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# Recycling: Globally also a strong Ladies' Business

Brigitte Weber
Editor-in-Chief

In anticipation of International Women's Day on 8 March, the women in business of British Go-Pak Group, a part of Thailand-based SCG Packaging (SCGP), called for scalable circular solutions to accelerate circular innovation and inspire the next generation. On this occasion, they not only mentioned the company's old corrugated cardboard (OCC) closed-loop recycling system, Go-Recycle, but also the fact that across the UK manufacturing industry women make up just 28–29 percent of the workforce (2024–25), with representation in senior roles remaining limited.

However, this is not the whole truth. In the recycling sector, women globally play a significant role in contributing to the circular economy. Many serve as chief executives and are members of national and international associations and trade federations. There are also organizations especially for women: "Women in Recycling Foundation (WORF)" in Tanzania, "All Women Recycling" in South Africa, "Women Of Waste (WOW!)" of ISWA – International Solid Waste Association, "Frauen in der Recycling- und Entsorgungswirtschaft" of bvse-Bundesverband Sekundärrohstoffe und Entsorgung in Germany and "Women in Recycling" in the UK, to name a few examples.

As in every year, the Global Recycling Day was held on March 18. This year's theme, "Don't think waste. Think opportunity!" was met in many countries to emphasize the importance of recycling. The strong participation in the annual Recycling Heroes Competition clearly shows that recycling is a significant priority. Winners this year come from Africa, Asia, Australia, Europe, and both North and South America. Moreover, there were other initiatives; for example, year 8 students from Ah Mu Academy in Samoa "traded time in the classroom for a day where they played waste detectives at SPREP's Vailima headquarters, before they were crowned Pacific Recycling Heroes".

When the world's leading trade fair for environmental technologies, IFAT Munich, takes place from May 4 to 7, 2026, this event will show that circularity is becoming increasingly important in light of geopolitical tensions, fragile supply chains, and rising raw material prices. The event program and more than 3,000 exhibitors will demonstrate how recycling, digitalization and new collaboration can help use resources more efficiently and strengthen economic resilience. In this issue, you will find articles about products and solutions presented at IFAT. The internationally active company Lindner will demonstrate its expertise in plant engineering and shredder technology (see page 14). Recycling and treatment technologies will also be presented by MOBA Mobile Automation and weighing systems provider KWS (page 21), McLanahan Corporation (page 22), Sabo S.A. (page 22), Dieffenbacher (page 23), Clearstream Water Treatment (page 29), Trojan Technologies (page 29), RUF Maschinenbau (page 39) and other experts and specialist companies.

We hope you get a lot of new and useful information from reading this current magazine.

Yours
Brigitte Weber (weber@msvgmbh.eu)

Cover Photo: TOMRA




Photo: MSV, AI-generated

# Artificial Intelligence: **WHAT IS AN AI-DRIVEN CIRCULAR ECONOMY?**

According to Sid Argawal (Lead, Plastics and Technology) and Clemence Schmid (Director, Global Plastics Action Partnership) from the World Economic Forum, the AI-driven circular economy is the key to overcoming data fragmentation and managing global resource cycles. They wrote in an article, which was part of the organization's annual meeting:

Transitioning to a circular economy is a foundational imperative for global resilience defined by three conditions: designing out waste, keeping materials in use, and regenerating natural systems.

Artificial intelligence (AI) can provide the essential infrastructure for this transition by increasing digital connectivity and the ability to generate actionable data insights across the value chain, thereby acting as the nervous system that links product design, manufacturing, and recovery.

Indeed, AI's potential to reduce emissions in key sectors outweighs its own energy footprint by a significant margin, validating its role as a net-positive tool for the transition, according to recent research.

## AI as the "nervous system" for a circular economy

Currently, the core components of the circular model operate in isolation. For example, packaging converters and recyclers often lack the digital data regarding material composition necessary to ensure safe, high-value reuse. Even when data is collected, the industry lacks the tools to synthesize it into insights that inform large-scale operational changes. This is why AI makes the circular value chain smarter and more connected. AI can function as a fast-iterating feedback mechanism that can send information and

link these historically isolated parts of the value chain. By turning new chemical development or waste tracking and flows into actionable data, AI enables the system to operate with the intelligence required for resilience.

Without the ability to manage material flow, product design, and waste management digitally, the circular economy will be slow to scale. AI serves as the feedback mechanism needed to connect these parts of the value chain. This is particularly urgent in the plastics sector, where global production is set to reach 500 million tons this year, yet only about 9 percent is recycled globally.

### How AI strengthens the plastics value chain

From materials creation to waste identification, AI is starting to transform the plastic value chain in measurable ways to improve its overall circularity.

### 1. Novel chemical and material synthesis

AI accelerates the research needed to create circular alternatives and chemical end-of-life solutions.

- Inverse design: University research labs and companies like CuspAI are building generative AI platforms that act as a "search engine for materials". The company's inverse design approach enables researchers to specify the needed properties (e.g., biodegradable, highly stable, easily depolymerized) and have the AI propose the optimal molecular structure.
- Exponential growth: The scale of this acceleration is unprecedented; for example, Google DeepMind's GNOME tool recently identified more than two million theoretical crystal structures – 45 times the number identified by science to date – drastically shortening the timeline for materials breakthroughs.

### 2. Sustainable product and packaging design

AI-enabled connectivity from the manufacturer to the recycler through digital feedback will be paramount in the circular economy. Generative AI is transforming how manufacturers design products to be easily disassembled and reused.

- Optimized material discovery: In a partnership with IBM Research, Nestlé is using generative AI and chemical language models to accelerate the development of new, high-barrier packaging materials. This enables them to screen thousands of novel material compositions in days, ensuring the final design meets strict criteria for safety, cost and full recyclability.
- Lifetime tracking: The key to connecting design and recovery is a standardized data pipeline, a concept enabled by AI: the digital product passport (dpp). Originating from regulatory efforts like the EU's Ecodesign for Sustainable Products Regulation (ESPR), the DPP is a comprehensive digital record of a product's composition and circularity attributes. This transparency ensures every chemical and material is traceable, providing the precise data the consumer and recycler need throughout the product's life.

### 3. Waste identification and sortation

The lack of digital data and insights at the recovery stage is the main inhibitor to high-quality recycling. AI addresses this fragmentation head-on through:

- Real-time analytics: Companies like GreyParrot use AI-powered computer vision and deep learning to analyze waste streams in real-time, identifying material types with high accuracy – tracking up to 80 items per minute. This capability effectively doubles the efficiency of traditional sorting methods.
- Purity and value: The real-time data provided by these systems overcomes blindness at the facility level. This enables operators to achieve purity levels of over 95 percent in recycled outputs and reduces contamination rates by as much as 85 percent. This is critical for safely recycling plastics, given the health risks associated with chemical additives.
- Design feedback loop: Crucially, this real-time sorting data is now being leveraged to inform brands. AI systems can identify why specific consumer packaging is incorrectly sorted or contaminated (e.g. due to a dark color additive, complex label, or unique shape). By working with consumer brands, this data helps companies make incremental changes to their packaging –such as adjusting the size, shape, color, or labelling of a product – to instantly increase its recyclability without requiring a full product redesign.

### 4. Predictive material flow and logistics

The flow of recovered material is managed efficiently through predictive intelligence, ensuring every material is routed to its highest-value destination and minimizing wasted effort.

- Emissions and cost reduction: AI-driven predictive analytics model reverse logistics networks in real-time, routing collection vehicles based on live sensor data. By avoiding inefficient trips and maximizing load capacity, these systems can realize up to 35 percent reduction in associated carbon emissions from transport, alongside 20 percent to 30 percent savings in operational costs.
- Material savings: Furthermore, optimizing upstream

logistics through predictive modelling leads to a sharp reduction in material waste due to overproduction, obsolescence and damage. For instance, Amazon's Package Decision Engine uses AI to determine the most efficient packaging for shipments; since 2015, this model has helped avoid more than three million metric tons of packaging material globally.

### Collaboration to accelerate the shift to circularity

AI provides the intelligence, but a cross-value chain collaborative effort is essential to scale the digital solutions into systemic action. Collaboration ensures that the data produced by AI is leveraged across the entire value chain.

Current policy frameworks are largely designed for a linear economy, failing to create the necessary market "pull" for sustainable materials. Governments and policy-makers must rectify this by establishing clear, harmonized global and regional extended producer responsibility (EPR) regulations that incentivize circularity.

Furthermore, they must define standardized key performance indicators across the value chain to track progress, ensuring that regulatory pressure moves beyond vague targets to measurable outcomes.

Meanwhile, tech companies and innovators must provide interoperable tools and avoid proprietary "black boxes". The data generated by platforms like Google X's Materra, CuspAI, and GreyParrot must be accessible to chemical manufacturers, converters, brands, and recyclers to inform design and infrastructure planning.

Reaching one in five people globally through 25 country partnerships, the World Economic Forum's Global Plastic Action Partnership (GPAP) – the world's largest multistakeholder initiative tackling plastic pollution – will launch a new innovation workstream in 2026 to bring public and private leaders together around emerging technologies, including AI, biomaterials, advanced chemistry, and digital tracking, to accelerate circularity and unlock economic value.

weforum.org

In addition, manufacturers and industry leaders must embrace radical transparency regarding material composition and end-of-life status. Beyond data, this requires a cultural shift toward pre-competitive knowledge sharing, where industry leaders actively disseminate successful case studies of circular adoption to accelerate the learning curve for the entire sector.

The AI-driven circular economy is key to overcoming data fragmentation and managing global resource cycles. By using AI as the nervous system to both enhance and connect every stage of the value chain, and by prioritizing radical collaboration, we can move beyond managing waste and towards achieving resource resilience across all material streams.



## AI in Recycling:
# UNLOCKING NEW POSSIBILITIES

This is the title of a new eBook published by internationally active sorting solutions provider Tomra Recycling. Aim of the guide is to explore the role of Artificial Intelligence (AI), particularly deep learning (DL), in the global recycling industry.

As underlined, the free-to-download eBook aims to demystify deep learning, explaining its mechanisms and highlighting its practical applications in overcoming complex sorting challenges, such as enabling the separation of previously hard-to-classify materials through the training of vast datasets. "From manual processes to the prospect of fully autonomous AI-driven systems, the evolution of sorting technologies is also examined in detail, alongside the core concepts of AI and deep learning," Tomra Recycling explained.


Photo: Tomra

■ A free copy of "AI in Recycling: Unlocking New Possibilities" is available at tomra.com/waste-metal-recycling/media-center/download/ai-ebook

Sweden:

# MORE CIRCULAR ECONOMY CAN SAVE BILLIONS

According to the study "Circularity Gap Report (CGR) The Value Gap: Sweden", the country is losing more than 54 billion Euro (or about 600 billion Swedish Krona) each year due to linear economy practices. This sum of money corresponds to 19 percent of the total economic value created in the country and is equivalent to 57 percent of the national state budget.

"The majority of goods reaching their end of life are not reused, refurbished, or recycled – a main channel through which value leaks away. Transitioning to a circular economy could enable Sweden to capture the unrealized value," a press release informed. The study, produced by RISE Research Institutes of Sweden and Circle Economy and funded by the Swedish innovation program RE:Source, would provide evidence of the economic inefficiencies inherent in a linear economy, reinforcing the economic case for circular transition.

"Historically, we have measured prosperity by the value we create. Few have looked at the value we are losing," Ann-Charlotte Mellquist, project manager and researcher at RISE, was quoted. "Our economy is leaking, and the Value Gap shows us where those leaks are and how much they cost. As reported, products discarded too soon are Sweden's largest source of lost value, costing the country about 38.3 billion Euro annually. Extending product lifespans through reuse, refurbishment, and remanufacturing could recover much of this loss. Klas Cullbrand, Innovation Leader at RE:Source, could not agree more. "The majority of goods reaching their end of life are not reused, refurbished, or recycled. By failing to give products and materials long lifespans, we waste not only the materials themselves but also the energy, labor, and infrastructure invested in them – the very value we work so hard to create."

In addition, overconsumption – spending that exceeds actual needs or offers minimal benefit – amounts to – converted – 18.2 billion Euro annually. "This is roughly four times the amount Sweden planned to allocate for development aid to the world's poorest countries in 2025," Circle Economy stated.

When comparing economic sectors, construction stands out as the largest source of value loss, amounting to 16.4 billion Euro (or 180 billion Swedish Krona), the information said. "The majority of this loss occurs when buildings are demolished, and their embedded value is discarded." The second-largest source of value loss is consumer goods like textiles, electronics, plastic packaging, and furniture. Each year, an estimated worth (eight billion Euro or 88 billion Swedish Krona) of these goods becomes waste, while they could have remained in circulation within a more circular economy.

The report recommends the following actions to reduce value loss and better capture circular opportunities in Sweden:

- Introducing policies that recognize environmental and social value, such as repair subsidies, tax incentives for reuse, and circular procurement rules.
- Incentivizing circular business models like product-as-a-service, reuse platforms, and industrial symbiosis (when by-products or waste of one industry are used by another industry).
- Promoting conscious consumption by embedding circularity into education, culture, and regulation.

"While this report examines the Swedish economy, its findings are relevant beyond the country's borders. It demonstrates that the linear, 'take-make-waste' models are not only environmentally harmful, but also economically weak. This presents a strong business case for the circular economy, which can unlock billions in untapped value - in Sweden and globally", Ivonne Bojoh, CEO at Circle Economy, is convinced.

■ The report can be downloaded at dashboard.circularity-gap.world/report/sweden-value-gap/executive-summary

Photo: MSV, AI-generated

# THE GLOBAL CLOTHING AND TEXTILE RECYCLING MARKET

According to Valuates Reports, a market research firm based in India, the global clothing and textile recycling market is projected to reach a value of 20.2 billion US Dollars by 2031.

As stated, the global clothing and textile recycling market was valued at 13.6 billion US-Dollar in 2024 and is projected to grow at a CAGR (compound annual growth rate) of 5.9 percent during the forecast period. This sector focuses on recovering value from discarded apparel, footwear, and fabric-based products through organized collection and processing systems. Furthermore, it supports waste reduction while enabling the reuse of fibers, materials, and finished goods across multiple applications. "Growing environmental awareness and sustainability commitments encourage greater participation from brands, consumers, and recycling organizations," Valuates Reports emphasized. "Recycling initiatives address challenges related to landfill overflow and resource depletion. The market includes sorting, processing, resale, and material recovery activities that extend product lifecycles. Collaboration between manufacturers, retailers, and recycling operators strengthens supply chains. As circular economy practices gain acceptance, clothing and textile recycling becomes an essential component of sustainable fashion systems and responsible material management strategies globally."

