Poste Italiane S.p.a - Spedizione in Abbonamento Postale - 70% Lom/Mi/1344

tecno Plast international

The Monthly Magazine for the Plastics Industry

Tray to tray, for real!

Patented Friction Washer
=
Effective Delamination

Superior flakes quality

Ultimate washing efficiency

The most efficient
PET WASHING TECHNOLOGY,
now available for
PET TRAYS!

amut.it

AMUT® Recycling

Poste Italiane S.p.a - Spedizione in Abbonamento Postale - 70% LomMi 1344

tecno Plast international

The Monthly Magazine for the Plastics Industry

tecnoEdizioni Group

n.3

YEAR 28
MAY / JUNE 2025
8,50 EURO

www.tecnoplastonline.net

THE MACHINE OF THE MONTH

Mixron: Revolutionizing powder mixing

Mixron, a member of WAMGROUP, is thrilled to introduce its groundbreaking line of powder mixing systems: mixron MFC

This innovative series mixron MFC is the culmination of a three-year journey, driven by a singular goal: to develop a cutting-edge powder mixer that truly addresses the evolving needs of the industry.
Specifically engineered for batch mixing of powder materials such as masterbatch, powder coatings, and plastic compounds, the mixron MFC stands alone in its ability to handle two containers simultaneously. This unique capability effectively doubles throughput and significantly reduces downtime.
mixron MFC offers an extensive array of customizable configurations, allowing users to tailor the mixer precisely to their specific production requirements. The two independent mixing heads can be configured with varying container sizes, flat or concave mixing heads, and a diverse selection of specialized tools and accessories. This level of customization ensures optimal performance, precisely aligned with the unique demands of each production process.

INTERVIEW
Tecnomatic's strategic vision:
Innovation and global expansion in pipe extrusion

INVESTMENTS
Rodolfo Comerio launches the Comerio Calendering Technology Center (CCTCHub)
An international center of excellence dedicated to research, development, and experimentation in the industrial calendering sector

CIRCULAR ECONOMY
Repi: the future of r-PET in the global and regional context
For the manufacturer of liquid colors and additives, the innovation and the international strategy are core keys for the future of plastic business.

Marco Mastrosanti

Green Plastic?

Yes, GreenPlast! And not just because it's the name of an Italian trade fair, a spin-off of the more well-known Plast. But because it's an undeniable reality.
Plastic is the greenest of materials.

The most recyclable, the most malleable, the most adaptable to the production needs of every industry.

The storm that raged against our sector—especially just before the Covid era—ultimately only served to strengthen it. The facts have shown how these advanced materials (commonly referred to as plastic) are the best choice, especially when it comes to caring for the environment.

The usual images we keep seeing (floating islands of bottles, etc.) are mostly fake news, or exaggerated portrayals of a problem that doesn't stem from the product itself, but from human foolishness in how it's managed.

So yes, plastic is becoming greener and more sustainable every day.

And this fair in Milan, GreenPlast—where we'll be distributing the May issue of Tecnoplast, in addition to our usual channels—is the ultimate proof of how strong and meaningful the connection between sustainability and the rubber-plastics world truly is.

Tecnoplast is always at the center of it all, with features and in-depth coverage—especially through our management, in collaboration with the event organizers, of GreenPlast TV.
Happy reading—and happy viewing!

Marco Mastrosanti

tecno Plast

THE MONTHLY MAGAZINE FOR THE PLASTICS INDUSTRY
N°3 MAY / JUNE 2025

Publisher
Marco Mastrosanti
(marco.mastrosanti@tecnoedizioni.it)

Managing Editor
Cecilia Cantadore
(c.cantadore@tecnoedizioni.com)

Office Secretariat
Giuliano Bellocci
(traffico@tecnoedizioni.com)

Marketing department
(marketing@tecnoedizioni.com)

tecnoEdizioni Group

Sales department
Filippo Cavalliere
(f.cavalliere@tecnoedizioni.com)

Giovanni Paura
(commerciale@tecnoedizioni.com)

Fabrizio Romeo Brillante
(commerciale3@tecnoedizioni.com)

Contributors:
Cecilia Cantadore, Marilena Del Fatti, Francesco Inverso

Graphic coordination
Giulia Rosa
(grafica@tecnoedizioni.com)

Issue price: 2,00 euro per copy if not sent with mother magazine.
The VAT on subscriptions and single issue selling is paid by the publisher pursuant to article 74, subsection 1, point C of the Italian DPR n. 633 of 26th Oct 1972 and subsequent amendments and additions.
It is therefore not possible to issue invoices.

Tecnoedizioni is associated to
Unione Stampa Periodica Italiana

Authorisation by the Court of Milan n. 675 - 11/11/1996
ROC (Registro Operatori Comunicazione)
Registration Number: 19558

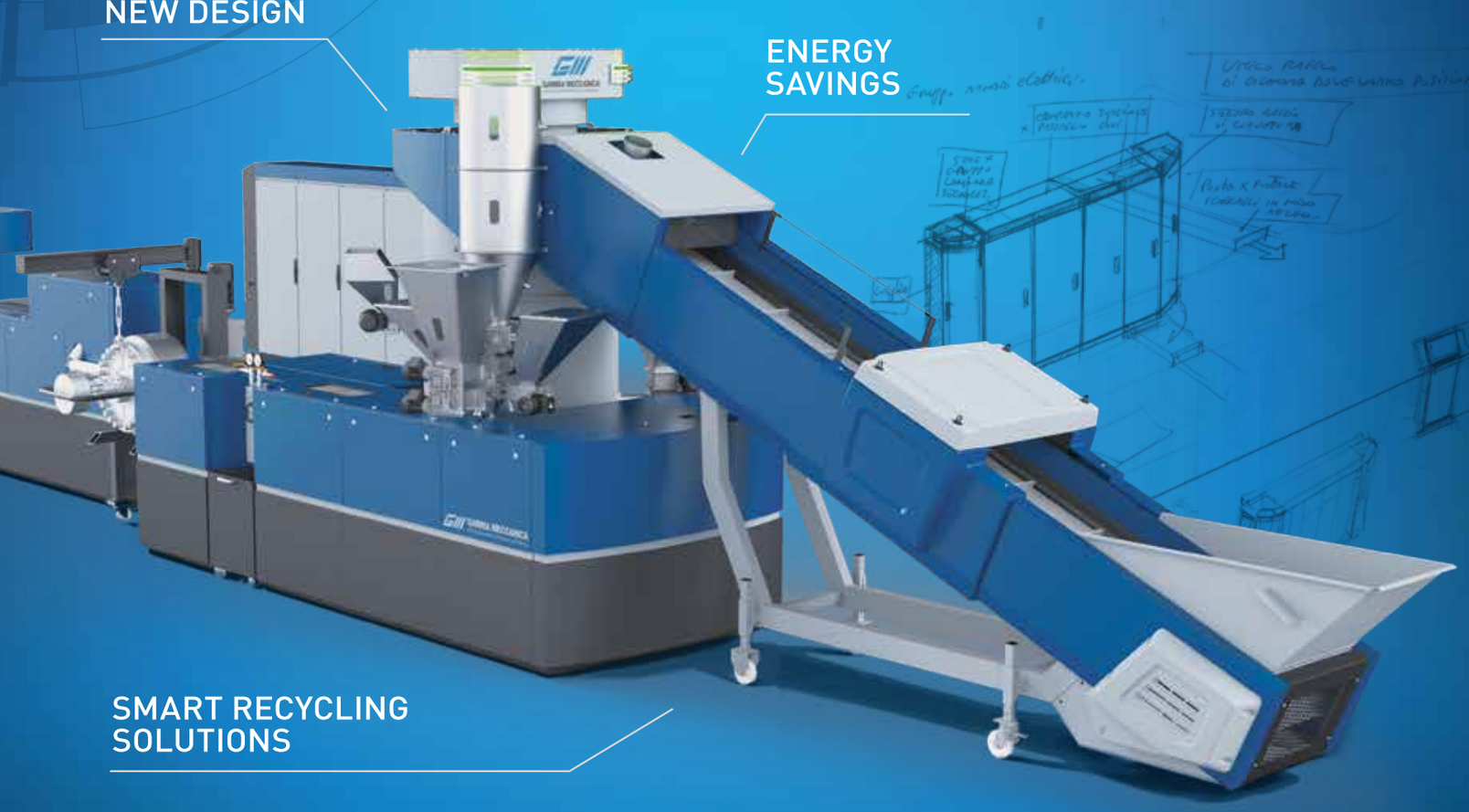
Printed by Gierre Print Service Srl,
Via C. Goldoni 1, 20129, Milan
May 2025

TECHNOLOGICAL EVOLUTION

Also for GM Tandem lines

NEW DESIGN

ENERGY SAVINGS



SMART RECYCLING SOLUTIONS

TANDEM SMART

The technological evolution continues. We have made the GM Compac Smart.
Now it's time to upgrade the Tandem line. Greater **temperature control** of the various areas, higher performance, **low energy consumption** and agile operation for the recycling of the most difficult plastics

Meet us at **GREENPLAST 2025**
May 27-30, Milan, Italy

Be Smart, be Gamma

GAMMA MECCANICA
RECYCLING LINES FOR PLASTIC MATERIALS

Gamma Meccanica S.p.A - Via Sacco e Vanzetti, 13 - 42021 Bibbiano (RE) - Tel: +39 0522 240811 - www.gamma-meccanica.it

CONTENTS

mixron MFC

High-Productivity Container Mixer

mixron

www.mixron.it

info@mixron.it

+39 0544 410511

New technology center by Rodolfo Comerio

The Comerio Calendering Technology Center (CCTCHub) has officially opened, establishing itself as a international ecosystem for experimentation, research, and industrial-scale testing in the field of calendering.

Rodolfo Comerio, a historic name in the field of calendering technology, has taken a decisive step into the future by inaugurating the Comerio Calendering Technology Center (CCTCHub), a cutting-edge facility designed to serve as an international reference point for the development, testing, and validation of advanced calendering solutions. Located in the heart of Italy's industrial belt, the center represents both a strategic investment and a visionary response to the growing need for sustainable and flexible manufacturing processes.

More than just a technological installation, the CCTCHub is a fully integrated innovation ecosystem. It brings together high-performance machinery, advanced digital monitoring systems, and the deep technical knowledge of Comerio's engineering team to provide a complete development environment. It is open to companies, researchers, designers, and universities seeking to explore, test, and co-design tailor-made solutions that meet the evolving demands of global markets.

The facility is centered around two complete industrial-scale calendering lines – LAB1 and LAB2 – each designed for different applications but both capable of processing a wide array of plastic and elastomeric materials.

LAB1 – FloorEng is specifically configured for the resilient flooring industry, especially SPC (stone plastic composite), LVT (luxury vinyl tile), and other high-tech composites. It supports complex formulations using highly filled polymers and elastomers, making it suitable for advanced applications in automotive, aerospace, and industrial sectors.

Key technical specifications for LAB1 include a production capacity of up to 2000 kg/h, maximum film width of 430 mm, and thicknesses up to 6 mm. It features an ICMA SG extruder tailored for high-filler materials – eliminating the need for a turbo mixer – and a 4-roll calender built with a patented modular configuration, the specifics of which are protected under industrial secrecy. The line also integrates inline lamination and embossing systems for technical films, such as glass reinforcement and barrier layers. At the end of the line, an automated system handles cooling, cutting, stacking, and palletizing, supported by a double winder that ensures continuous production flow.

LAB2, in contrast, is designed to offer maximum flexibility and ease of use, accommodating a wide spectrum of industries. It is suitable for manufacturing products used in furniture, packaging, waterproofing membranes, conveyor belts, tires, automotive components, and even special PVC-free materials. This line also features a 4-roll calender in "F" configuration, with inline lamination capabilities and a double winder for continuous operation. It handles film widths up to 430 mm and can process films as thin as 0.035 mm, also reaching throughputs of 2000 kg/h.

Both labs are capable of working with an extensive list of materials. On the plastic side, these include PVC, recycled PVC (RPVC), PP, TPO, TPU, TPE, ABS, and multilayer blends such as PVC/PU, PVC/EVA, and PET/PE. On the elastomeric side, the range spans from NR and SBR to EPDM, NBR, CR, IIR, FKM (such as Viton®), CSM, and silicone (VMQ).

What sets the CCTCHub apart is not only its technical capacity but also its foundational philosophy. The center has been conceived as a true international hub for innovation, sustainability, and collaboration. It merges state-of-the-art machinery with a strong orientation toward energy efficiency, rapid production changeover, waste reduction, and circular economy principles. Moreover, it positions itself as a collaborative engine for research, fostering partnerships with universities, start-ups, and global industrial players.

