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K 2025 opens with optimism, tough questions

By Joe Pryweller
Plastics News Staff

As the 23rd edition of a more than 70-year-old tradition begins, K 2025 will offer a chef's mix of great industry promise and plenty of challenging questions.

At the opening news conference on Oct. 7 for this year's event, speakers from major industry associations discussed some of the emerging trends that could offer a global industry spike — include the use of artificial intelligence, attracting younger workers and advances in conquering the behemoth called the circular economy.

But there also was a sense that heavy lifting lies ahead for an industry in transition.

"These are uncertain times," said Ulrich Reifenhäuser, chairman of the K 2025 Exhibitors' Committee and managing partner of Reifenhäuser Group. "We do have problems and the industry does suffer. But I can tell you plastics is the most important and successful material made."

K 2025 will feature 3,200 exhibitors from 66 nations, a record in the number of countries exhibiting, said Marius Berlemann, managing director of Messe Düsseldorf.

There is plenty of good news. Overall,
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Plastics News photo by Caroline Seidel

JOURNEYS TO
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Plastics treaty
can boost green
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German industry
says **PAGE 4**

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**PLASTICS
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HALL 6, C08**



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Erma CEO Manfred Hackl at K 2025. The company is adding a standardized "ReadyMac" line of equipment to its line to allow customers to get their hands on machinery more quickly.

Plastics News photo by Caroline Seidel

Erma opens K balancing realism and optimism

By Jim Johnson
Plastics News Staff

When Manfred Hackl told employees at Erma Group GmbH more than two years ago that clouds were forming over the plastics recycling industry, he did expect it would still be raining today.

The Erma CEO said challenging times remain and will continue before thunderstorms end, but he does see a not-too-distant future where both market forces and government policy combine

to help improve the position of plastics recyclers.

The Ansfelden, Austria-based plastics recycling machinery returns to K in 2025 having approached current challenges from multiple angles: cutting costs, doubling down on research and development and adding new products.

Hackl admits market conditions are "not the best," but he said there still remains a fundamental need for plastics recycling equipment and anticipates pent up market demand caused

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EREMA GROUP GMBH

**Hall 9, Booth C9
Hall 16, Booth CE3**

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Plastics News photo by Caroline Seidel

PERSONAL JOURNEYS TO
THE PLASTICS HALL OF FAME

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**VISIT THE
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Reflex- α

AI Unleashed.



Hehl: Despite difficult conditions Arburg remains optimistic

By Catherine Kavanaugh
Plastics News Staff

ARBURG GMBH + CO. KG

Hall 13, Booth A13

Tariffs, geopolitical instability, higher interest rates and softening consumer demand are all contributing to a difficult business environment, but machine builders like Arburg GmbH + Co KG press on with technological advances to tempt investment from plastics processors.

This takes foresight, a willingness to embrace change and a stronger international focus, according to Juliane Hehl, Arburg's managing partner of global marketing and business development.

Founded in 1923, Lossburg, Germany-based Arburg manufactures injection molding machines, mostly for the electronics, medical, mobility and packaging markets with 3,450 employees at 37 sites in 27 countries.

"Despite the difficult environment, we are optimistic about the future and are meeting the challenges in the market with a high level of innovation, flexibility, expertise and problem-solving skills," Hehl said. "Our goal is to emerge from the crisis stronger and future orientated."

At K 2025, Arburg is presenting its responses to the current market situation, Hehl added, in the form of machines, robotic systems, turnkey systems, control systems, digital products and services.

"We are therefore traveling to the world's leading trade fair in Düsseldorf with great confidence. We will be there with an outstanding trade fair team from all over the world," she said.

Nineteen Arburg machines will be on the company stand, at partner booths and the arburgGREENworld pavilion.

"There is a suitable solution for everyone. We are all giving our all to ensure that visitors to K 2025 have an all-round rewarding experience," Hehl said.

She spoke with *Plastics News* reporter Catherine Kavanaugh more about Arburg's presence at the triennial trade show.

Q: In what ways does Arburg incorporate the K2025 theme of "The power of plastics: green — smart — responsible" into its trade show presence?

Hehl: The topic fits very well in all three dimensions, as they have long been rooted in our corporate DNA: We bundled

sustainability issues in the arburgGREENworld program many years ago, and digitalization issues in the arburgXworld. And we are bringing this together at K 2025 in the arburgSOLUTIONworld program. The entire trade fair stand reflects the idea of our unique world of solutions. With the "All in! arburgSOLUTIONworld" communication concept, we are expressing that we are fully committed to being the solution partner for sustainable plastics processing. "All in" goes far beyond the innovative injection molding technology for which we are known worldwide. For example, we show pioneering projects and processes that we have developed together with renowned partners. We demonstrate how machines and molds will communicate intelligently with each other in the future. We set trends in the field of digitalization and AI. We provide trade visitors with the right answers to important topics such as sustainability, digitalization and automation, as well as to all the issues they face today and tomorrow.

Q: How many machines or technological advances are making world debuts?

Hehl: We are showing two world premieres. Our pioneering highlight will be present in Düsseldorf with three exhibits at once. They will be demonstrating an application for the electronics industry, automated liquid silicone rubber injection molding and recycle processing. The new Allrounder 475 V vertical machine will also be on show.

All four new machines at the K 2025 will be equipped with the new Gestica lite control system, which is particularly easy and intuitive to operate.

Q: For sustainability, many machine builders are focused on processing recyclates and energy efficiency. What kind of innovations and gains is Arburg showing in these areas?

Hehl: At K 2025, we want to emphasize the power and ability to shape the future of both plastics as a material and the industry as a whole. That is why we will be present in the "Power of Plastics Forum" in



Juliane Hehl recognizes the difficulties in the industry currently, but remains optimistic saying Arburg can "emerge from the crisis stronger and future orientated."

Plastics News photo by Caroline Seidel

the open area in front of Hall 16 with a second exhibition area of around 400 square meters, the arburgGREENworld pavilion. Here we will be demonstrating the power and vision with which Arburg acts as an "enabler" in a green, intelligent and responsible manner.

The arburgGREENworld pavilion, which is supervised by our highly-motivated trainees and students, is designed as an underwater world. The central exhibit is an automated turnkey system that efficiently processes discarded and recycled fishing nets into model dolphins. At other stations, visitors can have their dolphin laser-printed or pedal vigorously on a "recycling bicycle" — built by the trainees themselves — to actively contribute to the circular economy. As part of an exciting series of lectures, the "floating professor" and Arburg brand ambassador Andreas Fath will describe how the future of plastics as a recyclable material can be actively shaped. Other speakers will report on topics such as resource conservation, energy efficiency in injection molding, CO2 reduction and the circular economy.

Q: How are robotic systems changing the future of plastics processing? What will be on display for plastics processors wanting to automate?

Hehl: In view of the ever-in-

creasing shortage of skilled workers, automation and digitalization are often the only way to maintain production and make it possible 24/7. In addition, a properly designed automation or turnkey system is generally more energy-efficient than a manual process. Numerous Arburg exhibits at K 2025 are automated, ranging from our new Multilift Select 4 linear robotic system to suspended six-axis robots and collaborative cobots. Automated cube technology and a complex turnkey system for medical technology applications will also be on display, demonstrating our high level of expertise and over 30 years of experience in the turnkey business.

Q: What is being highlighted in terms of digitalization? How does Arburg help plastics processors address the labor shortage?

Hehl: In the future, fewer and fewer people will have to be able to fulfill more and more production requirements. At the same time, however, there are fewer and fewer well-trained specialists. True to the motto "keep it simple," the aim is to make complex technology easy to operate. This calls for artificial intelligence and active support, for example through the Gestica control system with its many pilot and assistance func-

tions. Of particular interest is the new "aXw Control Moldlife-Assist" with integrated sensor technology, which monitors the mold, enables preventive measures and supports set-up and maintenance planning. Other examples from the world of digitalization include our MES, the Arburg host computer system ALS, and the arburgXworld customer portal with many helpful apps for planning and supporting production. At K 2025, for example, we cleverly integrated the "Ask Arburg" app into many other apps and showed how our AI solution now also provides support with specific knowledge about customer machines.

Q: How do you describe the future of plastics processing to prospective employees?

Hehl: Plastic as a material is simply indispensable. Without it, modern life will not be possible in the future. As a mechanical engineering company, we understand the social significance of this issue and, as an enabler, we provide technologies that enable sustainable plastics processing and a circular economy. As the number one in the industry when it comes to digital transformation, Arburg is also working intensively on the topic of artificial intelligence. Our employees can play an active role in shaping the world of plastics processing for the future.

REDEFINING EFFICIENCY



HALL 9
STAND A22

gneuß

Three plastics industry leaders from Germany — Thorsten Kühmann, general manager of plastics and rubber machinery association VDMA; Oliver Möllenstädt, executive director of the German Association of Plastic Converters; and Christine Bunte, head of Plastics Europe Deutschland — agreed there is a need for a global agreement on plastics sustainability. *Plastics News photo by Caroline Seidel*



“It’s necessary from our point of view, to start now with these investments, and these investments need a global framework. This is why we as a German plastics industry are very convinced that we need a global plastics treaty as soon as possible.”

Oliver Möllenstädt
German Association
of Plastic Converters

Plastics treaty can boost green investment, German industry says

By Steve Toloken
Plastics News Staff

The German plastics industry wants a global plastics treaty to boost recycling and waste man-

agement and quicken its transformation to a greener manufacturing industry.

That was the view from three German plastics associations at an Oct. 7 news conference on the eve

of the K 2025 show in Düsseldorf.

While the plastics treaty talks have proven difficult — the last round in August in Geneva failed to reach agreement and press reports Oct. 7 said the head of the treaty process was about to step down — the associations said an agreement could help build a case for green investment in plastics.

“We are strong supporters of this global [plastics] agreement because we need regulations on a global scale,” said Thorsten Kühmann, general manager of plastics and rubber machinery for the German VDMA association.

Similarly, the head of the German Association of Plastic Converters, or GKV, said the treaty and other policy should support increasing the use of recycled content and strengthen collection of plastic waste.

“It’s necessary from our point of view, to start now with these investments, and these investments need a global framework,” said Oliver Möllenstädt, GKV’s executive director. “This is why we as a German plastics industry are very convinced that we need a global plastics treaty as soon as possible.”

The third group at the news conference, Plastics Europe Deutschland, said that 2.7 billion people in the world lack access to waste management.

“That’s almost every third person on the planet who does not have access, and that, of course, puts a tremendous pres-

sure on the environment,” said Christine Bunte, head of Plastics Europe Deutschland. “The global plastics treaty can really be a vehicle to install waste management on a global level and really improve that. And it can help turn plastics from a waste into a resource.”

“It is really the one chance that we have, on a global level, to change the way that plastics, and particularly plastics waste, are being handled,” she said.

Möllenstädt said the treaty, for example, could establish global standards for extended producer responsibility systems for plastic packaging.

He also outlined a seven-point policy framework for the European Union that GKV supported, including EU-wide design for recycling rules, developing the European single market for plastics recycling and rules for recycled content.

The groups, however, were particular about what they wanted — and didn’t want — in any treaty, suggesting it should stay focused on waste management.

“From our point of view, the starting point must be waste management, it’s an overwhelming aspect,” Möllenstädt said. “All the other aspects can follow because a treaty on the United Nations level is not a monolithic structure which is ready at the beginning.”

Some of the key stumbling blocks in the talks have been over whether the agreement should limit plastics produc-

tion and strengthen global regulations around potentially hazardous chemicals and additives used in plastics.

The European Commission and many European countries in the treaty are part of a so-called “high ambition coalition” advocating for a more aggressive agreement.

But GKV said European nations should be more pragmatic.

“The European Union, the European Commission, started with very high ambitions in this negotiation of the plastics treaty,” Möllenstädt said. “From our point of view, a more pragmatic way would be better to solve these problems. ... It’s necessary to build up structures to finance waste management in developing countries.”

Tariffs ‘difficult way’ to help US industry

VDMA said German-made injection molding machines will be at least 20 percent more expensive in the United States because of tariffs enacted by President Trump.

Kühmann said that will come from a 15 percent tariff on general machinery and imports, as well as tariffs enacted in August to put duties on the value of steel used in making plastics machinery, a potentially difficult figure to determine. He said U.S. manufacturing of injection molding machinery can only supply 10 percent of the U.S. demand.

“In the United States, you’ve got a strong plastics industry altogether, there’s only one link which is missing, and that’s the machinery side,” he said. “In the case of injection molding ... 90 percent of them are imported from Europe, Japan, Canada and China.”

The U.S. tariffs, which apply to machinery globally, will raise the price of U.S. machines from 20 percent to 60 percent, depending on the country of origin of the equipment, he said.

“To make the American industry great again, that is a difficult way to handle this,” Kühmann said. “If we want to have an open and global market, tariffs are definitely not the way you should prefer to go.”

Hall 13 Booth A 43

- BOY 35 Electric
- BOY XS E
- BOY 100 Electric
- Integrated LR 5
- Flexible 2C Unit
- Insert moulding
- BOY 20 E PRO
- Electric Barista
- BOY 80 Electric
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Ineos shuts units, cuts jobs in Europe

By Rhoda Miel
and Frank Esposito
Plastics News Staff

Ineos is making significant cutbacks across its European operations, announcing the closure of two production units in Germany and a workforce reduction in the United Kingdom amid what the company calls a worsening industrial crisis for the region's chemical sector.

On Oct. 7, Ineos said it will cut 60 jobs — about 20 percent of the workforce — at its acetyls plant in Hull, England. The site has annual capacity of about 1.1 billion pounds of acetic acid, a key raw material used to make acetal resins.

"This is a very difficult time for everyone at the Hull facility," Ineos Acetyls CEO David Brooks said in a news release. "We have explored every possible alternative, but in the face of sustained pressure from energy costs, combined with unfairly low-cost imports into the U.K. and Europe, we've been left with no other choice. Our priority now is to support those affected and protect the long-term future of the site."

The day before, Ineos announced plans to close two units in Rheinberg, Germany, including its Allylics epoxy feedstock business and an electrochemical plant that produces chlorine for water treatment, medical and industrial uses. The company will continue to operate its PVC business at the site, which employs about 300 workers, but warned that it also "requires urgent state support to help cover significant local transitioning costs."

The closures "reflect a deepening crisis across Europe's chemical sector," Ineos said in an Oct. 6 statement. Ineos executives blamed high energy costs, environmental compliance expenses and competition from regions with lower production costs.

"While competitors in the U.S. and China benefit from cheap energy, European producers are being priced out by our own policies and absence of tariff protection," Ineos Inovyn CEO Stephen Dossett said. "Meanwhile, high-emission imports flood our market unchecked. It's completely unsustainable and, if not immediately addressed, will lead to further closures, job losses and increased dependency on other regions for essential materials."

“We have explored every possible alternative, but in the face of sustained pressure from energy costs, combined with unfairly low-cost imports into the U.K. and Europe, we’ve been left with no other choice.”

David Brooks
Ineos Acetyls

Dossett added the company is working with local partners and governments "to protect what is still viable" but warned that without policy changes, "strategic manufacturing in Europe" remains at risk.

The recent announcements follow a series of site reductions across Ineos' European network. The company recently closed lines in Grangemouth, Scotland, and Geel, Belgium; is in the process of closing a phenol and acetyl site in Gladbeck, Germany; and has mothballed operations in Tavaux, France, and Martorell, Spain.



ARBURG SOLUTIONworld

08 – 15/10/2025

Hall 13, Stand A13
Düsseldorf, Germany

ARBURG

Trinseo trimming operations in Europe

By Rhoda Miel
Plastics News Staff

Trinseo plc is closing two feedstock plants in Italy and considering the closure of a polystyrene plant in Germany in response to the continuing economic downturn in Europe.

The Wayne, Pa.-based materials company will permanently close its methyl methacrylate (MMA) production facility in Rho, Italy, and its acetone cyanohydrin (ACH) production site in Porto Marghera, Italy. ACH is a precursor to MMA, which in turn is used in polymethyl methacrylate (PMMA).

Trinseo said in an Oct. 6 announcement that it will continue its PMMA operations in Rho, but will source MMA feedstock from third-party producers which will ensure “continuity of supply while improving overall cost to produce downstream products.” The PMMA operation opened in 2024.

In addition, Trinseo said it has “initiated an information and consultation process” with the union

“These plans are a byproduct of the continuing challenges we and our peers in the European chemical industry have been facing for the past several years, including weak end market demand, high energy prices, and increased imports from Asia.”

Frank Bozich
Trinseo plc

representing workers at its PS production site in Schkopau, Germany. It intends to consolidate PS operations in Europe at its Tessenloer, Belgium, facility.

“These plans are a byproduct of the continuing challenges we and our peers in the European chemical industry have been facing for the past several years, including weak end market demand, high energy prices, and increased imports from Asia,” Trinseo President and CEO Frank Bozich said in the news release.

The closures in Italy are anticipated to be completed by the end

of the year and save \$30 million between operating costs and decreased demand for capital expenditures. The proposed closure in Germany is expected to save \$10 million, if it is approved.

Trinseo’s board of directors also voted to indefinitely suspend its quarterly dividend of 1 cent per share, effective immediately. That action will save about \$1.5 million annually.

“These decisions are never easy,” Bozich said in the release. “With each one we know the livelihoods of colleagues and their families are being impacted. As



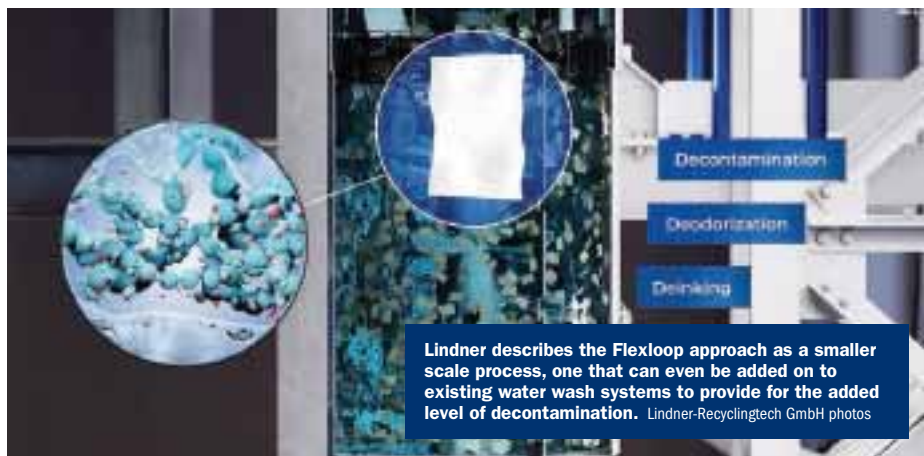
Trinseo is in discussions with the union representing workers in Schoau, Germany, about a planned closure there. Trinseo plc photo

we have done in each restructuring during this unprecedented trough, our primary focus has been on the safety of our colleagues, along with a respectful transition that aligns with our philosophy of simply doing the right thing.”

Trinseo posted \$3.5 billion in sales in 2024 — down 4 percent vs. 2023. It employs nearly 3,000 people with 21 manufacturing sites

globally, 11 research and development facilities and four recycling operations. Its primary product lines include PS, engineered materials and latex binders.

It is a joint venture partner in Americas Styrenics, one of America’s largest PS makers. It and partner Chevron Phillips Chemical said in 2024 it would seek a buyer for AmSty but has not announced any sale plans yet.



Lindner describes the Flexloop approach as a smaller scale process, one that can even be added on to existing water wash systems to provide for the added level of decontamination. Lindner-Recyclingtech GmbH photos

Lindner, P&G combine mechanical recycling, solvent technology

By Jim Johnson
Plastics News Staff

A well-known plastics recycling equipment maker is teaming up with one of the world’s largest consumer products companies to create what is being called breakthrough, solvent-based technology that extends the capabilities of mechanical recycling.