The primary market for textile recycling is Europe, thanks to its strict waste management policies, extended producer responsibility (EPR) schemes, and increasing consumer demand for sustainable fashion. "Countries like Germany, the Netherlands, and France lead in textile collection and recycling infrastructure."

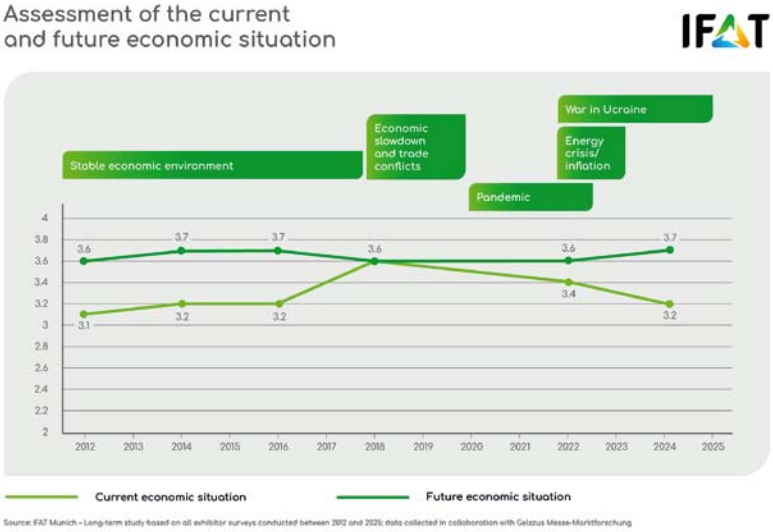
Asia-Pacific is identified as a fast-growing region because of high textile production, growing waste volumes, and emerging circular economy frameworks in countries like India, China, and Bangladesh. "Government-led initiatives and low-cost recycling technologies are promoting large-scale textile recovery," the market research company informed.

reports.valuates.com/request/sample/QYRE-Auto-26K11083/Global_Clothing_and_Textile_Recycling_Market

Long-term Analysis:

# ENVIRONMENTAL TECHNOLOGIES BRAVE MARKET ENVIRONMENT

Even in challenging times, environmental technologies continue to represent a strong future market, according to a long-term analysis conducted by IFAT Munich. This analysis evaluated exhibitor surveys from the past 13 years.




Source: Messe München GmbH

According to Messe München GmbH, the analysis illustrates how resilient the sector is in responding to external shocks. “Neither economic fluctuations nor severe global crises such as the pandemic led to a sustained decline in future valuations,” the exhibition corporation stated. “Although the industry has been increasingly critical since 2018 in its assessment of the current economic situation, companies still firmly believe that investment in infrastructure, resource efficiency, and the circular economy will be continued or expanded in the coming years.”

That perspective would set the trend for the upcoming IFAT Munich 2026 (May 4 to 7, 2026). As reported, the focus of this important trade fair is exactly where the industry sees its strongest future driver: in the transition from linear to circular value chain models. “Companies very clearly recognize that recycling, resource conservation, and efficient infrastructures are not just ecological necessities, but rather economic and security policy imperatives,” Exhibition Director Philipp Eisenmann was cited. “That is also reflected in the extraordinary resilience and stability of future expectations over more than a decade.”

### IFAT Munich 2026: Circularity is a must

According to the organizer of IFAT Munich 2026, with the slogan “Circularity is a must”, the international trade fair is sending a clear signal: Circularity creates strategic supply security, reduces dependencies, and keeps critical raw materials in a closed loop system, while at the same time enabling new business models, innovations, and value creation in future markets. “In doing so, it combines ecological necessity with economic rationality – and shows that circular entrepreneurship is becoming a decisive success factor for competitive, resilient, and sustainably prosperous industries.”

ifat.de

## CROSS WRAP ON WORLD TOUR

Finnish company Cross Wrap Oy is specializing in automated bale handling and material flow solutions for the global recycling, waste, and industrial sectors. On its “Cross Wrap World Tour” the manufacturer will participate in exhibitions and events for 2026, where Cross Wrap takes part to meet the industry and showcase its solutions.

“This World Tour is a celebration of our achievements. In this way, we want to bring our dewiring technology and automation to major industry events around the globe,” explains Sanna Lehtimäki, Marketing Manager at Cross Wrap, describing the concept behind the World Tour.

The schedule: crosswrap.com/events/

# BRIGHT PERSPECTIVE FOR RECYCLED PLASTIC

Legally binding policies are shaping material flows and securing predictable market growth, Astute Analytica India Pvt. Ltd. underscored, as the global market research and advisory company announced its latest market report.

In 2024, the global recycled plastics market was valued at 50.80 billion US-Dollar. By 2033, it is expected to reach 102.40 billion US-Dollar, growing at a compound annual growth rate (CAGR) of 8.1 percent. "Tangible demand in the recycled plastics market is accelerating, boosted by legally binding regulations and large-scale corporate procurement," the information said. "EU producers will need to source about 5.4 million tons of rPE, rPP, and rPET annually by 2030 to fulfill the Packaging and Packaging Waste Regulation mandates. This figure is forecast to climb to 11.5 million tons per year by 2040 as rules expand."

And in the USA, state-level actions, such as California's mandate for 50 percent recycled content in beverage containers by 2030, would make significant regional demand pulls.

Major brand owners were translating sustainability goals into substantial, fixed demand. "The Coca-Cola Company used 488,000 metric tons of rPET in 2023. Unilever's annual consumption has surpassed 164,000 tons. These volumes deliver the long-term offtake certainty required for recyclers to invest in new capacity. Further solidifying this demand, new investments are adding significant capacity. For instance, ExxonMobil's planned expansions in Texas will add 350 million pounds of annual advanced recycling capacity by 2026. Waste Management is also adding three new facilities in 2024 to increase its capacity by one million metric tons by 2026."

## Recycled content in consumer goods

As reported, beyond packaging, the demand for recycled content in consumer electronics and durable goods is becoming a significant force in the recycled plastics market. Major tech companies are now combining substantial volumes of recycled materials into their products. For instance, HP Inc. has already utilized more than a cumulative one billion pounds of recycled plastic in its printers and computers. Dell is aiming to make more than half of its product content from recycled or renewable materials by 2030. "These commitments require sourcing hundreds of thousands of tons of high-quality recycled polycarbonate, ABS, and other engineering plastics."

According to Astute Analytica, this demand is fueling investment in specialized e-waste recycling infrastructure. Aurubis had recently opened its first recycling plant in the USA (Georgia), which is to process more than 180,000 tons of materials like recycled electronics annually. "As companies increasingly design products for circularity, the demand for recycled plastics in long-lasting goods will grow," the market research firm is convinced. "This trend diversifies the recycled plastics market away from its conventional reliance on single-use packaging and creates stable, high-value end markets for materials recovered from a broad range of post-consumer products."

## Recycled plastic bottles

Plastic bottles hold a commanding 69.7 percent share in the recycled plastics market, the research firm informed. "The ease of sorting and processing widely utilized beverage and household bottles makes them a prime candidate for recycling. Municipal recycling programs frequently prioritize bottle collection due to their high volume and relatively clean stream, distinguishing them from other plastic waste. Many consumer goods companies are increasingly determined to incorporate recycled content into new bottles, creating consistent demand. This preference also stems from the relatively uniform polymer type often found in bottles,

Photo: Recycle Man / stock.adobe.com

simplifying the recycling process and yielding a more predictable output. The extensive history of bottle recycling has fostered strong material recovery facilities equipped for high throughput, contributing significantly to the consistent availability of recycled bottle materials." Moreover, brand initiatives that emphasize sustainability often commit to achieving bottle-to-bottle recycling, which strengthens market demand and further solidifies plastic bottles' share in the recycled plastics market.

As stated, Europe keeps a strong position in the market, characterized by stringent regulations and a mature circular economy framework. "The European Union's Plastic Strategy is driving substantial investment in recycling capacity across member states." Germany would have some of the highest plastic packaging recycling rates globally, exceeding 60 percent. France had presented penalties for packaging that is not easily recyclable, spurring innovation. Scandinavian countries were excelling in chemical recycling pilot projects, exploring new avenues for plastic waste. Moreover, demand for recycled content in construction and agricultural films is steadily growing across the continent. Collaborations among different industries foster novel applications for recycled polymers. Investment in research and development for bio-based and recyclable plastics would be a priority.

astuteanalytica.com/request-sample/recycled-plastic-market

# WHICH EPR DESIGN IS MORE EFFICIENT?

The EU's Circular Economy Action Plan promotes emissions reduction, waste minimization, and resource efficiency by, inter alia, incorporating the Extended Producer Responsibility (EPR), which has been mandatory in EU Member States since 2018 under regulations such as the Packaging and Packaging Waste Regulation (2025). Given that around 80 million tons of packaging waste are generated annually in the European Union, the question arises whether there is a way to achieve higher recycling rates at a lower cost. According to the study "Efficiency and Performance of Packaging EPR Systems in the EU – A Comparative Analysis of Different Countries and Market Structures", conducted by Paolo Facco and Richard Berner from German-based company adelphi consult GmbH, efficiency depends on several factors. In their analysis, the authors compared EPR systems in Germany, France, Italy, Belgium, Spain, the Netherlands, Austria, and the Czech Republic.

### The key findings

- "Design drives results. Systems in which Producer Responsibility Organizations (PROs) run operations end-to-end and own material consistently achieve higher yields and better unit costs.
- Evidence across streams. Germany achieves a weighted household plastics recycling rate of 76.1 percent when deposit-return PET is included (Belgium is second with 60.8 percent); Belgium reaches 97.8 percent for glass (Germany 88.5 percent). Strong governance delivers strong results across different market conditions.
- Competitive systems sharpen efficiency and innovation. Evidence from across the EU shows competition sharpens performance where PROs also hold responsibility, material, and costs."


"When PROs control the entire value chain from collection to recyclate marketing, they can optimize for material quality, volume efficiency, and cost effectiveness. This end-to-end responsibility creates results that go beyond market structure considerations," the authors emphasized in the study. "However, competition provides additional performance benefits when combined with operational responsibility." The German experience (editor's note: with ten PROs) would demonstrate how competitive pressure drives continuous innovation, cost efficiency, and service quality improvements beyond what might be achieved through operational responsibility alone. "The combination of competition and operational control creates a dynamic system where market forces drive performance while operational accountability ensures effective implementation".

adelphi.de/system/files/document/epr_study_0411.pdf

Source: STUDY 2025, adelphi

# COMING SOON: SOLAR PANEL RECYCLING WITHOUT LANDFILL

In March, USA-based Comstock Metals LLC – a leading recycler of end-of-life solar panels "with the only certified, North American, zero-landfill solution" – announced that major portions of the recycling equipment for the 100,000 ton per year solar panel recycling production line have arrived at its Silver Springs, Nevada location. The plant is now undergoing commissioning. The operation is planned to start in the second quarter of this year. "The manufacture of precision-machined equipment for Comstock Metals' proprietary solar panel recycling begins with a highly engineered design process focused on durability, accuracy, speed, and maximizing throughput," the company informed. "Each system is modeled using advanced CAD platforms to ensure exact tolerances for shredding, conditioning, and ultimately, critical materials separation and recovery. The shredding systems are currently being assembled."

comstockmetals.com

# TANA OY WITH NEW DISTRIBUTOR IN HUNGARY

Finnish company Tana Oy has announced the appointment of CE Dynamic Kft as its newest authorized distributor in Hungary. As reported by the provider of machines for the waste management industry, this strategic partnership would expand its distribution network in Central Europe and strengthen customer access across the Hungarian market. "CE Dynamic brings extensive experience in heavy equipment sales, service, and support, along with a strong reputation for quality and reliability in the construction and industrial segments. The company's well-established presence in Hungary, comprehensive service infrastructure, and commitment to customer satisfaction make it an ideal partner for Tana's continued growth."

tana.fi
caseepitogepek.hu

India:

# INVESTMENT IN POLYCYCL'S CHEMICAL PLASTICS RECYCLING

India-based company PolyCycl has received a Series A investment from Rainmatter by Zerodha, an Indian Fintech and Health fund. The investment aims to support the next phase of deployment of PolyCycl's technology platform, focused on enabling plastic-to-plastic circularity for hard-to-recycle plastics. As explained by PolyCycl, it will use the investment to "fast-track commercial deployments of its chemical recycling technology with industrial partners, strengthen engineering and operational capabilities, and build execution teams to support scale-up and long-term licensing across domestic and global markets. The funding will also support efforts to deepen engagement with petrochemical and downstream manufacturing partners."

polycycl.com

# EMERALD PACKAGING JOINED U.S. FLEXIBLE FILM INITIATIVE

The U.S. Flexible Film Initiative (USFFI), a nonprofit initiative and industry coalition dedicated to building a scalable, circular system for recycling flexible plastic packaging in the USA, has a new member: Emerald Packaging, the nation's largest supplier of retail flexible packaging for the produce industry. As reported, the company is the first associate member and first flexible manufacturer to join.

According to Emerald Packaging, flexible packaging such as bags, wraps, and pouches is a fast-growing segment of the plastics industry. However, these items face significant recycling challenges. A coalition of major consumer companies, including Mars, PepsiCo, Nestlé, General Mills, Mondelēz, and Hill's Pet Nutrition, aims to address this issue by providing funding to material recovery facilities (MRFs) and other recyclers. Their focus will be on launching recycling initiatives specifically for film and flexible plastic packaging, starting with California. "Unlike past efforts by industry, this one will provide subsidies to bridge the gap between the cost of recycling plastics, and the price companies can profitably sell it at," the company informed.

empack.com
usffi.org

# USA: CALL2RECYCLE BECAME THE BATTERY NETWORK

Call2Recycle has reintroduced itself as The Battery Network, signaling its evolution from a collection program into a nationwide system powering the circular energy economy.

As underlined by the organization, the new name reflects its expanded mission to connect every part of the battery lifecycle – enabling safe recycling, efficient logistics, and recovery of critical materials "that strengthen America's energy independence while protecting people and the planet". The Battery Network not only collects and recycles millions of pounds of batteries through more than 20,000 collection sites across the USA, but also serves as a compliance and logistics partner for manufacturers and retailers navigating increasingly complex regulatory landscapes, with battery recycling legislation accelerating state by state.