"With this new technology center, we aim to provide companies worldwide with a space where they can test, innovate, and enhance their production processes with a sustainable and data-driven approach", declared the Rodolfo Comerio management team.

www.comerio.it

FIMIC'S ELEVEN

IT'S BETTER TOGETHER

FIMIC
ITALIAN MELT FILTER

STEFANO STANZIONE - MARIA TERESA
MARQUEZ GRADIS - LUDOVIC PITROIS
PAOLO STOCCO - CLAUDIO BONAFEDE
PAOLA CREA - MICHAEL HEITZINGER
MICHELE COLOMBARI - ERICA CANAIA
OMAR RUESGA -IVAN PAN

MEET US AT:

GLOBAL CONCLAVE ON PLASTIC RECYCLING AND SUSTAINABILITY
GCPRS

PACKAGING & RECYCLING

REGEN
BOOTH D52

Asiplastic
El Salvador, C.A.
BOOTH 21

2025
8-15 OCTOBER
Düsseldorf, Germany
Booth 9D18

Tecnomatic's strategic vision: innovation and global expansion in pipe extrusion

Massimiliano Vailati, Sales Manager, shares how the Italian company is advancing sustainable extrusion technologies and strengthening its international presence.

Diego Lupi, CEO and Massimiliano Vailati, Sales Manager of Tecnomatic

With nearly five decades of expertise, Tecnomatic Srl has become a recognized leader in the design and production of high-performance extrusion lines for plastic pipes. In this exclusive interview, Sales Manager Dr. Massimiliano Vailati outlines the company's strategic direction, including its expansion into the U.S. market, ongoing product innovations, and readiness to tackle current industry challenges. As the market navigates a complex landscape of economic uncertainty and sustainability demands, Tecnomatic is doubling down on flexibility, energy efficiency, and digital integration to position itself — and its customers — for long-term success.

Could you provide a brief company profile?
Tecnomatic Srl is a leading Italian company specialized in the design and manufacturing of high-performance extrusion lines for plastic pipe production. Founded in 1977, the company has grown steadily over the decades, becoming a reference point in the global extrusion industry. Headquartered in Italy, Tecnomatic operates with a skilled team of engineers and technicians, and a strong international presence through a network of agents and partners. Amidst the backdrop of burgeoning interest, Tecnomatic in the beginning of 2025 has made a strategic decision to strengthen its presence in the United States by establishing a local base in the nation. Key milestones include the development of our proprietary high-performance extruders, the expansion into turnkey extrusion lines for pipes of big diameter, and the implementation of advanced control systems for energy efficiency and process optimization. The application market of the produced plastic pipes includes manufacturers of infrastructure, telecommunications, gas and water piping, as well as special applications requiring precision and reliability.

From your perspective, how is the market currently performing? What trends are emerging?
The extrusion machinery market is currently experiencing a slowdown phase, but despite global uncertainties, we are seeing an interesting demand for high-efficiency, sustainable, and digitally integrated production solutions. The push towards energy savings, use of recycled materials, and smart manufacturing technologies is shaping the evolution of the sector. It is usually during periods

of slowdown and change that the most successful and skilled clients implement strategies and investments, seeking equipment that can offer flexibility, automation, and high productivity, while ensuring compliance with ever-stricter quality and environmental standards, to be ready for new phases of growing markets.

What are your expectations for 2025?
We are cautiously optimistic for 2025. We expect to see more investments, by the goverments, in infrastructure and utility networks to support the private market slow-down, as well as a growing interest in replacing outdated production lines with more energy-efficient and automated systems. Our goal is to strengthen our presence in strategic markets, enhance our after-sales services, and further invest in R&D to stay ahead of industry trends and customer needs.

Are there any recent product innovations or initiatives worth mentioning? Or perhaps any recent success stories?
Yes, the change in the technical direction at Tecnomatic and the addition of a materials technologist for research and development were extremely important. We are developing a new generation of high-efficiency extruders with improved thermal management and lower energy consumption, which have already been internally tested with positive feedback. Also the range of extrusion heads is subjected to optimization work to improve the materials flow of materials and thermal properties. One notable case history is the successful installation of a high-speed extrusion line for HDPE pressure pipes in multilayer configuration, with maximum diameter up to 160 mm, but with output over 1000 kg/h. Designed with customized automation and digital monitoring systems The project exceeded the client's expectations in terms of performance and reliability.

What are your upcoming projects for the next few months? Will you be participating in any trade fairs?
In the coming months, we are focusing on expanding our product portfolio with new solutions for extruders. We are also preparing for our participation at the K-show in Dusseldorf, and Plastpol in Poland. We are really looking forward to meeting with both existing and prospective partners at the K-SHOW and to showcase our latest technologies. This event is a very important platform for us to connect with the industry and demonstrate Tecnomatic's commitment to innovation and excellence.

www.tecnomaticsrl.net

“Efficiency is the driver of the plastics industry”

Efficiency remains the central pillar of competitiveness in the plastics sector. In this interview, KraussMaffei highlights how innovation, automation, and sustainability are reshaping production and opening up new opportunities in the global market.

On the road to K 2025, Jörg Stech, Chairman of the Management Board at KraussMaffei Technologies, shares his perspective on what drives the plastics industry today — from efficiency and innovation to evolving regulatory demands and the future of sustainable production.

Mr. Stech, what are today’s plastics industry drivers?

Profitability and efficiency continue to be the main drivers of the plastics industry. When customers manufacture plastic parts, they usually do so in large quantities. Customers’ technological demands are increasing, led by the motto: faster, more powerful and, above all, more efficient. For us as a manufacturer, this means developing technologies and processes that are better, more efficient and therefore more economical than those of our competitors. Other drivers are the new applications and products on the market. Let’s take cars for example: in vehicles with combustion engines, many components in the engine compartment are made of metal so that the generated heat can be dissipated. With electric cars, new requirements arise due to their different design; on the one hand, it affects the material that the components are made of while on the other hand, completely new components are required. For example, it is possible to manufacture some components for electric motors from plastic, as there is no longer any functional need for heat dissipation. The components themselves also fulfil other functions nowadays. Whereas in the past, they used to be mechanically necessary, today they are sometimes purely design elements. The plastics industry is also being driven by new regulations. The EU has set itself the target that at least 25 percent of plastic parts in new cars should consist of recycled plastic by 2030 for example. It is our task to find solutions that are able to fulfil this target.

Can you provide an example?

Let’s take a look at the automotive industry again: if a bonnet no longer needs to be produced of metal for functional reasons, then it can also be made of plastic, meaning KraussMaffei produces it economically using injection moulding technology. And not only that – it can even be painted directly in the injection moulding machine using our ColorForm process. This makes separate painting systems and transport routes obsolete. Production is becoming more efficient, and the entire industry is gradually changing, resulting in new opportunities. Even if the conditions on the global competitive market have changed and become more difficult, this opens up opportunities for German machine manufacturers, especially for us in injection moulding technology, to develop new technologies in line with new customer requirements.

What role does innovation play in your organisation?

Without innovation, Europe will find itself struggling to compete in the global marketplace. It is a fact that we are more expensive than our competitors in the Far East, for example, because we have higher production costs, as well as personnel and energy overheads, and logistics costs for national and international sourcing are also an essential factor. That is why we are clearly focusing on the development of innovations and new technologies. Our aim is to offer the customer a product that goes far beyond that of a standard injection moulding machine. In the production of injection moulded parts for example, one issue is reducing energy requirements, which enables savings. However, we also use technologies that lead to a reduction in the material usage rate, or that allow other materials to be used, such as recycled material. These are all technologies that we need to develop further.

How is this achieved?

Innovation does not always mean a new invention - rather, we see the potential in small innovative steps, for example by way of consistent further development of existing processes. In doing so, we deal with various questions: How can the fibre content be increased? How can we influence key parameters of the injection moulding process? Is it possible to injection mould a component at lower

temperatures? To sum it up, these factors have a huge impact. Expertise and direct exchange with the customer are our competitive advantage, as they cannot simply be purchased as a sample solution on the world market. The demand-oriented production of injection moulding machines, including the development of customer-specific applications, goes far beyond standard injection moulding machine construction. Thanks to cooperative collaboration and development, we are able to generate the highest possible added value for our customers. We benefit from the fact that we can draw on the entire KraussMaffei know-how of our various technologies, from injection moulding and reaction process machinery to additive manufacturing, automation and extrusion.

What role will skilled workers and suitable new recruits play?

Of course, we need top talents with specific knowledge for our tasks. No matter what position we need to fill, we have to attract the specialists to KraussMaffei. Unfortunately, we often aren't able to find these specialists locally. But we benefit from the attractiveness of Munich as a location in general and from our new plant in Parsdorf. Investments in the new factory and office buildings, machines, and our technical centre have increased KraussMaffei's appeal on the labour market, but also among the core team on site. It has created conditions that enable our colleagues to work well and generate new solutions.

Every individual counts, because innovation comes from everyone – from sales staff to machine operators. We also attach great importance to education in the sense of further and advanced training. With the development of our LearningPods, learning cabins that can be set up anywhere, employees can learn specific procedures or acquire relevant knowledge by means of short video clips. The LearningPods are particularly suitable for employees who either do not have a fixed computer workstation or work in production. This product is so attractive that it is also sold to other companies where employee training is equally important.

Where does Europe currently stand in terms of sustainability?

The EU is currently the driving force behind sustainability. This is a good thing, because if Europe did not drive sustainability forward, the world as a whole would be much less concerned with it. KraussMaffei is therefore intensively searching for more sustainable solutions to ensure that later generations have a decent future. It is essential that the rules that lead to resource preservation and a better use of plastic apply equally to everyone, regardless of which industry or country they affect. If European regulations lead to a situation where only European manufacturers are at a disadvantage, this will further penalise and weaken Europe's economic situation, something that is not acceptable. We need systems that will ensure fair competition for all.

www.vdma.org
www.kraussmaffei.com

Nordson Bkg and Fimic announce enhanced partnership

Nordson Bkg and Fimic have announced an expanded strategic partnership, strengthening their collaboration in melt filtration and pelletizing technologies. The alliance aims to accelerate innovation in plastics processing and recycling through jointly developed advanced solutions. Details of the partnership will be revealed at K 2025, the premier global trade fair for the plastics and rubber industry.

Nordson Bkg, part of Nordson Corporation's polymer processing systems division, a global player in melt delivery and pelletizing solutions, and Fimic, a leading provider of innovative melt filtration technology, today announced a deepened strategic partnership, building on Fimic's appointment as the exclusive agent for Nordson BKG® products in Italy announced in January 2025. This enhanced collaboration marks a significant step in developing advanced technologies designed to revolutionize plastics processing and recycling. While specific details of the partnership remain confidential, the two companies are jointly developing groundbreaking solutions to address the evolving challenges within the plastics industry.

"This strategic partnership with Fimic allows us to leverage our combined expertise and resources to accelerate innovation and deliver unparalleled value to our customers," said Sven Conrad, global segment development Director, Nordson BKG. "We believe this collaboration will transform the landscape of plastics processing and recycling, resulting in more sustainable and efficient solutions".

Erica Canaia, CEO of Fimic, added: "Building upon our existing relationship with Nordson BKG, this deeper partnership marks a crucial step toward developing cutting-edge technologies that will address the growing demands of the plastics industry. We are excited to unveil the results of our collaboration at K 2025".

Nordson BKG and FIMIC will jointly unveil the details of their collaborative efforts at K 2025, the world's leading trade fair for the plastics and rubber industry, scheduled to take place in Düsseldorf, Germany, in October 2025. Industry professionals and potential customers are invited to attend and witness the unveiling of this groundbreaking partnership firsthand.

www.fimic.it
www.nordson.com

From left to right: Erica Canaia (Fimic CEO), Sven Conrad (Nordson Bkg Global Segment Development Director)

POWTECH TECHNOPHARM

International Exhibition for Process Operations

YOUR DESTINATION FOR PROCESSING TECHNOLOGY.

23 – 25.9.2025 I NUREMBERG, GERMANY

Experience firsthand the latest trends and technologies for processing powders, solids and liquids!
Take advantage of cross-industry know-how and network for your business success.

Where industry professionals shape the future together.

powtech-technopharm.com

Together with PARTEC

Co-located with FACHPACK

Honorary sponsors VDI APV

NÜRNBERG MESSE

Mixron, revolutionizing powder mixing: embracing innovation

Mixron, a member of WamGroup, has unveiled the mixron MFC, a new dual-container powder mixing system developed over three years of industry consultation and product testing. Engineered for high productivity and compact integration, the MFC enables simultaneous batch mixing while reducing downtime and maximizing spatial efficiency. With customizable configurations and advanced control features, it addresses critical challenges in modern powder processing.

Mixron, a proud member of WamGroup, is thrilled to introduce its groundbreaking line of powder mixing systems: mixron MFC. This innovative series is the culmination of a three-year journey, driven by a singular goal: to develop a cutting-edge powder mixer that truly addresses the evolving needs of the industry.