Lindner-Recyclingtech GmbH, already known for its water-based recycled resin washing systems, has spent the past three years working on a new solvent-based approach using technology initially developed by Procter & Gamble Co.

And now the companies are drawing back the curtain on that work for the first time at this year’s K show to explain their partnership and share details of what they are calling Flexloop.

Lindner Managing Director Michael Lackner, for one, calls Flexloop a “real breakthrough.”

“It’s more or less a mechanical

**LINDNER-RECYCLINGTECH
GMBH**

Hall 9, Booth B17

solvent extraction process which purifies the plastics for the sensitive applications,” he explained.

“We think with this technology we bring the next the next step of high-quality mechanical recycling and I’m a strong believer in terms of economies that mechanical recycling has still a lot of potential and we think that this could become a new era for mechanical recycling,” Lackner said in an exclusive interview with *Plastics News*.

“It’s a solvent. It’s still mechanical, but we are extracting substances out of the polymers,” he explained.

Conventional washing of recycled plastic — both hot- and cold-water washes — cleans the surface of recycled resin. But the new approach extracts and puri-

fies polyethylenes.

Using water in a wash is a cost-effective cleaning approach, but when companies want to use recycled PE for more sensitive applications — such as packaging for products for cosmetics, hygiene products and food — then Flexloop can be an answer, the CEO said.

“We are convinced that it has the potential to become a new industry standard for high-quality recycling,” Lackner said. “It is a logical addition to the existing recycling processes which we have today. It would not use it for, let’s say, low-quality applications because the process is, from a cost point of view, more expensive than a conventional hot wash.”

Flexloop is not a chemical recycling process where plastics are broken down to molecular levels and then reconstituted into new products, such as fuel. Instead, flaked PE is sent through the system and cleaned by a solvent while remaining plastic.

“So for our company, we see a lot of growth potential with this new technology,” Lackner said.

“The message is it is, in my opinion, a breakthrough in mechanical recycling for sensitive packaging and that we have a very reliable process for purified recycled PCR,” he said. “That’s the key.”

P&G first approached Lindner three years ago with the solvent idea for PE and asked the company to design new machinery for recyclers. Lindner has proven the Flexloop approach as a prototype and will now look to expand into commercial production.

News of the partnership between Lindner and P&G comes after the consumer goods company licensed solvent-based technology to PureCycle Technologies Inc. for the recycling of polypropylene years ago. PureCycle has spent hundreds of millions of dollars on that separate project to create a large facility in Ironton, Ohio, to purify PP on a large scale: think

over 100 million pounds per year at full capacity. PureCycle also has plans to locate similar plants elsewhere over time.

While Lindner’s Flexloop also uses solvent to clean PE, the approach is different. Lindner describes the Flexloop approach as a smaller scale process, one that can even be added on to existing water wash systems to provide for the added level of decontamination.

While Lindner was able to provide details about the project during an interview in advance of the opening of K, P&G was unavailable and is scheduled to speak about the project on the first day of the gathering in Düsseldorf.

“We are convinced that it has the potential to become a new industry standards for high quality recycling process,” Lackner said. “Conventional washing is more on the surface, so we wash off things, and here is really that we extract out and purify the materials.”



Lindner Managing Director Michael Lackner calls Flexloop a “real breakthrough.”

Visit Pavilion FG04.3 outside Hall 4 to discover ExxonMobil Signature Polymers — our portfolio brand designed to help you solve real-world challenges.

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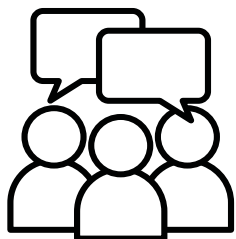


Upcoming highlight

Panel discussion: The future of the European plastics industry – Balancing competitiveness and circularity

This high-level panel brings together distinguished leaders from European industry and politics to explore how the plastics and packaging sectors can thrive in a rapidly evolving regulatory and political landscape. Moderated by **Dan Moore**, Vice President of ExxonMobil's Polyethylene Business.

Joining Dan are our esteemed guests: **Elżbieta Bieńkowska**, former European Commissioner for Internal Market, Industry, Entrepreneurship and SMEs and **Marco Mensink**, Director General of Cefic (European Chemical Industry Council).



Thursday, 9th October
5:00 pm

Scan the QR code to register,
or register at Pavilion FG04.3
outside Hall 4



Dow highlights new sustainability partnerships at K

By Karen Laird
Sustainable Plastics Editor

In an era of growing environmental awareness, Dow Inc. is positioning itself at the forefront of sustainable plastics innovation.

During an exclusive interview with *Sustainable Plastics*, Stephanie Kalil, commercial vice president for Packaging and Specialty Plastics in Europe, the Middle East and Africa, offered insights into the company's ambitious sustainability strategy and its approach to tackling global environmental challenges.

As the plastics industry faces increasing scrutiny, Dow is adopting a transformative mindset — exemplified by the “Generation Transformation” theme at K 2025. This strategy extends beyond marketing rhetoric, the company said, and represents a fundamental shift in its perspective on the role it plays in fostering a circular and low-carbon future.

“The mood going into K is really — if I had to pick a word — energized,” Kalil said. “K has always been about sharing ideas, but this year it's more about how we accelerate impact and really bring solutions to the market. There's a strong sense of clarity and purpose with the team. We see current market challenges as an opportunity to bring energy, optimism and innovative solutions that can accelerate the circular transition.”

This outlook is reflected in Dow's multipronged approach to sustainability, covering the four key market verticals of packaging, mobility, infrastructure and consumer goods. The company's

DOW INC.

OA Hall 4

approach centers on circularity, emissions reduction, customer-centric innovation and collaboration. These principles are being actively implemented through projects and partnerships.

One example is a collaboration with Zermatt, a packaging converter, and Nature's Variety, a European pet food brand. Together, they developed a packaging pouch that incorporates food contact-compliant recycled content from chemical recycling. The innovation not only addresses recyclability but also helps meet the European Union's 2030 Packaging and Packaging Waste Regulation targets.

“So, you can see the theme we're aiming to develop here: ensuring that the solutions we put on the shelves have staying power and will be compliant from a policy perspective,” Kalil said.

Another project involves a partnership with Elopak and Orkla Home and Personal Care, a leading Nordic consumer goods company. The project created a carton board that incorporates a unique mix of circular and bio-circular polymers, derived from waste and residue feedstocks such as used cooking oil and agricultural byproducts.

“You introduce bio-based feedstocks into the cracker and then allocate that input to the final product,” Kalil said. “The final

“We shouldn't become complacent about our current position, but I do think we're making significant progress, and education should continue to be a key part of that — informing consumers about the benefits of plastics and the advancements the industry is making.”

products are bio-based using a mass balance approach.”

Dow's innovations extend beyond packaging. In the automotive sector, the company has developed Infinair Polymers for Loop Technology, engineered to support mechanical recyclability in automotive seat cushions. The technology maintains comfort and durability between fresh and recycled forms, Kalil noted, highlighting the potential for circular economy solutions in mobility.

Recognizing the importance of verifiable sustainability claims, Dow employs ISCC Plus certifications and rigorous production processes to validate material sources and quality. Traceability and credibility are paramount, Kalil emphasized: “We need credibility for the industry to move forward. It's necessary to trace and validate our sustainability efforts, not just self-proclaim.”

Dow has made sustainability a core business strategy, with more

than 90 percent of its R&D portfolio now aligned with sustainability-focused projects. The shift has extended beyond product design to include operational footprint and customer collaborations, driven by regulatory expectations, societal standards and the conviction that sustainable practices create long-term value.

“A concrete example of this work is our participation in Operation Clean Sweep. We are proud to have achieved certification across all of our polymer and plastic production sites in Europe. That recognition underscores our commitment to keeping valuable plastic materials out of the environment and reducing waste,” Kalil said.

Public perception and plastics

Kalil acknowledged the challenges in public perception.

“People don't fully understand the value plastics play in society,” she said. “While they see progress being made, they want a faster pace of change.”

Consumer attitudes are shifting: People are more environmentally conscious, expect transparent practices and demand faster transformation. Yet many still have only a limited understanding of plastics' broader societal role. In response, manufacturers are boosting R&D in sustainable technologies, participating in global initiatives, publishing transparent environmental metrics and developing more efficient recycling processes.

“However, I believe we need to keep moving forward. We shouldn't become complacent about our current position, but I do think we're making significant progress, and education should continue to be a key part of that — informing consumers about the benefits of plastics and the advancements the industry is making,” Kalil said.

The plastics industry, she said, must strike a balance between addressing environmental concerns and preserving the functional benefits of plastic materials.

Dow is particularly focused on addressing regulatory and economic challenges in Europe. Asset shutdowns and capacity reductions highlight persistent issues: higher energy costs, stricter policy hurdles and other pressures that raise operating expenses. These threaten an irreversible loss of industrial capacity, Kalil warned, as shuttered plants are



Stephanie Kalil
Dow Inc.

difficult to restart.

“We must act now to preserve the assets needed for the circular transition,” she said. “That means ensuring competitiveness today while establishing forward-looking regulatory frameworks that protect Europe from noncompliant imports and create a level playing field.”

Europe, she said, has strong ambition, expertise and innovation capacity but needs support for its near-term industrial base to enable long-term transformation. Companies including Dow are making targeted upgrades — improving cracker feedstock flexibility and investing in chemical recycling — but broader competitiveness issues must be addressed.

Dow remains committed to European innovation. Investments include a chemical recycling facility with Rotterdam-based recycler Xycle, designed to transform 21 kilotons of plastic waste annually into high-quality feedstock. The company has also announced partnerships worldwide, including a memorandum of understanding with SCG Chemical in the Asia-Pacific region to transform 200 kilotons of plastic waste into circular products by 2030.

Kalil also addressed global debates about production caps. “We don't support production caps as they would be short-sighted and cause unintended socioeconomic impacts, particularly for developing nations,” she said. “We need to meet different countries where they're at and help them address gaps in their infrastructure to end leakage of plastics into the environment.”

Sustainability at competitive cost

How can Dow remain competitive while pursuing ambitious sustainability goals? For Kalil, the answer lies in value creation.

“I tend to frame this less as a question of cost and more as one of value,” she said. “Our job is to develop competitive solutions that meet customer needs. To do that, we must offer products that deliver the right market value — products that customers are willing to pay for. As technologies mature and we achieve scale, inefficiencies decline and costs improve, but many of the technologies we work with are still in their infancy, so current cost structures reflect that immaturity.”

The priority is to ensure that Dow's solutions provide clear benefits to customers, including strong sustainability attributes, secure supply, no compromise on performance and compliance with regulatory requirements. Missing any of these elements, Kalil noted, creates additional downstream costs.

Kalil's message was clear: Dow is not simply adapting to the sustainability challenge — it aims to reshape the plastics industry's approach to environmental responsibility. Through innovative technologies, partnerships and transparency, the company is demonstrating that sustainable plastics are not just possible but essential.



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PLASTIC RECYCLING SYSTEMS

Hotset introduces wiretube nozzle heater

By Don Loepp
Plastics News Editor

At K 2025, Hotset GmbH is debuting a patented nozzle heating innovation — the wiretube — offering what the company calls a flexible, energy-efficient alternative to traditional reflection tube systems used in hot runner applications.

The German manufacturer, known for its heating elements, thermal sensors and temperature control systems for mold making, will present the wiretube system as a spiral-style heating element for hot runner and injection nozzles, replacing the rigid structure of conventional reflection tubes.

Hotset said the system can be customized for diameters up to 80 millimeters and lengths up to 300 mm, and it can be equipped with optional sheath thermocouples and extraction aids. The company emphasized the wiretube's low expansion coefficient and fast production time — available in batches as small as two units within two working days — due to high material availability.

"With wiretube, we're offering a practical alternative that improves serviceability and shortens lead times for custom heater builds," the company stated.

The wiretube adds to Hotset's hotspring product line of heating solutions.

Expanded sensor offering

Hotset is also showcasing its DIN-compliant protective fittings with measuring inserts, sold under its hotcontrol brand. These assemblies monitor liquid, gas and paste-like media and are available for all of the company's thermocouples and resistance thermometers.

Designed for industrial applications up to 1,100°C, the preassembled sensor units come equipped with measuring probes, process connections and protection tubes. Hotset said the sensors deliver high vibration resistance, quick response times and reliable accuracy.

The sensor systems can be configured with DIN 43772 protective tubes and DIN 43735 mea-

suring inserts. Custom variants are also available.

Target industries include plastics processing, furnace construction, mining, automotive, light metal casting, and both chemical and petrochemical plants.

Electrification, efficiency with the P-System

A third focus at K 2025 is Ho-

tset's P-System, an electric plate heating solution developed for homogeneous surface heating. Originally designed for processing plastic films and packaging foils, the P-System now plays a role in large-format automotive components made from carbon fiber and plastic-textile composites.

Hotset said the system, which operates at 12-400 volts and can deliver several kilowatts of surface heat, is increasingly being used as industries shift away from gas- and steam-based heating.



Hotset's patented wiretube nozzle heater, introduced at K 2025, offers a fast, flexible alternative to conventional hot runner heating systems. Hotset GmbH photos

The plates are delivered plug-and-play, complete with sensor integration, control systems and safety features such as over-tem-

HOTSET GMBH

Hall 6, Booth D76

perature protection. Surface coatings — including antistatic, anti-stick, aseptic and corrosion-resistant finishes — are available upon request.

Beyond its product introductions, Hotset continues to position itself as an all-in-one partner for mold makers and injection molding customers. The company said its expanding portfolio allows it to offer integrated solutions beyond its legacy role as a supplier of heating and sensor components.

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Adding engineering thermoplastic characteristics to PLA, PHA

By David Vink

Plastics News Correspondent

A new research initiative launched in January 2025 by KIMW Kunststoff-Institut Lüdenscheld aims to close the gap between biodegradable plastics and conventional engineering thermoplastics.

The BioLyCo project focuses on improving the mechanical strength of biodegradable materials such as polylactic acid (PLA) while maintaining biodegradability. KIMW is reinforcing PLA by overmolding it onto biodegradable flax or hemp continuous

fiber fabrics to test both performance and degradation behavior.

The institute is also incorporating flame retardants into the materials without impairing compostability or leaving harmful residues. These advances could expand bioplastics use into automotive and public transport trim components. Project partners include Werkzeugbau Rött-

KIMW KUNSTSTOFF-
INSTITUT LÜDENSCHELD

Hall 7, Booth C01

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Hall 7,
Booth C01-C04

POLYTIVES GMBH

Hall 7A, Booth C28

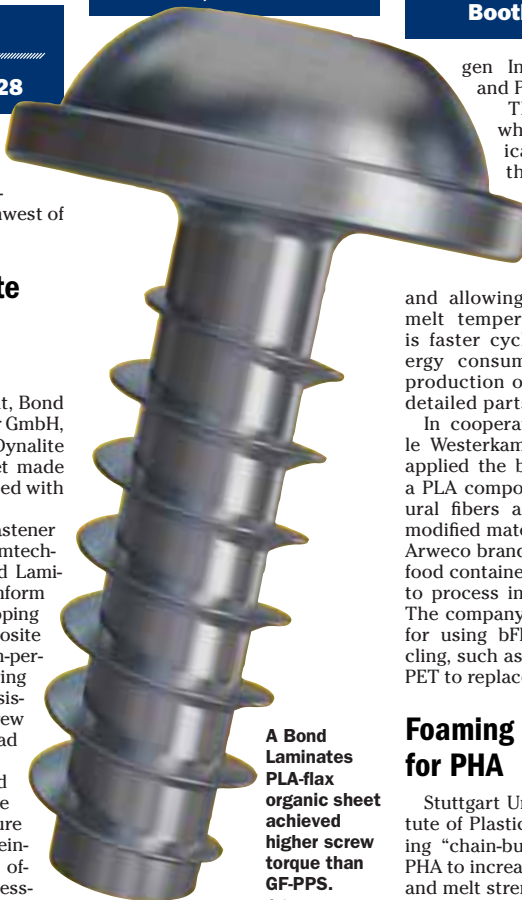
ger GmbH & Co. KG of Marienheide, Germany, and DTNW German Textile Research Center Northwest of Krefeld, Germany.

PLA-flax composite sheets from Bond Laminates

In a related development, Bond Laminates, part of Envalior GmbH, has introduced Tepex Dynalite 813-F250, an organic sheet made from a PLA matrix reinforced with flax-stalk fiber fabrics.

Working with metal fastener specialist Arnold Umformtechnik GmbH & Co. KG, Bond Laminates tested Arnold's Remform II HS high-strength self-tapping screw in the new composite sheet. Designed for high-performance plastics requiring strong pre-tension and resistance to loosening, the screw features an optimized thread pitch and enlarged core.

The tests showed the PLA-flax composite achieved higher failure torque than glass-fiber-reinforced PPS (GF-PPS) and offered a wider torque processing window — combining low screw-in torque with high over-tightening resistance.



A Bond Laminates PLA-flax organic sheet achieved higher screw torque than GF-PPS. Celo Fasteners photo

gen Institute for Textile and Plastics Research. These additives, which share chemical similarity with the base polymer, alter molecular architecture to improve flow behavior — reducing viscosity and allowing molding at lower melt temperatures. The result is faster cycle times, lower energy consumption, and easier production of complex or finely detailed parts.

In cooperation with Holzmühle Westerkamp GmbH, Polytives applied the bFI 3745 additive to a PLA compound containing natural fibers and oat husks. The modified material, sold under the Arweco brand, was used in a fast-food container that proved easier to process in hot runner molds. The company also sees potential for using bFI additives in recycling, such as improving recycled PET to replace virgin ABS.

Foaming advances for PHA

Stuttgart University's IKT Institute of Plastics Technology is using "chain-building" additives in PHA to increase molecular weight and melt strength, enabling foamability in these temperature-sensitive bioplastics. Antioxidants are used to prevent thermo-oxidative degradation, and the University of Bayreuth's department of polymer materials is contributing its foaming expertise to support the project.

Together, the institutes aim to produce stable, foamed PHA materials with improved mechanical properties while retaining full biodegradability.

Additives enhance PHA processing

Polyhydroxyalkanoate (PHA) is a biodegradable thermoplastic polyester derived from bacterial fermentation of sugar, glucose or vegetable oil. However, it suffers

from limited elasticity and low heat stability, with only about 25°C separating its melting point and the onset of decomposition.

Polytives GmbH, a 2020 spin-off from Friedrich Schiller University Jena, is addressing this through its bFI branched polymer additives, developed in collaboration with the TITK Thuringen

A Polytives flow additive eased molding of this Arweco PLA-based container. Polytives GmbH photo





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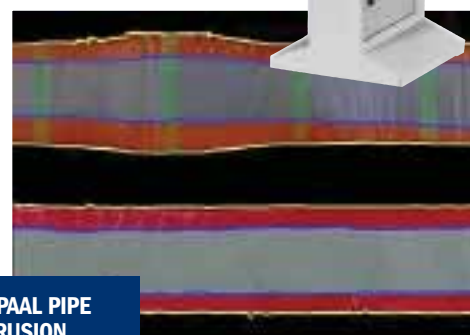
Rollepaal debuts multilayer pipe scanners at K 2025



Inline Multilayer Pipe Scanner from Rollepaal.

Rollepaal Pipe Extrusion Technology BV photos

Inline Multilayer Pipe Scanner from Rollepaal.



Offline multilayer pipe scans show high deviation before (top) and low deviation after process optimization.

ROLLEPAAL PIPE EXTRUSION TECHNOLOGY BV

Hall 16, Booth A43

By David Vink
Plastics News Correspondent

Dutch pipe and profile extrusion equipment maker Rollepaal Pipe Extrusion Technology BV has made multilayer inspection technology the centerpiece of its K 2025 exhibit.