"Its proven infrastructure and expertise help partners meet Extended Producer Responsibility (EPR) requirements while ensuring safe handling, transport and recovery of valuable materials like lithium, cobalt and nickel," the information said.

batterynetwork.org

# EUROPEAN TECHNOLOGY FOR INDIA

In February, at Plast India in New Delhi, the joint-venture partners Erema (Austria) and Lindner Washtech (Germany) announced the opening of Erema India.

In India, the need for mechanical recycling is growing fast. According to estimates, the market for recycling waste plastic in India is projected to reach 23.7 million tons by 2032. Moreover, plastic consumption in India is expected to increase more than five-fold between 2019 and 2060, the OECD estimated in its publication regarding the "Global Plastics Outlook" in 2022. To address the resulting volumes of plastic waste, the country has introduced ambitious circular economy goals. Stricter EPR (Extended Producer Responsibility) regulations and the expansion of collection and sorting systems further increase the relevance of plastics recycling. In the bottle-to-bottle sector alone, around 25 recycling plants with a total capacity of approximately 600,000 tons are expected to be installed by 2026, Erema informed.

In view of this growing demand for high-quality recycling solutions in the country's rapidly expanding market, the two European companies established Erema India. With their joint sales and service subsidiary, Erema and Lindner Washtech are strengthening their presence in a market characterized by ambitious recycling targets and fast implementation. "India is one of the most dynamic markets for plastics recycling worldwide. With Erema India, we are creating the framework to support our customers even more precisely. The close interaction between local presence and combined system expertise is the key to accompanying the Indian market in its rapid development," Manfred Hackl, CEO of the Erema Group, was quoted.


From left: Maharshi Mehta (Sales Director, Business Unit Extrusion), Deepak Mehta (Managing Director & Partner, Erema India), Manfred Hackl (CEO, Erema Group), Christoph Wöss (Global Sales Director, Erema), Ganesh Karankal (Sales Director & Partner, Business Unit Washing) and Bhavik Mehta (Service & Training, Business Unit Extrusion) at the inauguration celebration marking the official launch of Erema India

Photo: Erema GmbH

Erema India provides Indian recyclers with access to European technology for washing, extrusion, and thermal decontamination. In this way, the two joint-venture partners would "deliver fully coordinated process chains that consistently produce high-quality results at high throughput rates. This allows recycling companies to reliably meet increasing quality requirements, including international food contact standards. Alongside the local service organization, which provides support for commissioning, troubleshooting and after sales service, these technologies help to ensure high system availability."

The new company is a member of the Erema Group and consolidates Erema's extrusion and Lindner Washtech's washing technologies under one roof. As reported, the foundation builds on a decade-long, trusted partnership. Deepak Mehta is the appointed Managing Director and Partner of Erema India, which operates at two locations. "The site in Vadodara, Gujarat, is home to a sales office and Customer Center, where customers can conduct trials and material tests under realistic conditions.

A ReadyMac HD recycling machine with EREMA Laserfilter, as well as laboratory equipment for quick material checks, will be available for customer trials in the near future," Erema informed. "In Mumbai, there is an additional sales and service office ensuring customer proximity and support in western and southern India."

erema.com
lindner-washtech.com

# LINDNER TO SHOW ITS EXPERTISE AT IFAT MUNICH 2026

In line with its theme "Ready for the future of your business", Austria-based company Lindner will be at IFAT, focusing on future-oriented solutions that specifically align with current challenges in the sector. "The recycling sector is under enormous cost pressure: Rising energy prices, volatile raw material markets, and higher recycling quotas increase the requirements on efficiency and cost-effectiveness. At the same time, material flows are becoming more complex, and there is a growing risk of fire from lithium-ion batteries, which further tighten the requirements on process reliability and plant technology," Matthias Egarter, CEO at Lindner, is quoted. The recycling company faces these challenges with smart plant engineering and innovative shredder technology.

At IFAT Munich, Lindner aims to demonstrate how modern recycling plants produce high-quality, marketable reusable fractions from complex waste streams. The company's services would cover the entire project cycle from consulting and engineering to technical implementation with controlled risk minimization to commissioning and servicing. In plastics recycling, for example, the Austrian engineering firm focuses on comprehensive systems that combine engineering, shredding, sorting, and washing. More than 200 washing plants and components installed worldwide demonstrate this. The technology partnership between Lindner Washtech and the extruder manufacturer Erema – co-exhibiting with Lindner at IFAT – would also mean that the extrusion process is integrated. In this way, complete solutions from feedstock to the final recyclate can be delivered. "The core value proposition is also in the consistent optimization of all process steps along the entire added value chain," the company underscored.

## New products

As one of the leading providers of recycling technology, Lindner will also present its latest shredding products. Interested parties can inform themselves about the new Urraco Evo series. "The mobile twin-shaft shredder was specifically developed for demanding heavy-duty applications and combines impressive power, a quick-change function, and Lindner's proven shaft versatility," the company described the benefits. "In addition to wood, domestic and commercial waste, as well as plastics, there is a conscious focus on applications such as scrap metal, mixed scrap, and aluminum. Visitors can see the Urraco Evo at Lindner's outdoor exhibition space FM/708/2 and in action as part of the VDMA demonstration days (VDMA Praxistage). There will also be a demonstration of the Merak 2800. Not the established model with its electric drive, but an additional Merak series with a new drive concept."

The fourth-generation Micromat: This series is established globally as a reliable solution for shredding plastics. The fourth-generation Micromat has built on the proven strengths of Series III, with added upgrades that improve both maintenance and productivity


The Urraco Evo series: the focus is not just on wood, plastics, domestic and commercial waste, but intentionally also on heavy-duty applications such as scrap metal, mixed scrap and aluminum

New is also the fourth generation of its Micromat series. The heart of this series is a synchronous reluctance motor that achieves an energy efficiency class of IE6, offering more than 97 percent efficiency, the information said. Moreover, "the new multicut rotor enables flexible operation for a wide range of materials – from plastic, wood, commercial and domestic waste to textiles – and reduces maintenance effort and downtime thanks to its rapid-change knife system".

lindner.com

Photos: Lindner-Recyclingtech

An European Milestone in Germany:

# INDUSTRIAL SCALE RECOVERY OF LITHIUM FROM USED BATTERIES

German company Accurec-Recycling GmbH, which has been engaged in the recovery of secondary raw materials from used batteries for 30 years, achieved a significant milestone in December of last year with the official inauguration of its new plant. As underlined, the medium-sized and technology-driven firm with sites in Mülheim an der Ruhr and Krefeld is the first EU company able to recover lithium from old batteries.

The thermochemical process developed by the company converts critical raw materials into an easily separable form using minimal energy and resources, enabling their efficient extraction. "With our CLIMA process (Critical Raw Materials Recovery from Li-Battery Waste Management), we achieve a high yield and quality of over 99 percent," Dr. Reiner Sojka, founder and managing director of Accurec, was cited. "The urgently needed raw materials can therefore remain in Europe and strengthen our raw material resilience." And the representative of the EU, Jessika Roswall (European Commissioner for Environment, Water Resilience and a Competitive Circular Economy), stated that the recycling of lithium batteries "is essential to meet Europe's needs in the areas of clean energy, digital transformation, sustainable transport, defense, and other areas. The Accurec lithium battery recycling plant is at the forefront of this work."

Dr. Reiner Th. Sojka (Accurec-Recycling GmbH) and Jessika Roswall (European Commissioner for Environment, Water Resilience and a Competitive Circular Economy) inaugurating the new plant for lithium recovery

Photo: Felicia Weyhe, Accurec-Recycling GmbH

Accurec – Accu(mulator)rec(ycling) – has already developed several processes for all major battery systems, including nickel-cadmium, nickel-metal hydride, and lithium-ion. According to the information, the company is able to design, build, and operate its recycling plants entirely in-house, supported by a highly qualified team of engineers. Another process step in the new lithium recovery system was developed as part of the EarLi*) research project in cooperation with Evonik, aiming to further improve lithium yield.

*) "Extraction and purification of lithium hydroxide monohydrate from used electric vehicle lithium-ion batteries for battery cell production." The project was funded by the Federal Ministry for Economic Affairs and Energy of Germany.

accurec.de

# A NEW SOIL AND C&D WASTE WASH PLANT FOR NORWAY

Ireland-based CDE Group informed that it will provide the detailed design and engineering for a new contaminated soil and C&D waste wash plant in Norway, which is set for commissioning in the fourth quarter this year.

As reported, Nordhordland og Gulen Interkommunale Renovasjonsselskap IKS (NGIR Næring AS) has entered an EPC (Engineering, Procurement and Construction) contract with Nordic Bulk AS for the delivery of the facility. "With Norway introducing stricter limitations on landfill development, tighter leachate controls, and increasing fees on disposed waste, NGIR is proactively investing in infrastructure that enables the recovery and reuse of excavated materials," CDE explained.

Source: CDE Group

"The new facility will allow NGIR to significantly reduce the volume of material sent to landfill while supplying high-quality recycled aggregates back into the regional construction."

cdegroup.com

# ADURO SELECTS THE NETHERLANDS FOR FIRST-OF-A-KIND PLANT

Canada-based company Aduro Clean Technologies Inc., a clean technology enterprise using chemistry to transform lower-value feedstocks – like waste plastics, heavy bitumen, and renewable oils – into resources, will build its planned industrial plant in the Netherlands. The company has selected the Chemelot Industrial Park in Sittard-Geleen, located within the Chemelot chemical site. The planned industrial-scale-up facility will host "a First-of-a-Kind industrial plant deploying Hydrochemolytic Technology" for the chemical recycling of waste plastics, building on prior pilot scale validation, the information said. The new plant would represent the next phase of Aduro's progression toward commercial operation, with the facility intended to support successive phases of scale-up and optimization following successful initial operation.

"Chemelot is one of Europe's leading integrated chemical industry clusters and hosts a broad range of chemical and materials production facilities and supporting services. The site includes shared utilities, centralized wastewater treatment, established site-wide safety and operating standards, and an umbrella environmental permitting framework designed to support efficient and predictable industrial project development," the Canadian firm explained the decision. "Chemelot has articulated a long-term ambition to transition toward a climate-neutral, circular chemistry and materials site, with a particular focus on increasing the use of non-fossil and circular feedstocks, supported by the interconnectedness of industrial operations and innovation activities across the site. As an established site for steam cracking and downstream polymer production, Chemelot provides a relevant industrial environment for technologies producing circular hydrocarbon intermediates intended as alternatives to fossil-based naphtha."

The choosing of Chemelot Industrial Park followed an extensive site-selection campaign initiated by Aduro in late 2025 as part of its structured scale-up program. "Over several months, the company conducted due diligence across multiple candidate locations, narrowing the process to four finalist sites before selecting Chemelot based on technical, industrial, and strategic criteria," the company said. "Northwest Europe was identified as a preferred region due to its established waste management infrastructure, concentration of downstream industrial partners and end markets, and evolving regulation supporting circular materials."

The envisaged plant for Aduro's industrial scale-up facility is expected to begin operations at an initial processing capacity of approximately 10,000 tons per year, with the selected site providing sufficient space and infrastructure to support phased expansion and a long-term industrial presence.

- aduroleantech.com
- chemelot.nl

# SMART CONSTRUCTION WASTE MANAGEMENT "MADE IN EUROPE"

Spain-based Tecnalia, a member of Basque research & technology alliance, validates a robotic prototype in collaboration with the company Recso. The partners are working in the framework of the European project "Reconmatic" on the development and validation of digital and automated solutions for construction and demolition waste management. One of these solutions is the robotic prototype that these organizations have put into operation in the facilities of Reciclados Sostenibles Recso.

"The system uses NIR hyperspectral techniques combined with AI to identify and sort mixed materials in the waste stream with higher precision than the human eye," Tecnalia informed. "This information activates an articulated arm that automatically sorts the materials, and this optimizes the process and generates high-value recycled aggregates that replace natural ones." As reported, the construction sector accounts for 36 percent of waste in the EU and is the largest consumer of mineral and non-renewable resources. Reducing this impact is a priority in order to move towards a more sustainable and circular model.

- tecnalia.com
- recso.es
- reconmatic.eu

# RECONOMY TO STRENGTHEN CAPABILITIES IN THE EU

UK-based company Reconomy, an international circular economy specialist, has announced the acquisition of Gesellschaft für Abfallwirtschaft mbH (GfAW), a German expert asset-light provider of industrial waste management solutions.

Founded in 1993, the German company arranges disposal and recycling pathways for complex industrial waste streams including waste mineral wool, gypsum and other types of demolition materials. “It serves a wide range of leading German, Italian and French construction and demolition companies as well as industrial manufacturers and commercial waste producers,” Reconomy gave account. “GfAW works closely with its customers to recover sorted waste streams and has a strong track record in optimizing recycling routes, coordinating downstream logistics, and improving recycling economics to reduce net disposal costs. GfAW also has long-standing partner networks across the EU.” The acquisition will enhance Reconomy’s capabilities in managing complex industrial waste streams for customers across the EU; and the new member company would be integrated into Reconomy Nordics’ operations, further strengthening its regional platform.

## About Reconomy

By its own account, Reconomy is an international circular economy specialist that combines technology, skills and experienced people “to unlock commercial opportunities for businesses by helping them optimize their resources, embed efficiencies, prevent waste and circulate materials back into use”. The company operates across more than 150 countries, with over 4,000 colleagues serving more than 23,000 diverse international customers, including some of the world’s largest brands. Its capabilities are organized into three divisions known as ‘Loops’ – Recycle, Comply, and Re-use.

Reconomy Nordics is the company’s regional setup established to provide a data-driven circular economy solution for businesses across the Nordics. It would provide “the full range of Reconomy’s Recycle and Comply services across this region by bringing together its specialist waste management, recycling and materials recovery brands and Comply Loop’s packaging data capabilities and Extended Producer Responsibility (EPR) expertise”.

reconomy.com

# ALUMINUM COILS WITH A PRODUCT PASSPORT

European Aluminum rolling and recycling company Speira is convinced that the provider of aluminum products sets a new standard in transparency.

The firm, comprising a total of eleven recycling and production sites in Germany and Norway as well as research and development, uses "speira.ID", a digital product passport, which provides all essential details about each unique coil in one place – from carbon footprint and recycled content to chemical composition and input mix. "In detail, speira.ID shows for each specific coil its origin (casthouse, casting date, batch number, rolling mill), its overall recycled content, its carbon footprint in kg $CO_2$ per kg Al, its input mix (shares of e.g. used beverage cans, post-consumer scrap, pre-consumer scrap, internal ORBIS scrap, alloys and alloys recycled, runaround scrap, and prime metal), and its chemical composition," the company informed.