Our initial phase involved extensive dialogue with users across all levels – from business owners and general managers to operators and maintenance staff, including production and operations managers. We listened intently to their mixing challenges, aspirations, and expectations. This invaluable feedback highlighted key areas for improvement, including mixer functionality, spatial efficiency, downtime for cleaning and maintenance, operational safety, and the adaptability of capital investment.

Drawing on these insights and following two years of rigorous product development and testing, Mixron is now delighted to unveil the high productivity mixron MFC double container mixer. Specifically engineered for batch mixing of powder materials such as masterbatch, powder coatings, and plastic compounds, the mixron MFC stands alone in its ability to handle two containers simultaneously. This unique capability effectively doubles throughput and significantly reduces downtime.

mixron MFC offers an extensive array of customizable configurations, allowing users to tailor the mixer precisely to their specific production requirements. The two independent mixing heads can be configured with varying container sizes, flat or concave mixing heads, and a diverse selection of specialized tools and accessories. This level of customization ensures optimal performance, precisely aligned with the unique demands of each production process.

At its core, mixron MFC features a robust central frame that securely houses all essential systems and components. This design provides protection against accidental impacts, dust, and dirt, while ensuring easy access for authorized personnel only. Adapting to customer needs, the central frame can accommodate one or two mixing heads, transforming a single mixer into a highly efficient double unit within the same footprint of a traditional mixer. Notably, each mixing head operates entirely independently, functioning like two separate mixers in the space of one.

A distinctive feature of mixron MFC is its innovative mixing head, which can rotate and translate vertically. This functionality allows for the management of different working heights, adapting seamlessly to various stages of the mixing cycle and containers of varying sizes.

mixron MFC is equipped with a modern and intuitive control interface, providing operators with real-time monitoring of all critical process parameters. The system supports comprehensive recipe management, advanced process diagnostics, and thorough traceability, ensuring exceptional control and process repeatability. These features not only enhance user-friendliness but also empower operators with greater command over every production stage, minimizing errors and ensuring compliance where necessary.

Advantages of mixron MFC

A key advantage of mixron MFC lies in its remarkably compact footprint. Despite its advanced capabilities, the mixer's design minimizes space occupancy, facilitating straightforward integration into existing production layouts. Its adaptability is further enhanced by the option to configure the machine to accept containers from any desired direction, making it an ideal solution for production environments where spatial efficiency and workflow optimization are paramount. This adaptability enables manufacturers to streamline operations and alleviate process bottlenecks without sacrificing performance. The compact design also simplifies installation and enhances long-term usability, while its compatibility with various plant layouts allows for modernization of mixing operations without significant infrastructure modifications. This flexibility is particularly valuable in facilities where space,

IDENTITY CARD

Feature	Description
Mixer Type	Double container batch mixer
Suitable Materials	Masterbatch, powder coatings, plastic compounds
Mixing Heads	1 or 2 independent heads
Container Capacity	From 50 to 500 liters per container (customizable)
Max Total Batch Volume	Up to 1,000 liters with dual-container setup
Typical Mixing Time	3–10 minutes per batch, depending on material
Mixing Head Movement	360° rotation + vertical translation (up to 500 mm stroke)
Power Supply	400 V / 50 Hz – 3 phase
Installed Power	Approx. 7.5 to 22 kW per mixing head (based on configuration)
Control System	Touchscreen HMI with real-time monitoring, recipe management, diagnostics
Footprint	From 2.5 m² (single-head) to 4.5 m² (dual-head)
Throughput Increase	Up to 2x compared to single-container mixers
Cleaning & Maintenance	Quick-release components; full access for rapid cleaning
Integration	Flexible layout; accepts containers from multiple directions
Safety Features	Enclosed central frame; protection against dust, impacts, unauthorized access

time, and efficiency are critical.
Maintaining cleanliness and efficiency between production runs is a persistent challenge in powder processing, particularly with frequent color or material changes. mixron MFC directly addresses this with a design prioritizing ease of cleaning. The entire system is engineered for rapid and thorough cleaning, enabling swift changeovers between batches. This is especially crucial in industries like masterbatch production, where even minimal cross-contamination can compromise product quality.
The cleaning process has been meticulously streamlined to minimize manual intervention while maximizing accessibility and, most importantly, operator safety. A unique feature of mixron MFC is its mixing heads, which can be lowered and tilted at the touch of a button to provide operators with the most convenient and safe cleaning position, eliminating the need for ladders or steps. Consequently, changeovers are faster and more efficient, ensuring continuous production with minimal interruptions. This enhanced cleanliness not only supports superior product integrity but also contributes to overall operational efficiency by reducing non-productive downtime.
mixron MFC product line offers exceptional versatility, with capacities ranging from 200 to 1,500 liters to accommodate diverse production scales. The system supports various loading configurations and can be paired with a wide array of containers and mixing tools, enabling rapid adaptation to different materials, recipes, and batch sizes. This adaptability makes mixron MFC ideally suited for environments requiring frequent recipe changes and strategic production flexibility. The virtually limitless configurations can address challenges such as minimum and maximum batch sizes within a single mixer, manage the complexity of recipes with temperature-sensitive ingredients, reduce cleaning times, and optimize overall production schedules.
At the heart of mixron MFC's innovation is its unique dual-container capability. Unlike conventional mixers that process one container at a time, mixron MFC can handle two simultaneously. This introduces a new dimension to operational flow, allowing one container to be in the mixing phase while the other is being loaded or cleaned. This dual-path configuration virtually eliminates operator idle time and minimizes bottlenecks, creating a seamless, efficient, and highly productive workflow. The result is a consistent increase in daily output and a tangible improvement in production rhythm and scheduling.
Beyond its technical specifications, mixron MFC embodies a commitment to quality and precision. The mixer delivers consistent and uniform results across all applications, ensuring a high standard of product performance with every cycle. Whether dealing with demanding color specifications, complex formulations, or high-volume production targets, mixron MFC provides the reliability manufacturers need to meet customer expectations and industry standards.
As industries increasingly prioritize automation, cleanliness, and production agility, mixron MFC positions itself as a strategic partner for forward-thinking manufacturers. Its configurable options, scalable capacities, and intelligent design features enable businesses to tailor their mixing operations to meet current demands and future growth.
In sectors such as masterbatch, powder coatings, and PVC compounding – where precision, hygiene, and rapid changeover are critical – Mixron provides not just a piece of equipment but a comprehensive solution. mixron MFC empowers manufacturers to respond quickly to customer demands, adapt to formulation changes, and maximize overall efficiency without compromising product quality.
Furthermore, Mixron's dedicated technical team offers close support during installation and configuration, ensuring that each system is seamlessly integrated and fully optimized for the customer's specific requirements. This collaborative approach results in faster ramp-up times and helps operators maximize the equipment's potential from day one.

In a Nutshell: Key Benefits of mixron MFC
- Unparalleled productivity: the double container design significantly reduces operator waiting times, enabling a continuous and efficient workflow
- Exceptional versatility: configurable mixing heads, specialized tools, and a wide range of accessories ensure optimal performance for diverse applications
- Space-Saving design: the compact footprint allows for seamless integration into existing production layouts
- Easy cleaning: streamlined cleaning processes minimize downtime and reduce the risk of contamination
- Scalable solutions: a range of capacities and customizable options cater to diverse production needs
- High-Quality mixing: consistent and precise mixing ensures superior product quality
- Reduced downtime: quick changeover between batches and faster cleaning processes increases production efficiency.

Your ideal partner in powder mixing
Whether you are producing masterbatch with frequent color changes, manufacturing powder coatings requiring precise dispersion, or compounding PVC demanding reliable homogenization, Mixron delivers the advanced technology necessary for success. With its combination of innovative technology, flexible design, and user-centered engineering, Mixron offers more than just machinery, it provides a clear path to process improvement, greater efficiency, and long-term competitive advantage.

Why mixron MFC makes a difference
mixron MFC represents the synergy of the highest standards in engineering and a deep understanding of process requirements. The benefits of adopting this solution are tangible across the entire production chain. First and foremost, the dual-container configuration dramatically reduces operator downtime, fostering a continuous, high-efficiency workflow. The ability to configure every aspect of the mixer – from mixing head geometry to accessory sets – ensures that each unit performs optimally across a wide variety of applications. The compact footprint and flexible layout integration options enable mixron MFC to fit seamlessly into nearly any plant design, whether as a replacement for an older system or as an integral part of a new production line.


PLASTIC IS NOT A MONSTER, JUST
RECYCLE IT .
BINOVA MANUFACTURES PLANTS FOR RECYCLING, COMPOUNDING AND EXTRUSION OF THERMOPLASTIC MATERIALS.
binova
COMPOUNDING & RECYCLING

BEA Technologies: filtration solution for the recycling of plastic

The environmental emergency requires us to develop new, more sustainable development schemes (in line with the objectives of the UN 2030 Agenda) and to be aware of the changes necessary to respond to the demands of an increasingly conscientious society. Evolving factors are currently changing markets and the way products are made, especially influencing younger generations who want to be part of this new course. Companies, both large and small, must respond to these requests to remain competitive in a market that increasingly values both environmental and social sustainability. This highlights the need to rethink production processes from both short- and long-term perspectives to meet new environmental needs and to participate in a new economic model in which environmental and social sustainability will become essential aspects of business development and continuity.

BEA Technologies S.p.A. is engaged in studying filtration solutions to be applied to new processes under development for the recovery and recycling of various types of plastics. These studies have recently accelerated due to the need to reduce the dispersion of plastics in the environment and seas, allowing at least a partial recovery and recycling of tons of plastic that often end up in "incinerators" or landfills, which are becoming increasingly less receptive.

The recent concept of "Circular Economy" has been introduced to this scenario to promote the recovery and recycling of many raw materials from articles and products that have been used and are no longer functional. Regarding the recovery and reuse of plastics, Circular Economy can yield very interesting results, especially if applied through the correct use of separate collection and selection techniques to the recovery and recycling of specific classes and types of polymers, such as PET used for molding plastic bottles, synthetic fibers used in clothing linings, polystyrene used in food product trays, or polyethylene used in food packaging.

Recently, some scientists employed at British universities have discovered a new technique for the chemical recycling of plastic, bringing it back almost to its initial "virgin state." This method is currently being tested to improve the quality of recycled plastic to make it suitable for molding or forming new products and new chemically inert and clean packaging.

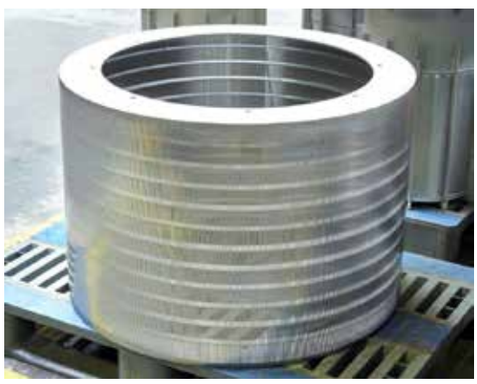
BEA Technologies is involved in the initial stages of this process when it is necessary to separate fragmented plastic pieces or a quantity of foreign materials that could pollute the solvent and solution to be reused for the recycling of plastic. Given that the quantities of these contaminating residues can be substantial, it is necessary to adopt filtration systems that can be easily cleaned and regenerated after separating and accumulating all the residues

that must be removed from the solution carrying the plastic intended to become "almost virgin" again.

The proposed filtration system, which is completely closed to avoid the release of any vapors and odors into the working environment, is based on BEA BAG FILTERS, installed as a single filter or connected in parallel when it is necessary to ensure a high accumulation capacity. This allows the discharge and cleaning cycle of one filter while keeping the others in line without interrupting filtration. The

waste separated from the plastic, which represents only a minor fraction of the plastic being recycled, is discharged into a conveyor system that can transfer it to a compactor or an alternative storage system. We expect to see this technology advance to an industrial scale to provide greater impetus for recycling.

www.bea-italy.com



Toyo marks a century with the 7 series

As Toyo celebrates 100 years of Japanese engineering excellence, the company launches the 7 Series, a fully electric, precision-driven injection molding line designed to meet the highest standards of sustainability, adaptability, and smart manufacturing.

As Toyo commemorates its 100th anniversary, the company is not merely looking back at a century of innovation, it is stepping boldly into the future. The Japanese manufacturing giant has unveiled the 7 Series, its most advanced generation of 100% electric injection molding machines, aimed at redefining industry standards in efficiency, sustainability, and intelligent operation.
"This is not just an upgrade," a Toyo spokesperson stated. "It's the evolution of everything we've learned in a hundred years of innovation and technological advancement."
Engineered and manufactured entirely in Japan, the 7 Series reflects Toyo's core values of precision, reliability, and long-term performance. With clamping forces ranging from 50 to 1,300 tons, these machines are engineered to serve a broad range of industries, from automotive and packaging to electronics, cosmetics, and medical devices.
At its core lies the new S-Hin screw, a plasticizing system that delivers enhanced control over compression, improved thermal balance, and seamless adaptability to a wide variety of resin types, ensuring greater stability across molding applications.
Equipped with linear guides across the entire range, the machines also provide more accurate and consistent movements, improving mold performance and overall product quality.
"This generation is not only more capable, it's more adaptable than ever," said the company.