Known for its pipe extrusion systems — including single- and multilayer die heads, haul-offs, cooling units, cutters and oriented PVC (PVC-O) pipe production — Rollepaal is demonstrating two new multilayer pipe scanners at the show: an offline multilayer scanner and, announced Oct. 3, an inline multilayer scanner for real-time quality monitoring on extrusion lines.

The company claims its Offline Multi-Layer Scanner is the world's first system capable of simultaneously measuring individual layer thicknesses, total wall thickness, diameter, ovality and foam cell distribution within a single pipe cross-section scan.

The scanner requires no calibration for multilayer pipes made from different plastics — whether PVC, PE, PP or mixed-material structures.

R&D Manager Joe Venegas said operators can spot and correct defects immediately using the system's flatbed scanner and dedicated software. Results are automatically generated in PDF and CSV formats within a minute for easy documentation and analysis.

Rollepaal said both the offline and inline scanners eliminate the need for destructive testing or manual measurement, delivering results 90 percent faster than traditional methods. In

customer pilot trials, the offline scanner cut production scrap by up to 20 percent, the company reported.

"Better material utilization is another key benefit," Rollepaal said. By reducing the need for "just-in-case" tolerances to compensate for layer variation, producers can save material and boost profitability. One customer, for example, reportedly saved €260,000 per year — the equivalent of avoiding 10 scrapped pallet-loads of multilayer pipe per week — achieving a 15-week return on investment.

"We used to find out too late," one plant manager involved in pilot trials said. "Now we fix it before it becomes a problem."

Multilayer extrusion developments

In addition to the scanners, Rollepaal is promoting its RMD Multi-Layer Die Head, which ensures consistent layer distribution without the need for a melt flow restrictor gap. The die head's symmetrical channels also reduce clogging risk.

The company's newest X screw design, introduced in July 2025, improves performance for foamed-core PVC pipes on Rollepaal's T-REX extruders. The extended screw length — with added heating and cooling zones — provides better melt homogeneity and temperature control. This helps achieve the higher backflow required for foaming without compromising pressure buildup, a balance that previously limited output.

Ostendorf GmbH of Emstek, Germany, is among the first processors to trial the new screw on an upgraded T-REX 90-30X

extruder. The updated design, featuring six heating zones instead of five, has delivered more consistent melt quality,

allowed greater use of calcium carbonate filler in the foam layer and reduced overall pipe production costs.

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Reifenhäuser NEXT: AI solutions for plastics industry challenges

By Karen Laird

Sustainable Plastics Editor

The plastics manufacturing sector is confronting a perfect storm: a global shortage of skilled labor, rising operational costs, and mounting pressure to boost efficiency and sustainability.

In response, Reifenhäuser, a leader in extrusion technology, has launched its NEXT initiative at K 2025 — a suite of artificial intelligence-powered solutions designed to help manufacturers not only weather these challenges but also thrive in a rapidly evolving industrial landscape.

A very real problem

Over the past several years, a mix of internal and external factors has intensified pressure on plastics manufacturing, creating a need for new strategies and tools. With NEXT, Reifenhäuser aims to tackle these multiple challenges by bringing artificial intelligence, advanced learning platforms and machine data integration directly into production halls — an approach not yet widely adopted.

NEXT functions as a separate brand, allowing it to move more quickly, focus on digital solutions and work closely with customers to implement practical, shop-floor AI.

The timing is right, said Jan Karnath, a fourth-generation member of the Reifenhäuser family and the company's first chief digital officer. Karnath, who joined the company in early 2024, is the key figure behind the initiative.



REIFENHÄUSER

Hall 17, Booth C22



Reifenhäuser is introducing its NEXT initiative at K 2025, a suite of AI, learning and data-driven tools designed to help plastics extruders address skilled labor shortages, improve efficiency and support global sustainability goals. Reifenhäuser photo



Karnath

Learning and NEXT.Data — to help customers onboard staff faster, stabilize and optimize processes, and improve overall outcomes.

At its core, the suite is built on three interconnected pillars:

AI-powered chatbot: A central knowledge hub that allows operators, maintenance staff and managers to access expertise instantly. "The main conversation starter will be the chatbot," Karnath explained. "It connects machine data and the learning platform, enabling companies to preserve knowledge even as experienced workers retire or move on."

Learning platform: A system that supports structured training and development. Employees can follow tailored learning journeys with check-ins at three, six and 12 months. One unique feature is the use of AI avatars to deliver virtual training in more than 100 languages. Content can be generated and delivered quickly for specific customer needs.

Machine data integration: By linking machine data with the chatbot and learning platform, NEXT will soon enable real-time troubleshooting, process optimization and data-driven decision-making. Reifenhäuser's ExtrusionOS is already live on 220 machines worldwide.

Because of its multilingual capability, NEXT can be used globally, from South Korea and Japan to the United States and Latin America. Early pilot results are promising, with customers reporting faster onboarding, improved knowledge retention and measurable efficiency gains. One company achieved a full return on investment after the second step of its learning journey. Another reduced scrap rates by 30 percent and lowered process costs.

NEXT, Karnath emphasized, is not about replacing workers but empowering them. "We position it as something that makes the job easier and helps you achieve better OEE [overall equipment effectiveness], not as a way to cut headcount. The real value comes from making people more efficient and effective."

A strategic business move

Recognizing the scale of the challenge, Reifenhäuser established NEXT as a separate brand. "We want to show we're serious about leveraging this technology," Karnath said. "Having a ded-

icated team allows us to find the right use cases for AI, learning and data, and to attract a different breed of talent — people who want to be part of something innovative and impactful."

NEXT's team of about 40 covers product development, support and go-to-market functions. Most of the core technology, including the chatbot's back end and front end, is developed in-house to ensure robust data security. While large language models underpin the AI, Karnath said the company's strength lies in building the chatbot and user experience.

Integration into existing product lines and legacy systems is designed to be simple. "Our customers already use our software and machine data solutions," Karnath said. "Adding NEXT products delivers measurable results in onboarding, knowledge retention and efficiency."

Support is hands-on. "We don't just send you the product and say, 'Have fun with it,'" Karnath said. "We show you what you can do, provide training, and track progress with metrics like OEE, availability, performance and quality."

While competitors are beginning to explore similar technologies, Karnath believes NEXT's integrated, branded approach sets it apart. "We're giving it a clear identity and making a strong statement for the future," he said.

Data security is another priority. NEXT Data offers on-premise solutions so customer data can remain locked within the factory. The AI and chatbot are designed to avoid hallucinations and to use only approved datasets.

"AI is changing every industry, and those who embrace it will have a big advantage," Karnath said. "We're not just talking about Industry 4.0, but a new era where AI, data and learning drive real, scalable change."

NEXT: Future-proofing manufacturing

Reifenhäuser NEXT represents a strategic and innovative response to some of the plastics industry's most urgent challenges.

"Entering the market often requires a degree of luck. Success can hinge on whether you hit the right timing — sometimes it's pure serendipity," Karnath said. "If you don't clearly identify the real problem, any solution that you create risks being irrelevant, no matter how innovative it is. Success depends on addressing genuine needs that align with the current spirit of the times — the zeitgeist. And hitting the right window can make all the difference."

By integrating AI, learning and data in a secure, user-focused and globally accessible platform, NEXT enables manufacturers to address labor shortages, increase efficiency and move toward a more sustainable future.

As the industry navigates rapid technological change, initiatives such as NEXT will be vital not only for remaining competitive but also for shaping the future of manufacturing itself.

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Reinventing plastic window profiles

By David Vink

Plastics News Correspondent

Extruded unplasticized rigid PVC (uPVC) still dominates plastic window profiles. But new thermoset and thermoplastic composite technologies are reshaping the market — particularly for large, high-performance window systems.

In Germany, window profile producer Profine GmbH has developed thermosetting plastic profiles reinforced with glass fibers using polyurethane supplied by Covestro Deutschland AG and pultrusion machinery from KraussMaffei Technologies GmbH. The process mixes Baydur PUL polyol and Desmodur isocyanate into a low-viscosity, uncured resin, which is injected to impregnate glass fibers and then cured in a heated die to form rigid, high-strength profiles.

PMMA pultrusion: The ReHyComPro project

A more recent development came through the ReHyComPro project, led by Rehau Industries SE & Co. KG and conducted at the IKV Institute of Plastics Processing in Aachen, Germany. Completed in September 2023, the project addressed heat conduction issues in PVC profiles with steel reinforcement for large-format windows and the challenge of achieving a smooth Class A surface in glass-fiber-reinforced PU or UP profiles.

ReHyComPro solved these problems using in-situ polymerized polymethyl methacrylate (PMMA) based on Elium 590 and 595 from Arkema France SA. Continuous glass fibers were impregnated via thermoplastic pultrusion, followed by inline PMMA extrusion coating with a smooth, unreinforced layer.

IKV researchers noted that the combination may not be ideal mechanically — while impact strength was unchanged, flexural strength decreased. Still, recycled compounds made from GF/PMMA/PMMA profiles, produced in cooperation with Hamos GmbH, showed potential to compete with virgin materials despite slightly lower properties.

Nylon 6/ASA pultrusion

Following the project, Rehau collaborated with CQFD Composites to produce large thermoplastic pultruded window and door frames with up to 85 percent continuous glass fiber reinforcement. The profiles use in-situ reactive polymerized nylon 6 (PA6) from e-caprolactam, coextruded inline with a smooth acrylonitrile styrene acrylate (ASA) outer layer.

Rehau developed a pilot production line equipped with lightweight Robin robotic injection units from Anybrid GmbH for inline overmolding at specific points. The system demonstrated overmolding in each corner of a window in under one minute us-

ing post-industrial recycled (PIR) short glass fiber molded parts, replacing glued metal fixings.

Rehau unveiled its 3-by-1.5-meter Rau-Infinio functional prototype window — the company's largest PVC-based design — at the March 2024 Fensterbau Frontale exhibition in Nuremberg. The narrow profiles, impossible with steel-reinforced uPVC, won first prize in the process category of the November 2024 AVK innovation awards.

Compared with glass-fiber-reinforced unsaturated polyester (UP) profiles, CQFD said thermoplastic pultruded profiles are 1.5 times stiffer with lower density (2.0 vs. 2.7). The company sees them as “a structural backbone for injection molded parts, especially for lightweight, cost-effective metal replacement in the automotive industry.”

Project partners Anybrid, CQFD and Rehau envision future “smart windows” free of steel reinforcement — allowing integrated electronics, adhesive-free assembly, minimal thermal expansion, recyclability and ultralarge formats once achievable only with aluminum profiles.

Anybrid's “Robin” mobile injection system

As its name suggests, the Anybrid Robin system offers hybrid molding versatility — “any hybrid.” Robin is a lightweight, mobile injection unit with 6-10 tons of clamping force and a carbon-fiber-reinforced plastic C-frame weighing just 140 kilograms (excluding molds). It works with a six-axis articulated-arm robot, bringing the injection unit to the part instead of the other way around.

Although limited to shot volumes of 0.02-36 cm³, Robin's mobility enables overmolding of long or wide parts — a task often impossible or uneconomical with traditional injection machines. “It's injection molding on the fly,” said Michael Stegelmann, general sales manager at Anybrid.

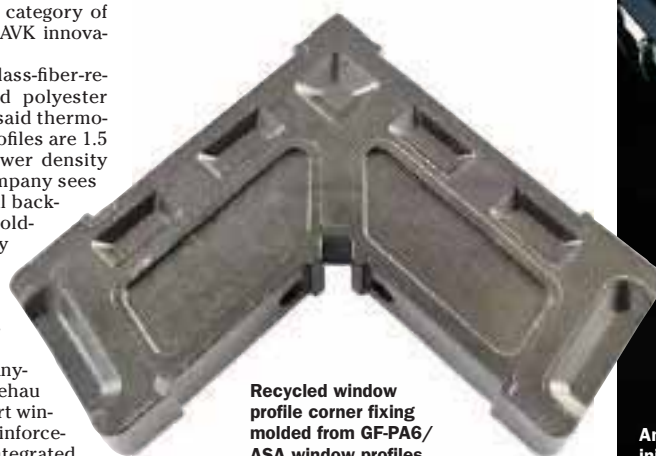
Applications include long extruded or pultruded profiles, wood or metal parts, large composite sheets, and even large-scale additive manufacturing (LSAM) components. Robin was first developed at the ILK Institute for Lightweight Construction and Plastics in Dresden before Anybrid GmbH spun off in 2020 and debuted the system at K 2022.



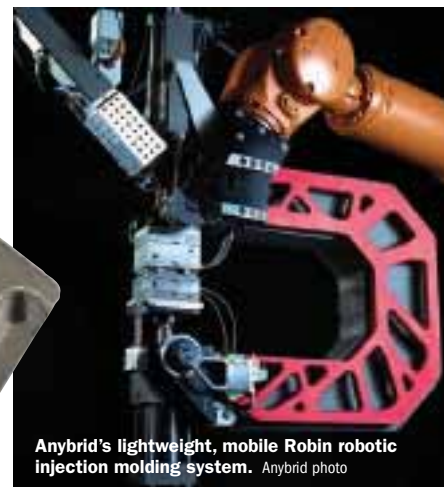
ReHyComPro project window profiles in GF-PMMA/PMMA.
Rehau Industries photo



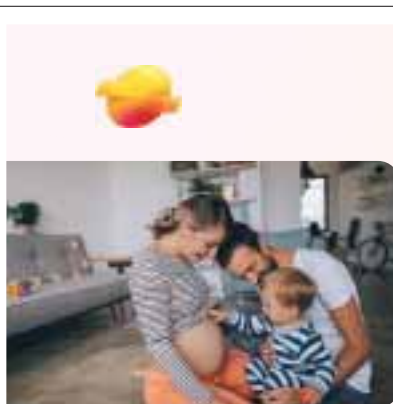
Combined pultrusion and extrusion line for GF-PA6/ASA window profiles.
CQFD/Rehau photo



Recycled window profile corner fixing molded from GF-PA6/ASA window profiles.
Plastics News photo by David Vink



Anybrid's lightweight, mobile Robin robotic injection molding system. Anybrid photo



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PLASTICS HALL OF FAME: MATT NAITOVE

By Jim Johnson
Plastics News Staff

New York — Matt Naitove readily admits his work in the plastics industry was atypical. He was not an entrepreneur, he was not a scientist, and he was not an inventor.

But that does not mean his work did not have an impact over the decades. Even at age 76, Naitove continues to be a freelancer for *Plastics Technology* magazine — his official title is contributing editor — after spending more than five decades as a full-time staffer at the trade journal.

For his dedication to covering the plastics industry since 1972, Naitove is being inducted into the Plastics Hall of Fame as part of the class of 2025.

"I think it's good that they recognized the trade press has a role in the industry, even a lowly editor does. I didn't invent anything. I didn't run a company. Definitely an honor to be included with the people who are the backbone of the industry," he said during a recent chat in New York.

Naitove came into the business in 1972 with some impressive credentials, having earned his undergraduate degree in English literature from Harvard University and then a master's degree in journalism from Columbia University.

It was in his first year at Harvard when he took a chemistry course that he realized that while he enjoyed science, there was no way he wanted to make a career of it. He went to work for *Plastics Technology* after graduation and never left, retiring in 2023 but continuing to contribute stories to this day. He first found a job, and then he found a home — and a calling.

"I was happy. I was delighted. I had a great job. I was having the time of my life. I was doing what I wanted to do. I never thought about leaving," he recalled.

Naitove's journalism career started in 1972 when he was hired as assistant editor, earning a series of promotions that ultimately saw him to the corner office. By 1978 he was managing editor and then started a 28 ½-year run



as chief editor in 1981. He then transitioned to executive editor in 2009, staying in that position before retiring from full-time work at the end of 2023.

Naitove said he joined *Plastics Technology* in the early 1970s at a time when it was a distant fourth in a publishing field that covered the plastics industry. The magazine, however, found a footing by filling the need for technical information for those on the processing side of the business. This focus, he said, allowed the publication to succeed over time.

"When I finished college, I wanted to get as far away from academics as possible. I wanted to see the real world, get behind the scenes and see what makes the wheels go 'round,'" Naitove wrote in his Plastics Hall of Fame acceptance speech. A video of that speech will be played during the formal induction dinner during the K show in Düsseldorf, Germany, as he will be unable to attend due to family commitments.

Armed with an English lit degree, he decided to pursue journalism on the advice of an uncle, Alan Emory, who was also known for his longevity at one job as a 50-year Washington, D.C., correspondent for the *Watertown (N.Y.) Daily Times*. It was a choice Naitove had not actively considered up until that point. But he soon found his personality fit his profession: a willingness to learn and a desire to spread that knowledge to others. "Little did I know how lucky I was to get a shot at reporting on this dynamic industry, with so much changing and innovating all the time," Naitove wrote in his speech.

While he tries to limit himself to about 10 hours or so a month

working for the publication these days, sometimes he still is pressed into more. Such is the life of a journalist. There's always a deadline. There's always the next story to write. And Naitove still gets a kick out of doing just that even at an age when most people stopped working years before.

The Plastics Hall of Fame called Naitove's five-decade career "unmatched in scope and influence."

"As a pioneering editor, industry voice, and steward of technical journalism, Naitove's work has shaped generations of professionals in plastics processing and manufacturing," the Hall said in announcing his induction.

"Under his leadership, *Plastics Technology* evolved from a secondary trade publication into the premier technical magazine in the U.S. plastics industry," the Hall said. "From 1978 through 2023, Naitove personally copy edited every issue of the magazine, shaping not only content but tone and standard."

But not everything Naitove did was confined to print journalism. His appearance on an episode of the *Modern Marvels* television show on The History Channel sought Naitove's insights for an episode on plastics.

"As a member of the Plastics Hall of Fame, Matt Naitove joins an elite group of global leaders who have profoundly impacted the development and success of the plastics industry," the Hall said.

Naitove spent a career covering plastics, and those duties included many facility visits to company locations to report on their news. Those types of personal connections he forged over the decades are an aspect of work he misses.

"I have enjoyed being part of

“In the 50 plus years that I’ve been involved with plastics, I’ve certainly seen a lot of changes in the industry. It’s a much more international industry than it used to be. It’s a much more technical industry. It’s all about computers and software and nowadays artificial intelligence.”

Matt Naitove

the plastics industry. I'm grateful for the fact they all took their time to educate me. They were so generous with their time," he said. "It was hard to let go of the industry relationships."

Naitove said he still enjoys keeping his hands in journalism to a small degree at this point through his freelance work, but he does see a time when he will put down his pen for good — he's just not sure when.

"I don't know. There will be a point I will feel I do not feel need to devote time to this. It's an unknown," he said.

"[I am] very grateful to be part of the class of 2025 of the Plastics Hall of Fame. I'm very grateful to the Hall of Fame for including me because, as a lowly journalist, I never invented any plastic material. I never invented any machine for making things out of plastics. And I never ran a company that does make things out of plastics. I just wrote about those things."

"So, I'm glad that the Hall of Fame considers plastics trade journalism to be effective in helping to build the industry," he said.

"In the 50 plus years that I've been involved with plastics, I've certainly seen a lot of changes in the industry. It's a much more international industry than it used to be. It's a much more technical industry. It's all about computers and software and nowadays artificial intelligence," he said.



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PLASTICS HALL OF FAME: CHARLES K. SEWELL



By **Jim Johnson**
Plastics News Staff

Marietta, Ga. — Charles K. Sewell was not going to be outworked — at least not most days.

Monday through Saturday, he built his business, week by week, month by month, year by year.

It was that kind of work ethic that helped him create not just one but two highly successful plastic blow molded container companies, including CKS Packaging Inc. of Atlanta, which now has 27 plants, 3,200 employees and \$750 million in annual sales.

For these accomplishments, Sewell is being inducted into the Plastics Hall of Fame this year.