The digital product passport would provide a milestone in traceability and unlock unparalleled insights. "After logging in to Speira's customer portal, the customer selects a specific coil and downloads its speira.ID," the producer gave account. "For maximum convenience, mass downloads are quick and easy. Thanks to an integrated data flow, all information is always up to date and instantly available. This service can be integrated into the customer's supply agreement – delivering maximum transparency and efficiency." With the customer's consent, a light version of the digital product passport is available online and can be accessed easily via a QR code, which can be, e.g., printed on the finished product. According to Speira, no credentials are needed. "We truly believe that this is a level of transparency that our customers want, that we are willing to provide, and that will soon be standard in traceability, accountability, and stewardship. Acknowledging that, our data creates trust," explains Henrik Heck, Speira's Head of Strategic Projects and Digital Transformation.


speira.ID provides all essential details about each unique coil – from carbon footprint and recycled content to chemical composition and input mix

Just one scan delivers transparency to Speira's customers and theirs, driving trust along the value chain

Photos: Speira

speira.com/sustainability/transparency/speiraid/
speira.com

USA:

# SORTERA TECHNOLOGIES TO BUILD SECOND FACILITY

USA-based Sortera Technologies, Inc. will use the funding of 45 million US-Dollar for the company's growth as a major domestic supplier of metals upcycled from waste. In addition to the funding, it has plans for its second state-of-the-art processing facility in Lebanon, Tennessee. According to Sortera Technologies, Inc., by its own account, a market-leading aluminum sorting company with an upcycling platform powered by artificial intelligence, data analytics, and advanced sensors, the funding was led by accounts advised by T. Rowe Price Associates and VXI Capital, with participation from Yamaha Motor Ventures and Overlay Capital, with additional equipment funding from Trinity Capital. The company expects that the new facility will be operational by the summer of 2026. Since launch-

Sortera's Markle Facility

Photo: Chris Allier/PR Newswire

ing operations at its Markle facility, Indiana, in 2023, Sortera has experienced "significant customer demand for its high-quality recycled aluminum alloys," the company highlighted its success in producing end-of-life recycled aluminum products, including 380, 356, 319, and wrought (3105 and others). "Each product is specifically designed to match the chemistry of common casting and rolling alloys." Sortera also produces low-silicon wrought packages and polished end-of-life aluminum die cast for direct use in 380 applications. "The Markle facility demonstrates Sortera's technological success at transforming mixed alloy scrap – historically downgraded or shipped overseas – into high-value materials for critical applications in the automotive, construction, and aerospace industries."

sorteratechnologies.com

# USA: REJU COOPERATES WITH CHARITABLE ORGANIZATION IN TEXTILES RECYCLING

Reju, the textile-to-textile regeneration company based in France, had announced in January that it had selected the site for its first US-based industrial facility. This future Regeneration Hub will be in Rochester, New York, reinforcing the company's commitment to adopting a circular textile system across key regions worldwide. According to the information, the Reju site spans 18.9 acres on Eastman Business Park and has ambitions to regenerate the equivalent of 300 million articles annually that would otherwise end up as textile waste. It is planned to produce rBHET that will then be repolymerized into Reju PET.

Photo: Goodwill of the Finger Lakes/PRNewswire

Leaders celebrated a textile recycling partnership at Goodwill's Rochester facility. Pictured (L-R): Anthony Plonczynski-Figueroa (Monroe County); Robert Scott (Technip Energies); Assemblywoman Jen Lunsford; Ian Harper (Goodwill Finger Lakes); Congressman Joe Morelle; Alain Poincheval (Reju); Patrik Frisk (Reju); Jennifer Lake (Goodwill Finger Lakes); Assemblywoman Sarah Clark; Mayor Malik Evans; Steve Preston (Goodwill Industries International); Vinnie Esposito (Empire State Development); Matt Hurlbutt (Greater Rochester Enterprise) and Bob Duffy (Greater Rochester Chamber)

## Local partnerships

The site selection would also provide opportunities for diversifying and near-shoring manufacturing. The project remains subject to a final investment decision by the board of Technip Energies, Reju's parent company. In February, Reju and the American charitable organization Goodwill of the Finger Lakes celebrated "Rochester's growing leadership in textile circularity, highlighting how local partnerships are helping keep textiles in use, reduce waste, and create long-term economic and environmental value".

As underlined, the partners are strengthening efforts to keep more textiles in productive use, prioritizing donation and reuse, improving diversion of nonwearable textiles, and enabling next-generation textile-to-textile regeneration as the system scales.

reju.com
goodwillfingerlakes.org

# THERMOPLASTIC WITH MECHANICALLY RECYCLED CONTENT

Japan-based Polyplastics Group, a global leader in engineering thermoplastics, has announced the development of two new DURAFIDE polyphenylene sulfide (PPS) grades made of mechanically recycled content. The glass fiber-reinforced types – DURAFIDE rG-PPS 1140A1R00 and 1140A1R30 (with 100 percent and 30 percent recycled glass fiber-reinforced PPS content, respectively) – are set for launch in the next few months.

As underlined by the company, the new offering is part of its DURACIRCLE initiative, which strives to achieve 100 percent circularity for engineering plastics. These new grades are offered through the company's re-compounding service, which utilizes process scrap collected from customers as raw material under its "Open PIR Mechanical Recycling Scheme". "High-quality product manufacturing is achieved by collecting glass fiber-reinforced PPS


Photo: Polyplastics

process scrap from partner companies meeting high standards," the Japanese producer gave account. "After rigorous inspection, sorting, and reformulation, the materials are compounded under optimal conditions and undergo the same quality assurance as virgin materials." Polyplastics would sell these materials through its global sales network. "Currently, collection targets are limited to specific grades of glass-filled DURAFIDE PPS materials."

For the re-compounding business and the establishment of the "Open PIR Mechanical Recycling Scheme," developing new applications and securing collection routes are essential, the information said. The company is targeting initiatives that envision collaboration not only with existing customers but also with companies in various waste-to-value industries.

Furthermore, the internationally active company is exploring adding new mechanically recycled PPS grades to its lineup in response to market needs. Its goal is to build self-contained "local production for local consumption" recycling chains within each country and region – worldwide. Simultaneously, by expanding the range of constituent materials to include PCR materials, Polyplastics intends "to enhance its supply capacity for high-quality, reliable recycled materials".

polyplastics.com/global/s/?language=en_US

# ALFA LAVAL HAS INTRODUCED "THINKCIRCULARITY"

The goal is closing the loop on plastic waste: In January this year, internationally active company Alfa Laval launched "ThinkCircularity", a take-back program that recycles materials from its ThinkTop valve control units. According to the company headquartered in Sweden, the pilot project has been well received by customers and partners, and the company has already received its first returned products for recycling.

Each ThinkTop valve control unit contains 500 grams of plastic. "The pilot project has demonstrated that this material can be recycled to produce new units without compromising quality," Alfa Laval gave account. "Tests

Photo: Alfa Laval

confirm that the mix of reused and virgin plastic in future units meets all performance standards – from tensile strength to durability." Furthermore, other materials and components from the ThinkTops would be recycled.

Currently, the ThinkTop take-back is available in Germany, Austria, Switzerland, Denmark, Sweden, Norway, Finland, the UK, Wales, Ireland, Scotland, Belgium, Luxembourg, the Netherlands, France, Italy, Spain, Portugal, Greece, and in Cyprus.

alfalaval.com

# MECHANICAL RECYCLING OF RIGID POLYURETHANE AND COMPOSITES

In March, Italy-based company Cannon S.p.A. presented a new approach for recycling polyurethane (PU) and PU-glass fiber composites (GFRPs) at JEC World 2026 (Paris Nord Villepinte).

"The process has been developed in close cooperation with PU processor MAP S.p.A. and the University of Bergamo, with co-funding from the Italian strategic plan for the EU recovery fund NextGenerationEU," the company gave account. Named POSSIBLE, for "PrOduce SuStainabLE Industrial Bodies," the project had laid the groundwork for PU and GFRPs end-of-life recycling and reuse, demonstrating that ground foam and granulated parts can be used as secondary reinforcement materials in new composite formulations. "Scientific research has developed several potential chemical recycling routes, but these work on a laboratory scale and are often too slow, too expensive, or incompatible with existing PU manufacturing processes. Cannon therefore decided to focus on a more direct approach, reintegrating pure or composite rigid PU waste through two complementary methods, both compatible with their high-pressure systems."

Cannon FPL 36 IW high-pressure mixing head

Photo: The Cannon Group

During the project, two complementary approaches were explored. "The first involved transforming rigid foam waste into micrometric powders, which were then dispersed into the polyol to form a slurry and dosed as a liquid component using a mixing head," the company explained. "The second involved using rigid PU granulate and polyurethane-glass fiber composite, introduced as a solid two-filler into the mixture using dedicated dosing systems combined with the FPL 36 IW mixing head for Interwet-LFI (Long Fiber Injection) technology patented by Cannon." According to the information, subsequent testing showed that recycling rigid polyurethanes and GFRP composites could become an integral part of production lines. "They do not require invasive processes or radical changes to formulations but transform waste into a material that can be reused in the process, with immediate economic and environmental benefits. This is a concrete step towards circularity in thermosets, a family of materials for which recycling was previously considered almost impossible," Cannon S.p.A. underlined.

Based on research conducted during the POSSIBLE project, the company is now working on commercially viable solutions for recycling PU and GFRPs that will enter the market in the near future.

cannon.com

## SMART WASTE SOLUTIONS BY MOBA MOBILE AUTOMATION AND KWS

The waste management industry has to face new rules. Starting in 2026, EU regulations will tighten requirements for transparency, traceability, and efficiency. At the IFAT trade fair in Munich, MOBA Mobile Automation AG plans to showcase how municipalities and waste management companies can practically and cost-effectively meet these new requirements. For the first time at the company's exhibition stand, visitors will also see the solutions of Krickl Waagen Systeme GmbH (KWS). The Austrian specialist for vehicle-mounted weighing systems has been part of the MOBA Group since 2025 and expands the portfolio particularly in the field of legal-for-trade weighing technology.

mobile-automation.eu/products/rfid-systems/
mobile-automation.eu/products/telematics/
mobile-automation.eu/products/mobile-weighing/

# MCLANAHAN CORPORATION TO DISPLAY 3D SCALE MODEL OF COMPLETE PROCESSING SYSTEM

McLanahan Corporation, a global leader in material processing and water management solutions, will be exhibiting at IFAT 2026 in Munich, where it will showcase a 3D scale model of an entire McLanahan processing system. As reported, with nearly 190 years of engineering heritage, the company supports customers across Europe in construction and demolition recycling, aggregates,

Photo: McLanahan Corporation

mineral processing and water treatment. “The 3D model will provide visitors with a clear, practical insight into how McLanahan’s integrated systems are designed to maximize material recovery, reduce water usage and support circular economy goals – particularly on space-constrained and regulation-driven European sites.”

mclanahan.com

# GREEK COMPANY PRESENTS ITS SOLUTIONS

At IFAT in Munich, Greek company Sabo S.A. will present its solutions for the recycling sector.

In 2024, Sabo Environmental realized a new waste treatment plant in Amari, Crete, for its customer Thalis Environmental Services. The facility processes an annual intake of 43,000 tons of waste (35,600 t/y for mixed municipal solid waste – MSW and 7,400 t/y for separately collected organic waste). According to the engineering firm, the plant achieves “high recovery rates for quality recyclable materials through advanced techniques”.

In 2025, the company installed a LDPE film sorting line in Sofia, Bulgaria, for plastics recycler Vadias. As reported, “with a capacity of 3.5 t/h, full automation of PE films sorting is achieved, replacing the previous manual process.” In the same year, Sabo Environmental announced a cooperation agreement with MESOGEOS SA to build a waste treatment plant in Trikala, Western Thessaly (Greece), as part of an integrated waste management solution. The team undertook the design, construction, installation, and optimization of the technological line for the mechanical sorting unit and the pre-selected organics unit, as well as the electromechanical equipment. The project is expected to be completed in 2026.

The facility in Crete

Photo: Sabo S.A.

sabo.gr

# HOOK LIFTS AND SKIP LOADERS MARKET REPORT 2026

According to Irish company Research and Markets, the hook lifts and skip loaders market is set for robust expansion, transitioning from 2.7 billion US-Dollar in 2025 to 2.97 billion US-Dollar in 2026. Key drivers of growth would include the expansion of municipal waste management, construction and demolition activities, and the increasing use of roll-off containers, highlighting a demand for flexible hauling solutions and heavy-duty truck platforms. By 2030, the market is projected to reach 4.25 billion US-Dollar. “This anticipated growth is fueled by investments in smart municipal equipment, the call for efficient recycling logistics, infrastructure development projects, low-emission hauling equipment, and automated lifting systems,” the market research store informed. “Emerging trends include the adoption of heavy-duty hook lift systems, demand for multi-container transport solutions, and enhanced automated hydraulic control systems.”

researchandmarkets.com/reports/5766909/

# SOLUTIONS FOR FIBERBOARD AND WASTE WOOD RECYCLING

At the IFAT 2026 trade fair in Munich, German company Dieffenbacher will present innovative solutions at two different booths. From May 4-7, the German machine and plant manufacturer will provide information about its fiberboard and waste wood recycling, as well as its Waste2Product solutions. At the booth hosted by the Austrian Economic Chambers (hall A4, booth 138), the company's Energy Business Unit will present its solutions for sustainable energy generation.

The recycling booth (booth 200 in hall B5) will focus on fiberboard and waste wood recycling, as well as Waste2Product. With its Fiber2Fiber fiberboard recycling process, the machinery and plant manufacturer enables – by its own account – the industrial reuse of wood fiberboards such as MDF, HDF and THDF, including post-consumer material. "Fiber2Fiber enables wood-based panel manufacturers to use recycled fibers on an industrial scale as a substitute for fresh wood," the company assures.

Different fractions in the Fiber2Fiber process: (from left to right) input material, material after the Dieffenbacher FiberXtractor, processed fibers after cleaning, heavy material after cleaning

Photo: Dieffenbacher

According to Dieffenbacher, its waste wood recycling technology has led to greater sustainability and reduced carbon footprints for many years. Their processing and recycling concepts allow recycled wood to be directly integrated into production, reducing the dependence of wood-based panel manufacturers on regional supplies of fresh wood and enhancing their flexibility in wood procurement. Lower raw material costs compared to fresh wood provide a further economic advantage.

dieffenbacher.com

Photo: MSV, AI-generated

# GREECE: FIRM PLANS TO IMPROVE THE SITUATION

The country still sends nearly 80 percent of its waste to landfills, despite the investment in treatment and recycling infrastructure.