Smart technology

Every 7 Series model features Toyo's new System800 Se, a user-friendly, intuitive interface designed for real-time responsiveness. Operators can switch between five molding drive modes to tailor performance according to product specifications and cycle time demands.
In keeping with Industry 4.0 standards, Toyo integrates T-Remote Web and T-Station Lite into every machine, allowing for remote diagnostics, data analysis, and seamless smart factory integration. The result is a connected, intelligent production environment where precision meets performance.
Environmental responsibility is a central pillar of the 7 Series design. Fully electric and bioplastic-compatible, these machines dramatically reduce ecological impact. Toyo's new Plastar Grease system cuts lubricant usage by 90%, decreasing waste and maintenance requirements.
"Sustainability isn't a feature, it's our foundation," Toyo emphasized.
Maintenance and diagnostics have been reimagined with built-in features such as check ring wear detection, Usb data export, card-based user authentication, and HELP screens for real-time assistance. Advanced software like meltcon® – which dynamically adjusts temperatures based on resin viscosity – is now standard, further enhancing efficiency and batch-to-batch consistency.

The 7 Series: a statement of intent

Toyo's message is clear: the industry should no longer have to choose between performance and responsibility. The 7 Series delivers both, without compromise.
"We didn't get this far to play it safe. The 7 Series was built to break limits."
As Toyo looks toward its next century, the 7 Series stands as a bold symbol of what's to come: a future shaped by smarter machines, cleaner technologies, and the enduring legacy of Japanese craftsmanship.

www.toyo-europe.com

CHEMICAL RECYCLING

PROMECO

Integrated Technology Provider

The beauty of technology

A new life for plastics

Member of Chemical Recycling Europe

promeco.it

Circular economy: the future of r-PET in the global and regional context

Repi, manufacturer of liquid colors and additives for Fmcg packaging, believes the innovation and the international strategy are core keys for the future of plastic business.

Plastics Recycling Show Europe (PRSE) 2025 – Amsterdam, the Netherlands

This past March and April, Repi took part in two major events dedicated to the plastic recycling industry: the Plastics Recycling Conference in the USA and the Plastics Recycling Show Europe in Amsterdam. Across both continents, the central theme was clear, advancing the Circular Economy of recycled PET (r-PET).

Circularity is now in the spotlight, not only from the perspective of industry stakeholders and regulatory bodies, but increasingly from consumers, who are becoming more conscious and engaged with the principles of reducing, reusing, and recycling to protect the planet's future.

Repi has long been committed to this path, offering innovative solutions that strike a balance between performance, aesthetics, and sustainability. Notably, Repi's liquid-based colorants and additives for recycled PET exemplify this commitment. These products not only enhance the visual appeal of r-PET but also strengthen its mechanical properties, bringing it closer to the performance of virgin PET, consolidating the way for a more sustainable, circular future in plastics.

Innovative liquid additives for packaging

Repi offers a comprehensive range of liquid additives for plastics, tailored for both packaging and industrial applications. These advanced solutions are designed to enhance the material's performance, protection, and aesthetics, all while ensuring high concentrations of active ingredients and precise dosage control. The result is a more flexible, reliable final product.

In food and consumer good packaging, protecting contents from environmental factors is essential, but so is preserving product quality and extending shelf life. Light-sensitive items like fruit juices, milk, and even detergents require added protection. That's where Repi's Uv Absorber additives comes in—safeguarding the contents without compromising the clarity and visual appeal of PET packaging, a key element in consumer attraction.

To address the yellowing effect often seen in recycled PET, Repi developed its Anti Yellow additives line. This solution restores the clarity and natural tone of PET, bringing it closer to the look of virgin material.

For an extra boost in appearance, Repi's Optical Brighteners enhance the brightness and gloss of both PET and r-PET packaging. They also improve whiteness in colored applications and effectively counter the darkening that can occur when using recycled polymers.

To further address the aesthetic degradation that can result from repeated recycling, Repi's advanced StabiPlus™ additive works to stabilize the material. It preserves color integrity – including critical L and B values – through multiple closed-loop recycling cycles, significantly reducing the need for corrective interventions.

Moreover, recycled PET (r-PET) typically has a lower intrinsic viscosity (IV) compared to virgin PET.

To meet the requirements of applications that demand higher mechanical properties, IV enhancer additives can be used as a solution. They act as chain extenders, increasing the molecular weight of the polymer and thereby improving its mechanical performance.

In essence, Repi's additive technologies not only elevate the visual appeal of PET but also preserve its mechanical performance, bringing it closer to the properties of virgin PET. This provides valuable support for both recyclers and converters in the packaging industry, promoting a more sustainable

R-PET Preform with (right) REPI's Anti Yellow Additives and without any additives (left).

Plastics Recycling Conference 2025 - National Harbor, Maryland, USA

and efficient recycling production.

A global vision with a local approach

Furthermore, REPI takes a proactive, customer-focused approach by not only delivering products that meet the highest technical and performance standards but also by providing tailored support for region-specific food-grade compliance. This includes certifications such as Jciee for the Japanese market and Halal, along with full compliance with major international regulations, including U.S. FDA standards and EU Regulation (EC) No. 10/2011, ensuring the utmost in safety, quality, and regulatory alignment.

Reinforcing its strategy – global reach with local focus – Repi will showcase its solutions at key international events, including N-Expo in Tokyo this May and Prs Middle East in Dubai this September. At both venues, Repi will present product innovations developed specifically for these regional markets.

In addition, Repi actively collaborates with leading industry organizations such as RecyClass, PETcore Europe, Napcor, and the Association of Plastic Recyclers (Apr). These partnerships allow Repi to stay ahead of evolving regulatory landscapes, drive sustainability initiatives, and contribute to global industry alignment. Through this engagement, Repi continues to anticipate market needs and support its worldwide customer base with cutting-edge, compliant, and sustainable solutions.

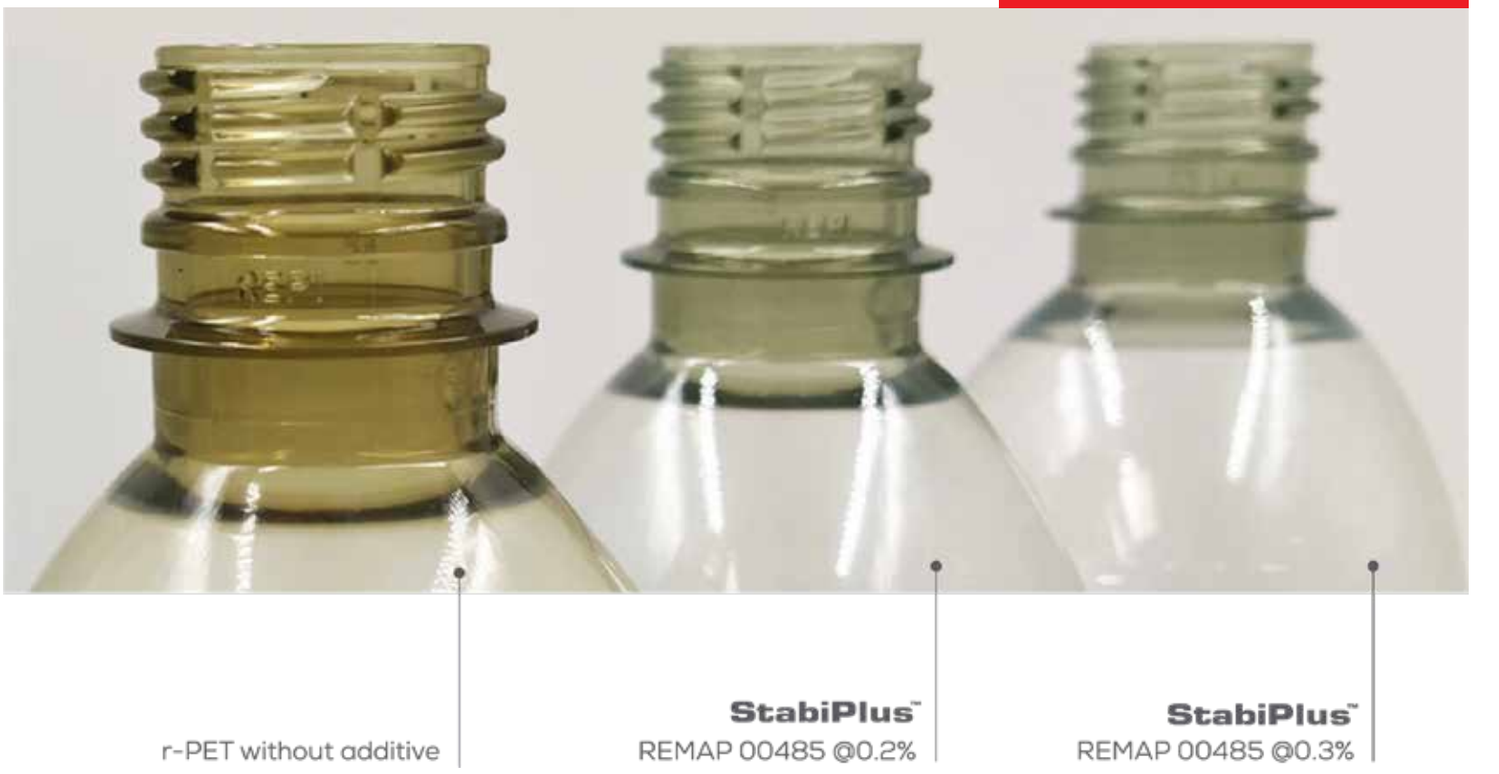
The company

Repi Group was founded in 1973 to develop and produce liquid colors and additives for plastics. Research and experimentation, combined with a forward-looking vision, enabled the company to become one of the world leaders in the industry. Today, REPI Group is based in Switzerland, with its own facilities in the United States, Italy, Germany, the UK, Russia, Thailand, and Singapore. Local partners cover all five continents through a comprehensive network of sales and service.

Repi's unique positioning lies not only in its wide range of products, which fully cater to the needs of diverse industries and applications, but also in its continuous research into new materials. This is made possible by the extensive know-how and process expertise of the technical team in handling special requests, from ongoing training on dosing equipment and products to the assistance and support provided by the sales and marketing departments.

www.repi.com

Bottles of 100% r-PET from mechanical recycling containing StabiPlus™. Being a liquid formulation, concentration is very high and related dosages minimal.



Folcieri: “Experience, a guarantee for our customers”

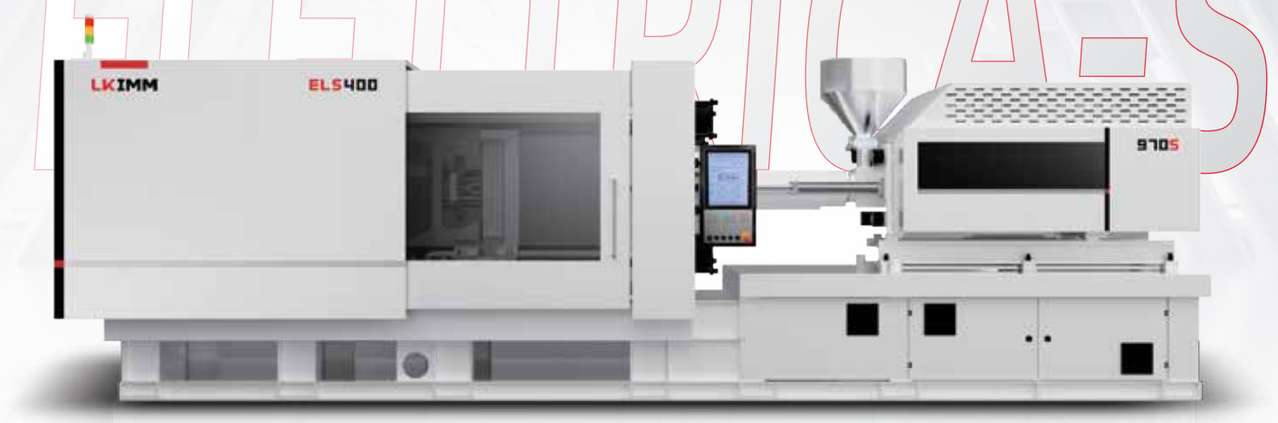
Since 1946, Folcieri has been synonymous with excellence in the production of high-performance granulators for the plastic recycling industry.

