made of low-emission steel, significantly reducing the CO_2 footprint of the towers.

Nordex has also received an order from Canada to supply a wind farm developer and operator with 19 of its N163/5.X turbines for a project in the province of Quebec. The turbines, to be installed on 125-metre-high tubular steel towers are scheduled for delivery in the summer of 2026. The company has also secured orders from Canada for 74 of its N163 turbines for a total capacity of 500 MW, to be delivered between 2025 and 2026.

Resilient cables are essential

The surge in new projects also means a large number of orders for components from the cable industry. Cables are required for the operation of a wind turbine, for generating electricity and for transporting the electricity produced from the turbine to the consumer. Particularly important are power cables, which carry the generated electricity through the tower to connect it to the transmission grid – but the enamelled wires used in the generators and transformers are also important. Resilient cables are used, as they are often subjected to constant movement and vibration, needing to withstand compression and torsion. In addition, they must also meet high standards for thermal load capacity, electrical insulation, halogen-free composition, as well as resistance to UV radiation, ozone, and salt water.

Turbine blades are a key component of wind turbines. They generate energy that is transmitted via cables (Photograph: Pixabay)

Offshore wind energy is growing worldwide, having already recorded the second highest number of new installations in 2023 (Photograph: Pixabay)

Eco-concept along the entire value chain

Steel plays a vital role in the energy transition: "It is an essential material in the construction of wind turbines," emphasises ArcelorMittal. To reduce the carbon footprint of large onshore and offshore projects, it is crucial that the steel is produced sustainably. "ArcelorMittal's XCarb® products, such as XCarb®, enable significant reductions in CO_2 emissions. The steel is made from one hundred percent recycled material (scrap) using renewable electricity. This contributes to the decarbonisation of cable production, including for wind energy.

Niehoff is also contributing to decarbonisation efforts, for example with Nexans. The companies are collaborating on the development, installation and operation of the next-generation wire breakdown system, which went into operation at the Nexans facility in Lens, France. "The plant enables optimised production speeds, which can provide significant savings of 35 kW/h per tonne, reducing energy consumption and CO_2 emissions," the companies explain in a joint announcement. These are key investments to make the entire value chain, including for wind power, both ecological and economical. After all, only then can the industry transform to become climate friendly.

Trends and highlights from the industrial sectors of wire, cables and tubes will be presented at the world's leading trade fairs wire & Tube from 13 to 17 April 2026 in Düsseldorf, Germany.

Messe Düsseldorf GmbH

www.wire-tradefair.com, www.tube-tradefair.com

Positive "Scientific Opinion" for PET Bottle-to-Bottle Recycling Process

The European Food Safety Authority EFSA confirms the compliance of the decontamination performance of the recoSTAR PET art recycling process in a positive "Scientific Opinion" based on the new regulation in force since 2022.

Starlinger and its customers already received a total of 120 "Positive Opinions" under the previous Regulation EU 282/2008 – more than any other manufacturer of PET recycling technologies. The positive assessment of the PET bottle-to-bottle recycling process on the "recoSTAR PET art" system is the first positive Scientific Opinion under Regulation EU 2022/1616 for Starlinger.

Under the new regulation, modified and stricter assessment criteria are applied: The permissible limits after decontamination for substances such as toluene, chlorobenzene and methyl salicylate, for example, have been reduced by up to 50 %. The corresponding challenge test showed that the recoSTAR PET art process clearly exceeded the required cleaning efficiencies.

As soon as the European Commission authorizes the decontamination process based on the positive Scientific Opinion (by allocating the officially registered Recycling Process Authorization Number RAN to the respective process), the process developer can license it directly to PET recyclers. This makes the authorisation procedure a lot easier and faster compared to before because once the process has been approved, no further tests are required.

The rPET produced with Starlinger's recoSTAR PET art technology can be used up to 100 % in the production of food-contact packaging

Higher throughput, lower energy consumption

Starlinger presented the recoSTAR PET art PET bottle-to-bottle recycling system for the first time in 2022 at the "K" plastics trade fair in Düsseldorf as the successor to the well-known recoSTAR PET iV+ systems. The new machine model reduces energy consumption per kg by around 25 % while increasing throughput by 15 % and more. The machine range covers throughputs from 1,000 kg/h to 3,200 kg/h.

Starlinger customers worldwide supply around 2.5 million tons of food-grade PET regranulate for beverage bottle production per year. Almost 300,000 tons of this are already produced on 18 recoSTAR PET art systems which are in operation in Europe, America, Africa, India and Southeast Asia.

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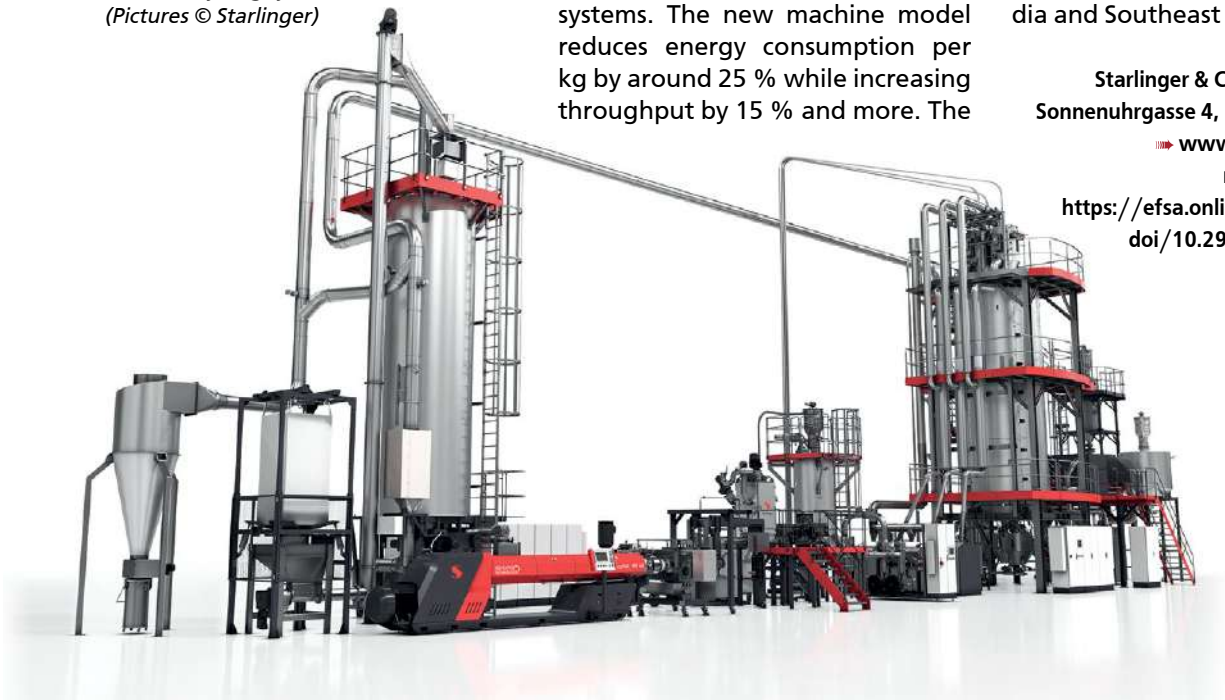
https://efsa.onlinelibrary.wiley.com/doi/10.2903/j.efsa.2025.9491

EFSA's positive Scientific Opinion confirms the excellent decontamination performance of the PET bottle-to-bottle-recycling process on Starlinger's recoSTAR PET art recycling system (Pictures © Starlinger)



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