In October 2025, pan-European news network euronews.com reported that Greece still faces a waste problem. The situation would be particularly critical in Athens and the wider area of the Greek capital. "The streets of Greek cities are full of bins collecting all kinds of materials: plastic and aluminum packaging, paper, food scraps, footwear, and clothing. In many different retail stores, there are special bins that collect batteries and electrical appliances for recycling. And yet, Greece continues to bury around 79 percent of its waste," euronews.com wrote, referring to information from the Greek Association of Recycling and Energy Recovery Industries and Enterprises (SEPAN).

According to Lena Belsi, President of SEPAN, the country's recycling rates reach barely 17 percent, a level that is one of the lowest in the European Union. There are two main reasons, why the Greeks do not recycle more:

- Landfilling is still the cheapest solution. The landfill fee remained at 35 Euro per ton in Greece, while in other EU countries the cost per ton "was the main disincentive that worked and increased recycling rates".
- The second reason has to do with the mentality of many Greeks. "Citizens take their rubbish outside their house and then think it disappears," Lena Belsi was cited. Then they would forget about it. But the waste would not disappear. "Landfilling garbage does great harm to the environment."

## Decreasing waste quantities

Over time, Greece was able to reduce the amount of waste. The highest volume was stated in 2012, when the country with a population of about ten million citizens generated more than 71 million tons of non-hazardous waste, according to figures published by the European Environment Agency (EEA). At that time, no recycling occurred. Since then, the situation improved a lot. But there is a lack of reliable data.

In December 2024, the Hellenic Statistical Authority (ELSTAT) announced the provisional data on the genera-

tion and treatment of waste for 2022. According to these figures collected from administrative sources, the country's waste generation amounted to 29.826 million tons and increased by 5.2 percent compared to 2020 (28.359 million tons). Looking at the main waste categories, "mining and other waste activities" accounted for 66.1 percent and "municipal solid waste" for 20.6 percent of total waste generated. Furthermore, "recyclable waste" had a share of 8.2 percent; "chemical and medical waste" was 4.0 percent, while "sludge" required the least amount of waste with 1.1 percent.

At the same time, waste treatment rose by 8.1 percent to 23.391 million tons compared to the same year (in 2020, waste treatment amounted to 21.648 million tons). Regarding waste treatment by category of waste, "mining and other waste activities" amounted to 15.660 million tons (or 67 percent). "Municipal waste" reached 4.540 million tons (or 19.4 percent). From the quantity in 2022, in total 713,986 tons went to "incineration", 10.977 million tons to "recovery other than energy recovery", and 11.699 million tons to "disposal".

As reported by the publication "Greece in Numbers", the volume of municipal waste reached 5.420 million tons in 2022; 937,000 were recycled and 4.386 million tons landfilled. In 2023, the situation improved a little bit regarding recycling. According to the same publication, 5.440 million tons of municipal waste were treated: 948,000 tons made their way into recycling; 4.389 million tons went to landfill, and 103,000 tons were treated in different ways.

In its latest country profile "Europe's environment 2025," the EEA stated: "Greece is accelerating its green transition, aiming to improve its environmental status, reduce its greenhouse gas (GHG) emissions and protect its ecosystems. The country is reducing its fossil fuel dependence, expanding the use of renewables, and promoting energy self-sufficiency, yet affordability and economic disruptions from lignite phase-out remain key concerns." Regarding waste, the country is on track, as the waste generation trends in Greece highlight both progress and challenges in waste prevention and in decoupling waste production from economic growth.

As per EEA, municipal solid waste (MSW) generation per capita increased from 436 kilograms (kg) in 2004 to 519 kg in 2022. This was "a little above the European average of 515 kg, although total waste generation remains below the EU average". Total waste generation had fallen between 2010 and 2018. "While the gross domestic product (GDP) dropped sharply between 2010 and 2013, waste generation decreased more gradually, with a significant drop from 2014 to 2016 during economic stabilization. After 2016, both GDP and waste generation began to rise again, suggesting a potential re-coupling of economic growth with waste production," the agency reported. Trends would vary by waste type. "Industrial and construction waste declined with the economic downturn, while municipal waste remained high due to steady consumption patterns. Hazardous and electronic waste present ongoing concerns due to their environmental impact and management challenges."

However, the situation in Greece, while improving, cannot yet be deemed satisfactory despite the progress in waste reduction. "To confirm trends in decoupling waste from economic growth, a detailed time series is crucial," the European Environment Agency wrote. "Current data suggest that Greece is not meeting EU waste prevention and circular economy targets. The lack of correlation between population dynamics and waste generation further emphasizes the role of economic and consumption behaviors. Addressing these issues requires comprehensive policy measures, targeted interventions for different waste streams, and enhanced monitoring to meet European waste reduction goals."

### Policies

As a matter of course, Greece has implemented legal requirements to encourage waste prevention measures and to increase recycling. "The legislative framework considering waste is very wide and includes other related laws, such as the Joint Ministerial Decision 114218/1997, which sets specifications for specific waste treatment operations," the EEA gave account in its "Waste Management Country Profile", published in March 2025. "The National Waste Management Plan 2020-2030 was published in 2020. (ETC/CE, 2022) Additionally, the new National Circular Economy Action Plan was published in 2022, covering the period until 2025. This Plan has as key objectives, among others, to reduce waste, to increase high-quality recycling and reuse, and to promote the use of secondary materials."

Regarding waste, the National Waste Prevention Program (NWPP) of Greece were a stand-alone strategic document and addresses the years 2021 to 2030. Objectives, among others, are:

- "promoting circular consumption, raising awareness, and providing tools for citizens to transition from a linear to a circular model of behavior and consumption,
- setting waste reduction targets for specific streams,

> "To confirm trends in decoupling waste from economic growth, a detailed time series is crucial."

- encouraging the perception of waste as a resource within the broader context of the circular economy,
- strengthening waste prevention efforts through an integrated and systematic public awareness campaign and
- developing and promoting a new industrial strategy to transform the production processes towards circularity."

According to the information, the prioritized waste streams include food waste, paper waste, packaging waste (specifying different types of plastic), waste electrical and electronic equipment, textile waste, bulky waste, industrial waste, and waste generated from excavation, construction, and demolition activities.

### Examples for initiatives

In Greece, the Hellenic Recycling Agency (HRA/EOAN) has an institutional role in recycling, as it ensures the implementation of waste prevention policies and the alternative management of product waste, for which prevention measures and/or alternative management programs are being implemented. The organization also proposes such measures and programs to the Minister for the Environment and Energy.

An example of an alternative waste management program is the National Collective Alternative Management and Recycling System of Packaging "Rewarding Recycling". It is a non-profit organization, approved by the Ministry of Environment and Energy, whose mission is to organize and promote the recycling of packaging throughout the country.

The Epirus Waste Treatment Plant produces energy from municipal waste. The facility, constructed by Terna Energy, was launched in March 2019. The plant's maximum annual capacity is 105,000 tons. Its operation recovers a total of 17,000 tons of recyclable materials per year while producing 10,800 MWh/year of energy, capable of meeting the needs of 3,000 families. At the same time, 12,000 tons of $CO_2$ are saved per year.

JASPERS (Joint Assistance to Support Projects in European Regions), a partnership funded by the European Commission and the European Investment Bank (EIB), reported that the Peloponnese region started to build an integrated waste management system. This system would include three integrated waste management centers in Arkadia, Messinia, and Lakonia, and two transfer stations in Argolida and Corinthia. Together, they are to form the backbone of a new regional plan for the separate collection of waste streams. "The system is designed to treat, recover, and recycle waste efficiently, produce compost for agricultural use, and generate energy from biogas," JASPERS gave account. The investment totals more than 125 million Euro and is implemented under a public-private partnership. With expert advice by the EIB under the JASPERS initiative, the project secured a 65 million Euro grant from the EU cohesion fund in April 2025. The remaining financing comes from private investors and national public sources.

In December 2024, the energy dedicated portal ceenergynews.com reported that Greece would build a modern waste recycling plant in Patras (Peloponnese). According to the information, the facility is to handle three waste streams and maintain minimal residual waste, enabling the region to meet the landfill target of less than ten percent by 2027, when the plant is expected to become operational. "The construction of the waste treatment plant in Patras, which will meet the needs of the Achaia Prefecture, marks a significant milestone in the government's reform agenda," the Minister of Environment and Energy, Thodoros Skylakakis, was quoted. As per the Secretary General for Waste Management Coordination, Manolis Grafakos, the new plant in Floka, Achaia, is among the country's largest environmental projects. It would support the national efforts to transition to sustainable waste management practices by reducing landfill use and promoting recycling and reuse. "To date, 12 such units are operational across Greece, with an additional 23 under construction."

### Investment opportunities

Enterprise Greece (🌐 enterprisegreece.gov.gr/en/) is the official investment and trade promotion agency of the Greek State, operating under the auspices of the Ministry of Foreign Affairs. It is the gateway to the opportunities Greece offers. The agency's mission:

- Providing foreign investors "with a one-stop shop for information, consulting, and assistance through every phase of their investment project, and
- promoting Greek products and services in international markets.

The state agency puts emphasis on sustainability. It aligns with the Greek government's Green Deal and just transition strategies by prioritizing environmental protection, biodiversity conservation, and social value creation. "Committed to a sustainable approach, Enterprise Greece integrates ESG (Environmental, Social, and Governance) principles into all its activities," one can read on the homepage. "This dedication is evident in the criteria applied to evaluate new investment projects, business plans, and export initiatives."

It goes without saying that this also applies to renewable energy sources and waste management. "Since 2007, Enterprise Greece has prioritized these sectors, recognizing their essential role in a sustainable and resilient economy," the agency emphasizes.

Construction & Demolition Waste Market:

# GROWTH OPPORTUNITIES AHEAD

According to company Market Research Future (MRFR), the global Construction and Demolition (C&D) Waste Market C&D was valued at 73.61 billion US-Dollar in 2024 and is forecasted to reach 147.95 billion US-Dollar by 2035, growing at a compound annual growth rate (CAGR) of 6.55 percent.

With increasing urbanization and infrastructure projects worldwide, the volume of construction waste is growing exponentially, the market researchers wrote. “Effective management of this waste is essential for environmental conservation, resource recovery, and reducing landfill dependency.”

Here are some trends and highlights:

- North America remains the largest market (approximately 45 percent of the global market share) for construction and demolition waste, driven by robust infrastructure projects.
- Europe is the second-largest market for construction and demolition waste, accounting for about 30 percent of the global market share.
- The Asia-Pacific region is emerging as the fastest-growing market, fueled by rapid urbanization and economic expansion. This part of the world stands for nearly 20 percent of this market.
- As reported, the Middle East and Africa region is emerging as a significant player in the construction and demolition waste market, holding about five percent of the global market share.
- Inert waste continues to dominate the market, while recyclable waste is experiencing the fastest growth due to increasing environmental awareness.
- Key market drivers include regulatory framework enhancements and a heightened focus on sustainability, which are shaping industry practices.

marketresearchfuture.com/reports/construction-demolition-waste-market-29671

IFAT Munich 2026:

# FOCUS ON MUNICIPAL WATER

According to the organizers, cities and municipalities are under significant pressure to improve water and wastewater management due to stricter regulations, climate change impacts, and increasing investment demands, all while facing limited resources.

As emphasized, IFAT Munich 2026 will show, which technical, regulatory and organizational solutions municipalities need now. From May 4 to 7, 2026, over 3,000 exhibitors from more than 60 countries will present their solutions for water, recycling and circularity at the trade fair for environmental technologies. A key focus is traditionally on water management. Municipalities are faced with the task of future-proofing the drinking water supply and wastewater treatment, implementing new legal requirements, and expanding their infrastructures to make them climate-resilient.

## Examples

The discussion about per- and polyfluoroalkyl substances (PFAS) has developed from a specialist topic into a socially relevant debate, the organizers underscore. “Local authorities must comply for the first time with binding PFAS limit values in drinking water. That requires investments in monitoring, analytics and processing technologies. At the same time, there is an increased focus on site remediation, as the high mobility of these substances, also known as ‘forever chemicals’, poses risks to the drinking water supply.” The panel “PFAS in focus: challenges and solutions for dealing with the poison of the century” – organized by figawa e. V. on May 6, 2026, on the Blue Stage – would discuss how PFAS can be handled in technical and economic terms. In addition, a presentation by the German Association for Waste Management (DGAW) on May 4 will show how PFAS can be removed from water streams and destroyed using activated carbon.


In the European Union, the Urban Wastewater Treatment Directive (UWWTD), revised in 2024, presents the revised framework conditions for urban water management. It is seen as a milestone for water protection, but also a huge challenge for wastewater management and municipalities, as per Dr. Lisa Irwin-Broß, member of the DWA Management Board. According to its specifications, a fourth purification stage will need to be added to several hundred wastewater treatment plants in Germany alone by 2045. In addition, wastewater treatment is to be energy-neutral in the future. The DWA – German Association for Water, Wastewater and Waste – and the Association of Municipal Enterprises (VKU) will address this issue at the trade fair.


Phosphorus recycling is also an important topic. As reported, from 2029, municipal wastewater treatment plant operators in Germany will be obliged to recover phosphorus if the phosphorus content of the sewage sludge dry matter is at least two percent. Although the regulatory requirements are straightforward, numerous municipalities encountered practical challenges when it came to economically implementing them. “Phosphorus recycling should be integrated into the planning of sewage sludge recycling at an early stage and in the long term. An open dialog between all parties involved is crucial,” Tabea Knickel, Managing Director of the German Phosphorus Platform (DPP), was quoted. The DPP will be hosting the discussion panel “Phosphorus recovery in dialogue: challenges and prospects”. The DWA and DVGW – German association for gas and water – will hold their joint innovation forum “Regional Phosphorus Recycling”.