As pioneers since the 1980s, Folcieri has specialized in designing and manufacturing wet grinders for washing plants focused on recovering post-consumer plastics.
Within the washing process, the wet granulator is the critical machine that directly impacts overall productivity.
During the wet grinding process, plastics is washed simultaneously, effectively removing significant impurities, combining precise grinding and pre-washing into a single step.
The extensive experience has enabled Folcieri to develop superior-quality granulators, built from robust, heavy-duty machinery, entirely manufactured in Italy with the finest materials.
In recent years, the company has observed a notable surge in the market, particularly in the sector of washing plants for contaminated plastics.
The treatment of these materials demands increasingly high-performance and productive systems that operate continuously (24/7, 365 days a year) in harsh, corrosive environments.
In this context, ease and simplicity of maintenance are crucial for ensuring consistent productivity.
Folcieri possesses deep expertise in addressing issues related to abrasion and wear.
Consequently, all surfaces that encounter plastic materials are made from wear-resistant materials and are designed to be interchangeable, ensuring that our granulators remain regenerable over time.
Our wet granulators operate by gravity, and the substantial inertia of the rotor delivers a powerful, and reliable cutting action over time.
This capability is essential for maintaining the productivity and efficiency of the washing plant.
For customers, sustaining production over extended periods is vital.
Folcieri’s wet grinders are engineered for reliability and durability.
Since blade replacement leads to downtime, longer operating intervals directly contribute to increased productivity.

www.folcieri.com

LKIMM

ELETTRICA-S



ELETTRICA-S Series ELS400

High-Speed Electric Solution for Thin-walled Packaging

Elevate your productivity with LKIMM's ELETTRICA-S Series, engineered to power intelligent manufacturing processes. ELETTRICA ELS400 upholds the legacy of ELETTRICA series by combining powerful electric and servo hydraulic technologies. This advanced integration ensures outstanding efficiency and energy savings, making it ideal for producing thin-walled products like cups and food containers.

From seamless in-mold labeling to advanced visual inspection systems, this versatile solution effortlessly scales to meet custom production demands.

LKIMM EUROPE

Address: LK SRL - Via dei Metalli,2,25039 Travagliato (BS), Italy

Email: stefano.riva@lk.world | Tel.: (+39) 344 075 2766

Explore turnkey injection molding solutions at lkimm.com

Hellweg: ready for the upturn

New building creates space for project planning and development.

"We're certain Hellweg Maschinenbau's new ideas factory in Roetgen, which we moved into in late 2024, creates space for successful further expansion", says managing director Mark and Susanne Hellweg. Hellweg Maschinenbau, a global manufacturer of digitally controlled shredding machines for effective, energy-saving plastics recycling, is well equipped for the market recovery in this sector. Although the current dark clouds over the recycling world mean that the previous two years' record sales cannot be expected in 2025, managing director Mark Hellweg sees innovative ideas and the outstanding cost-effectiveness of his granulator range as proven pillars that will continue to support success once the economy picks up. The company recently moved into its new administration building at its headquarters in Roetgen to create ideal conditions for grasping the opportunities when they arrive. A total of 300 m² of usable space now offers a comfortable environment for developing new projects and bringing them to fruition.

"We have consistently digitalized our plastics shredding systems and slimmed them down to achieve unprecedentedly low energy consumption", explains Hellweg. "Over the last two years, we have been able to reap the rewards of this development work. Ever more users have been convinced by high levels of efficiency combined with the long service life of all installed components, and this combination will in future continue be the foundation for securing a prominent position in the sector."

In order to be able to follow this path, the company has not only expanded its premises but also increased its staff. For example, Dirk Nebel joined the team as a project engineer a few weeks ago. Hellweg has also switched product development to one of the most powerful CAD programs currently available and plans to introduce a new ERP system this year. "We're continuing to focus on innovation and, above all, on digitalization, both of the company and its products", adds Hellweg. "We also want to open up new markets, which is why we will be demonstrating the particularly energy-efficient and low-dust operation of our shredding systems in areas other than just plastics."

Granulators for any plastics application

Hellweg's portfolio includes robust, durable granulators for every plastics application, from small machine-side granulators for sprues up to high-performance systems for solid parts, film and sheet with throughputs of five metric tons per hour and above. All models are equipped with the digital Smart Control system developed by Hellweg which captures parameters such as power consumption, motor speed and bearing temperatures, as well as blade, screen and V belt status. The system is also capable of continuously optimizing the ratio between engine load and throughput. The result is particularly economic operation combined with minimal effort for operating personnel. Hellweg granulators' special cutting geometry produces low-dust regrind of consistently high quality and with the perfect particle size distribution and geometry for further processing. This range is complemented by edge strip shredders and servomotor-driven edge trimming systems for film or sheet production.

www.hellweg-maschinenbau.de

TechnoCompound and RE Plano intensify cooperation

TechnoCompound and RE Plano are working together on concepts for the use of recyclates from the lightweight packaging fraction (PCR) for technical products.

TechnoCompound (Bad Sobernheim) and RE Plano (Lünen), a subsidiary of Remondis Recycling, have agreed to intensify their cooperation in the use of post-consumer recyclates (PCR) for automotive applications. This is being done against the backdrop of the numerous EU regulations that are currently being discussed and have already been passed regarding the sustainability of companies and products, including the End-of-Life Vehicles Directive.

The use of recyclates from the lightweight packaging fraction of household waste sorting for use in technical products presents many challenges. Both companies have made significant developments and investments in this area in recent years. Dirk Breitbach, Managing Director of TechnoCompound, comments: "Building on our 35 years of experience in the use of recyclates in plastic compounds, the cooperation with RE Plano is an important step in the up-cycling of PCR from the lightweight packaging fraction for technical applications, such as vehicle interiors. This application has very high requirements in terms of emissions and odours, as well as the mechanical properties of our products."

At its latest sorting plant in Bochum/Germany, RE Plano uses an AI-supported sorting system that recognises individual packaging and can be freely programmed in terms of sorting criteria. This enables the company to achieve the highest purity levels in the fractions, which are suitable for later use in, for example, cosmetics packaging and vehicle interiors. Managing Director Ralf Mandelatz: "This will enable us to meet the volume requirements of the automotive market, and we are delighted to have TechnoCompound, an experienced market leader in technical applications, on our side." Dr Nabila Rabanizada, Head of Research & Development at REMONDIS Recycling, adds: "The suitability of our recyclates, including for high-quality, contact-sensitive applications, is also ensured by the further multi-stage processing of the sorting fractions at our plant in Lünen. This enables us to meet the specifications for the individual components."

Through compounding, additivation and further material processing, TechnoCompound uses these raw materials to produce plastic grades that pass the emission chamber tests, including odour and emissions, specified by vehicle manufacturers (OEMs). Regardless of the exact form of the future ELV directive, OEMs and Tier 1 and Tier 2 suppliers are pursuing their own sustainability strategies that include the use of PCR. Dr Gerald Aengenheyster, Head of Development & Application Technology at TechnoCompound, comments: "We can offer material solutions where PCR and post-industrial recycled content (PIR) are balanced according to the application and specification."

While the recovery of PCR from end-of-life vehicle recycling is still in its infancy, developments for the use of the PCR light packaging fraction are now well advanced and available for series application. TechnoCompound's PCR-based plastics are already being used in a number of automotive applications. Examples include instrument panel carrier made from TechnoGreen PP LGF long glass fibre reinforced polypropylene grades, which are in production for two vehicles. By working together, TechnoCompound and REMONDIS Recycling are helping their automotive customers to meet legal requirements and further achieve their sustainability goals within the circular economy.

ww.technocompound.com

The shift toward hybrid and electric machines

Amid the energy crisis and the green transition, the rotational molding industry is being called to reinvent itself. Polivinil Rotomachinery is responding with electric and hybrid machines, patented solutions, and photovoltaic integration: a technological evolution focused on productivity, sustainability, and energy resilience.

In a geopolitical landscape marked by instability, rising energy prices, and uncertainty over natural gas supplies, companies reliant on fossil fuels are facing increasingly complex challenges. At the same time, growing environmental awareness and regulations promoting renewable energy are accelerating the energy transition. For Polivinil Rotomachinery, a company specializing in the production of rotational molding machines traditionally powered by gas, this scenario has required a significant strategic rethink.

Currently, the most reliable alternative to gas is the use of electric resistors, either as a replacement for or in addition to traditional burners. On this front, Polivinil Rotomachinery's research has led to significant results, including innovative solutions now covered by patents (patent UR/SS/18697 ITAB filed in Italy and pending in Europe and other countries). Initial feedback from the market is positive: the company has already begun producing and installing fully electric medium-small size machines and hybrid gas/electric systems for larger-scale equipment at leading European client sites.

"The first step was to select the most suitable type of resistors available on the market for our process, those capable of rapidly reaching maximum temperature, with long-term resistance to high temperatures under maximum power, and featuring structural and design characteristics appropriate for installation in a convection oven with a high-flow, high-pressure fan," the company explained.

The integration of electric resistors introduced new design challenges, particularly regarding their footprint and placement inside the combustion chamber. To ensure even heat distribution and optimize thermal exchange, Polivinil Rotomachinery's engineers conducted in-depth studies

Table – Performance data for hybrid machine, 3,000 series
Comparison of performance metrics for a hybrid machine equipped with a 580 kW burner and 240 kW electric resistors, operating at a molding temperature of 250 °C with a 22-minute cooking cycle. The test was conducted to produce a polyethylene (PE) bell for glass collection, 1,700 mm in height, 27 kg in weight, and with a wall thickness of 4 mm.

	Gas only	Hybrid
Time to reach temperature setpoint (minutes)	14,5'	7'
First molding with the oven at temperature:		
Cooking time (minutes)	22	22
Gas consumption m³	13	7
Temperature decrease upon door opening (°)	30°	15°
Return to set point after door opening (minutes)	2'	30"
Cooking cycle with the oven at temperature for one hour:		
Cooking time (minutes)	22	22
Gas consumption m³	11	4

on airflow dynamics, adjusting fan modulation and incorporating special deflectors. Fan efficiency was also enhanced to increase pressure and hot air flow, while significantly reducing electrical consumption. "System efficiency has been confirmed even in the fully electric versions of our machines," the company emphasizes, "with cycle times comparable to those of gas-powered systems of the same size."

A limitation to full electrification remains the electrical power required to completely replace burners, especially in larger machines levels often not available at customer production sites. In these cases, hybrid systems prove to be the most effective solution. The process starts with the burner operating at full capacity to quickly heat the oven to the target temperature. It then scales down or shuts off, leaving the resistors to maintain the set temperature. This approach not only overcomes infrastructure constraints but also enhances productivity, as the resistors help accelerate temperature stabilization. "The advantages in terms of gas consumption reduction and environmental impact are clear, as confirmed by our customers already using our hybrid machines. Optimizing both gas consumption and electrical absorption is made possible by our software, which modulates the burner's operation and the power drawn by the resistors," the company adds.

In facilities equipped with photovoltaic systems, Polivinil Rotomachinery's technology can modulate the resistors' energy absorption based on real-time solar power generation. In this scenario, the burner activates only when needed to maintain the target temperature, aided by a highly insulated oven and next-generation fans. This innovative, patented functionality integrates seamlessly with the Regen system, installed on Rotomachinery Group's most advanced machines. At the end of the cooking cycle, the fan stops almost instantly, minimizing heat loss through the open doors and generating regenerative electricity that can be reused by the machine.

Simulations show that the higher initial cost of electric resistors can be amortized over 5–6 years, provided the photovoltaic system is properly sized. The benefits are clear, the company notes: greater energy independence, less exposure to price volatility, and a concrete response to gas supply issues. The choice between a fully electric or hybrid machine is always made in close collaboration with the client, based on a detailed assessment of their specific conditions available electrical power, presence and capacity of solar panels, and production data, especially cycle duration and molding temperature.

www.rotomachinery.com

Simoldes Plastics and Elix Polymers: cooperation

The two companies have announced an agreement to use recycled materials for interior applications in premium vehicles.

Simoldes Plastics, a leading supplier in the Automotive Industry and Elix Polymers are working together to get more sustainable recycled materials into new, high demanding interior applications of premium vehicles.

Both companies have set ambitious sustainability targets and are actively working in several circular economy projects. The goal of Simoldes Boost project during pre-development phase is to increase the usage of renewable materials by 40% during the development phase of their products, focusing on materials with mechanical recycled content and encouraging all suppliers to participate and develop their sustainability programs.