For all of his hard work during the week — and on Saturdays — Sewell is adamant about not working on Sundays. Nobody at CKS Packaging works Sundays, as machines go quiet for a day to relax and observe the family's Christian beliefs. At a time when that practice has largely fallen out of favor in the United States, the Sewell family still maintains the custom.

At age 93, Sewell no longer goes into the office, but it hasn't been that long since he was active with his namesake company. It was the COVID-19 pandemic that finally forced him to stop working in his late 80s, but he remains chairman of the family company.

"Well, I'm firm but fair," Sewell said during a chat around his dining room table in Marietta, surrounded by his wife, Cathy, and two of his three sons who are also in the business, John and Drew. "I'm going to make sure whatever we're doing is fair. That's really what I want. ... It's a tough business, you got to be ready for it."

John Sewell remembers first going to work for the family company at a time when he left another job and had a young family to support. He was in his mid-20s, and son and father had agreed that John Sewell would start on a Monday morning.

But when the prior Saturday before rolled around, John Sewell was awakened by a phone call.

"Hey, kid, what are you do-

ing?" John Sewell remembers hearing. "I'm in the office, and you are supposed to be.' ... That's the last time he had to tell me that one." That's just one example of the kind of work ethic that Charles Sewell infused in his company, where Saturday work was common at a time when others were enjoying their time with leisure activities.

"All his friends [were] going to the lake on Saturdays. ... We used to have Saturday meetings with all the management, and we'd start at like 8 o'clock in the morning and we'd go through lunch on Saturdays. He said we were going to outwork the competition," John Sewell said.

Charles and Cathy Sewell have been married for 46 years, so she has seen what plastics means to him up close and personal for decades.

"Plastic goes through his veins, not blood," Cathy Sewell said. "He loves, loves, loves the plastics business."

"This man has a heart of gold, and God has truly blessed him and his business," she said.

Charles Sewell remembers back to the early days of his first company, Sewell Plastics, which he started with his brother, Joe. The Sewell family had been dairy farmers and in the dairy farm supply business when a customer arrived with a plastic milk jug and asked the company to supply them.

And so was born Sewell Plastics, which developed its own version of the jug when Charles Sewell realized something that would change his life forever.

"The future is in plastics," he said. "And looking at where we are at this point, it's incredible."

The brothers ran Sewell Plastics from 1964 to 1970, building up a network of five plants in the Southeast, before selling to Dorsrey Corp.

Charles Sewell said he wanted to stay in the business, but his brother wanted to sell. So they did. Charles Sewell stayed on managing the company for another 12 years while building

See **Sewell**, Page 16

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Sewell

Continued from Page 15

up Dorsey's network of plants around the country.

It was during that time that Sewell Plastics developed the first 2-liter plastic beverage bot-

tle for Coca-Cola Co. in the mid-1970s. That earliest version was made of PET and featured a high density polyethylene black cup glued on to the base of the rounded base of the bottle for stability. "To stand up in the refrigerator, you needed a base cup," John Sewell said.

Cathy Sewell knows all about those base cups. At one point, she thought they were going to get her fired.

She had been working for Sewell Plastics when the company started making the 2-liter bottles. Part of her job was to make sure enough base cups were delivered to keep production moving. This is before the two were married or even dating.

"I always made sure that the preforms and the base cups and everything were always delivered every day, and in fact, they ran out one day. They called me at home to tell me the base cups were running out," she recalled. "And you don't run out."

After reporting this to the boss, her phone rang.

"And in a few minutes, he calls me — and this is how sweet he is — he calls me and asks me out to dinner, and I think he's asking me out to dinner to fire me because we're running out of base cups," she said.

Cathy Sewell understood her husband could come off as intimidating, but there is a heart of gold underneath, she said.

"I was scared to death of him," she herself recalls at the beginning. "But this man, I was an employee for 2 ½ years, and the way he treats his employees and cares about them. ... This is the sweetest man in the world."

"He practices tough love sometimes — yes, he does, and we all have to do that — but he's just such a caring man, and I just thank God for bringing me into his life," she said.

'Like nobody else'

By 1982, Charles Sewell had become dissatisfied by Dorsey's ownership of Sewell Plastics and decided to leave the namesake company. After a three-year non-compete clause expired, he was back in the business, founding CKS Packaging in 1985.

"Dad works like nobody else," Drew Sewell said, adding that his father had to learn the value of hard work at an early age while working on his family's dairy farm. "Part of that work ethic comes from milking the cows twice a day. Somebody had to do that."

Plastics, Charles Sewell said, like hard work, just made sense to him. "It just came natural for me — whatever we needed to do," he said.

Now 40 years after the company's creation, CKS Packaging is the eighth-largest blow molder in North America, according to a *Plastics News* ranking.

Steven London is the chief operating officer at Bekum America Corp., a blow molding machinery maker. "Mr. Sewell has been a true entrepreneur and visionary in the blow molding industry," London wrote in a recommendation letter to the Plastics Hall of Fame. "He is not only an outstanding businessman but also a true gentleman concerned with the well being of others and acts accordingly."

"While Mr. Sewell pursued achievements which were chal-

lenging on many fronts, he has always been a man of his word. A handshake was all that was needed to resolve any issue, large or small, and he has instilled this value in his family and his company," London wrote.

Drew Sewell said his father's drive to be a successful businessman came, in part, from an obligation to all the families of employees who depended on the company for their livelihood. "Drive and responsibility for the people that worked for him, the families that worked for him," he said. "He had all these people working for him, depending on him, and that kept his drive."

"I still have it," Charles Sewell added.

The businessman said he feels humbled by going into the Plastics Hall of Fame this year. Asked to describe what the honor means to him, he tried to push credit off to family. He said he really did not expect the recognition. "Not really, but when they offered it to me, you know, I said, 'How can you turn that down?'" he said.

Charles Sewell has been a force in the plastic container-making business for so long that he was given a lifetime achievement award by the Society of Plastics Engineers — in 1982.

"I'm glad he's alive to see the fruits of his labor pay off. That was my hope that he would get this award during his lifetime," John Sewell said.

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From left, John, Cathy, Drew and Charles Sewell.

PLASTICS HALL OF FAME: **WILLIAM C. YOUNG**

By Jim Johnson
Plastics News Staff



For more than a half-century, William C. Young was at the helm of Plastipak Inc., a company with humble beginnings that grew into a global powerhouse.

His is a classic entrepreneurial story, creating a plastics company from scratch along with his parents to solve a pressing problem and then taking that foundation to new heights in the decades that followed.

For his lifetime in plastics, Young is being inducted into the Plastics Hall of Fame this year.

These days, Plastipak is a multibillion-dollar company with dozens of locations around the world that designs, makes and recycles rigid plastic containers.

But the company started simply in 1967 in Jackson Center, Ohio, in a small building with just a few machines. The goal was to create a 5-gallon plastic bottle to replace glass then being used in the drinking water supply business at the time. The idea was to lighten the delivery load.

"My parents were incredibly influential. Business discussions were a central part of our family life from an early age. Their dedication to the family water business shaped who I am today," Young recalled in an email

and associates have maintained an unwavering focus on developing products and processes that create value for customers.

"Long-term partnerships with both customers and suppliers have also played a critical role. Without this collaborative effort to improve packaging, we would not be the company we are today," he said.

From those humble beginnings in the 1960s, Plastipak has grown to more than \$4 billion in annual sales through more than 50 global locations and 6,000 employees.

"It has been one of the great honors of my life to lead Plastipak and work alongside some of the most engaged hearts and minds in the business," Young said last year when he passed leadership of the family-owned company to the next generation. "I am so fortunate to have crossed paths and collaborated with many outstanding customers, partners and suppliers."

Young was succeeded as CEO by Ed Morgan, his son-in-law, at the Plymouth, Mich.-based company.

"Having known Bill for over 30 years and having worked closely with him, I've had the privilege of witnessing his iconic entrepreneurship firsthand. His deep dedication to customers and relentless pursuit of product inno-

vation has been fundamental to our shared success. What truly sets Bill apart is his intangible edge — an unconventional and elevated way of thinking that goes beyond traditional management approaches," Morgan said in emailed comments.

"As a family-owned and -operated business, Bill has instilled in all of us the importance of accountability while maintaining a strong sense of harmony, and these values have been keys to his success. He has passed on a mindset focused on building long-term relationships rather than chasing short-term outcomes," Morgan said.

Another Plastipak employee has known Young for even longer. Thomas Busard, chief polymers and recycling officer, has been with the company for more than a half-century. "Bill Young is truly one of the pioneers of the plastics industry. I met Bill in 1971 during my first week with Plastipak. He was already demonstrating a tireless work ethic and a creative vision of what he was building," he recalled in an email exchange.

"When Bill founded Plastipak in 1967, plastic bottles were in their infancy and not much more than a novelty. Few in the U.S. gave plastic bottles much of a chance for success," Busard said, which makes "everything he accom-

plished in growing Plastipak even more remarkable."

Young has been a trailblazer in plastics recycling, starting the company's Clean Tech business in 1989, becoming the first converter to enter reclamation, he said.

"He had the vision to recognize that our key customers would need PCR materials to demonstrate plastics' full benefits. Talk about taking a risk. There was little plastic material collected in the U.S. at that time, so we were not at all sure we would have feedstock for this new initiative or customers for the end product. Now we have recycling operations globally," Busard said.

Jorge Young, CEO of resin maker Alpek SAB de CV, supported Young for his entry into the Plastics Hall of Fame. "While it is impossible to fully capture Bill's contributions over the span of more than 50 years, his legacy through Plastipak is truly unparalleled. His visionary leadership and unwavering dedication inspired thousands of collaborators, transforming Plastipak into a global leader in plastics packaging solutions," he wrote in a recommendation letter.

"Beyond his business achievements, Bill's commitment to improving the environment and enriching communities

See **Young**, Page 18



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PLASTICS HALL OF FAME: ROBERT LANGER

By Jim Johnson
Plastics News Staff

Cambridge, Mass. — More than six decades later, Robert Langer still remembers playing with his chemistry set and experimenting with polymers in his youth.

Surrounded by walls full of

awards and degrees representing a lifetime of achievement in his office, the Massachusetts Institute of Technology professor easily bounces between the decades of his life talking about what has driven him to rarefied air in the chemical engineering and plastics communities.

Langer, maybe most famously, is known for his recent involvement in the founding of Moderna, the company thrust into national prominence through its creation of one the COVID-19 vaccines. But Langer has had a hand in the creation of dozens of companies, taking discoveries

from academia to the commercial market over the years.

All along the way, polymers have been a key element to his work. And for that, Langer is being inducted into the 2025 class of the Plastics Hall of Fame.

Collecting accolades is nothing new for Langer, who has amassed

more than 220 major awards over the years, including the Queen Elizabeth Prize for Engineering in 2015. For that notable one, he met Queen Elizabeth II and received a \$500,000 prize.

Langer's decades of work have involved different disciplines, he said: "Polymers probably being the No. 1 material we've studied."

One key use of polymers was pioneering them as an advanced drug delivery system where microparticles or nanoparticles serve as carriers. He also pioneered work in the use of plastics to provide support structures in the growth of tissues and organs.

Langer has called MIT home for more than 50 years, first as a student and then later as a teacher. He spent his career climbing the academic ladder at the Cambridge-based school, ultimately becoming just one of nine current Institute Professors at MIT, the highest recognition for faculty at the school.

His Langer Lab takes up most of the sixth floor of one of MIT's buildings along Main Street in Cambridge. His accomplishments have afforded him opportunities to move on to other work at different schools, but he ultimately decided MIT was the best place for him.

"I think I'm a pretty simple person," Langer said. "I wanted to do some good for the world, and I have gotten satisfaction out of teaching students, training students, seeing things that we've done make a difference in people's lives. So, I mean, I feel very



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Young

Continued from Page 17

demonstrates his deep sense of responsibility. His pioneering work in plastics recycling stands as a testament to his forward-thinking approach, while his ongoing support for education and his efforts to help students and local communities highlight the kindness that define him," Jorge Young wrote.

William Young founded the Detroit Regional Dollars for Scholars program in 1990, a nonprofit scholarship and college access program, and has served as a board member for Scholarship America, a national nonprofit program, and the University of Detroit-Mercy.

Joseph Caporella is the president of National Beverage Corp., the maker of such well-known soda brands as Shasta and Faygo and LaCroix sparkling water. He's known Young for 35 years.

"As a friend, Bill is a mentor and valuable resource to me. As a supplier, Bill is steadfast and reliable in every way. While his competitors in the bottle business cycled between booms of investment and busts of distress, Bill led Plastipak on a steady course by always investing in new technology, always doing whatever it took to retain his customer base, always controlling costs, and always acting with a long-term vision where the industry should go," Caporella wrote in a recommendation.

Michael Plotzke, chief financial

officer at Plastipak who has spent 40 years with the company, described Young as tough, loyal and compassionate. "I have learned so much from Bill in ways unimaginable. He taught me what it was like to be a smart business person and to question everything regardless of the source. This strategy has kept me out of trouble in so many ways particularly when we began expanding the business in South America and in Europe.

"Bill had such great vision of how the plastics industry would evolve, and he was focused on being first to offering the best technology, including lightweighting, recycling and in-mold labeling," Plotzke said in emailed comments.

Even with Young's lifetime of accomplishments in plastics, Plotzke pointed to the man's philanthropic work in education as an important part of Young's life. "I'm pretty certain that gives him the most joy of everything he does. Being able to provide scholarships to underprivileged kids now and into the future will be a long-lasting legacy that will live on for a long time," Plotzke said.

Making a difference, Young said, is at the center of what Plastipak is all about. "My goal has always been to make Plastipak a company that positively impacts the lives of its associates, customers and the community," Young said when he retired as CEO.

"It's been a privilege to work under Bill's leadership and vision the past 54 years," Busard said.

fortunate that I've had this life."

One of his former students, Cato Laurencin, went on to have his own noteworthy career in combining medicine with polymers as a chemical and biochemical engineer and medical doctor. Laurencin, who leads the Cato T. Laurencin Institute for Regenerative Engineering at the University of Connecticut, was inducted to the Plastics Hall of Fame in 2024 and nominated Langer.

"Rather than using existing materials to address medical issues, Langer identified the qualities he was looking for and synthesized new materials to meet the need, creating a new family of biodegradable polymers. Langer's discoveries have revolutionized science and health care worldwide," Laurencin wrote in the nomination form for Langer.

"I always kind of asked myself this question: You know, with the skill sets that I have, which are certainly limited, it's not like I'm a politician or a molecular biologist or anything else. But with the skills that I have, what is it that I can do that'll make the biggest positive impact on the world? And I think it's doing what I'm doing," Langer said.

"It's training students; it's making discoveries and inventions. But then the other thing, of course, that I've done is to work to start

companies to make those discoveries and inventions into things that will reach millions, maybe billions of people, depending on who you ask. And that's been important to me, too," he said.

For someone who struggled in high school English class, Langer has published more than 1,600 articles over the decades and has more than 1,500 patents, either issued or pending. He's the most cited engineer in history, and by extension, the most cited plastics engineer.

"I always felt that MIT was a special place and that Boston actually was a special place for what I wanted to do," he said.

Cambridge is home to both MIT, which Langer considers to be the best engineering school in the country, and Harvard, which he believes is the best medical school in the world. "If you're doing bioengineering, it's a remarkable place to be," he said.

Everybody has a start, and for Langer, his included that chemistry set while growing up in Albany, N.Y. That, along with Erector and microscope sets, fueled his imagination and interests.

"As a boy, I did get this Gilbert chemistry set, and I liked that. I remember making polymers. There was a nylon rope trick and things like that that you could make. And I made polymers,"

Langer recounted.

Langer's enjoyment of chemistry continued into high school and, faced with making a decision on furthering his education, went to Cornell University as an undergraduate. "I was good in chemistry and bad at everything else. And I wasn't sure what I wanted to do when I finished Cornell."

Offers came in to work at chemical plants, but he was not interested in that career path. So, he went to graduate school as he worked to find his place in the world. And that place ended up being MIT, where he went to graduate school and then later started to teach.

There was a gap between his MIT graduation in 1974 and when he started teaching in 1977. Part of that time away he spent at Boston Children's Hospital under the tutelage of Dr. Judah Folkman, who pioneered work on disrupting the flow of blood to stop tumor growth. The combination of his education in chemical engineering and practical experience in a hospital setting showed Langer a pathway.

Now, five decades later, Langer looks back — but still with an eye toward the future.

"In terms of career, like I said, I feel very lucky. I did not know when I started out that I would



Langer went to graduate school as he worked to find his place in the world. And that place ended up being MIT.

be as fortunate as I am today," he said. "One of the things I'm super proud of are my students like Cato and others. ... They've

had unbelievable careers.

"As long as my health is good, I'll probably keep doing this," he said.

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PLASTICS HALL OF FAME: **BILL STAVROPOULOS**

By Frank Esposito
Plastics News Staff

William (Bill) Stavropoulos, who spent 35 years at Dow and helped shape its trajectory as a global plastics leader, has been named to the Plastics Hall of Fame.

Stavropoulos joined Midland, Mich.-based Dow in 1967 and held numerous roles in research and management. He served as CEO from 1995 to 2000 and again from 2002 to 2004. Dow ranks among the world's largest producers of plastics and chemicals.

Hall of Fame officials said Stav-

ropoulos "shaped not only the company's trajectory, but the entire global plastics industry," citing his commitment to innovation, sustainability and strategic growth.

Under his leadership, Dow expanded its polyethylene resin capacity through significant investments and acquisitions — most notably its acquisition of Union Carbide. The move helped position Dow as the global leader in polyethylene, a cornerstone of its packaging and specialty plastics portfolio.

Stavropoulos championed key technologies such as solution PE, Dowllex-brand linear low density polyethylene (LLDPE), In-site-brand catalyst technology and olefin block copolymers. These materials have been widely used to improve access to clean water, reduce food waste and support lightweight automotive design.

A pioneer in corporate sustainability, Stavropoulos integrated Responsible Care principles into Dow's operations and promoted early adoption of high-throughput research and development, which accelerated product development and reduced environmental impact.

He was nominated for the Plastics Hall of Fame by Dow CEO Jim Fitterling, Chief Operating Officer Karen Carter and longtime Dow executive Kurt Swogger. Fitterling credited Stavropoulos' support for enabling the development of "life-changing products and new research methodologies."

"His vision to develop plastics into Dow's largest franchise made a profound impact on our compa-



ny and the broader industry," Fitterling wrote.

Carter added that Stavropoulos' belief in the intersection of sustainability, innovation and growth "has served as inspiration for many Dow leaders across generations."

Stavropoulos holds six U.S. patents and has received numerous honors, including the Palladium Medal from the Société de Chimie Industrielle and the Society of Plastics Engineers' Business Management Award. He earned a doctorate from the University of Washington and holds an honorary doctorate from Fordham University, where he also earned his bachelor's degree.

Stavropoulos recently spoke with *Plastics News* about his career. An excerpt of that conversation appears below.

Q: What was your first job at Dow, and how did it influence your career?

Stavropoulos: I started in research after earning my Ph.D. One reason I joined Dow was the freedom to choose a project within your area of interest. I was in the pharmaceutical business and could select a project, develop a plan, present it and get approval. That freedom and drive to empower people at all levels was a hallmark of Dow throughout my career. It was a great beginning.

Q: That sounds very different from being assigned work and expected to just deliver.

Stavropoulos: Exactly. At Dow, they'd say, "Here are the fields we're interested in. Now do the background work and come up with a thesis." Career paths were open to anyone willing to do the work. You could move from research into operations, marketing, sales or management. That's pretty unique.

Q: When you moved into management, polyethylene was a big part of Dow's business. How did you grow it?

Stavropoulos: We were already a leader in high-pressure LDPE. When low-pressure, gas-phase technology came in, we took a different path. We developed solution technology using octene instead of butene as a co-monomer. That gave us superior products. We

invested heavily in research and capacity, leading to the creation of the Dowllex and Insite brands.