- ifat.de
- dgaw.de
- dwa.de
- dvgw.de
- vku.de
- deutsche-phosphor-plattform.de

Photos: Messe München GmbH

# WASTEWATER TREATMENT PLANTS WITH LOW ENERGY CONSUMPTION

At IFAT 2026, Clearstream Water Treatment GmbH will showcase its modular STP-PRIME platform for municipal and decentralized wastewater treatment. The focus is on a compact, high-performance Sewage Treatment Plant (STP) that can be expanded with modules for the fourth treatment stage when required. The vertically configured high-load reactor design would deliver high throughput capacity with minimal spatial requirements, “making it particularly suitable for urban environments as well as modernization and capacity expansion projects”, the company informed. “Automated sensor-based process control ensures stable biological degradation even under fluctuating influent conditions.” To address increasingly stringent regulatory requirements, the company offers upgrade modules for micropollutant removal. “These modules achieve high elimination rates for contaminants such as pharmaceutical residues, hormones, and industrial trace substances. Thanks to the modular plug-and-play design, the modules can be integrated into existing treatment plants without extensive structural modifications. Implementation is significantly faster compared to conventional construction or major retrofit projects.” As emphasized, the systems operate fully automatically.


Photo: Clearstream Water Treatment GmbH

clearstream-water.com

# UV DRINKING WATER DISINFECTION

At IFAT in Munich, Trojan Technologies will present AQUAFIDES and TrojanUV systems for water disinfection. Last year, internationally active Veralto Corporation, the mother company of Trojan Technologies, acquired Austria-based ultraviolet (UV) disinfection company AQUAFIDES.

This acquisition allows Trojan Technologies to better serve small and mid-sized municipalities by offering an expanded portfolio of certified products from AQUAFIDES that cater to a broader range of drinking water flow requirements. While AQUAFIDES provides validated, closed-vessel UV systems designed to meet the latest European drinking water regulations, TrojanUV offers a wide variety of UV systems for drinking water treatment, wastewater disinfection and reuse, as well as advanced oxidation (UV-AOP) applications for groundwater and surface water remediation. Across both product lines, Trojan Technologies integrates “features that maximize efficiency and reduce operational burden – such as automatic wiping systems, high-output energy-efficient lamps, compact installation footprints, intuitive touchscreen controls, and dynamic lamp-dimming options”. All systems would undergo rigorous microbial validation to provide robust protection against protozoan pathogens.

trojantechnologies.com

# GLOBAL CERTIFIED-CIRCULAR PLASTIC MARKET TO EXPAND

The global certified-circular plastic market, estimated at 2.03 billion US-Dollar in 2025, is forecast to expand to 5.77 billion US-Dollar by 2035, according to Towards Packaging, a sister firm of the international active consulting and market intelligence company Precedence Research. As described, technological advancements and the increasing need for investments in infrastructure development fuel this growth.

As reported, Europe dominated the global market by holding the highest market share of approximately 35 - 38 percent in 2025, supported by strict EU regulations on recycled content, plastic taxes, and extended producer responsibility (EPR) frameworks. "The region emphasizes traceability and sustainability certifications, driving the adoption of mass-balance and mechanically recycled certified materials," the information said. "Brand owners and packaging converters increasingly use certified circular polymers to comply with regulatory requirements and reduce carbon footprints, particularly in food-grade and high-performance applications." Germany would play a leading role in Europe's market due to its strong recycling infrastructure, advanced chemical industry, and strict waste management policies.

According to Towards Packaging, Asia Pacific is expected to experience significant growth in the market, "as governments strengthen plastic waste management policies and multinational brands expand sustainable packaging initiatives in the region". Rapid industrialization, growing consumer awareness, and increasing investment in advanced recycling facilities were supporting certified circular plastic adoption. "Export-oriented manufacturers also adopt certification schemes to comply with sustainability requirements from global customers in Europe and North America." A driving force for regional demand is China "due to strong circular economy policies, technological leadership in recycling systems, and corporate sustainability strategies".

Japanese packaging and electronics manufacturers would also increasingly use certified circular plastics to enhance product sustainability and meet global compliance standards. "The country's focus on material efficiency and waste reduction supports long-term growth in certified polymer adoption."

### Initiatives by companies

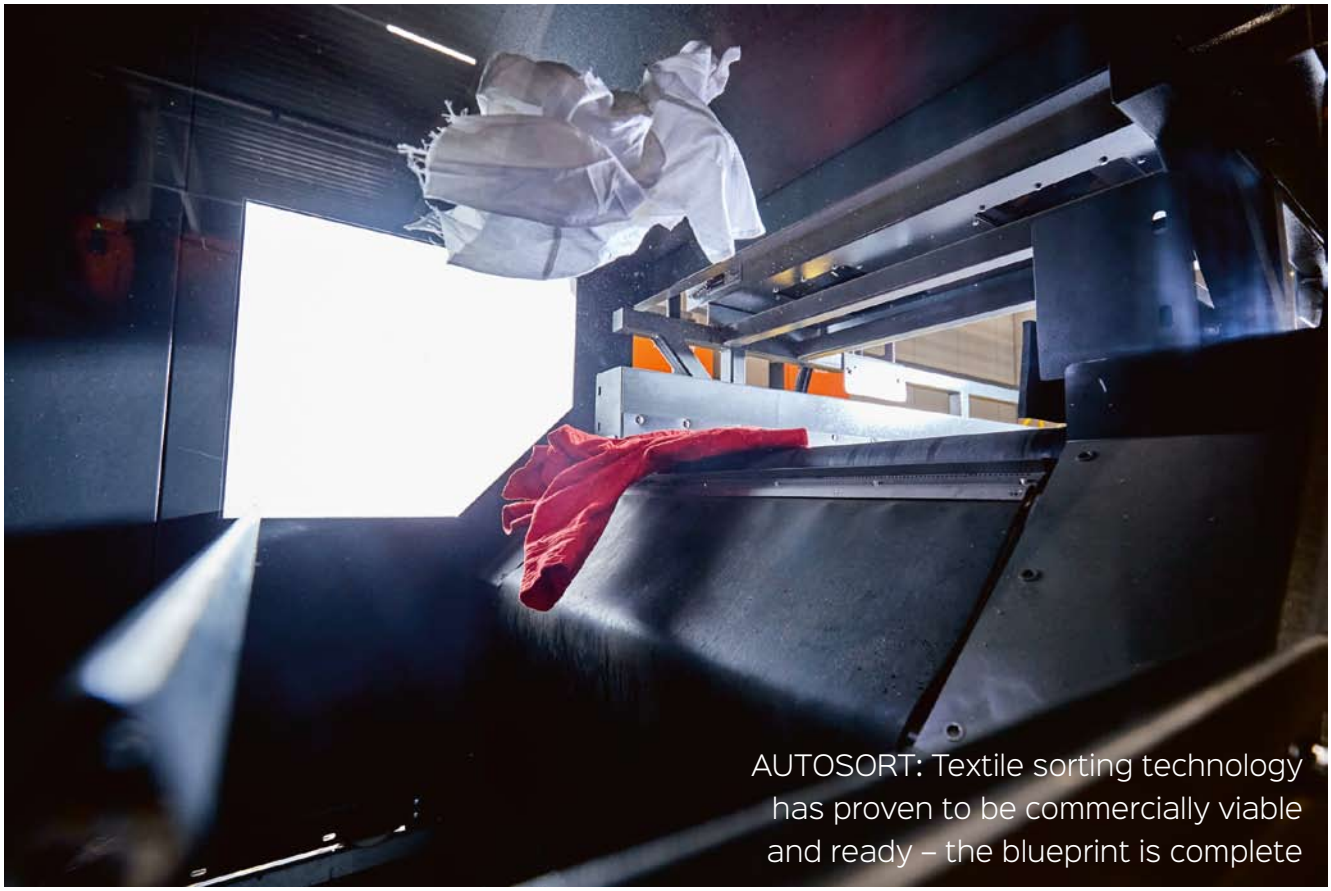
The global consulting and market intelligence firm Towards Packaging referred, in that context, to several companies in the certified-circular plastic market and their offerings:

Photo: MSV, AI-generated

- "ExxonMobil & Valgroup: Use advanced recycling technology to produce certified-circular polymers for high-performance collation shrink films and food packaging.
- Dow: Offers the REVOLOOP portfolio of certified circular resins, including r-HDPE and r-LDPE, for use in shrink films and industrial applications.
- SABIC: Provides certified circular polyethylene and polypropylene through its TRUCIRCLE initiative by processing feedstock from mixed plastic waste.
- BASF: Converts plastic waste into pyrolysis oil via its ChemCycling project to manufacture new, high-performance Ccycled plastics.
- Tesco: Facilitates the collection of soft plastics to be chemically recycled into food-grade packaging, such as cheese wrappers.
- Lucro Plastecycle: Upcycles post-consumer flexible waste and Ocean Bound Plastic into high-quality granules and recycled packaging films.
- ReCircle: Operates as a recovery enterprise that provides brands with traceable, ethically sourced circular plastic feedstocks.
- Banyan Nation: Produces high-quality, human-contact-safe recycled resins from post-consumer waste for the FMCG bottle industry.
- Berry Global: Manufacturers food-grade containers and flexible packaging using certified circular resins sourced from chemical recycling partners.
- Unilever: Integrates certified circular polymers into consumer packaging, such as ice cream tubs and bouillon containers, to reduce virgin plastic use."

towardspackaging.com/download-sample/5945

precedenceresearch.com



AUTOSORT: Textile sorting technology has proven to be commercially viable and ready – the blueprint is complete

# WHY THE TEXTILE RECYCLING REVOLUTION NEEDS MORE THAN JUST TECH

The global textile recycling market is finally shifting to an industrial scale. For years, progress was stalled by a fundamental lack of synchronization across the value chain. Now, decisive policy action is providing the essential financial anchor needed to bridge this gap.

As Louisa Hoyes, Segment Director – Textiles at TOMRA Recycling, highlights, the sorting technology is commercially viable and ready. The key challenge now is overcoming the deep disconnect between automated sorting capabilities and market scale, she wrote in this expert article:

The textile industry is at a pivotal point due to rapidly intensifying global regulations. This movement is led by key developments like the new European Union EPR scheme, which ensures producers are financially responsible for the full lifecycle of textiles, and France's new Ultra-Fast Fashion Bill, which introduces an escalating eco-tax of up to ten Euro per item and mandates eco-score labeling. These European measures, often viewed by countries like the US and China as setting the pace, highlight the sheer volume of textile waste – millions of tons annually – and the new reality of the mandatory EU separate textile collection, which came into effect on January 1, 2025.

The global textile recycling market faces an immense challenge: EU collection is now enforced and the financial weight of EPR is looming, yet the industry remains markedly immature compared to established streams like plastic or paper. Today, less than one percent of annual textile waste is recycled into new products without being downgraded[1)]. However, industry analysis suggests that scaling fiber-to-fiber recycling could boost the global recycling rate to over 30 percent, unlocking a raw material value exceeding 50 billion US-Dollar[2)]. This shift is expected to create a profitable,

self-standing industry, with the European recycling value chain alone estimated to generate an annual profit pool of up to 2.2 billion Euro by 2030[3].

### From technical feasibility to industrial viability

TOMRA recognized this immense hurdle early and over the past decade has been dedicating resources to textiles development. The real priority is now accelerating the synchronization and industrial scaling of this complex value chain, a process where TOMRA's decades of expertise from other established material streams provide a significant head start. We are no longer debating feasibility; we are addressing industrial viability. The core challenge in textile recycling is not if we can sort, but how fast and how purely we can recover materials for fiber-to-fiber recycling. Textiles present a vast degree of heterogeneity: garments are composed of countless complex blends, multiple fabric layers, dyes and non-textile components such as zippers and buttons. Our solution for all complex sorting tasks (including whole, cut or shredded garments) is the AUTOSORT unit. Its core strength is its multifunctionality, providing unmatched versatility in both material handling and sensor integration across various applications. The unit employs a combination of sensors: NIR (near-infrared for fiber composition), VIS (visible spectroscopy for color) and EM (electromagnetic for metal detection). This flexible and integrated sensor combination ensures the highest purity and enables optimal downstream processes for every feedstock. To maximize purity before shredding post-consumer clothing, we find it most efficient to sort the whole articles first prior to shredding.

### The A/B sorting concept and the need for purity

TOMRA's A/B sorting concept – refined over more than three decades across industrial recycling streams like plastics and metals – offers a proven blueprint for scaling textile sorting. Unlike low-volume line sorters, AUTOSORT is designed for high throughput, targeting one pure material fraction (A) while allowing all other materials to drop (B). This singular focus ensures the purity required by chemical and advanced mechanical recyclers, and the system enables a throughput of up to 4.5 tons per hour. For customers needing multiple fractions, cascading AUTOSORT units – each leveraging advanced sensor integration – enable precise recovery of all desired materials from the infeed stream.

Sorting alone isn't enough. To meet recyclers' strict input requirements, TOMRA has been working with Vecoplan, a leader in shredding technology, to deliver a complete solution. This integrated concept covers the full pre-treatment process: from advanced sorting and contaminant removal (like zippers and buttons) to size reduction and purification. Together, we eliminate a major barrier to scale – ensuring customers can deliver high-quality, recycler-ready feedstock.

### Overcoming complex coordination

So, if textiles sorting technology is commercially viable and ready, why isn't the market already scaling? The answer lies in the financial and logistical fragmentation of the overall market ecosystem. The sheer volume of waste – exacerbated by the low longevity of fast fashion garments – requires simultaneous action across five domains, relying on these key market drivers for a scaled circular textiles value chain:

1. Regulatory push: This includes the EU mandatory separate collection of textile waste (introduced on January 1, 2025) and a strong textiles Extended Producer Responsibility (EPR) scheme (mandatory by April 2028) to fuel cross-value chain investments. This is set to be complemented by forthcoming mandatory recycled content targets for brands under the Ecodesign for Sustainable Products Regulation
2. Access to feedstock: Attaining sustainable prices through increased collection rates, creating new collection routes dedicated to both reuse and recycle-grade textiles
3. Recycling technologies maturing: In parallel with sorting and pre-sorting capabilities scaling, this will enable textile-to-textile (T2T) recycling. Demand for fiber-to-fiber and downcycled products (e.g., non-wovens) brings waste percentages down, improving overall financial attractiveness
4. Brands unlock 'real demand': Brands must commit significant volume of off-take for recycled T2T material, driven by strong EPR schemes and minimum recycled content targets – such as those currently being discussed by the EU Commission under the ESPR Textile Delegated Act
5. Increased consumer awareness: Acknowledging the real


Louisa Hoyes is TOMRA Recycling's Segment Manager – Textiles

Photos: TOMRA

cost of fast fashion and a sustained shift in consumer attitudes towards reuse and repurposing

A circular value chain for textiles is now emerging as key industry players begin to shape this new ecosystem. While Europe is leading the legislative push, the shift toward textiles as a strategic material is a global trend. This change is driven by brand sustainability goals, consumer demand and anticipated regulation in key markets like the US (California) and Australia, where similar circular economy discussions are gaining momentum. Consequently, waste managers and handlers worldwide are expected to scale rapidly as regulatory frameworks mature and off-take routes are secured.