This is where Elix Polymers high quality E-Loop products with mechanical recycled content are a perfect match, and a technical validation process has been done with the materials Pc/Abs E-Loop 5120mr, which has 30% post-consumer recyclate originated from water bottles waste. The technical validation included mechanical, thermal, processability, odour and emission performance against the stringent requirements for automotive interior non-visible safety product. Cooperation brought the new mindset avoiding over-engineered materials into the real application. The product has shown equivalent properties compared to the traditional prime materials, but the material carbon footprint can be reduced up to a 40%. High demanding upper interior pillars (case study at ''A") with airbag have been injected in a unique lower injection process supported by high quality injection molds from Simoldes Tools to produce textile covered parts and all component requirements have been fulfilled.

Also, visible decorative parts for door panels with class A surfaces have been part of the evaluation program. The parts have been shown during Plastic in Automotive Engineering (Mannheim) conference in March 2025 and also presented to premium Automotive OEMs where high interest have been generated. Mold-flow is available for material and also completes tests results according to pre-development product validation plan.

Elix Polymers more sustainable E-Loop product portfolio includes Abs and Pc/Abs blends with mechanical recycled content and products with certified raw materials which have circular and biobased feedstocks certified with ISCC+ using mass balance model.

www.elix-polymers.com
www.simoldes.com

ESTABIO

FI PLAST
COSSA POLIMERI GROUP

At the core of every **ESTABIO®** granule is a clear commitment: **minimizing environmental impact** without compromising **performance** or **reliability**. Fiplast develops **biodegradable and compostable materials,** ideal for those seeking innovation and environmental responsibility. Solutions designed for those who want to **manufacture responsibly**.

FROM CAPSULES TO FOOD PACKAGING: OUR MATERIALS ADAPT TO A VARIETY OF NEEDS.GET IN TOUCH TO FIND THE SOLUTION THAT BEST SUITS YOUR PRODUCT

SUSTAINABILITY TAKES SHAPE,

granule by granule

WWW.FIPLAST.IT

TOYO EUROPE

100 YEARS

BROUGHT US HERE.

THE 7 SERIES TAKES US FURTHER

DESIGNED TO BREAK EVERY LIMIT

A new generation of **100% electric** machines has arrived.

0,23* Kw/h per kg of processed material.

*(*subject to verification of cycle times, material used, cooling time and temperatures)*

TOYO EUROPE SRL.
Via dell'Industria, 14 - Azzano Mella 25020 Brescia, Italy - Tel. +39 030 974 7041
info@toyo-europe.com - **www.toyo-europe.com**

Lawer: weigh smart to work better

Supersincro, Supercolor, Unica Twin and Td-Matic: Lawer technologies designed to automate and enhance the precision, safety, and traceability of weighing processes in color masterbatch production, with a focus on efficiency and sustainability.

Accuracy, repeatability, traceability, and efficiency of manpower are essential elements that companies in the color masterbatch industry look for to make their products. Lawer – an Italian company specialized in automatic industrial weighing systems since 1970, offers customized solutions for each customer, based on their specific needs and objectives – with its automatic weighing systems, can optimize the production process by ensuring precision, repeatability, traceability and efficiency, reducing the need for manpower and eliminating the "human error" factor.

Lawer offers different solutions, based on customer needs: from large productions to small laboratories that need to weigh with high precision, perfect accuracy, traceability and at the same time, be more sustainable in terms of saving raw materials, less waste of energy and respect for the environment.

Supersincro: modularity and flexibility

With Supersincro it is possible to load products from silos (cap. 380 l), hoppers (up to 1,850 l) and big bags, depending on the customer's needs and the space available. The machine can also be equipped with a storage station with manually or automatically interchangeable silos (cap. 20 or 70 l), where it is possible to store products that are rarely used or products that are used in very small quantities. The loading system can be by gravity or pneumatic, it is facilitated by tools such as loading pumps, bag transport trolleys and barcode scanners, which ensure the correct identification and handling of the products. In addition, Supersincro, thanks to advanced suction systems and filters, prevents the escape of volatile dust, creating a healthy and safe environment for operators.

A double dosing screw (equipped with anti-clogging devices) allows the products to be weighed directly into bags of different sizes (from 9 to 36 l) automatically created by the machine. The bag is then automatically sealed and released onto a conveyor belt or into a box, ready for further processing. The entire weighing process, thanks to the latest

generation of servomotors, can also help reduce energy consumption by up to 30% compared to traditional technology.
Supersincro is a smart system capable of communicating with management software and providing useful data for quality control and production optimization, such as CPK for repeatability and OEE for production efficiency. In addition, Supersincro complies with Industry 4.0 regulations, which means that it can connect and exchange data with other machines and systems in the company.

Supercolor Id-Tag: safe powder recipes in a clean environment

Supercolor Id-Tag is a fully automatic weighing system, which enables the safe and clean preparation of powdered recipes. The system consists of several independent storage silos, installed in line on a modular structure. Each module can accommodate up to 1O standard 150 L silos or 5 double 300 L silos. The silos are loaded via a vacuum system. The lower section of each silo is equipped with an efficient combined screw/vibration dispensing device (Lawer patent), which allows powder to be dispensed quickly and accurately.

The loading/unloading of the bucket takes place automatically and each bucket is identified thanks to the Id-Tag system. At the end of each weighing cycle, the recipe data is printed on an identification label.
The system is protected by a completely closed box, which ensures complete insulation of the system, guaranteeing ideal working conditions even in difficult environments (high humidity, sudden temperature changes, dusty environment) and guarantees safe use in the event of toxic dust. An efficient suction/filtering device ensures maximum safety of use and a clean working environment. The system works by means of a dedicated Lawer software.

Unica Twin: a versatile machine for powder weighing

Unica Twin is a fully automatic weighing system for powdered ingredients, which guarantees consistent quality and accurate control of color masterbatch preparations.
Unica Twin can have one or two scales, with an accuracy of 0.1 g; it is composed of 12-24 or 36 storage silos in AISI 304 stainless steel, with a capacity of 100 l, which can be loaded manually or with a vacuum system. The silos are equipped with a dosing screw combined with anti-clogging devices to weigh the product precisely and accurately.
The machine can have one or two weighing trolleys, depending on the production needs. An efficient suction filter can ensure safety and a clean work area. The whole system is managed by a touchscreen computer, which allows the setting, management and storage of production recipes. The machine can also be connected to the customer's external management system, according to industry 4.0 regulations.
This system can be used in the color masterbatch sector, for weighing raw materials for small/medium productions or as a support to the Supersincro system.

Td-Matic

Td-Matic is a laboratory machine, capable of automatically weighing small quantities of powders thanks to a micro-dosing screw inside the silo. It can be configured with a multi-level rack with 82 or 112 mini-silos, with a capacity of 2.7 l each, and 36 beakers (cap. 1600 cc) where to place the weighed recipe.
The three-axis robotic arm is specifically designed for handling mini-silos, moving them from the parking lot to the weighing station (scale resolution 0.001 g) and for handling beakers. Td-Matic is equipped with an efficient suction system that allows to keep the weighing area clean and avoid internal contamination.
Td-Matic communicates with a Lawer management software, each mini-silo is identified by a barcode and an RFID tag, to avoid human error and to allow the traceability of the recipe. It generates sophisticated reports and allows integration with external systems (MES), thus falling within the concept of Industry 4.0.

www.lawer.com

Zumbach Electronic: innovation and precision

Zumbach Electronic develops high-precision industrial measurement systems for cables, plastics, and metals. With innovative solutions such as Odac® and Rayex® S, it ensures reliability and advanced quality control.

Profilemaster PMM

Rayex

Simac

Innovation and precision have always been at the core of Zumbach Electronic's projects. The Swiss company specializes in the production of advanced systems for inline measurement, monitoring, and control. Founded in 1957 and headquartered in Orpund, the company has become a reference point in the wire and cable, plastics and rubber, as well as steel and metal industries. Currently led by Rainer Zumbach, the company employs over 200 people across eleven global locations, with production facilities and R&D centers in Switzerland, Spain, and the United States.

The quality of Zumbach products is reflected in their design, aimed at optimizing production reliability, reducing material costs, and improving the quality of industrially manufactured goods. The Odac® laser measurement systems are among its flagship solutions, allowing for highly precise detection of key parameters such as diameter, ovality, and profiles. These tools are now used in over 100,000 installations worldwide, ensuring unparalleled stability and accuracy.

Another key product is the KW fault detector, designed to identify anomalies, neckdowns, and impurities in cables and wires. Thanks to a high sampling rate and a design resistant to dust and scattered light, it is also suitable for production lines operating at speeds of up to 3,000 meters per minute.

The Profilemaster® PMM optical measurement system uses 2D laser triangulation to monitor complex profiles in real-time, while the Rayex® S X-ray system enables high-accuracy measurement of wall thickness, ovality, and eccentricity. This all-in-one system helps reduce production line startup times and optimize automatic control of extrusion speed.

Surface inspection of products is ensured by the Simac® system, which employs high-definition cameras and advanced algorithms to detect defects in cables, tubes, and hoses. With full coverage and an operating speed of up to 300 meters per minute, Simac® provides uninterrupted and reliable quality control. Finally, the Umac® ultrasonic system allows for the measurement of wall thickness and concentricity of extruded products with maximum precision, making it ideal for more than 2,000 installations worldwide.

Zumbach solutions are applied in numerous sectors, from medical tubing and catheters to construction profiles, from automotive and aerospace components to agricultural irrigation systems.

www.zumbach.ch

ODAC

UMAC

EUROVITI.COM

RECYCLING STARTS HERE.

Every turn of an Euroviti screw **supports circular economy** while recycling plastic waste or processing recycled plastics.

Optimize recycling processes and the use of recycled or regrinded plastics with Euroviti.

EUROVITI®
Italy

plasticizing screw and barrels

Under the surface there is much more...

R&D, innovation, customization and a family business with more than 70 years of passion and experience thanks to thousands of components installed all over the world.

VDL olocco®

Strength through cooperation

CE ATEX

Via del Santuario, 41-43 - 12045 Fossano (CN) Italy
Tel. +39 0172 692579 - Fax +39 0172 692578
olocco.eu - info@vdlolocco.com

ipack ima
PROCESSING & PACKAGING

IPACK-IMA MILANO
27 - 30
MAY 2025
FIERA MILANO - ITALY
HALL 3 - D37

Former coal store becomes a sustainable plastic processing facility

Beckum Kunststoffrecycling is generating secondary raw materials from plastic thanks to sorting technology from Steinert.

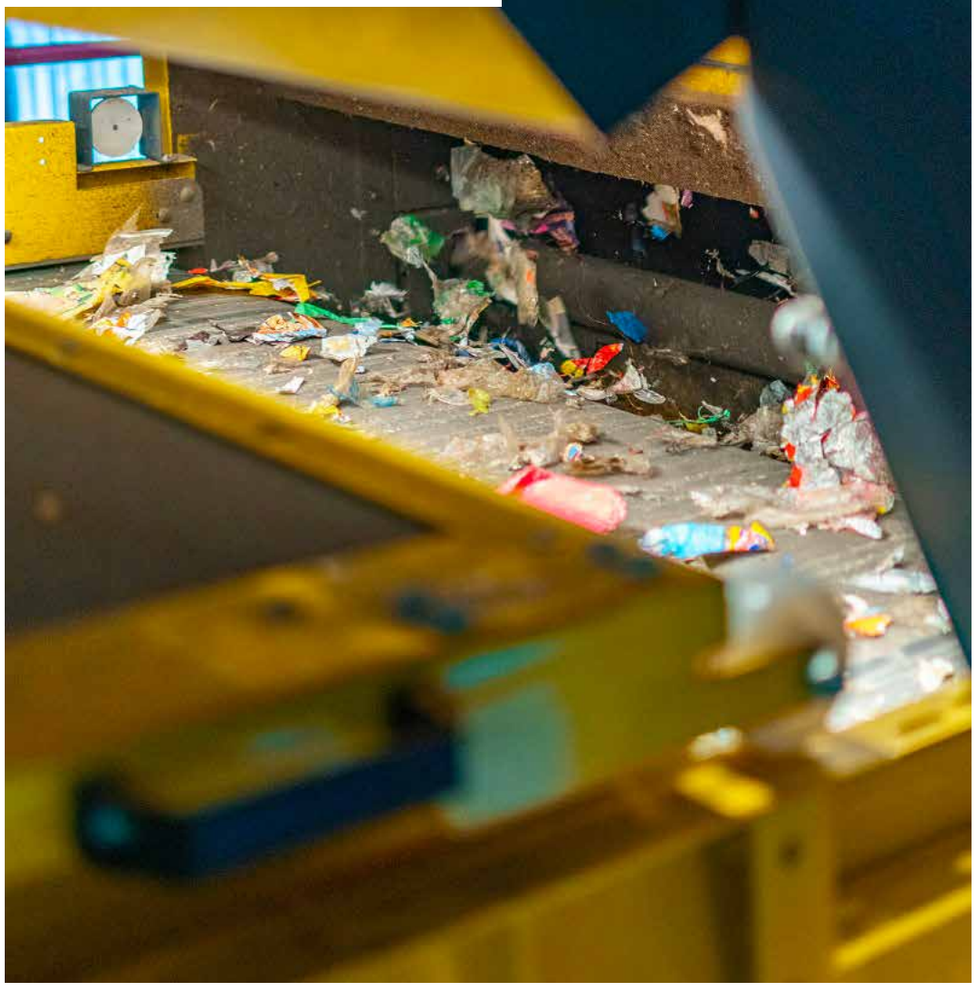
In 2014, Umweltdienste Kedenburg took over a sorting plant for packaging waste on the site of a former cement works in Beckum. Ten years later, Beckum Kunststoff Recycling, a cooperation with Otto Graf, built a second plant at this site, where coal was once stored for cement production. Today, sustainable recycled plastic is produced here, making it a great example of how the circular economy transforms historical industrial sites. Klaus Kuhlenbeck, Technical Director of the facility, describes the project as an investment in the circular economy: "Our goal is clear: to sort and process plastic films to such a high level that we can create new products out of them."