We didn't license those technologies like some others did. That decision helped us grow rapidly and maintain our edge. The ripple effect was felt in other parts of the business as well.

Q: As someone from R&D, how did you maintain the company's focus on research?

Stavropoulos: Dow has always been a technology-driven company — focused on operations, manufacturing and low-cost, high-quality production. I had a deep appreciation for that because of my background. When you're in a commoditized product space, constant innovation and process improvement are key differentiators.

Q: You were ahead of your time in integrating sustainability into Dow's corporate strategy. What drove that?

Stavropoulos: Dow's focus on sustainability goes back to the 1920s, when we opened a toxicology lab. It wasn't called "sustainability" then, but the goal was waste reduction and efficiency.

We later embraced the Responsible Care program, and in 1995 we launched a 10-year plan focused on environmental health and safety. We pledged to invest \$1 billion and made our performance public. We hit every goal. Our philosophy was: improve the product, reduce waste and aim for a circular system where materials can be reused.

Q: What do you see as the biggest challenges plastics face today?

Stavropoulos: A lot of the same issues persist, but now the public discourse is more intense. Plastics are misunderstood. People often don't realize how much they improve modern life.

When they see plastic waste in oceans or along highways, the reaction is to blame the material, not the disposal systems or user behavior. Companies like Dow and ExxonMobil are working on circular solutions, ways to bring plastics back to raw materials and reuse them. Education, better waste management and corporate responsibility are all critical. It's not an easy fix, but solutions exist.

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PLASTICS HALL OF FAME: CHUL PARK

By Frank Esposito
Plastics News Staff

A leading innovator in foaming technology and co-inventor of MuCell processing, Chul Park has been named to the Plastics Hall of Fame.

Park is a professor at the University of Toronto, where he has taught since 1993. He is internationally recognized for advancing the science and industrial application of microcellular plastics and foaming technologies, Hall of Fame officials said.

Throughout his career, Park has driven innovations in microcellular and supercritical fluid technologies that have enabled more efficient, cost-effective and environmentally friendly manufacturing across industries such as automotive, electronics, insulation and footwear.

Park co-invented first-generation MuCell injection molding and extrusion technologies during his doctoral research at MIT. Officials said these advances "have revolutionized plastic manufacturing" by reducing material use, improving performance and minimizing environmental impact. His work on using supercritical CO₂ and N₂ as sustainable blowing agents helped eliminate ozone-depleting substances in insulation foam production.

At the University of Toronto,

Park founded the Microcellular Plastics Manufacturing Laboratory, now recognized globally as a center of excellence in polymer research. He has mentored more than 300 researchers, including nearly 100 doctorate students, and has secured more than C\$50 million in research funding.

His collaborations with industry partners have led to numerous patented technologies, including recyclable open-cell foams and rotationally molded foams, many of which have been commercialized worldwide, from Crocs to global electronics and materials firms.

Park holds more than 40 patents and has authored more than 2,000 scientific publications. His contributions to the field have earned him honors such as the James L. White Innovation Award and fellowships from major science academies in the U.S., Canada and South Korea.

His work, officials said, "has bridged academic research and industrial innovation, reshaping the plastics industry and driving forward more sustainable and advanced manufacturing practices around the world."

Park was nominated by Hall of Famer Salvatore Monte and Volker Altstädt, senior professor of engineering at the University of Bayreuth. Monte called Park "a

pioneer in the art of foaming plastic," praising his close industry collaboration. "Few, if any, university researchers have garnered such widespread attention and retention from companies across the globe," Monte wrote.

Altstädt said Park's achievements "represent an extraordinarily significant contribution to the international plastics industry" and praised his commitment to translating complex research into usable results.

Park's MuCell injection molding process, commercialized in the 1990s by Trexel Inc., is now licensed globally. His MuCell extrusion foaming technology was launched by MuCell Extrusion LLC. He also worked with machinery firm KraussMaffei to apply the process to polystyrene foam production.

From 2007 to 2010, Park helped develop early Crocs shoe technology in collaboration with Foam Creations of Canada. After Crocs of Singapore acquired the technology, Park continued to support its evolution into a global success.

He also worked with Nike from 2007 to 2017 to enhance TPU foam soles and developed a patented foaming rotomolding technology now licensed exclusively to Canada's Ingenia, a longtime partner.

Other innovations include open-cell foaming of recyclable

thermoplastics, EPLA bead-foam, and GNP exfoliation processes.

Park recently spoke with *Plastics News* about his work. An excerpt of that interview follows.

Q: How did your early academic work lead you into plastics research?

Park: I was originally working in robotics, but the professors I approached didn't have funding. One suggested I look into plastics. I had no background, but it turned out I had a gift for it — an ability to see things others couldn't. That's how it all started.

Q: When you began working on injection molding and extrusion foaming, what was your goal?

Park: In footwear, like Nike or Adidas, the midsole has to be elastic. You store energy and then release it. So, how can you create that bounce? One way is through bubble structures. Foaming reduces weight, which

is crucial for marathon runners or soccer players, while improving performance.

Q: How did your work with Crocs come about?

Park: I wasn't the inventor, but I contributed. Foam Creations in Quebec had a great product but was struggling with surface quality. We found excessive cross-linking was the issue and helped solve it. That scientific insight improved the product and helped it become a global hit. I worked with them for

See **Park**, Page 22



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PLASTICS HALL OF FAME: YUKIO IIMURA

By Frank Esposito
Plastics News Staff

A 45-year career in plastics machinery has earned Yukio Iimura a place in the Plastics Hall of Fame.

Iimura joined Toshiba Machine Co. Ltd. (now Shibaura Machine Co. Ltd.) in 1980 and retired as

CEO in 2024. In his nomination, officials said Iimura “promoted sustainable growth and various innovations” at the company, helping reshape its global presence.

Plastics Hall of Famer Hideo Tanaka nominated Iimura for the honor. Iimura holds more than 80 patents, has published more than

50 technical articles, and has received awards from the Japan Society of Mechanical Engineers, the Republic of Korea, Toyota Corp. and others.

In 1998, Iimura developed a user-friendly electric injection molding machine that maintained the advantages of hydraulic models, which had dominated the industry. Officials said this concept became the foundational design for electric machines that followed.

He also spearheaded development of electric injection molding machines up to 3,000 tons, completing a full lineup of large electric machines.

In 2009, Iimura became the first president in Toshiba Machine's history to rise from the injection molding machine division. He restructured product development across the company, consolidating separate division-specific efforts into a unified platform — streamlining controllers, amplifiers, and production strategies to reduce costs and lead times.

Under his leadership, Toshiba expanded global production by opening factories in Thailand and India, in addition to its Chinese operations. That move helped establish a consistent global supply system for injection molding machines, while ensuring standardized quality across all manufacturing sites.

Officials said these efforts significantly boosted global sales and made injection molding the company's most important segment. In fiscal year 2023, molding machines represented 76 percent of Shibaura's total sales.

Iimura also guided Toshiba's push into twin-screw extruders and the electric vehicle (EV) market. He oversaw the development of a separator film manufacturing device for lithium-ion batteries, helping Toshiba secure the world's top market share in that category.

In 2017, Iimura was named chairman of the board. During his tenure, he led a corporate transformation from a broad machine manufacturer to a solutions-focused technology provider. Toshiba's seven product divisions were consolidated into three business units, enabling closer collaboration and more integrated offerings.

When Iimura took over as president in 2009, the company had sales of 70 billion yen and posted a loss of 4.5 billion yen. By 2023, he had led the firm to 160 billion yen in sales and 18 billion yen in profit.

Having fulfilled the company's medium-term management goals, Iimura retired in June 2024.

He recently spoke with *Plastics News* in a video interview. Portions of that conversation follow.

Q: What was your first job with Toshiba, and how did it shape your career?

Iimura: I joined Toshiba in 1980 after earning my degree in mechanical engineering. I started in the injection molding machine design section. After five years, my boss sent me to the United States. That was my first major assignment — send the young engineer to America!

The goal was to learn from the field and work directly with customers. At the time, engineers of-

ten thought they knew everything, but real experience came from working on the machines. I spent four years in the U.S. as a service technician, going from customer to customer fixing machines.

My English wasn't great, but I knew every detail of the equipment. After a few service calls, customers realized I could fix their problems faster than someone with better language skills. I learned how critical it is to get machines back up quickly — every day a machine is down, it costs the customer a lot of money.

Q: Once you moved into management, how did you grow the injection molding machine market?

Iimura: There were many competitors in the U.S. at the time. We succeeded because of the price and capabilities of our machines. The American market became the most important benchmark for us. Injection molding was only 25 percent of Toshiba's business — we also had machine tools, extruders, die-casting machines and robotics — but we learned so much from our U.S. customers.

Q: Was it difficult convincing customers to adopt new types of machines?

Iimura: We listened. If a customer had a request, we responded quickly and tailored machines to their needs. That built trust and a strong reputation. Some other companies didn't do that.

Q: What about the shift to electric machines. Was that challenging?

Iimura: Very much so. Euro-

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Park

Continued from Page 21

years and helped identify the science behind the technology.

Q: Why was it important to work so closely with industry?

Park: That philosophy came from MIT. There was tension between theoretical and application-oriented professors. But the practical ones — those who engaged with industry — developed amazing technologies. At MIT, I was trained to believe that what you do in the lab should be used in industry.

That's what I've done throughout my career. Real innovation in manufacturing needs that spirit. We identify what works, improve the science behind it and make it more cost-effective. I'm a researcher, but I see myself as an industry person.

Q: Did that approach lead to the founding of your microcellular lab at Toronto?

Park: Yes. When I joined the University of Toronto, I brought that MIT mindset. I've always believed that lab research must lead to real-world applications. That's how we've attracted partnerships with so many foam companies over the years.

Industry needs practical tools and trained technicians. We provide the scientific basis, so they can understand, improve and scale their technologies.

Q: How has your approach to

plastics research evolved over time?

Park: I started with extrusion foaming, then expanded to rotational molding, injection molding, compression molding and bead molding, based on what companies needed.

I realized that not all plastics are foamable, so I developed nanofiber technologies to improve foamability. Then I explored aerogels for insulation and conductive composites.

Foam structures naturally offer thermal, electrical and acoustic insulation. I pursued those benefits to develop smarter materials.

Q: What do you see as the biggest challenges ahead for plastics?

Park: Environmental impact is the biggest challenge. Materials like [expanded polystyrene] and plastic bags have low weight but high volume, and they're being phased out.

The industry too often prioritizes short-term needs over long-term sustainability. We must consider full life cycles. Plastics are unique and indispensable, but we need to use them responsibly.

I'm now working on integrating AI to help plastics professionals make better, faster decisions. AI can help compare materials, predict performance and improve efficiency. It's a tool we can use to build a better future for plastics.

“Generative AI will change everything. Imagine a triangle with three layers: at the bottom, smart machines; in the middle, smart manufacturing; and at the top, smart factories.”

Yukio Iimura

pean customers were hesitant, even after we explained the benefits: lower energy use, quieter operation and better part quality. But American customers were open-minded. They tested the machines, saw the results and adopted them.

Yes, electric machines cost more up-front, but in three to five years, you make up that difference. American companies understood that. In Europe, many didn't even try them.

Q: Was growing the twin-screw extruder business a similar process?

Iimura: No, it required a different approach. We focused globally. The lithium-ion battery line is about 120 meters long, with 30 or 40 components. We offered a turnkey system — customers could deal with us for everything. That made a big difference. If something went wrong, they called one number, not 30. It simplified everything.

Q: What do you see as the biggest technical challenges in injection molding going forward?

Iimura: Generative AI will change everything. Imagine a triangle with three layers: at the bottom, smart machines; in the middle, smart manufacturing; and at the top, smart factories.

Smart machines collect data from themselves and auxiliary equipment. That data is uploaded to the cloud. AI analyzes it to find the most efficient combination of equipment and processes, especially useful if you have 100 machines.

This is important because we're facing a labor shortage. Young people don't want factory jobs. They want to work in finance or technology. But without manufacturing, the stock market can't exist. We need to produce real goods. Generative AI can help us become more efficient and solve labor challenges. It's the future.



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Plastics Hall of Fame inducts 18 NEW MEMBERS at K 2025

Plastics News Report

Düsseldorf, Germany — The Plastics Hall of Fame honored 18 new members during an induc-

tion ceremony Oct. 7 at K 2025, celebrating innovators, leaders and pioneers whose work has shaped the global plastics industry for decades.

The latest class, described by Hall officials as the most internationally diverse since the organization's founding in 1972, included executives, researchers, equipment developers, materials specialists, processors and even a veteran industry journalist.

"Our members represent all aspects of the plastics industry. They are pioneering researchers, scholars, innovators and leaders worldwide who created materials and products that have answered society's needs and transformed our lives," the Hall of Fame said in announcing the honorees earlier this year.

Among those inducted were the three founders of Erema Group — Helmut Bacher, Helmuth Schulz and Georg Wendelin — recognized for their groundbreaking work in plastics recycling technology.

Other inductees included:

- Erwin Bürkle, former head of injection molding technology at KraussMaffei Technologies GmbH.
- Norm Fowler, longtime Xerox Corp. leader and Society of Plastics Engineers executive committee member.
- Yukio Iimura, former chairman and CEO of Shibaura Machine Co. Ltd., for advances in injection molding.
- Bill Knight, Dow Inc., instrumental in the development of In-site polyethylene technology.
- Robert Langer, MIT, known for pioneering drug delivery and tissue engineering with biodegrad-

The three founders of Erema Group — Helmut Bacher, Helmuth Schulz and Georg Wendelin.
Plastics Hall of Fame photos




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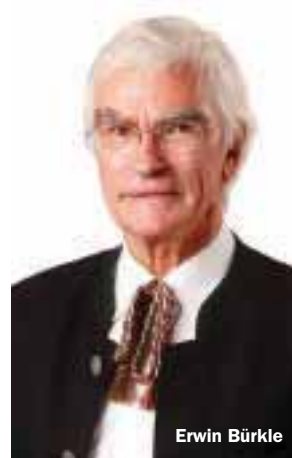


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HALL 13, B43



able plastics.

• Matthew Naitove, editor of *Plastics Technology* magazine, honored for decades of reporting on plastics innovation.

• Chul Park, University of Toronto professor, a leader in polymer foaming technologies.

• Irene Schwarz, Engel Group, recognized as a defining presence in the company's history.

• Charles Sewell, founder of CKS Packaging Inc.

• Bill Stavropoulos, former Dow CEO, who led the acquisition of Union Carbide and expanded Dow's polyethylene franchise.

• Peter Steinbeck, former CEO of Windmüller & Hölscher Group.

• William Young, former CEO of Plastipak Packaging Inc.

The Hall also posthumously inducted three historic figures: Otto Röhm and Otto Haas, founders of Röhm and Haas Co. and inventors of Plexiglas, and Hans H. Wanders, who patented one of the first semiautomatic rotary molding presses.

Maureen Steinwall, president of the Plastics Hall of Fame and herself a member, said this year's class reflected both the diversity and the global impact of the industry.

"They bring an unparalleled depth of experience and innovation," Steinwall said. "Its diversity, both in backgrounds

and achievements, stands as the most expansive in the Hall of Fame's history."

The induction brought Hall of Fame membership to 253 individuals from nine countries, including five Nobel Prize winners in chemistry.

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Machinecraft expands capacity



By Satnam Singh
Plastics News Correspondent

India's Machinecraft Technologies is expanding its Gujarat factory to build large thermoforming machines.

"We are commissioning a new thermoforming application showroom and assembly bay to increase throughput," said Rushabh Doshi, director of sales and strate-

gy, as well as expanding tooling capability with a new CNC machine.

The site in the Valsad district of Gujarat state is also producing ABS, ASA and high density polyethylene sheets up to a width of 2.5 meters, with a thickness of 10 millimeters, on a new two-layer extrusion line.

Growing 20 percent year-on-year, Machinecraft had about 20 installations last year.

"We are commissioning a new thermoforming application showroom and assembly bay to increase throughput," said Rushabh Doshi, director of sales and strategy, as well as expanding tooling capability with a new CNC machine.

Plastics News photo by Satnam Singh

Doshi said it has added business in Denmark, the Netherlands, Canada and Japan in the last 12 months, "with especially strong traction in wellness and EV/CV interiors."

"We have been growing consistently and our target is to sell 50 machines annually by 2027," he said.

Thermoforming line at K 2025

The company is bringing its flagship PF1-X-1210 single sheet vacuum-forming line to Düsseldorf.

The fully-servo, CE-ready production machine will demonstrate a complete, scalable workflow for products like shower trays, luggage

shells, car interiors, appliance liners and protective packaging.

"The machine will demonstrate production of shower trays through a fully automated process from sheet loading to finished part at K 2025," Doshi said.

"K remains the most efficient way to prove capability live and to align multi-country programs," he said. "Customers want on-floor validation, partner introductions and post-show execution plans."

Competing on performance

Machinecraft considers Europe a priority market for growth, and said it wants to compete on performance, not on being lower cost.

"Our value proposition is a production-grade line with European compliance and partner ecosystem, but at a more accessible total cost of ownership," he said. "We're not trying to be the cheapest machine; we're competing on capability, uptime, and speed of changeover."

The company is also working on its next-generation machine by integrating cells combining its thermoforming machines with a

MACHINECRAFT TECHNOLOGIES

Hall 3, Booth D85

polyurethane back-foaming system from Germany's Frimo Innovative Technologies GmbH.

"Beyond hardware, we are building digital 'brains' for the operators that offers deeper recipe analytics, guided setup checklists, and digital MES/QA integration so customers see process health and part quality in real time," he said.

The line will be designed to form a plastic part and then immediately add PU foam on the back, producing a Class A surface on parts like automotive interiors and shower trays that are lightweight, reduce noise and are ready for final assembly.

Machinecraft and Frimo formed a partnership in 2018 to bring thermoforming, vacuum lamination and other processes from Germany and "co-manufacture" some of the key technologies in India, according to a news release from Machinecraft.

RR Plast eyes exports

By Satnam Singh
Plastics News Correspondent

Indian machinery manufacturer R.R. Plast Extrusions Pvt. Ltd. is focused on expanding its glob-

al footprint.

"We see more opportunities in the European countries and the Russian market," said Bhushan Sonar, head of marketing for the Maharashtra, In-

R.R. PLAST EXTRUSIONS PVT. LTD.

Hall 12, Booth C13-14

dia-based company.

Russia has emerged as a key export market for Indian plastics

processing machinery producers during the war in Ukraine, with both Western sanctions and Russia's agreement to settle trade in Indian rupees leading to an increase in trade.

Exports in machinery, auto parts and other engineered goods from India to Russia doubled in the eight-month period from April to December 2024.

"We have sold a few machines [to Russia], but volumes are still below expectation as first we need to build trust of brand 'India' and R.R. Plast, [and] then orders book will improve," Sonar said.

As well, the China-plus-one strategy to diversify global supply chains is driving growth, the company said.

Targeting \$50 million in exports

"Our focus is on increasing exports and taking export revenue to \$50 million within the next two to three years," Sonar said.

The company has had annual sales of about \$250 million in each of the last three years, in what has been a challenging environment.

"We have been maintaining the turnover to almost the same levels, considering various challenges in the domestic and export markets in the last three years," he said.

Sonar said the company achieved growth with existing products like sheet extrusion lines, drip irrigation lines, recycling and thermoforming machines.

It entered the rotational molding machinery and pressure forming segments in 2024, having already supplied compounding lines.

"We have further expanded the product range in the last year and added multi-station pressure forming and roto molding machines," he said.

Live demo, expansion

At K 2025, R.R. Plast will be doing live demos of its recycled Pet sheet line, multistation pressure forming and film recycling machines.