Sorted Textiles: A circular value chain for textiles is now emerging

### Policy as the necessary anchor and call to action

Initiatives like France's Ultra-Fast Fashion Bill signal that global regulatory patience has run out, validating the urgent need for synchronized investment across the textile value chain. Governments globally must rapidly adopt effective EPR systems for textiles. Without this financial anchor (already established in the EU and emerging elsewhere), the entire recycling structure stalls. The bottleneck – the lack of a strong business case for sorting centers – will only be removed when brands commit to long-term off-take agreements for recycled materials, which are often channeled through the financial security of these EPR schemes.

### The blueprint for industrial sorting and pre-processing is complete

The good news is that the technology debate is over. The blueprint for industrial, high-purity sorting and integrated pre-processing is complete. Policy acts as the catalyst, but the responsibility is shared across the entire sector. The time for brand owners, waste handlers and investors to stop waiting and start acting is now.

We have the equipment to supply the market and our commitment extends beyond current solutions to actively accelerate future market growth. The industry must now build the sophisticated, synchronized infrastructure to handle the volume and pull the material into genuine circularity.

tomra.com/waste-metal-recycling

1) McKinsey & Company's report: Scaling textile recycling in Europe – turning waste into value
2) Boston Consulting Group (BCG)'s report: Spinning Textile Waste into Value
3) McKinsey & Company's report: Scaling textile recycling in Europe – turning waste into value

New Project on Textiles:

# STRETCHING CIRCULARITY

In February, the organization Fashion for Good and partners launched the project "Stretching Circularity", which is "dedicated to accelerating the adoption of lower-impact elastane alternatives that are compatible with circular textile systems". By validating bio-based and recycled elastane solutions through pilot-scale testing and demonstrator garments, the initiative would aim to remove one of the most significant technical barriers to a circular textile economy.

According to the information, elastane is present in approximately 80 percent of all clothing. This material is added in varying concentrations (typically from one to five percent by weight in cotton or wool garments to up to 20 percent in polyester or polyamide garments) to provide stretch and comfort. This fossil-based material creates two critical sustainability challenges. It contributes to carbon emissions and non-renewable resource consumption across the industry. And "even minimal concentrations of elastane act as a 'contaminant' in textile recycling feedstocks, compromising fiber-to-fiber recycling of high-volume fibers like polyester and cotton. This effectively

Photo: Canva/Fashion for Good

blocks circularity for the vast majority of clothing, leaving the industry with limited options beyond downcycling or landfill."

"Stretching Circularity", initiated by Netherlands-based Fashion for Good, is to tackle this challenge through two key work streams, which follows a pilot-scale validation approach to generate comparable data on performance, impact, economic feasibility and scalability.

- One workstream focuses on testing next-generation elastane materials made from alternative inputs, including bio-based materials and other feedstocks. This phase would include the creation of "demonstrator" garments, specifically a technical t-shirt (with 10 percent elastane) and a non-technical t-shirt (with two percent elastane).
- The other would focus on testing regenerated elastane made through emerging recycling innovations.

As reported by the organization, this work is driven by a coalition of industry stakeholders representing the entire value chain. The consortium includes Fashion for Good partners Levi Strauss & Co (Beyond Yoga), On, Paradise Textiles, Positive Materials, and Reformation, with Ralph Lauren Corporation as an Advisor. "Supported by ecosystem experts like Materiom and the Ellen MacArthur Foundation, the group will support knowledge sharing across the consortium to identify gaps and generate comparative data to de-risk the adoption of these circular solutions for the wider industry. 'Stretching Circularity' operates under a structured due diligence and validation framework to assess if alternative materials are not just conceptually sound but also meet the performance standards of conventional elastane."

fashionforgood.com
fashionforgood.com/case-study/stretching-circularity-project/

## TEXTILE RECYCLING EXPO EUROPE

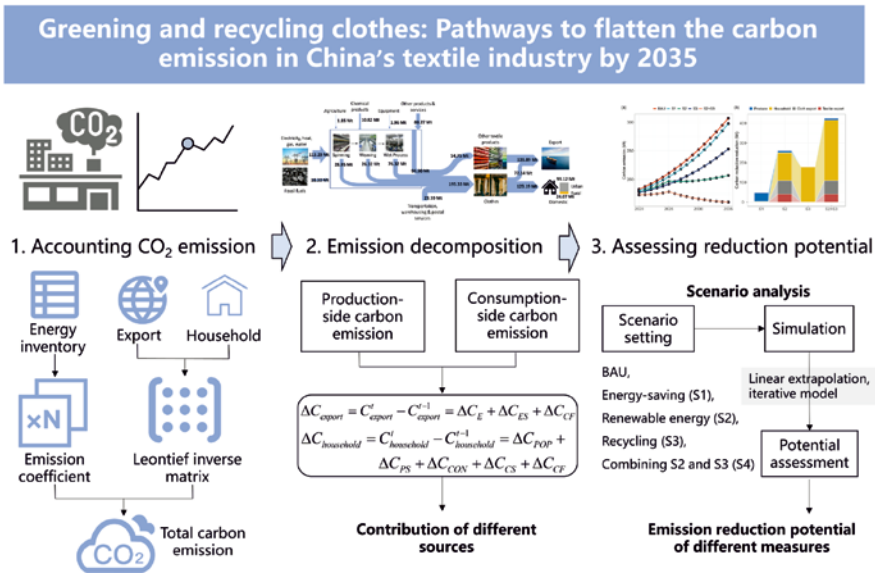
24 – 25 June 2026, Brussels (Belgium)

The "Textiles Recycling Expo", which will take place in June this year, has entered a major new collaboration with the "Future Fabrics Expo". Both events will take place simultaneously at the Brussels Expo. "This co-location marks a significant step forward for the textile and fashion industries, bringing together two influential and complementary events under one roof," the organizer, AMI, informed. "The 'Textiles Recycling Expo' made its debut at the Brussels Expo in June 2025, attracting more than 3,300 attendees. The 'Future Fabrics Expo' was launched in 2011 and has traditionally taken place in London, UK, where it attracted over 2,000 visitors in June 2025. Additional Future Fabrics events and showcases have taken place in New York, Paris, Shanghai and Munich." The co-location of the two exhibitions would bring together the textile-to-textile recycling and sustainable fabrics markets, "creating a uniquely comprehensive meeting place for brands, retailers, manufacturers, recyclers, innovators, and policymakers".

events.amiplastics.com/textiles-recycling-expo

# NEW PATHWAYS FOR CHINA'S TEXTILE INDUSTRY

As global demand for clothing continues to rise, the textile and apparel industry has become a significant contributor to climate change. In China, the world's largest textile producer and exporter, rapid urbanization, income growth, and shifting consumption patterns have driven a surge in demand for apparel. According to TranSpread – which aims to help academic journals overcome challenges such as limited overseas promotion channels, increase their exposure abroad, and enhance their international influence – traditional studies often focus on factory-level energy use, overlooking emissions embedded in supply chains, exports, and household consumption. "This fragmented perspective limits the effectiveness of mitigation strategies. Moreover, fast fashion and short garment lifespans exacerbate resource use and waste. Based on these challenges, there is an urgent need to conduct in-depth research that captures the full carbon footprint of the textile industry and identifies scalable pathways for emission reduction."




Source: TranSpread

An integrated framework for accounting, decomposing, and mitigating carbon emissions in China's textile industry

Therefore, researchers from Nanjing University, in collaboration with international partners, reported a comprehensive analysis of carbon emissions in China's textile and apparel industry in the magazine Engineering Environment. "Using national household consumption data and supply-chain input–output modeling, the team examined emission trends from 2000 to 2018 and projected future mitigation scenarios through 2035," TranSpread informed. "Their study reveals how production, consumption, and exports jointly shape the sector's carbon footprint and highlights practical strategies – particularly renewable energy and clothing recycling – to curb emissions while supporting sustainable industrial development."

■ The study titled "Greening and recycling clothes: pathways to flatten the carbon emission in China's textile industry by 2035" is available at: link.springer.com/article/10.1007/s11783-026-2109-9

# EUROPEAN PROJECT DEMONSTRATES CIRCULAR WIND TURBINE BLADE

EuCIA, the European voice of composites, has reported about a "notable milestone by demonstrating how recycled glass fibers from end-of-life wind turbine blades can be used in new blades".

REFRESH (Smart dismantling, sorting and REcycling of glass Fibre REinforced composite from wind power Sector through Holistic approach) is a European project with 11 partners. In a study, CETMA (Italy) and Gjenkraft AS (Norway) collaborated with Cormatex (Italy) and ÉireComposites (Ireland) to convert glass fibers recovered through Gjenkraft's thermal recycling process into a nonwoven mat, which was then employed in a non-structural application of a section of a new blade.

Photo: CETMA / ÉireComposites

The composite skins of the upper shell of this 1.0 m x 1.5 m blade section were manufactured using recycled glass fiber

According to the information, textile machinery manufacturer Cormatex's airlay/thermobonding technology was used to manufacture the nonwoven mat. Unlike mechanical needle punching, where repeated needling causes the fibers to interlock and entangle, thermobonding relies on the adhesive effect of a thermoplastic binder. "This can be beneficial when working with thermally recycled fibers, which may become brittle after exposure to high temperatures." Airlay/thermobonding – as a continuous process – would allow the production of mats with recycled fiber content of up to 90-95 percent by weight.

"CETMA evaluated the mat's compatibility with the vacuum infusion process, which is widely used to manufacture composite parts for wind energy and other markets," EuCIA gave account. "Tests revealed that composite laminates manufactured using the recycled glass fiber mat exhibited mechanical properties close to those of laminates manufactured using commercial virgin glass fiber mats with similar characteristics."

The recycled glass fiber mat has a range of potential applications, but returning it to the wind energy sector as an alternative to virgin materials is the optimal solution, EuCIA informed. Its suitability for use in a non-structural element of a blade was therefore evaluated in collaboration with ÉireComposites by means of a 13-meter (m) long blade. The composite skins of both halves of a wind turbine blade are currently manufactured using virgin triaxial glass fiber reinforcement, "which could potentially be replaced by the recycled glass fiber mat. To confirm this, ÉireComposites manufactured a section of the blade tip, approximately 1.0 m x 1.5 m in size, by vacuum infusion. The top and bottom shells were produced separately and bonded at the leading edge and trailing edge: one employed triaxial glass fiber in the inner and outer skins, while the other used the recycled glass fiber mat. This approach allowed a direct comparison of the virgin and recycled materials in the same part."

### Aiming at Blade Circularity

As many European wind farms approach the end of their projected operational lifetimes, the European wind industry is intensifying its circularity efforts. Sustainable strategies for managing the growing volumes of decommissioned blades – manufactured from durable, challenging-to-recycle composite materials – is critical, EuCIA underlines. The REFRESH project would be building a smart, circular value chain to improve the recycling of glass fiber reinforced composites from decommissioned blades. Now entering its fourth year, the project is currently scaling up the recycling processes developed in the project's initial phase and focusing on the design of products utilizing the recovered materials.

Photo: Gjenkraft AS

According to EuCIA, this prototype blade section demonstrates the feasibility of incorporating recycled glass fiber into new blades without altering the manufacturing process. Further experimental validation is now in progress at CETMA to evaluate the mechanical performance of the part. The non-for-profit research and technology organization is also developing applications for the secondary raw materials resulting from the REFRESH mechanical recycling process with Gees Recycling, and exploring the use of recycled glass fiber in 3D printed concrete structures together with TECNALIA. “In addition, CETMA and ETAT9 are collaborating on the RE-FRESH repurposing strategy, designing new products from precisely cut blade parts. Life cycle assessment and life cycle costing analyses conducted by RINA Consulting will ensure the sustainability of all the REFRESH solutions, while a blockchain traceability platform will enable tracking of blade components and materials through the value chain.”

Recycled fibers recovered using Gjenkraft’s thermal recycling process

eucia.eu

## THE GLOBAL ELECTRIC ARC FURNACE MARKET

According to the latest study from USA-based company BCC Research LLC, the “Global Market for Electric Arc Furnace” is projected to reach 1.1 billion US-Dollar by the end of 2030, with a CAGR (compound annual growth rate) of 5.6 percent from 2025 to 2030. The market researchers used 2024 as the base year, 2025 as the estimated year, and projected market values through 2030 in nominal US-Dollars. As reported, the international market is set to surge globally as the steel industry embraces green solutions. Key drivers would include the increasing use of EAF in steel production and the growing emphasis on scrap recycling. “Asia-Pacific is the leader in the global EAF market due to rapid urbanization, industrialization, and large-scale steel production in countries such as China, India, and Japan,” BCC Research informed. “The region’s strong manufacturing base, abundant scrap metal availability, and supportive government initiatives are expected to drive its growth.”

bccresearch.com

# NEW ERIEZ SHRED1 DATA DEMONSTRATES SCALABLE COPPER CONTROL AND 94 PERCENT MELT YIELD

New performance data from Eriez® shows that scrap recyclers can achieve precise copper control without compromising throughput. Full-scale installations of the Shred1 Ballistic Separator consistently deliver copper levels below 0.15 percent while processing more than 127 tonnes (140 tons) per hour. Copper contamination has traditionally forced recyclers to choose between costly melt chemistry corrections and rejecting marginal feedstock. A recently published report indicates that the Shred1 removes this constraint, providing a purely mechanical solution that enables both high productivity and tight chemical control.

According to the data, the system delivers verified performance across four critical measures:

- High throughput: Scalable operation well above 90 tonnes (100 tons) per hour, with many confirmed U.S. installations exceeding 140 tons per hour per Shred1.
- Low copper levels: Consistent production of premium #1 shred containing 0.13 to 0.16 percent copper.
- Improved melt efficiency: Melt yields increasing from a typical 88 percent to as high as 94 percent.
- Rapid payback: Operational improvements that often deliver return on investment within months.

At a major U.S. scrap processing facility, the Shred1 consistently produced premium shred with copper levels as low as 0.13 percent. This performance allows the operator to blend higher-copper input material while still meeting melt specifications, ensuring all output ships as premium-grade product rather than being downgraded or diverted. Comparable results were realized at a European recycling facility through a 76-heat melt trial. Low-copper shred produced by the Shred1 averaged 0.145 percent, with melt chemistry closely aligning with theoretical predictions. The consistency reduced dependence on dilution scrap and supported more precise furnace optimization.