Turning waste into a quality product

The result is an ultra-modern sorting facility has been built to process plastics from mixed post-consumer packaging. Around two thirds of the input is polypropylene (PP) film; with the rest comprising polyethylene (PE) and a mix of polyolefins (PO), predominantly from pre-sorted material from post-consumer packaging facilities across Europe, from Austria to Norway.

Precision technology provides the key to success

At the heart of the facility are two Steinert UniSort Film Evo 5.0 machines, which use a special airflow system, synchronised precisely to the belt speed. "We were particularly impressed with the directional and stabilised airflow", explains Kuhlenbeck. "This means that even lightweight and flexible films remain firmly on the conveyor belt. And the airflow works right into the discharge hood so that the material hardly swirls at all after shooting out. The UniSort Film is the most fully developed solution currently available on the market for our requirements."



This precise flow of material permits a belt speed of 4.5 m/s, which is essential to high throughput and cost-effective sorting, especially with awkward 2D materials. With plastic films in particular, they are thereby prevented from overlapping or twisting and only then can the combination of sensors from the near-infrared sensor (NIR) and colour camera be fully effective. This accurate form of data capture is required to reliably achieve the desired purity rate of 98 percent from PP film.

Correctly sorted plastic films become a secondary raw material

By further processing steps and finally the agglomeration of the films and the shredding of the hard plastics into flakes. These intermediate products are then run through the Steinert Moh magnet combination separator with EddyC Fines to remove tiny ferrous and non-ferrous particles. The plastic agglomerate then goes straight to Graf, where it is used to manufacture durable products for rainwater utilisation. Customers thereby benefit from products that are not just sustainable but also display the same quality as new ones, without having to make any trade-offs.

Flexible enough to rise to future challenges

Klaus Kuhlenbeck stresses how important it was to him that his investment was future-proofed: “We have consciously designed our facility such that we can flexibly respond to changing requirements. We are aware that packaging materials are changing all the time. With the NIR and colour sensor combination, we can adapt to future trends.”
Kuhlenbeck clearly believes that: “A facility is never really ever complete. We are continually coming up against new challenges, such as composite materials, that are still hard to sort, or aluminised films, which can impact on the end product if not detected and removed.” And this is exactly why he stresses the importance of dialogue along the value-added chain: “For decades, companies worked alone. Only now are we really starting to talk to one another. So together we are improving recycling, creating better packaging and driving the circular economy forwards.”

Building confidence through tests – the goal of sustainability

The collaboration with Steinert started in the company’s own Test Center at its headquarters near Cologne, where the course for this successful project was set back in 2023. “Right from the start, the Steinert machines have done exactly what they promised to. I’ve rarely experienced anything like it. This is the kind of reliability we need for our vision of sustainable plastic recycling,” says Kuhlenbeck by way of summary. Thanks to the new facility in Beckum, the site of a former emitter of CO2 is becoming a pioneer in sustainability. With every kilogram of plastic that is returned into the cycle, Beckum Kunststoffrecycling is actively helping to protect the climate, save CO2 and preserve natural resources.

www.steinertglobal.com

MIXACO®
MASCHINENBAU

NEW HM+KMH

5 Star Mixing

Performance at HIGHEST LEVEL Always!

Homogenizing, wetting, coloring, heating, agglomerating, bonding, etc.

Outlet contoured and thus free of dead space

Integrated aspiration for perfect evacuation of dust/moisture

Size-dependent cooling system with targeted water routing in base & side wall

Multi-stage mixing tools for high friction & perfect homogeneity

Additional options such as ATEX version, weighing, injection, remote maintenance, etc.

MIXACO
Dr. Herfeld GmbH & Co. KG
Niederheide 2 - 58809 Neuenrade - Germania
Tel. +49 2392 9644-0 - Fax +49 2392 62013
info@mixaco.de

MIXACO USA LLC
1784 Poplar Drive
Greer, SC 29651 - USA
Tel. +1 864 331 23 20 - Fax +1 864 331 23 21
info@mixaco.com

MIXACO.COM

made in germany

Waste Management Europe

Exhibition & Conference

10-12 June, 2025
Bologna, Italy

↘ No Time to Waste

Innovating Smarter Waste Management Strategies for a more Sustainable and Circular Future.

Organized by

IES | Events

+39 063088 3030
exhibition@wme-expo.com
www.wme-expo.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 six months 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 CO2 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 CO2 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.

Plastics industry: a key sector with catching up to do

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 CO2 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.

Europe looks to regulation

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

Fashion fades, plastic remains.
Give new life to plastic waste.

Choose the Caldara 2nd Life® regenerated compound.

Sustainability is always in fashion.

Caldara Plast

Upcycling plastics and compounding since 1963

www.caldara.it

Caldara Plast S.r.l.
Recovery Division Via Trieste, 28/E 22036 Erba (CO) Italy Tel. +39 031610190
Compound Division Via Gianbattista Giovio, 633 22040 Alzate Brianza (CO) Italy Tel. +39 031632542

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."

Asia: between advances and structural deficits

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.

China's circularity offensive: centrally controlled, consistently implemented

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: driving technology systematically

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.

From India to Indonesia: why the circular economy is faltering

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

North America: a patchwork of strategies

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.

South America has a long way to go

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.

Shaping the Circular Economy at K 2025

At K 2025 enterprises from the different sectors of industry – raw material production, machine building and processing – will flag up the major advances made so far as well as coherent future solutions for the circular economy under the guiding theme "Shaping the Circular Economy". The numerous K Specials will also pick up on the topic, first and foremost the VDMA Dome. The VDMA (German Machinery and Equipment Manufacturers' Association) will again host an extensive Forum on the outdoor premises in 2025, this time entitled "The Power of Plastics". With 12 of its member companies it will demonstrate live on the premises between Halls 10 and 16 just how important technology is for implementing circularity in the plastics industry. In the official Special Plastics Shape the Future in Hall 6, organised by Plastics Europe Germany, the discussion forum on Thursday, 9 October, will come under the motto: "Circular Thursday: Transition – Resilience of the industry – which technologies will make the circular economy work?"

THINK BIG NEW AGRI-GEO LINE

Discover our latest AC-C battery range, designed for cooling blown film and agri/geomembrane lines with a capacity of up to 1900 kg/h.

Learn more on AC-C series

Milan
May 27 / 30
Hall 14 / Stand A24

Kielce
May 20 / 23
Hall G / Stand 6

T. +39 0381 988070
info@ht-cooling.com
www.ht-cooling.com

GALLETTI GROUP

HT-COOLING made to measure

K 2025: focusing on the transformation of the plastics industry

Special show Plastics Shape the Future to offer international discourse, innovations and impulses for a sustainable and competitive plastics industry on seven theme days.

At K 2025 from 8 to 15 October in Düsseldorf the official Special, Plastics shape the Future, will discuss and reveal how the plastics industry shapes the transition to more sustainability, digitalisation and social responsibility. Organised jointly by Plastics Europe Deutschland and Messe Düsseldorf the special show will provide insights into the current state and perspectives of transformation: featuring different focal topics every day, discussions with high-ranking representatives from political and scientific spheres and NGOs, innovative start-ups and industry experts, accompanied by interactive expert talks, round tables, guided tours of the trade fair and networking opportunities at the Startup Pitch, Science and Poetry Slam and the "Women in Plastics" event.

Overview of the seven theme days

Kick-off Wednesday – The Power of Plastics (8 October)

Wednesday is all about competitiveness and sustainability and will be kicked off by the opening with representatives from political spheres, business and international associations. Two sessions chaired by Virginia Janssens (Managing Director of Plastics Europe) and Dr. Christine Bunte (Plastics Europe Deutschland) will highlight how innovations and investment drive the industry.

Circular Thursday (9 October)

On Thursday everything will revolve around circularity: moderated by Prof. Manfred Renner (Fraunhofer Umsicht/Ccpe) experts will shed light on circular-ready product design, regulatory challenges and circular business models in packaging, textiles, electronics, construction and automotive. The day will be rounded off by a panel discussion on chemical and mechanical recycling.

Climate Friday (10 October)

Friday will focus on climate protection and CO2 reduction: topics span from avoiding pellet losses (Ocs) to additive use to lifecycle analyses and the monetisation of sustainable products. A political panel will discuss the competitiveness of the European plastics industry as a driver for a sustainable economy.

Smart Saturday (11 October)

On Saturday digitalisation and artificial intelligence will be centrestage: PolyMaterials, Ineos, Covestro, Netzsch, the nova Institute, rCycle and representatives from science, to name but a few, will flag up how AI optimises processes from material development to improved collection and sorting for recycling to the drawing up of sustainability reports.

Career Sunday (12 October)

Career Sunday will focus on people. Be it in recruiting through new channels via gaming or diversity, at two book presentations or the Science and Poetry Slam; not forgetting the networking event "Women in Plastics"

Innovation Monday (13 October)

Monday is reserved for start-ups and science: in two pitch sessions emerging companies will introduce themselves with solutions for recycling, digitalisation, material development and organic plastics. In addition, the Wak Prize will be presented by Prof. Moritzer (University of Paderborn). The concluding scientific panel will discuss the innovative power of plastics as an enabler for various key industries in Europe.

Visionary Tuesday (14 October)

The last but one day of K 2025 looks ahead of time – Plastics 2050: circular design, bio-based raw materials, Ccu and the avoidance of micro plastics will be crucial topics. The keynote by Prof. Michael Braungart (Cradle to Cradle) as well as panels with leading representatives from industry and science show that the future of the industry is transforming, with high ambitions and concrete steps.

www.k-online.com

GPH:STUDIOFORMENTI&ASSOCIATI

DESIGN AND PRODUCTION OF **MOULDS** FOR **RUBBER** TECHNICAL COMPONENTS

45 Anniversary

MTOIUMLED

MouldTex
3D mould surface texturing

INDUSTRY 4.0

SYSTEM CERTIFICATION ISO 9001 SGS

ORP STAMPI
innovation in the mould construction

Tecno System: Italian engineering driving precision in medical extrusion

Tecno System, an Italian manufacturer of extrusion lines and cutting equipment, is expanding its role in the medical sector with advanced solutions tailored to the stringent demands of healthcare. Its precision-driven micro-extrusion and cutting technologies support the production of complex medical tubing essential for next-generation devices.

Tecno System, an Italian company specializing in the design and production of extrusion lines and cutting tools, continues to strengthen its position as a trusted supplier to the medical industry. With a focus on customization, precision, and continuous innovation, the company offers high-performance solutions tailored to the evolving challenges of modern healthcare.

In a highly regulated and fast-changing medical environment, Tecno System's advanced medical extrusion line is designed to produce micro-extruded tubing, multi-lumen structures, multilayer formats, and bump tubing. These components are integral to a wide range of critical medical devices used in cardiovascular procedures, minimally invasive surgery, neurology, diagnostics, and more. The high precision of the tubing ensures reliable and safe performance, even in the most sensitive clinical contexts.

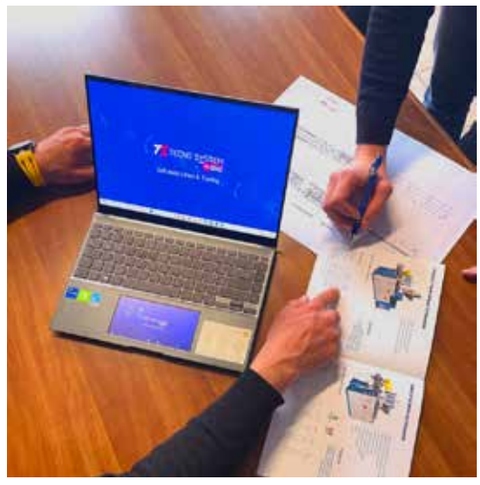
Tecno System's micro-extrusion technologies support a broad selection of biocompatible materials, including polyurethanes, polyamides, thermoplastic elastomers, and polyethylene. These materials enable fully customized solutions to meet specific application requirements while maintaining strict biological compatibility. The manufacturing process ensures ultra-tight tolerances, with outer diameters starting at just 0.4 mm, and allows for complex designs such as thin-wall and multi-channel tubing.