"We will position R.R. Plast as a reliable supplier of advanced, high-quality machines at competitive prices," he said.

R.R. Plast last year completed the second phase of an expansion at its plant in Asangaon, near Mumbai.

"The phased expansion completed in 2024 has raised our capacity to over 250 extrusion lines annually," he said, noting that the plant, spread over 10 acres, is designed for future scalability. The company exports to about 80 countries, with Africa, the Persian Gulf and Latin America as stronghold markets.

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Bhushan Sonar from RR Plast Extrusions says Russia has grown into a new market for the company.

Plastics News photo by Satnam Singh





Jan Duyfjes,
Teknor Apex Co.'s
general manager
for Europe.

Plastics News photo
by Caroline Seidel

Teknor Apex spotlights circular TPEs, engineering plastics

By Frank Esposito
Plastics News Staff

NEXEO PLASTICS

Hall 6, Booth A26

Circularity is front and center for Teknor Apex Co. at K 2025.

The global compounder, based in Pawtucket, R.I., operates 13 plants in the United States, Belgium, Germany, China and Singapore. Reporting annual sales exceeding \$1 billion, Teknor ranks among North America's 30 largest compounders and concentrate makers. Its portfolio includes PVC, thermoplastic elastomers (TPEs), engineering plastics and, notably, garden hoses.

At K 2025, Teknor's materials are being featured at the Nexeo Plastics booth. Ahead of the show, *Plastics News* caught up with Jan Duyfjes, Teknor's general manager for Europe, to learn more about the company's latest innovations and sustainability efforts.

Q: What new products is Teknor Apex highlighting at K 2025?

Duyfjes: On the elastomers side, we're focusing on Monprene TPEs as sustainable alternatives to silicone in consumer applications and Sarlink TPVs as high-performance alternatives to EPDM in mobility. We're also launching new circular solutions in both families — grades with post-consumer recycled (PCR) content that help customers reduce carbon footprints without sacrificing performance.

For example, our Monprene SP-14100 Series is a sustainable substitute for silicone rubber in products like sporting goods, toys, footwear and wearable components. It's designed for applications where softness and durability are essential: grips, seals and gaskets.

We've also developed high-performance Monprene grades with enhanced chemical and temperature resistance, targeting fluid transfer, baby care and packaging.

Another innovation is the Monprene R6 CP-10100 Series, which contains more than 60 percent PCR content. It offers a verified 36 percent carbon footprint reduction while retaining translucency, color vibrancy, and compatibility with injection molding and overmolding.

For more demanding environments, the Sarlink Rx 4100B Se-

ries includes up to 30 percent PCR content and delivers a 25 percent verified carbon reduction. It's well suited for automotive and industrial uses like window encapsulations, hoses and glass run channels, combining chemical resistance with elastic recovery and processing versatility.

We're also showcasing our broad engineering thermoplastics (ETPs) portfolio — including polyamides, polyesters, polypropylene, TPU and specialty blends — for mobility, electronics and industrial markets. These ETPs enable lightweighting, flame retardancy, metal replacement and long-term durability.

Q: What new applications are emerging for your materials?

Duyfjes: We're seeing strong demand in applications where sustainability and performance intersect.

In consumer markets, customers are shifting from standard TPEs to more circular alternatives with lower carbon footprints. In mobility, our Sarlink TPVs are being validated in battery electric vehicle (BEV) thermal management systems as high-performance EPDM alternatives.

In electrical and electronics, our engineering thermoplastics are gaining traction in flame-retardant, recyclable applications that meet today's strict safety and regulatory demands.

Q: How is Teknor Apex approaching sustainability more broadly?

Duyfjes: We're working across the value chain to advance sustainability. That includes engaging suppliers to collect Scope 3 carbon data and assess ESG [environmental, social and governance] readiness. We're also developing a climate transition strategy and continuing to collaborate with customers to support their own sustainability goals.

In addition, we're generating product-specific carbon data to promote transparency and enable informed decision-making across the value chain.



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Hall 15 / A57

India's Alok Masterbatches touts processing aids, Japanese partnership

By **Satnam Singh**

Plastics News Correspondent

India's Alok Masterbatches Pvt. Ltd. is launching green processing aids at K 2025 that it says are free of fluorinated "forever" chemicals and other compounds, as well as touting a closer tie-up with Japan's Idemitsu Fine Composites.

Director Amit Puri said the company is responding to market desires to move away from per- and polyfluoroalkyl substances.

"We're showcasing solutions that are not just new, but necessary," Puri said. "For instance, our new PFAS and siloxane-free processing aid, developed to uphold the promise of safety. ... We are proactively providing the industry with a compliant, future proof alternative."

Similarly, Alok is also showcasing a new biodegradable compound for packaging, which it calls a sustainable, easy-to-process product to help customers meet their environmental goals.

"Every product we're launching, from our expanded permanent anti-static solutions for films and to advanced halogen-free flame retardant masterbatches ... are built on the foundation of creating masterbatches that are safe, sustainable, and more valuable," he said.

Japanese partnership

Earlier in 2025, Alok and Japan's Idemitsu announced a technical services agreement that deepens their cooperation. Idemitsu will use Alok's research and development facility in India for its local product development.

"Our Japan-focused division, ANAM (Alok Nippon Advance Materials) launched this year to build on the immense interest from Japanese companies looking to align with the 'Make in India' initiative to manufacture in India for Indian customers," Puri said.

The joint venture allows the companies to localize innovation and shorten time-to-market, Alok said.

"We have signed an agreement to integrate our state-of-the-art R&D facility in India for their product development," Puri said. "Our relationship has evolved from toll manufacturing to a much deeper, strategic alliance."

"This is far more than a simple technology agreement; it's a joint venture focused on co-creating valuable solutions for the Indian market," he said.

Adding capacity

Alok operates six manufacturing facilities with a combined capacity of 140,000 metric tons a year and is adding another 20,000 tonnes to meet rising demand in

**ALOK MASTERBATCHES
PVT. LTD.**

Hall 8A, Booth B12

the domestic market.

"We are already on track to enhance our capacity to 160,000 tonnes in the next financial year," Puri said. "We are constantly upgrading our facilities with the latest generation of machinery and technology available globally."

He said the company has maintained double-digit growth by focusing on innovative products.

"Our targets are focused on continuing this growth trajectory based on value we created for our partners and the progress we drive in the industry through our commitment to innovation," he said.

Puri said the company, which exports its masterbatches under its own brand to more than 50 countries, wants to grow its global distribution network.

"We are strengthening our global footprint through a robust network of distributors in Europe and Americas, complemented by our partnerships in the Japanese market," he said.

The company said the Indian masterbatch market is growing 11 percent annually, but Puri said the company sees challenges from low-quality imports.

"We see the biggest opportunity



Alok Masterbatches Director Amit Puri said the company is responding to market desires to move away from per- and polyfluoroalkyl substances. *Plastics News photo by Satnam Singh*

in partnering with the organized sector [in India], where customers demand global best practices and reliable solutions," he said.

He said that four years ago, Alok invested in a new corporate

office to bring its team under one roof to encourage collaboration and new ideas. That included its Alok Technology Incubation Centre Lab, which has been integrated into the new office.

Blend Colours brings a 'shift in mindset' to K

By **Satnam Singh**

Plastics News Correspondent

Indian masterbatch maker Blend Colours Pvt. Ltd. is coming to K 2025 with something tangible — new investments and materials for the recycling industry — as well as something more abstract, a new logo and identity.

The new identity, switching from "Blend Colours" to simply "Blend" with the tagline "Conscious Chemistry," is designed to signal a broader scope for the Hyderabad-based company beyond colors.

"This rebrand is more than a change in name or logo — it represents a shift in mindset," said Director Sharad Rath. "As a family-owned business with deep roots and global ambitions, we believe our future lies in uniting science with conscience. Conscious chemistry will guide every decision we make as we design solutions that respect the planet and empower people."

Visually, the company's new logo is a five-petal flower that it says is designed to show the 25-year-old firm is "moving beyond products to embrace conscious chemistry, a philosophy that fuses innovation with responsibility to create sustainable material solutions for industries worldwide."

BLEND COLOURS PVT. LTD.

Hall 8B, Booth H65

"As the industry evolves and sustainability becomes imperative, the company recognized the need for a unified identity that could encompass its expanding portfolio, research-driven approach, and global aspirations," Rath said.

The "Blend" name will become a parent brand that connects the company's different business units, including its Blend Colours and Blend Additives divisions as well as Sentra, for compounding, Valtia, Arcoiris, and Acron, for research and development.

At K, focus on sustainability

Rath said the company will be launching new additives for the recycling industry at K 2025.

"Blend Colours has a history of using such global platforms for new product unveilings and innovation, so this time, keeping in line with the global sustainability theme, we will be introducing additives for the recycling sector," he said.



Blend Colours Director Sharad Rath says the Indian masterbatch industry is growing quickly, but still facing demands for sustainable products. *Plastics News photo by Satnam Singh*

In July, the company opened its fourth masterbatch facility in Hyderabad, in the southern Indian state of Telangana, with 1,000 metric tons of capacity. It's a \$6 million investment, he said.

"This new facility specifically boosts our black masterbatch capacity. It was established as a new site rather than expanding our existing units," Rath said.

The expansion is focused on meeting rising demand for specialty products.

"Blend Colours' expansion aligns with the need for scalable, technologically advanced solutions and contributes to India's standing as a major global supplier," Rath said.

He said the facility is using equipment from the U.S. supplier

Farrell.

Rath said the new capacity is intended for both the Indian and international markets.

"Central America and South America have become new hot spots for our exports after Africa, as we continue to grow our global network," he said.

Blend exports 30 to 35 percent of its production to more than 70 countries, including Africa, the Middle East, Asia, Europe and the Americas.

The three pre-existing manufacturing sites collectively have an installed capacity of 48,000 metric tons a year, with black masterbatch accounting for 18,000 tonnes, with each unit specializing in different grades.

Emerging trends in India's masterbatch market

Rath said the expansion also leverages India's rapid growth in agriculture, construction, textiles, automotive, consumer goods, packaging.

He said the Indian masterbatch market, which is growing at 12 to 15 percent a year, is demanding more sustainable solutions, customized colors, additive solutions and digitalization of production.

The Indian masterbatch industry is estimated to have 3 million metric tons of capacity, with a market value exceeding \$2 billion.

IKT explores reluctance motors, conductive fillers, hybrid forming

IKT INSTITUTE OF PLASTICS
TECHNOLOGY, STUTTGART
UNIVERSITY

Hall 7, Booth C01-C04

By David Vink

Plastics News Correspondent

At K 2025, Stuttgart University's IKT Institute of Plastics Technology invited visitors to learn about several of its latest research projects — spanning reluctance motor technology, improved alignment of conductive fillers in injection molding, and a new hybrid metal/plastic forming process.

Reluctance motors

Reluctance electric motors generate torque using magnetic reluctance — inducing magnetism in non-permanent magnetic poles on a ferromagnetic rotor. Unlike motors that rely on rare earth elements such as dysprosium, neodymium, samarium or terbium — which account for about 20 percent of a motor's value chain and are 90 percent sourced from China — reluctance motors can avoid these materials. That makes them lighter, more powerful, and potentially more sustainable.

IKT researchers, working with the ICM Future Mobility Innovation Campus, are developing



IKT shows the eVee demonstration car at K 2025 with a PPS-filled reluctance motor. ICM photo

ways to prevent rotor failure at high speeds. Reluctance rotors can fail at around 15,000 rpm due to thin air gaps between metal parts, even though optimal performance requires speeds up to 20,000 rpm. Filling these gaps with thermoset casting resins can strengthen rotors but hinders recyclability, while thermoplastics present bonding challenges.

To address this, IKT selected polyphenylene sulfide (PPS) for its ability to flow easily into the fine rotor structures. Steel rotor surfaces were roughened by “nanoscale sculpturing” at Kiel, Germany-based Nascit GmbH, provid-

ing strong anchoring between the PPS and steel. “It literally clings to the metal,” explained IKT injection molding specialist David Armbruster, who presented the findings at the February 2025 IKT Plastics Colloquium.

Armbruster said PPS reinforcement prevented failures at 20,000 rpm, with some rotors reaching 25,000 rpm — the maximum test bench speed — without failure. He suggested that any failures below that speed may have resulted from prototype molding issues or steel corrosion, adding, “There is still a lot of work to be done, but the potential for PPS-reinforced

reluctance motors is clear.”

At K 2025, IKT is displaying the ICM “eVee” demonstration car, equipped with a PPS-modified reluctance motor. The eVee also features a freeform tow-preg carbon fiber filament-wound body, a hybrid hollow motor drive shaft made of steel and glass fiber-reinforced plastic, and seats made from natural fiber-reinforced composite.

Filler alignment

IKT has also collaborated with Schömborg, Germany-based Primold GmbH to develop tooling that improves the orientation of thermally, electrically, and magnetically conductive fillers in injection molding. Normally, shear forces cause fillers to align parallel to melt flow, reducing performance. The new tool promotes a more random or perpendicular filler orientation, which enhances conductivity and efficiency.

The development relies on a mold with a special ejection-side slide mechanism that increases cavity volume during the molding and holding-pressure phases. This expansion changes melt flow

dynamics, orienting particles more perpendicularly to flow. IKT's work includes tool design, simulation, compound formulation, and optimization of processing parameters to achieve maximum conductivity.

Hybrid forming

Working with Stuttgart University's IFU Institute of Metal Forming Technology, IKT has developed a hybrid forming process that combines metal and plastic into a single forming step. In this two-year project, plastic is pressed into a metal preform ring inside a mold at such high pressure that it shapes the metal preform itself. The result is a plastic/aluminum gear wheel demonstrator with strong bonding and the ability to withstand high torque loads.

The institutes are continuing research on the material boundary layer, ideal joining pressures, and temperature control. They see strong potential for applications such as plastic components with decorative metallic surfaces and high-strength, wear-resistant gear wheels.

IKV showcases AI, foam molding, extrusion inspection

By David Vink

Plastics News Correspondent

Aachen, Germany-based IKV Institute of Plastics Processing (Hall 14, Booth C16) is running a live injection molding demonstration of two-component computer keyboard wrist supports made with chemically foamed materials. The supports feature a polypropylene (PP) structural foam primary layer and a soft thermoplastic elastomer (TPE) secondary layer, using materials from LyondellBasell Holdings BV (Hall 8a, Booth D12) and Allod Werkstoff GmbH & Co. KG (Hall 6, Booth C54-01).

The parts are molded in a “breathing” injection mold from Polar-Form Werkzeugbau GmbH (Hall 1, Booth C61) on an injection molding machine from Arburg GmbH + Co KG (Hall 13, Booth A13-1, A13-2). During filling, the melt pressure enlarges the mold cavity, creating a thick foamed core with a thin outer skin — reducing part weight by 8 percent for PP and 80 percent for foamed TPE, while maintaining rigidity.

The result is a smooth surface free from typical foam swirl patterns. Surface quality is further enhanced by an insulating layer in the mold and transfer of a grained texture produced by Eschmann Textures International GmbH (Hall 1, Booth A08).

IKV calls the process “Foam2Cycle,” emphasizing recyclability: both thermoplastic components can be mechanically recycled together without separation. Ground material can be reused to mold new primary components with up to 30 percent recycled content, examples of which are

on display at IKV's booth.

AI-supported process optimization

IKV simulated the Foam2Cycle process using software from SIMCON Kunststofftechnische Software GmbH (Hall 11, Booth E17) and implemented AI-based process setup, optimization, and live monitoring with digital solutions from Osphim GmbH (Hall 6, Booth C76).

Osphim, founded in January 2024 as an IKV spin-off, was created by former IKV researchers Louisa Dese, Yannik Lockner, Jakob Pesch and Mauritius Schmitz. The company, based on the same Melaten science campus as IKV, applies AI originally developed for injection molding research at the institute.

IKV continues its AI efforts through the new KI4KI initiative — “Künstliche Intelligenz für die Kunststoffindustrie” (“Artificial Intelligence for the Plastics Industry”). The program aims to expand the use of AI across the plastics value chain by building a network of plastics and digital technology companies for practical implementation of data-driven solutions.

Detect before Defect

IKV is also demonstrating a live extrusion quality control system called “Detect before Defect.” The setup features a rotating chill roll calender with an optical inspection system that identifies deposits deliberately applied to simulate real-world contamination during flat film extrusion.

The system continuously scans

roll surfaces for gloss changes using an integrated camera, capturing an image each revolution. Image processing algorithms analyze gray values to quantify deposit buildup and track contamination along the entire roll length.

The inspection unit can be integrated into existing extru-

sion lines and connected to automatic roll cleaning systems triggered when deposits reach a critical level. IKV uses the system in research to better understand plastic-to-roll interactions and to refine recommendations for industrial-scale production.

Development partners include

Reifenhäuser GmbH & Co. KG Maschinenfabrik (Hall 17, Booth C22), which supplied the extrusion hardware, and Carl Zeiss Industrielle Messtechnik GmbH (Hall 12, Booth C36), which supported the camera technology, along with Rauscher GmbH Bildverarbeitung of Olching, Germany.



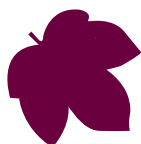
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Recycling, petrochemical extrusion drive KraussMaffei rebound

By Beatriz Santos
Sustainable Plastics

KraussMaffei Extrusion has big expectations for this year's K show. The Germany-based extrusion machinery manufacturer arrived in Düsseldorf with a strong balance sheet in what has otherwise been a turbulent year for the industry.

The company is aiming to give customers plenty of reasons to invest, Thomas Unger, vice president of technology at KraussMaffei Extrusion, told *Sustainable Plastics*.

"For us, 2025 is being quite a good year. We have two strong markets: the petrochemical market and the recycling market. At K, we expect our pipe business will also get stronger. We might also get some new orders for our compounding business. We are in ongoing discussions with customers over some new projects — we hope to convince them of our newest technologies during and after the K," Unger said.

The show will be a "positive trigger" for the industry, he predicted. "We have big, big expectations for the K show. KraussMaffei Extrusion will give our customers a lot of reasons to invest in October and the following months."

The company is backing that confidence with launches in petrochemical extrusion, recycling solutions for chemical and mechanical processes, and new machinery and tools for pipe and profile applications.

ZE Petrochemical series

For more than four decades, KraussMaffei Extrusion has supplied the petrochemical sector with large single-screw extruders. Demand for these machines has risen sharply in Asian markets in recent years, with several sold annually on a global scale.

Single-screw extruders, however, represent only about 30-40 percent of the extrusion market, with twin-screw technology dominating the rest. Enter the twin-screw petrochemical market.

"We already had everything needed in-house: the experience in the petrochemical market, the engineering team, the outstanding technology center, the production capabilities. It was a logical step to enter this area," Unger explained.

After years of development, the ZE Petrochemical (ZE-PC) series of co-rotating twin-screw extruders is making its debut at K 2025.

The ZE-PC combines a variety of innovations to deliver efficiency, throughput and quality at scale. BluePower Technology is at the heart of the design. The extruders have a Do/Di ratio of 1.65, meaning the outer screw diameter is significantly larger than the inner shaft. This provides greater free volume in the screw channels, enabling higher material throughput



About 300 people attended KraussMaffei's Technology Days in Laatzen, Germany. KraussMaffei Extrusion photos



Unger

per rotation and improving degassing performance.

Supporting this geometry is a torque density of up to 16 Nm/cm³, underscoring the strength of the gearbox and the unique screw tension-

ing system. These new features allow for a wider process window, achieving higher throughputs and material quality.

Variable-speed drives add further flexibility, allowing extruders to run at lower speeds without sacrificing productivity. This results in lower melt temperatures, reduced thermal degradation and improved energy efficiency.

"Taken together, these developments are new in this market. They help customers cut costs by allowing them to choose a smaller machine size that achieves the same throughput. OPEX costs are also reduced by lowering the machine's energy consumption," Unger said.