In addition to copper control, the report documents measurable improvements in overall melt performance. Material previously delivered an approximately 88 percent yield, which increased to 94 percent after installing the Shred1 combined with polishing magnet technology, improving furnace efficiency, and accelerating economic returns.

Installed downstream of primary scrap drum magnets, the Shred1 separates material using magnetic forces and high-speed ballistic trajectories. Unlike air, optical, or X-ray-based systems, the mechanical process sorts material by mass and density, delivering stable separation performance with minimal operator intervention and no loss of throughput. During operation, liberated shred is conveyed at high speed toward the head pulley. Low-copper material, more strongly influenced by the magnetic field, follows the pulley arc and is discharged behind a splitter, while higher-copper material continues forward for additional polishing.

“Scrap processors are under growing pressure to meet tighter melt chemistry requirements without slowing production,” said Mike Shattuck, Business Development Manager-Recycling, Eriez. “These results show that copper control is no longer theoretical. The Shred1 delivers repeatable, measured performance at industrial scale and integrates seamlessly into existing shred lines.”

■ To learn more about the Shred1 Ballistic Separator, visit eriez.com/shred1 (eriez.com/Products/Metals-Recycling/Ferrous-Recovery/Shred1-Ballistic-Separator). The full technical report, “Shred1 Ballistic Separator Elevates Low-Copper Recovery and Melt Quality,” is available at eriez.com/shred1casestudy (eriez.com/Documents/Case-Studies/Eriez-CS-76-Shred1-Ballistic-Separator.pdf).

Photo: Eriez

Advertorial:

More metal back into the melt:

# HOW BRIQUETTING HELPS TURN MACHINING CHIPS INTO A HIGHER-VALUE RECYCLING STREAM

In metalworking, chips are generated in large volumes every day during turning, milling and sawing. Yet their loose form creates multiple disadvantages: they take up space, complicate handling and transport, often retain cooling lubricants, and can lead to material losses in downstream recycling. For recyclers, foundries and machining companies alike, the question is no longer whether chips contain value – but how much of that value can actually be recovered.

That is where briquetting is gaining relevance. By compressing loose chips into dense briquettes, metal processors can create a more homogeneous, easier-to-handle secondary raw material while also improving logistics and recovering residual coolants. In many cases, the biggest benefit appears further downstream: during remelting.

A practical example comes from Hammerer Aluminium Industries (HAI). In its aluminium operations, the company uses RUF briquetting presses to close the material loop more efficiently. According to HAI, remelting loose aluminium chips results in a material


Photo: RUF

yield of around 85 percent. With briquetted chips, however, yield rises to 92 to 93 percent – an improvement of roughly eight percentage points. HAI also reports that briquettes sink immediately in the melt, while oxidation during storage before remelting is kept to a minimum.

The process brings further advantages. Because cooling lubricants are largely removed during pressing, the briquettes are cleaner to transport and cause far less contamination from dripping fluids. At the same time, densification drastically reduces the volume of the material, lowering storage and logistics costs and creating a defined scrap quality for internal recycling or external sale.

For companies looking to strengthen circularity in machining and metal recycling, this makes briquetting more than a volume-reduction step. It becomes a way to improve metal recovery, reduce process losses and turn chips into a more valuable feedstock for the furnace.

RUF Maschinenbau, based in Germany, supplies hydraulic briquetting systems for materials including aluminium, steel, cast iron, copper, magnesium and titanium. The company says its presses can also recover expensive cooling lubricants and support throughputs from about 30 to 5,000 kg/h, depending on the application.

■ Visitors interested in exploring briquetting technology can meet RUF at IFAT 2026, Hall B5, Stand 232, where the company will present solutions for metal chips and other recyclable production residues.

brikettieren.de/brikettpressen/spaenepresse-metall

# SORTING ROBOT FROM MACHINEX

Machinex, a leader in sorting technologies, has launched the SamurAI Optima sorting robot. As reported by the internationally active manufacturer, it is engineered to be the most space-efficient model in the company's robot series. "Building on the success of the original SamurAI, the new Optima delivers the same powerful AI technology in a compact design that lowers costs, lowers installation time and allows for easier integration into a wider range of facilities."


Photo: Machinex

Key features of the new SamurAI Optima would include:

- Robot cell mounted directly onto the conveyor
- Installed as fast as one day
- Reduced turnkey cost vs the original SamurAI sorting robot
- No daily maintenance required
- Redesigned vacuum system for consistent quality and longevity
- Over 50 percent reduction in compressed air consumption compared to industry standards
- Extremely quiet operation compared to market alternatives

According to the provider, the robot is "ideal for retrofits, offering a fast, cost-effective way to bring next-generation robotic precision to existing systems". Its sorting applications were numerous. "It is designed to positively extract recyclable commodities from a specific stream of material (ex: plastics from a reject line), as well as negatively sort a dedicated stream from all its contamination (ex: PET quality control). It is highly efficient on multiple sorting lines such as aluminum, cartons, plastic films, large selection of plastic grades and OCC (old corrugated containers)."

machinexrecycling.com/sorting/equipment/samurai-sorting-robot/#samurai-optima

# BB ENGINEERING DEVELOPED EXTRUDER WITH HIGH THROUGHPUT

By its own account, German firm BB Engineering GmbH – part of Brückner Group – has closed a gap. The machine building company underlined that with the successful commissioning of two single-screw extruders with a screw diameter of 360 millimeters, it has set a new benchmark: single-screws for processing PET in this size have not yet been available on the market. "The systems were recently commissioned at a Chinese customer's site and form the heart of modern BO-PET film lines from Brückner to produce optical films that meet the highest quality requirements," the provider informed. The extruders would open up additional possibilities for applications in the high-performance segment.

The newly developed extruders feature a performance-optimized barrier-screw design that enables throughputs of up to 5,400 kilograms/hour. "With a screw length of 11.5 meters and a diameter of 360 millimeters, manufacturing and transport posed special technical and logistical challenges that were successfully overcome. The total weight of the extruder is more than 46 tons, and its length of over 14 meters underline the impressive dimensions of this new machine class. Two powerful, energy-efficient, water-cooled motors, each with an output of 700 kilowatts, are used to drive the extruder," the machine builder gave account, whose product portfolio includes machine components such as extruders and filters as well as complete spinning and recycling plants.

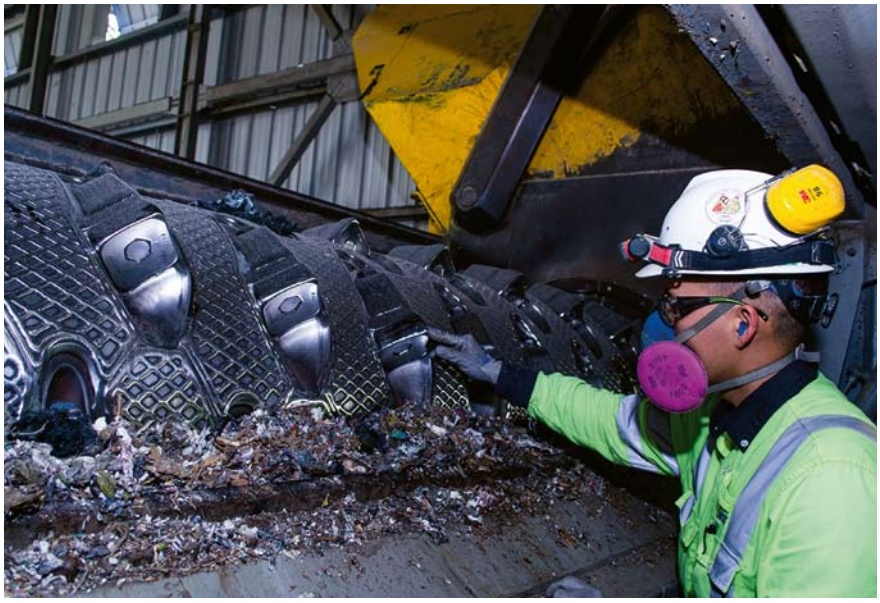

Photo: BB Engineering GmbH

bbeng.de

# EFFECTIVE SHREDDER TECHNOLOGY TO PRODUCE ALTERNATIVE FUELS

Cemex Colombia, part of the international building materials group Cemex based in Mexico, relies on shredding technology from Austrian manufacturer Untha.

The Colombian firm has been producing cement, concrete, and other building materials for the construction industry for over 25 years. In order to meet the energy requirements of its cement kilns more sustainably, the company uses processed commercial and industrial waste as alternative fuels. These fractions have a high calorific value and are ideal for replacing fossil fuels such as coal. With the help of industrial shredders, Cemex Colombia can produce RDF (Refuse-Derived Fuel) precisely tailored to the thermal processes in the main burner and calciner, the shredder manufacturer stressed. This would not only reduce energy costs but also significantly reduce $CO_2$ emissions.



The C-cutter of the XR3000C shredder ensures homogeneous output material and high-quality RDF

Photo: Untha

As reported, the robust C-cutting system of the shredder type XR3000C produces a homogeneous output material with a grain size of 45 to 130 millimeters in one step. “Interchangeable perforated screens allow the shredder to be flexibly adapted for the production of different fuel qualities.” With a throughput of up to 15 tons per hour and operating costs of less than five Euro/ton, the XR3000C is working energy-efficiently. The plant processes around 2,000 tons of material per month, including difficult-to-handle waste such as tires and mattresses. Materials that would previously have been sent to landfill are now being recycled and returned to the energy cycle.

Untha Ibérica accompanied the project from planning to commissioning and continues to support Cemex with expertise and technical assistance.

untha.com

# PICVISA AND GIRBAU DRIVE THE INDUSTRIAL AUTOMATION OF POST-CONSUMER TEXTILE RECYCLING WITH A NEW PLANT IN NORTHERN EUROPE

PICVISA, a specialist in AI-based optical sorting technologies for the reuse and recycling of materials, and GIRBAU, a global leader in industrial laundry and automation solutions, announce a strategic collaboration to advance the full automation of post-consumer textile sorting lines.

As a first milestone of this alliance, both companies are launching a new plant in Northern Europe that integrates Sortech — Girbau's automated feeding and separation system — with ECOSORT, PICVISA's textile sorting technology, into a single continuous and fully automated line.

## Proven automation applied to textile recycling

Sortech is a solution developed by Girbau to automate the separation and classification of garments in high-volume industrial environments. Designed to prioritize safety, operational efficiency, and improved working conditions, Sortech eliminates repetitive manual tasks while ensuring a steady and controlled garment flow.

In this project, Sortech technology is applied beyond the laundry sector, adapted to the specific requirements of post-consumer textile sorting for reuse and recycling, where growing volumes demand robust and scalable industrial processes.

## Advanced sorting for high-value reuse and recycling

PICVISA's ECOSORT technology identifies and classifies used garments by textile composition, color, and type, generating homogeneous, higher value-added fractions for both second-hand markets and textile recycling processes.

The integration of ECOSORT with an automated feeding system such as Sortech enhances process stability, increases line productivity, and enables more precise and consistent sorting. It reduces reliance on manual labor while improving operator ergonomics.

## A pioneering model for the textile circular economy

This plant positions itself as one of the first in Europe to fully integrate automated feeding and advanced optical sorting for post-consumer textile treatment, marking a key step toward the industrialization of the textile circular economy.

Photos: PICVISA

With this new installation, PICVISA's ECOSORT technology reaches its eighth installation in Europe, strengthening its presence in industrial-scale post-consumer textile sorting plants.

The project also represents PICVISA's second turnkey textile sorting plant in Europe, reinforcing its ability to design and deliver complete, integrated solutions for the textile recycling sector. Fernando Argiró, Director of Girbau Industrial, added: "Applying our expertise to textile recycling is a natural step and a global opportunity for Girbau, aligned with our purpose of generating a positive impact on people and the planet. Doing so through Sortech adds further value, as it is a solution developed together with a client that can now benefit many more plants and markets."

Both companies foresee that this model can be replicated globally, driven by regulatory developments, reuse and recycling targets, and the need to improve efficiency and sustainability in textile sorting facilities.

■ Watch the video: youtu.be/GvGGLKjpxPo

picvisa.com, girbau.com

# TXS 350 STARSCREEN FOR TOPSOIL AND ORGANIC MATERIAL

Internationally active manufacturer Terex Ecotec has expanded its screening portfolio with the introduction of the TXS 350 Starscreen, a three-fraction machine developed for high-throughput screening across a range of organic and environmental materials. "The machine incorporates self-cleaning stars and sectional speed control combined with an intuitive control system, allowing operators to easily optimize screening performance in different material types and operating conditions," the provider highlights the advantages.

"A cassette-style screen deck design supports maintenance and reconfiguration, with both screen decks removable as complete units. The TXS 350 can be powered by either an onboard genset or an external power supply, providing flexibility for different site requirements."

terex.com/ecotec/en

Photo: Terex Ecotec

# SAMOTER 2026

May, 6 – 9, 2026, Verona (Italy)

SaMoTer – the triennial International Construction Machinery Exhibition is back on show at Veronafiere 6-9 May, 2026. The event organized by Veronafiere is part of the cycle of international partner shows under the CECE banner (the European Federation that brings together associations of construction machinery manufacturers). According to the information, it will spotlight the Industry 4.0 revolution currently sweeping through the construction and site machinery sector by focusing on strategic topics linked to ecological transition and machine sustainability, digitalization and artificial intelligence, construction site automation, and new solutions for road infrastructures, not to mention key issues such as safety, training and rental.

samoter.it

# BIGMINT INDIA NON FERROUS WEEK 2026

May 19 – 20, 2026, New Delhi (India)

BigMint India Non-Ferrous Week is a two-day industry forum designed to bring the entire non-ferrous value chain together – producers, recyclers, traders, policymakers, technology providers, and end-use manufacturers.

According to the organizers, BigMint Events, the event will explore how aluminum, copper, zinc, lead, nickel, tin, and other non-ferrous metals "are shaping India's industrial growth and how global market forces are reshaping trade flows, pricing, and investment decisions". As India evolves into a significant hub for both primary and secondary non-ferrous metals, the sector is entering a new phase filled with complexity and opportunity. "The conference will unpack these shifts, connecting long-term market drivers with the realities on the ground – supply gaps, raw material constraints, regulatory transitions, technology adoption, and the growing need for reliable pricing and intelligence," the organizers underlined.

bigmint.co/events/

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