In parallel, the company has developed highly versatile cutting units that combine production efficiency with operational flexibility. One standout solution is the combined saw and heated blade unit, which allows operators to switch cutting modes without interrupting the production process. Heated blade cutting is ideal for tubing and profiles, delivering dust-free and low-noise separation. For high-speed applications involving tubing up to 30 mm in diameter, cold cutting is another available option. Integrated systems for in-line punching and drilling further enhance productivity, enabling synchronized, high-precision operations.

Tecno System's ability to offer turnkey solutions for medical extrusion – from tubing production to final cutting – represents a strategic advantage for medical device manufacturers. In a market increasingly focused on miniaturization and patient safety, the company's technology stands out for its engineering rigor, operational reliability, and full compliance with international standards.

With a clear commitment to ongoing innovation, Tecno System continues to support the advancement of medical technology, delivering solutions that blend mechanical precision with deep awareness of clinical needs.

www.tecnosystemfe.it



RECY
TECHNOLOGIES®

RECYCLING SMARTER. POWERED BY TECHNOLOGY.

INNOVATIVE WASHING
and drying technology

INNOVATIVE DRYING SYSTEM:
HUMIDITY LESS THAN 1%

PRINTING INK AND
ODOUR-FREE MATERIAL

recytechnologies.it

Comerio Ercole Spa: 140 Years of Industrial activity made of tradition and innovation

In 2025, Comerio Ercole celebrates the 140th anniversary (1885–2025) of its foundation with the publication of a commemorative book that recall the company's long industrial journey.

A 272-page volume collects historical episodes, anecdotes, human stories, technological milestones, and forecasts of the future, testifying a path made of deep roots and a continuous drive for innovation. This daily commitment has enabled the company - headquartered in Busto Arsizio with 250 employees in the group - to export 94% of its production globally, always placing the utmost value on its most important asset: its people.

It all began in 1885, when Ercole Comerio (1860–1947), affectionately called "Ul Balösu", launched his entrepreneurial activity, the same year he married Teresa Marcora (1866–1952). Since then, a long-standing family and industrial tradition has grown stronger year after year, enriched by a virtuous combination of experience and innovation.

"Our corporate DNA is based on deep respect for tradition and constant forward-looking drive, within an evolutionary process that never stops", says Riccardo Comerio. "Every day we face challenging and stimulating situations that push us to keep improving."

Luciano Landoni, economic journalist and author of the book's afterword, adds: "The entrepreneurial example of Comerio Ercole is highly motivating, especially for young people, who now more than ever need concrete signals based on competence, passion and vision."

Celebration and look to the future: Industry 5.0 and New R&D Investments

On Friday June 6th, COMERIO ERCOLE's main production site in Busto Arsizio will open its doors to institutions and stakeholders. On this occasion, two important innovations will be presented:

- The launch of the new universal INDUSTRY 5.0 manufacturing center
- The expansion of the R&D technology center, which already includes two laboratories dedicated to calendering and mixing. It is now enhanced with two new innovative experimental machines, one for mixing and one for calendaring, equipped with a cutting-edge longitudinal stretching unit for thin sheets. The main laboratory acts as a "mini-factory" equipped with a 4-roll calendering line, reconfigurable to 3 or 5 rolls depending on process requirements. The plant is equipped with a dual feeding system, allowing both direct extrusion and feeding from mills and now from an internal mixer. The second laboratory hosts a calendering line designed for embossing processes of films and nonwovens, with the possibility to select up to 100 different patterns for enhancing all types of materials.

This further R&D investment strengthens COMERIO ERCOLE's ability to support customers in developing new processes for polymers and elastomers processing.

COMERIO ERCOLE's skilled R&D team can attend every project up to patent validation, confirming the company's commitment to quality, technology and service.

www.comercole.it

DISTRIBUZIONE ELETTRICA SRL

ENERGY SOLUTIONS

ELECTRICAL EQUIPMENT - LIGHTING - HOME AUTOMATION
AUTOMATION - SAFETY - ENERGY EFFICIENCY

Viale Maestri del Lavoro Lotto 10 - 73042 Casarano (Le) - Tel. 0833 19 38 385 - vendite.distribuzioneelettrica@gmail.com

distribuzione elettrica srl

Chinaplas 2025 concludes successfully with record-breaking attendance

Over 280,000 elites from industries and end-user sectors gathered at the stage of innovation.

Chinaplas 2025 successfully wrapped up on April 18, attracting a total of 281,206 visitors over four days, a 13.29% increase compared to Chinaplas 2023 in Shenzhen. Notably, 68,542 attendees came from overseas markets and the Hong Kong, Macau, and Taiwan regions, accounting for over 24% of total attendance. This represents a remarkable 141.1% surge in international visitors compared to the previous edition.

The premier trade fair brought together over 4,500 leading plastics and rubber suppliers from 39 countries and regions, featuring more than 3,800 state-of-the-art machines and over 1,600 raw material suppliers. Numerous trade deals were finalized between prominent exhibitors and global buyers, reaffirming Chinaplas 2025's status as a powerful sourcing platform that fosters partnerships and drives industry growth.

Comprehensive industry chain display attracts quality global buyers

Innovation in the plastics and rubber sectors continues to play a critical role in advancing new industries. The exhibition featured more than 120 global and Asian technology debuts, along with numerous cutting-edge, cost-effective solutions for plastics and rubber manufacturing.

A fully integrated industry chain was on display, from advanced material innovations and intelligent manufacturing solutions to proven applications. Key sectors represented included automotive, electronics and electrical, packaging, medical and healthcare, construction, new energy, and sports and leisure, serving the diverse demands of various industries.

With such compelling solutions and products, the trade show attracted buyers from approximately 150 countries and regions. Attendees connected with a vast network of professional suppliers offering high-quality products and services that met their unique business needs. This interaction significantly expanded the scope and depth of their global business networks.

Inspirational Sparks from Concurrent Events

A wide array of concurrent events focused on the circular economy and received enthusiastic participation. More than 800 industry elites attended the Plastics Recycling & Circular Economy Conference and Showcase, where over 60 international experts and corporate leaders shared insights on market trends and technological developments supporting sustainable plastics innovation.

At the Sustainable Plastic Packaging Forum, experts from leading institutions and enterprises presented the latest international sustainability solutions. Brand representatives also discussed the challenges faced in implementing innovative packaging, helping bridge the gap between upstream and downstream sectors of the value chain. Live demonstrations of PET food-grade and PE high-quality recycling production lines at The Plastics Circularity Journey showcased the high-value potential of plastic recycling.

Other well-received concurrent events included the 3rd SciXplore Forum, where visitors gained foresight into the future of polymer science from esteemed academics and industry experts. The Applications in Focus forums addressed over 40 key topics, such as recyclable medical packaging, cost-reduction strategies, and enhanced manufacturing efficiency in the electronics and electrical industries.

At the Market Insights Hub, attendees explored strategies for business expansion in international markets, ESG and sustainable supply chains, and updates on emerging productive forces, through three specialized forums. Over 40 transformative technologies were launched at Tech Talk, spanning six themes: 3D Printing, Automotive Lightweighting, Green Low-carbon Solutions, Efficient Packaging, Rubber & TPE Technologies, and 2025 New Materials.

New hubs and unique experiences enrich the event

New features debuted this year included the "innoGreen Hub" and "SportsTech Chic + Green", which focused on the latest technologies, materials, designs, and applications in automotive, electronics, medical, packaging, sportswear, and sporting goods. These areas highlighted how sustainable and intelligent innovations are shaping the future of "green + smart manufacturing" and sporty chic trends.

In the Product Innovation Gallery, over 200 unique products were displayed, offering visitors a chance to explore the technologies behind them and connect with potential suppliers. For the first time, the Exclusive VIP Factory Tour allowed visitors to engage directly with technical executives on-site, gaining valuable insights into ESG strategies and innovative manufacturing practices.

Aiming to strengthen cooperation between exhibitors and academic institutions, CHINAPLAS 2025 hosted an onsite "Development Day for Campus Elites", integrating traditional campus recruitment with precise talent matching for the plastics and rubber industries.

A dynamic platform with lasting impact

Although Chinaplas 2025 has concluded, those who missed the event can revisit highlights via the Chinaplas Live platform, featuring leader interviews, event recaps, and extensive coverage of emerging trends and technologies—accessible anytime, anywhere.

Chinaplas extends sincere gratitude to all participants, exhibitors, and visitors who contributed to the event's success. The next edition, Chinaplas 2026, will be held at the National Exhibition & Convention Center (NECC), Hongqiao, Shanghai, PR China, from April 21 to 24, 2026. The industry looks forward to another inspiring gathering.

www.chinaplasonline.com

SPS Italia

13-15 May 2025

Parma, Italy

The highlight event for the intelligent, digital and sustainable industry: a reference point for the Italian manufacturing sector

www.spsitalia.it

Greenplast

27-30 May 2025

Milano, Italy

The international exhibition-convention dedicated to materials, technologies and transformation processes for plastics and rubber, with focus sections on sustainability, materials recovery, recycling and energy efficiency.

www.greenplast.org

Ipack-Ima

27-30 May 2025

Milano, Italy

The fair specialized in food and non-food processing and packaging

www.ipackima.com

Powtech

23-25 September 2025

Nurember, Germany

Leading trade fair for powder & bulk solids processing and analytics

www.powtech.de

K Show

8-15 October 2025

Duesseldorf, Germany

The leading business platform for the plastics and rubber industry.

www.k-online.com

COMPANIES

Amut	Cover	www.amut.it
Bea Technologies	18	www.bea-italy.com
Binova	17	www.binovapm.it
Break Machinery	35	www.breakpolymer.com
Bruno Folcieri	24	www.brunofolcieri.com
Caldara Plast	45	www.caldara.it
Chinaplas	54	www.chinaplasonline.com
Comav	19	www.comav-srl.com
Comerio Ercole	52	www.comercole.it
Distribuzione Elettrica	53	FB: distribuzione elettrica srl
Elix Polymers	30	www.elix-polymers.com
Euroviti	37	www.euroviti.com
FI Plast	31	www.fiplast.it
Fimic	7 – 12	www.fimic.it
Gamma Meccanica	3	www.gamma-meccanica.it
Hellweg	26	www.hellweg-maschinenbau.de
HT Cooling	47	www.ht-cooling.com
K	43	www.k-online.com
KraussMaffei	10	www.kraussmaffei.com
Lawer	33	www.lawer.com
LK IMM Europe	25	www.lk.world
Macchi	29	www.macchi.it
Meccanoplastica Group	III Cover	www.meccanoplastica-group.com
Mixaco	41	www.mixaco.de
Mixron	5 – 14	www.mixron.it
Olocco	38	olocco.eu
Orp Stampi	49	www.orpstampi.com
PHT Petrelli	11	www.petrelliheating.com
Polivinil Rotomachinery	28	www.rotomachinery.com
Powtech	13	www.powtech-technopharm.com
Promeco	21	www.promeco.it
Recy Technologies	51	www.recytechnologies.it
Repi	22	www.repi.com
Rodolfo Comerio	6	www.comerio.it
Simoldes Plastics	30	www.simoldes.com
Steinert	39	steinertglobal.com
Technocompound	27	www.technocompound.com
Tecno System	50	tecnosystemfe.it
Tecnomatic	8	tecnomaticsrl.net
Tecnova	Inserto	tecnovarecycling.it
Toyo	20 – 32	www.toyo-europe.com
Zambello	IV Cover	www.zambellogroup.com
Zumbach Electronic	36	www.zumbach.ch

PASSIONATE PEOPLE LASTING SOLUTIONS

MECCANOPLASTICA
GROUP

EBM

HE750D

INDUSTRIAL PACKAGING

MECCANOPLASTICA GROUP

The Blow Moulding Machines

meccanoplastica-group.com

www.zambellogroup.com

WORK WITHOUT WORRY

ZMS ZAMBELLO Monitoring System

ZMS - Zambello Monitoring System is the device of Zambello Group designed for industry 4.0

With ZMS, you will be able to **monitor** the operation of the gearbox through the control of the **vibrations** and the condition of the **lubricating oil**.

ZMS improves the **profitability** of your business through **predictive maintenance** of the power transmission of your extruder.

Use Zambello extruder gerarboxes with ZMS...
and ***work without worry!***

ZR GROUP

a Family Company
since 1957, made in Italy

ZAMBELLO group
Advanced technology for extruders