The ZE-PC series is being introduced with screw diameters of 260 millimeters, 300 mm and 330 mm, with larger versions of 365 mm and 400 mm planned for 2026. Modular barrel and screw designs allow for customization, and pro-

cess lengths of up to 64 L/D provide options for even the longest setups. Applications include degassing and large-scale mechanical and chemical recycling.

KraussMaffei has already sold three ZE-PC machines to an undisclosed client in China, for PMMA degassing. The client had been part of the development process over the past two and a half years.

At K, the company is turning its attention to Europe and the United States, where it is in talks with potential customers and licensors. "We are making good progress," Unger said. "We know that entering this conservative market is not easy. But, as always, we want to convince with technology. We don't enter markets by copying existing technology; we offer new advantages in process technology."

Recycling innovations

Alongside petrochemicals, recycling remains a central pillar of KraussMaffei Extrusion's strategy. Demand is rising for chemical recycling, while mechanical recyclers are struggling in a challenging market. The company is focusing on advancing chemical recycling technologies and refining mechanical recycling for cost-effectiveness.

For pyrolysis-based chemical recycling, KraussMaffei has delivered prototype extruders with

throughputs of up to 6 metric tons per hour. Although no standardized licensing models exist yet in this emerging sector, the company has positioned itself as a trusted partner for major players developing proprietary processes, Unger said.

On the mechanical side, KraussMaffei is introducing a streamlined version of its Edelweiss technology. Previous systems required two extruders — one for degassing and filtration, the other for compounding. The new design reduces the system to a single extruder while keeping the same functionality, improving margins through targeted quality gains.

A new side stuffer is also being launched, designed to handle low bulk density materials such as films and flakes more effectively.

"Formerly recyclers had to rely on pre-densification steps to be able to use high-performance twin-screw extruders. Now they can directly leverage the advantages of our systems, all while reducing material stress," Unger said.

For PET recycling, KraussMaffei is presenting a twin-screw system based on the BluePower series with throughputs of up to 12 tonnes per hour, offering up to 20 percent energy savings compared with other twin-screw systems. The company is also rolling out redesigned BluePower extruders in sizes 42, 52, 65 and 80, optimized for cost without compromising performance.

PVC pipe extrusion

KraussMaffei is also introducing a three-layer PVC pipe head, the KM-3L RK 42-HP, which allows stable processing of up to 100 percent recycled PVC in all three layers of sewage pipes. Until now, only the middle layer could reliably contain recycate.

The KM-3L RK 42-HP relies on a new flow system that ensures symmetrical material feed and efficient distribution, particularly in the core layer. By shortening dwell times and reducing turbulence, the design eliminates defects such as streaks and spiderlines,

KRAUSSMAFFEI
EXTRUSION

Hall 15, Booth C24

producing pipes with smooth surfaces and strong structure.

The system processes 400-1,200 kilograms per hour and covers pipe diameters from 110 mm to 250 mm, making it suitable for large-scale industrial production. The design also eliminates chrome plating and double compression, improving environmental performance and lowering maintenance costs.

Manufacturers can now produce sewage pipes entirely from recycled PVC, including post-consumer material recovered from old window profiles.

Strategic investment at Laatzen

These innovations are supported by KraussMaffei Extrusion's Laatzen, Germany, site, which opened in September 2022. The 97,000-square-meter facility combines all extrusion technologies — from pipe and profile to sheet, film, rubber, foam, compounding and recycling — under one roof.

Located 20 kilometers from the company's historic Hanover site, the plant brings together 240 engineers who previously worked separately in Munich or Hanover.

At the heart of Laatzen is its 10,000-square-meter technology center, housing 26 extrusion lines for customer trials across the entire process chain.

"During our Tech Days in March 2025, around 300 customers from across the world visited our new site," Unger said. "Everyone was very impressed with the size of our technology center, which stands 18 meters high. I'm pretty sure we have more extrusion lines installed than the average extrusion company. That gives us the possibility to offer solutions for almost all extrusion applications. We serve every technology except blow molding and blown film."

A 200-square-meter analytics lab provides immediate testing and feedback, reducing time and costs for customers. This reinforces KraussMaffei's position as a partner in process development, not just an equipment supplier.

Service, training and retrofit

Despite positive 2025 results, KraussMaffei has expanded its service and retrofit offerings for customers not ready to invest in new machinery. Retrofit solutions extend the life of older machines with performance and efficiency upgrades, while service programs ensure long-term reliability.

For the past two years, the company has also run a Process Engineering School, offering training both at Laatzen and at customer sites to enhance operator skills and maximize machine performance.

Trying to find control during uncertain times

By Bridget Janis
Plastics News Staff

Philadelphia — Tariffs, labor shortages and overall uncertainty are the top concerns for plastics processors in 2025, according to Gene Mussel, a director at consulting group Wipfli, speaking at the Society of Plastics Engineers' blow molding conference.

"Every year there's something new, the new important item we need to be addressing. It's going to continue to happen," Mussel said. "I'm not going to predict that next year we'll be talking about the same five things — maybe one or two, because they're kind of natural to the business of manufacturing."

Wipfli surveyed manufacturers in May 2025 and found that 65 percent expect flat or declining sales this year, while 88 percent anticipate lower profits. Respondents forecast a 6 percent drop in profit for 2025, compared with a 1 percent decline in 2024 and flat expectations in 2023.

Mussel said labor challenges remain a significant drag, with companies struggling to hire, falling behind on data and missing productivity targets. Too many firms are adopting a "wait-and-see" strategy, he added, instead of focusing on operational excellence and preparing to adjust to market shifts.

"This isn't a silver bullet that's going to magically fix manufactur-

ing," Mussel said. "But given these opportunities, if they fit, we need to be able to capitalize on it."

He advised companies to focus on areas they can control, such as:

- Adopting disruptive technologies.
- Improving consistency in operations.
- Understanding tariff classifications through Harmonized Tariff Schedule (HTS) codes.
- Maintaining close communication with partners.

Mussel encouraged companies to use slower periods to reevaluate launch cycles, test new technologies and pilot ideas. "If we get super busy and we're suddenly at max capacity, there's no time to think differently," he said.

Gene Mussel, a director at consulting group Wipfli, speaks at SPE's blow molding conference. *Plastics News photo by Bridget Janis*



Graham unveils updated wheel design for bottle variation

**GRAHAM
ENGINEERING CO. LLC**
Hall 17, Booth A30



The update of the Graham Wheel allows for faster changeover, better bottle variation and reduced energy consumption.

Graham Engineering Co. LLC photo

35 to 50 percent PCR in bottles, and Howland said the new wheel can reliably run at those levels.

In one trial, Graham shipped a 20-cavity wheel producing 63-gram bottles that maintained weight within 1 gram across all cavities during a two-hour qualification run — a 50 percent reduction in variation.

Before this update, processors often struggled to run lower-grade PCR with inconsistent bulk density. "You can choose to run a lower grade of PCR and still maintain a very high level of process control with what we've put together on the wheel platform," Howland said.

To meet customer demand, Graham is creating a modular stock program to ship wheels with faster delivery. Customers also have sought quicker mold changes and greater redeployment flexibility, and early feedback has been positive, the company said.

The wheel design also reduces energy consumption. Built as a hybrid platform with limited hydraulic use, it relies on proprietary parison programming and a simplified hydraulic system. Graham estimates the design uses 40-60 percent less energy than a full hydraulic drive system.

By Bridget Janis
Plastics News Staff

Graham Engineering Co. LLC is rolling out a redesigned Graham Wheel for K 2025, with improvements aimed at faster changeovers, tighter bottle variation and

reduced energy consumption.

The Graham Wheel, first introduced in 1964, has long been a staple of extrusion blow molding, offering multilayer capabilities of up to seven layers. The updated model gives Graham and its customers new opportunities in

markets demanding higher levels of post-consumer resin (PCR).

"We've refined it, and now we're adding process control to address the new requirements of PCR," said Scott Howland, strategic market manager. "The rotary wheel already had very high pro-

cess control, and now we've added another feature to it."

The enhanced process allows the wheel to better manage bottle weight variation, a key factor as brand owners and regulators push for higher PCR use. Some states and regions are requiring

BBM showcases EcoBLOW 120, electric clamping unit at K

By Bridget Janis
Plastics News Staff

BBM GmbH is debuting two machines at K 2025, including a compact industrial packaging model and what it calls the world's largest all-electric clamping unit.

The new EcoBLOW 120 (EB 120) is designed for jerrycans up to 20 liters and requires just 10 square meters of floor space.

"Eco is not only for economics of price — it's also economics of space and energy," said Felix Schulte, chief technical officer.

The machine features a more compact, modernized design compared with earlier models, making it easier to ship and install. BBM officials said the EcoBLOW was developed as a more cost-efficient and user-friendly option for customers seeking to replace older hydraulic machines that consume more energy and re-

quire more maintenance.

"It is a popular design, but we modernized it with the latest technology available," said Mattia Anconelli, business development manager. "It's a design people are familiar with, but in a smaller footprint."

The EcoBLOW also incorporates BBM's artificial intelligence technology in the control system. The AI gathers data for predictive maintenance and can recommend next steps for addressing service issues. "Before AI was trending, we had time ahead of the competition to develop real, helpful tools to integrate into the technology," Anconelli said. BBM plans to deepen AI integration in future product lines.

The company is also showing a clamping mechanism from a 180-metric-ton machine. The entire system is too large for the booth, but BBM is highlighting the



Anconelli

clamping movements. The unit features a plate size of more than 3 meters and is billed as the largest full-electric clamping unit in the world.

BBM has worked toward fully electric machines since 2006, driven by sustainability goals and the easier maintenance compared with hydraulic systems.

The company is aiming for long-term goals of continuing to advance toward new technology and electric machines. *BBM GmbH photo*



BBM GMBH
Hall 14, Booth B37

Company officials said recent tariff shifts have slowed customer decision-making in Germany and other markets. "For a company that has to invest a decent amount of money, if you have to pay 10 percent on top, it makes

a big difference," Anconelli said. "Now it's 15 percent at the moment. Tomorrow, we don't know."

BBM said the uncertainty has not jeopardized business but has required greater flexibility to align with customer needs.

Blow molding sector urged to act on its carbon footprint

By Bridget Janis
Plastics News Staff

The blow molding industry faces increasing regulatory pressure on carbon emissions, but companies can already take steps toward more sustainable production, according to Aleksandr Kharazov, regional sales manager for ST BlowMoulding SA, a supplier of large blow molding equipment.

"Reducing carbon footprint is to the benefit of plastics processors. This is the most important message I want to deliver," Kharazov said. "We've done our fair share of research and development

and providing customers with advanced technologies, so we know what we're talking about."

Kharazov said reducing emissions should be a higher priority for processors, whether changes come voluntarily or through legislation.

Several governments have begun setting carbon targets. China has pledged carbon neutrality by 2060, while European nations are working toward cutting greenhouse gas emissions 55 percent by 2030, though progress has been uneven.

In the U.S., lawmakers are considering the Prove It Act, which would measure and compare the

ST BLOWMOULDING SA Hall 14, Booth B4

carbon intensity of domestic and imported industrial products, as well as the Foreign Pollution Fee Act, which would impose tariffs on imports with high emissions.

"This is an interesting proposal because we've been talking about carbon reduction for years," Kharazov said. "Doing it through practical measures like this seems quite reasonable."

Major consumer brands have



Kharazov

already made pledges. PepsiCo Inc. and Coca-Cola Co. aim for carbon neutrality by 2040, while BMW and Ford are requiring Tier 1 suppliers to report and reduce the

carbon used to make parts.

For processors, Kharazov emphasized the importance of measuring emissions from materials and energy use. Light-

er-weight parts can lower energy consumption and operating costs while meeting customer sustainability requirements.

Tracking thickness and raw material usage can also reduce emissions, he said. Newer blow molding machines with advanced hardware and software offer process analytics that can guarantee consistency and provide detailed energy data.

"Applying this kind of technology, we can react faster, intervene when something is wrong and reduce rejects by at least 5 percent," Kharazov said. "That can save about 300,000 pounds of raw material per year."

W. Müller GmbH supports higher PCR use with upgrades

By Bridget Janis
Plastics News Staff

W. Müller GmbH EBM Technology is introducing an upgraded three-layer accumulator head designed to improve options for processors incorporating post-consumer resin (PCR).

"Honestly, there is not a single perfect solution in the market right now," said Christian Müller, managing partner. "It's going to be a challenge, for sure. But if we're not able to do it, then who else?"

Demand for higher PCR levels in consumer packaging has grown, and many processors have been using three-layer

“Honestly, there is not a single perfect solution in the market right now. It's going to be a challenge, for sure. But if we're not able to do it, then who else?”

Christian Müller
W. Müller GmbH



W. MÜLLER GMBH Hall 14, Booth A38

while maintaining consistent layer distribution. The result, company officials said, is lower cost, less investment, simpler electronics and a smaller footprint, while enabling higher PCR usage in both packaging and technical parts.

"This is the big thing, and something like that is not on the market yet," said Jens Schlueter, president of W. Müller. He said the technology has been tested on containers up to 20 liters (5 gal-

lons) and can be scaled to 1,000-liter water tanks.

The company designed the accumulator for retrofit capability, allowing customers to upgrade existing extrusion machines one at a time. The system can be customized for specific dimensions and wall thicknesses.

W. Müller manufactures its equipment in Germany, where it faces a 15 percent reciprocal tariff that must be passed along to customers. Blow molding equipment itself is not subject to U.S. Section 232 tariffs on steel and aluminum, but molds and injection molding machines are, officials noted.

Hallink Moulds highlights labelless bottle, 3D printed molds

HALLINK MOULDS INC. Hall 13, Booth A89-5



Hallink Moulds' labelless bottle project. Hallink Moulds Inc. photo

allows detailed lettering to appear directly on the bottle surface. The project was developed for the Panamanian market and is now in commercial use for a spring water brand.

"It's totally legible as far as all the different information, nutritional facts and so forth," said Jason Warmington, general manager at Hallink. "It's basically venting in the font. The design was done in Peru, but it was the technology and the mold that allowed the letters to be fully vented and show that detail."

Warmington said the client had worked with Hallink in the past and returned with the challenge of producing a mold that could handle intricate lettering. Traditional pin-venting methods would have required too many holes, potentially compromising mold strength. Hallink's new venting approach allowed venting for each individual letter, improving clarity and durability.

"We've done some experiments in the past where it wasn't legible enough for certain markets," Warmington said. "With this new technology, we could go back and improve on what we

“Instead of doing a costly aluminum mold or a production mold that might cost \$10,000, this option allows you to make a mold for \$1,000 to \$2,000. Whereas a lead cavity might take a week, with this printing technology we can do it in a day.”

Jason Warmington
Hallink Moulds Inc.

had done before."

The company is also advancing its work with 3D printed molds. Hallink traditionally uses aluminum molds, but cost and lead times can be a barrier for customers. Its new system uses liquid 3D printing with specific materials, enabling molds to be printed overnight and shipped quickly.

While Hallink has worked with 3D printing for years, the ability to create one-off sample molds is a newer development. The focus is on reducing time to market and providing customers with more affordable options.

"Instead of doing a costly alu-

minum mold or a production mold that might cost \$10,000, this option allows you to make a mold for \$1,000 to \$2,000," Warmington said. "Whereas a lead cavity might take a week, with this printing technology we can do it in a day."

Hallink is still testing different materials to improve the durability of sample molds, but Warmington emphasized the purpose is not for production molds. Instead, the printed molds give customers a fast turnaround to see samples and validate designs before committing to full-scale production.

By Bridget Janis
Plastics News Staff

Hallink Moulds Inc., a division of Big 3 Precision Products, is showcasing two new develop-

ments at K 2025: a labelless bottle project and a new approach to 3D printed molds.

For the labelless bottle, Hallink created a mold with enhanced venting technology that

K 2025

Continued from Page 1

plastics production continues to surge worldwide, up from 370 metric tons in 2018 to 414 metric tons in 2023, the last year data was available. China has invested heavily in the industry, backed by a supportive government, and produces more than a quarter of that total.

The Western world has some thornier trends. The United States, while the world's leading plastics consumer, also may lead the world in issues surrounding machine-building and sustainability. Reifenhäuser said that U.S. machinery production and sales continue to slide due to a lack of investment and interest. Figures from VDMA support this: Only 7 percent of global machinery production comes from the United States, down considerably from 18 percent in 2000.

Tariff restrictions are only part of the problem, Reifenhäuser said. Technology is far behind in the U.S. market, making it difficult, if not impossible, to catch up, he said.

Particularly in packaging, sustainability takes center stage in both need and advancement. Europe has become "very, very aware" in innovative approaches, Reifenhäuser said, but recycled plastics faces the dual challenge of higher costs and only 80 percent of the functionality of virgin materials.

Plus, regulatory issues in Europe have acted as a bit of a vise clamping down on growth and market access, said Christine Bunte, managing director of Plastics Europe Germany. "All these [regulatory] activities are done with fantastic intentions," she said. "But good intentions don't always make good laws."

Europe has a mandate to sub-

From left: Marius Berlemann, managing director of Messe Düsseldorf; Ulrich Reifenhäuser, chairman of the K 2025 Exhibitors Committee and managing partner of Reifenhäuser Group; Boris Englehardt, secretary general of the Association of German Rubber Manufacturing Industry; Thorsten Kühmann, general manager of the VDMA trade group. *Plastics News photo by Caroline Seidel*



stitute 65 percent of its non-fossil-fuels by 2050, a difficult goal but one that could spur some progress, Bunte said. However, investment of as much as \$235 billion euros may be required for this, she said, a big ask. "It is our North Star," she said, a distant goal but a possible one.

The rubber industry, led by tire production, has similar growing pains, said Boris Englehardt, secretary general of the Association of German Rubber Manufacturing Industry. In Europe, the rubber industry is shrinking, due partly to sustainability challenges, but the mood is much better, he said. "We have to reinvent our model in part because of circularity," Englehardt said.

At K 2025, the exhibition in-

cludes Rubberstreet, an area dedicated to rubber manufacturers, in Hall 6.

Outside of sustainability, artificial intelligence may be the *cause celebre* at the show. The embrace of digitalization will take more prominence at this year's fair, part of themes being presented at a special area on each show day, titled "Plastics Shape the Future" (Hall 6, Booth 40).

Panel discussions, a career day, technical sessions and start-up pitches are part of that special event, said Thorsten Kühmann, general manager of VDMA, the plastics and rubber machinery association. AI will be prominent in special sessions on Oct. 11 and at many booths, he said.

In an interview after the open-

ing news conference, Kühmann said that AI could boost U.S. and European manufacturing, regions that are having difficulty attracting blue-collar line workers for operations. While more mundane jobs could be replaced by data-based systems, labor shortages could be lessened, he said.

Bunte added that big data also could boost circularity, allowing for better material sorting in recycling systems.

Other new K show activities will include a focus on younger workers, including a Young Talents Lounge where newer industry entrants can meet and network.

The premiere of a Women in Plastics networking event, featuring speakers and panelists on Oct. 12, is almost sold out. A Start-Up

Zone and Science Campus, where academic research is presented, are new highlights.

The sheer size of K continues to awe, spread over nearly 180,000 square meters, equal to about 25 football fields. Two-thirds of exhibitors are machinery and equipment companies, but pavilions for raw materials and additives and for semi-finished parts also will grace the grounds.

Of course, as in its recent past, the challenges and opportunities of sustainability will continue to provide a major through line at K. This year's motto, "The Power of Plastics! Green — Smart — Responsible," reflects that.

"We have a clear understanding of what to do," Reifenhäuser said. "And it will be visible at K 2025."

Erema

Continued from Page 1

by broader economic downturn will unleash a rebound.

"We're running the company with a very short outlook," he said in an exclusive interview with *Plastics News*, while paying close attention to costs and emphasizing the value Erema brings to customers. "You cannot cut the costs so strongly because there's nothing more there."

Erema will see sales fall to around 300 million euros during the current fiscal year that ends in March, a drop of about 10 percent. That follows a 12 percent decrease from 380 million to 330 million euros the previous fiscal year. But while the company's sales are down, the decrease follows a decade of fast-paced growth where sales increased from 120 million to 380 million euros.

The last two years have brought change and an opportunity to look at internal operations more closely after a decade of explosive growth, Hackl said.

"We really think we are back in a good condition because we have to say we were growing in the last 10 years so strongly from 120 million to 380 million. And if you grow in this 10 years three times turn-over you know that not everything is as smooth, as good as it should

The last two years for Erema have brought it an opportunity to look at internal operations more closely after a decade of explosive growth.

Plastics News photo by Caroline Seidel



be. We have used the time nowadays to optimize and to be again in a good customer relationship and customer satisfaction position.

"We had to focus, on one hand, on customer value and markets. On the other hand to look at our internal costs how we can be more efficient in process operation," he said, while maintaining

a keen eye on safety and health considerations for employees.

"That means we are running the company on a very short outlook, and that is how we run it nowadays to look on the figures and optimize costs," Hackl said. "How we can bring in value with technology innovation, customer satisfaction with our products?"

Maintaining a focus on product development is a key during economic downturns, he added.

Having a selection of equipment offerings for the plastics recycling market also helps the company when softness in a particular area — either geographically or by equipment category — occurs. "We will show at the K show a lot

of new information and a lot of new products," he said. "We are happy that we are not focused only on one."

Erema, historically, used a common production model of building machinery once an order is placed. But the company has added to that approach by now also offering a ready-built plastic recycling machine that can be shipped out within just a couple of weeks. This compares with a typical lead time of five months or so for a specific build.

ReadyMac allows Erema to respond quickly to customer demand and unlocks new sales opportunities for the firm, Hackl said. The lower cost associated with the standardized ReadyMac machine also helps Erema compete in the lower-price atmosphere of Asia.

Hackl believes that "long-term plastic and plastic recycling will grow again. Sure, the next one, two years will be difficult due to the lower to lower virgin prices. I think you have to have in mind virgin prices strongly influence in the recycling business. On the other hand we see clear that the brands and the government would like and have to see circularity. And from that standpoint, it will come back again," Hackl said. "We think business will grow again in the next one and a half years."



From left: Steffan Kroner, Michael Hehl, Juliane Hehl, Guido Frohnhaus and Tobias Baur at Arburg's K 2025 booth.
Plastics News photo by Caroline Seidel

ARBURG GMBH + CO. KG
Hall 13, Booth A13

Arburg is on Trend with standard electric injection molding machines

By Catherine Kavanaugh
Plastics News Staff

Plastics processors are investing more into standard electric injection molding machines that are affordable and easy to operate, but availability has been an issue that Arburg GmbH + Co KG aims to address with the introduction of the Allrounder Trend at K 2025.

With an average delivery time of just four weeks after receipt of order, the Allrounder Trend machines enable flexible and competitive production, according to Guido Frohnhaus, Arburg's managing director of technology.

"They offer cost efficiency and proven Arburg quality," Frohnhaus said at an Oct. 7 news conference. "The low investment and operating costs, combined with a fast return on investment, also make these machines interesting for new markets where cost pressure prevails."

The Lossburg, Germany-based machine builder is strategically expanding its product portfolio, according to Michael Hehl, a managing partner who is spokesman of the management board.

"As we have already done successfully on several occasions in the past, we have once again invested in our company and our portfolio anti-cyclically in recent years in order to position ourselves sustainably for the future," Hehl said. "Our customers can therefore rely on us at all times."

With clamping forces from 500 to 2,000 kN, (50 to 203 tons), the Trend machines are compatible with the latest technology and well suited for high-volume prod-

ucts, technical injection molding and the electronics industry, Frohnhaus said.

"We have designed our Trend machines in such a way that they are easy to operate even without specialized personnel and enable a quick start to production," he also said. "The machines are designed to be easy to maintain, with easy access to maintenance points and digital support for self-maintenance."

At K 2025, three Trend presses are demonstrating production of electronic connectors and processing LSR and recyclates.

Allrounder Trend machines also can be automated with all of Arburg's robotic systems and integrated into turnkey systems.

The increased demand for standard machines also includes more inquiries about "easier" basic control systems, Frohnhaus said. In response, Arburg revised its high-end Gestica brand control system with a new version called Gestica lite.

"Even inexperienced personnel can quickly get to grips with the Gestica lite. The clear dashboard provides everything needed for the work at a glance: information on the job, the current process and the tasks at hand – and all of this is intelligently and actively supported by optional assistance functions that ensure high-quality plasticizing and molded part quality," Frohnhaus said.

The Allrounder Trend machines can be ordered worldwide as of now and will be delivered from spring 2026, according to Tobias Baur, managing director of sales and after sales.

In the future, Arburg will focus

more on local-to-local assembly for its markets in Asia and the Americas and also use local components, Baur said, with production for the European market and all existing Allrounder machine series to remain centrally located in Lossburg along with research and development.

No forecast given

At K 2025, Arburg is showing where the world of plastics is heading strategically and technologically but company officials said they couldn't say much about the machine builder's financial situation.

"In volatile times like these, it is of course more difficult than ever to take a reliable economic look into the future," Hehl said. "In the last six months, there has been a slight recovery compared to the previous year and also some nice larger orders."

However, due to the fragile global economic situation, Hehl said it is still too early to take stock of the current year or to make a reliable forecast for 2026.

"But I can assure you of one thing: We are looking positively towards the future and always see challenges as opportunities," Hehl said.

The managing partner also said he hopes K 2025 provides positive impetus for the plastics industry.

"It has always been regarded as a trend barometer for the world of plastics," Hehl added.

Market overview

Arburg's long-term strategy

to internationalize the Germany-based company continues with a local-to-local focus, according to Baur.

"This means that we offer a localized product portfolio in China, for example. In July 2025, we relocated to a larger building in Pinghu, which offers significantly more space for machine assembly," Baur said. "This shows that we are continuing to invest in the markets in order to be close to our customers with local products and fast delivery times."

He also gave an overview of geographic markets starting with Germany, which Baur said remains at a low level due to "political and structural framework conditions — similar to the previous year."

In Europe, he sees a slight improvement.

"Here, too, there are major structural challenges for the mechanical engineering sector, for example, due to further relocation of production abroad and competition from Asia," Baur said.

In the United States, tariff and trade policy uncertainty has businesses pausing on projects and investments.

"Like all market participants, we must face up to this challenge," Baur said.

In Asia, he sees markets developing differently.

"Markets such as India are growing strongly, but the situation in China and other countries is more mixed," Baur said. "However, Asia remains the largest sales market for injection molding machines and therefore a region with high dynamics and growth opportunities also for Arburg."

In terms of the machine builder's product markets, little has changed, according to Baur.

He said the medical and packaging sectors continue to be very stable or growing; the electronics/electrical industry is at a stable level; and the mobility sector, which is essentially the automotive industry, continues to be exposed to an uncertain environment and remains at a weak level.

Meanwhile, Arburg's after-sales business presents a positive picture overall and the company is at a good level, Baur said.

"Demand for customer-specific and digital services is steadily increasing and is a key factor for Arburg," he added. "We are continuing to expand our offering in this area. Our aim is to very actively offer customers individually tailored solution concepts. For example, to ensure high machine availability and reduce operating costs via our service assistants or to keep machines up-to-date for decades thanks to retrofits."

Digitalizing production

Arburg's central goal is to help plastic processors become stronger and resilient with digital products to navigate challenges, according to Steffen Kroner, Arburg's managing director of finance, controlling, IT and human resources.

"And this is certainly not easy. They have to react flexibly to market changes and increasing cost pressure in order to be able to manufacture competitively and profitably," Kroner said.

Arburg's digital products and services support all levels of the value chain, he added, to smartly handle data, reduce costs, increase efficiency, improve part quality, create transparency and counteract "the omnipresent shortage of skilled labor."

A recent development in integrated sensor technology called "MoldlifeAssist" from partner Hack that monitors the mold, enables preventive measures, and supports set-up and maintenance planning.

"This is unique in the world and is only available in this form from Arburg," Kroner said.

Another new feature of the RecyclePilot can correct the dosing volume across cycles in order to compensate for long-term quantity fluctuations.

Another Allrounder added

Arburg also added a vertical press to the Allrounder injection machine lineup that company officials say was given a small footprint, a big clamping force and a lot of focus on saving plastics processors money.

The vertical Allrounder 475 V brings a middle-size machine with a new control system for standard applications to the series, according to Frohnhaus.

"The machine has been



With an average delivery time of just four weeks after receipt of order, the Allrounder Trend machines enable flexible and competitive production. *Plastics News* photo by Caroline Seidel

developed from scratch, with particular attention paid to cost efficiency," Frohnhaus said. "Advantages include a smaller footprint of the machine combined with more space for installing larger molds. This means that more machines can be accommodated in the same floor space plus molds with more cavities can be used — resulting in higher productivity and significant cost advantages."

The standard installation height is 250 millimeters (9.8 inches) with the option of extending it by 100 or 200 millimeters.

The new press also is equipped with Arburg's servo-hydraulic system, which Frohnhaus said reduces energy requirement by up to 60 percent.

The press was designed for standard applications, including the growth sector of e-mobility as well as electronics, medical technology and the manual or automated overmolding of cables, contacts and infusion accessories.

At K 2025, the machine will process a recycled polycarbonate/ABS material into key fobs with a surface created by protective layer finish technology and in-mold decoration (Leonhard Kurz).

A wafer-thin, decorative PET film is fed into the mold from the outside via a feed unit. The film is applied to the plastic surface by in-mold lamination.

"The cover is punched out rectangularly in the mold and the remaining film is rolled up in the installation space of the vertical machine. Subsequent painting is not necessary and the product can be recycled. Different films featuring a variety of designs and colors that can be used flexibly for product variants," an Arburg news release says.

New control system

Arburg developed the new Gestica brand "lite" control system for all its Allrounder injection molding machines.

"With the Gestica lite, we are meeting the growing demand for a simple, intuitive basic control system that even non-specialists can easily get to grips with. At the same time, flexibility is maintained for experienced operators," said Werner Faulhaber, Arburg's vice president of research and development.

At K 2025, the vertical Allround-

er 475 V is equipped with Gestica lite as well as three other presses.

The software basis is identical to the comprehensive Gestica — functions for energy control and recycles available as options — and Faulhaber said the new dashboard stands out visually.

This initial page clearly displays all the important functions for day-to-day work: information on the order, the current process and direct access to the most important parameters and key figures.

On the dashboard, operators can use the touch function to jump directly to the detailed parameter pages for the clamping and injection unit.

In addition, he said there is a simplified search function and fast troubleshooting.

Multicomponent molding

Also at K 2025, an Allrounder More 2000 will produce two-colored dominoes with a 32-cavity hot runner mold, linear robotic system and cobot, which will assemble and pack the dominoes into a complete game set.

In a cycle time of about 60 seconds, 32 domino bricks are produced from ABS.

However, unlike conventional two-component applications, the mold doesn't open and rotate to add the second component.

Instead, the front of the dominoes is created by first injecting a gray ABS component via the vertical injection unit. Two hydraulic cylinders then retract the cores and pins, which creates space in the cavities for the second, green ABS component. This is injected via the horizontal injection unit and fills the back of the bricks and their indentations on the front.

In the end, 28 bricks are produced in all the number-pair combinations needed for a complete set of dominoes as well as four other dominoes with the logos of Arburg partners for the complex mold, Polarform and Hasco.

Injection compression molding

Injection compression molding can achieve geometries not possible with thermoforming while saving on materials and energy

usage, according to Arburg.

At K 2025, the machine builder will demonstrate how its electric Allrounder 720 A can be used in conjunction with in-mold labeling to produce packaging using up to 20 percent less material and 30 percent less energy.

A thin-walled round polypropylene cup with a tamper-evident closure will be produced by the press, which has a clamping force of 3,200 kN (36 tons) and a size 1300 injection unit for high volumes and speeds of up to 400 millimeters per second.

More resource-efficient than classic injection molding, compression injection molding can achieve significantly thinner wall thicknesses using less injection pressure and a slightly higher tool temperatures of 20° Celsius instead of 12°.

Arburg says improvements to this process have yielded energy savings of up to 30 percent, accompanied by a significant reduction in component weight.

For K 2025, Arburg says its application and process experts succeeded in reducing the clamping force required for the exhibit by about 20 percent from 2,900 kN (293 tons) to 2,300 kN (234 tons).

The wall thickness of the cup measures 0.37 millimeters and the cycle time is about 3.95 seconds.

A side-entry robot (Brink) is integrated into the production cell to insert the labels then it goes on to remove the finished cups before stacking them on a conveyor belt.

The special Next Cycle label can be separated completely from the cup during the recycling process, enabling the product to be recycled after use.

Efficiency of cube technology

Arburg's cube machines are available with clamping forces of 1,800, 2,900 and 4,600 kN (183 tons, 295 tons and 469 tons) to produce technical molded parts and medical technology products.

Depending on the circumstances, Arburg says the presses can replace several conventional injection molding machines to save production floor space.

At K 2025, the Allrounder Cube 1800 will produce two-component polypropylene caps for the personal care sector with a 4+4-cav-



After a linear Multilift V 30 robot places 32 dominoes on a conveyor belt, a cobot takes over the subsequent packaging of the complete ready-to-use set. *Arburg GmbH + Co KG* photo



The recyclable round cups made of polypropylene have a wall thickness measuring just 0.37 millimeters. *Arburg GmbH + Co KG* photo

ity demo mold from Foboha in a cycle time of about nine seconds.

The cube is rotated servo-electrically, while mechanical gear racks perform the horizontal movement. At the first station, four frames are injection molded. After a 90-degree rotation to the passive side of the cube, the pre-molded parts cool down at the second station. After another rotation, the second component is molded at the third station. Finally, at the fourth station, the finished parts are removed automatically and deposited on a conveyor belt by an inversely mounted Agilus six-axis robot.

Arburg says the higher investment in equipment usually pays for itself quickly because it can reduce cycle times and increase productivity significantly.

Functional medical labels

In a complex production cell built around an electric Allrounder 520 A, Arburg will show how in-mold labeling (IML) can open up new possibilities for medical products, such as centrifuge tubes, auto-injectors and measuring cups.

The benefits of IML compared to printing or labeling include added functionality, design freedom and recyclability.

At K 2025, Arburg is partnering with experts in mold technology (Kebo), labels (MCC), automation (Beck) and camera inspection (In-travis) for a production cell that it says sets industry standards.

The work cell will produce ready-to-use polypropylene centrifuge tubes with functional labels and a capacity of 15 milliliters in an eight-cavity mold in a cycle time of about 10 seconds.

The functional aspect of the labels are filling scales and thermochromic imprints that can monitor temperature profiles by means of color change.

Each tube also is given a QR code and a part-specific ID for traceability. No label printing or gluing is needed and contamination from liquid colors or adhesives is avoided. Arburg says waste can be reduced by a factor of 10.

Space-saving robot use

Another production cell will produce injector pen caps with a suspended robot to save space.

An electric Allrounder 570 A "Comfort" with a clamping force of 2,000 kN (203 tons) set up in a clean room design is a benchmark for medical technology, Arburg says.

The exhibit features an eight-cavity mold (Hack Formenbau GmbH), to produce the caps made from medical polypropylene in a cycle time of less than 10 seconds. A suspended, integrated six-axis robot then places the molded parts separately.

The footprint of the turnkey system that is about 25 percent smaller than a production cell with standard automation and a six-axis robot, Arburg says, and uses about 50 percent less energy thanks, in part, to a temperature control unit designed specifically for the application.

PLASTICS HALL OF FAME: NORM FOWLER

Norm Fowler spent the bulk of his career at Xerox where he helped over the replacement of metal parts with plastics. Plastics News photo by Jim Johnson



By Jim Johnson
Plastics News Staff

Key West, Fla. — One minute he's talking about feeling like George Bailey, one of the most famous characters ever to appear on the Silver Screen, and then later feeling like one particular Oscar-winning actress. But Norm Fowler is neither. He's a plastics engineer and he's proud of that.

And he's now one of the newest members of the Plastics Hall of Fame.

What started as a personal examination of his life's work ended up being a springboard to his inclusion in this year's induction class, which is being honored at this year's K show.

For Fowler, who spent the vast majority of his career at Xerox Corp. in a variety of positions, a constant along the way was plastic.

"I am going to be forever associated with the people who taught me, the people I read about in books, the people I studied with, the people, the great people I had the good fortune to work with, that I'm going to be mentioned in that same sentence is just a dream come true," Fowler said about his

Plastics Hall of Fame honor.

"I never thought it possible. What started out as an exercise to take a picture of my life and just to say, 'Okay, you know, who is Norm Fowler?' And what did I do? And did I make a difference? To have it turn into this says that I must have made a difference," he said.

Having looked back on his career and gathering the facts, he submitted his life's work to the Plastics Hall of Fame selection committee. Normally, Fowler would be involved in selecting the latest round of inductees, but with his nomination, he recused himself from the process. He instead focused on other aspects of the group, joining the sponsorship committee that raises funds and the historical committee that seeks to preserve the past.

"To even be mentioned in the same sentences as this year's inductees, it just blows me away," Fowler said while sitting in his Key West, Fla., home during a typically warm and sunny day.

Fowler and his wife have been long-time Key West residents, growing up and then spending a career in Rochester, N.Y., the headquarters for Xerox. The gray of New York has given way to the

sunshine of the southern most part of the United States, just 90 miles from Cuba.

Fowler spent 27 years at Xerox, working on countless projects involving plastics, often as a replacement for metal components. Over time, he moved into management and at one point he was overseeing 250 people. But what he wants to be remembered for is not the parts and pieces he helped create, but the lives he touched and the help he gave to others. And, equally important the support and help he received from them.

Talking with Fowler, he understands his place in the Cosmos. He knows his time at Xerox was important and does not minimize all those years and the work. But he also said he also believes the work of others in the plastics field, such as those in the medical field, was even more important. Call it perspective.

"I looked at my career mostly as a coach. As much as I love the technology elements of creating and having things to show and things to touch, and I did this, it didn't mean as much to me as seeing people that I worked with succeed," he said, as he dug through a box of small plastic parts he

helped create over time.

To someone else, these parts would not have meaning. To Fowler, they are mementos representing portions of his career when plastics were the right choice to make for the copy machine giant.

His willingness to work with others, to teach and to learn, allowed him to transition late in his career from focusing on specific plastics-related projects to becoming a process improvement coach at Xerox before retiring from there in 2007. He then hung out his own shingle for his own Keys Six Sigma Inc. consulting firm to help companies implement the well-known Lean Six Sigma business approach before retiring for good in 2011.

But Fowler's involvement in the plastics industry was not limited to his work at Xerox. He has been a member of the Society of Plastics Engineers since his undergraduate college days in 1974. He still has the canceled check made out to SPE after one of his professors made all his students join the group. At that point, he did not think much about the requirement and just followed what his teacher said.

He also has been involved with the National Plastics Museum and

the Plastics Pioneers Association, a group that supports and promotes the plastics industry.

The plastics bug bit Fowler in 1969 when he started learning about plastics in an industrial arts class at Greece Athena Middle School in Rochester. The program actually had a hand powered injection molding machine.

"From that day, that first day that I got his class, I knew that plastics was what I wanted to do. I didn't know what exactly, but I knew that plastics was what I wanted to do," Fowler recalls.

He initially attended State University of New York at Morrisville, where he was compelled to join SPE, and then later the University of Massachusetts Lowell, which has one of the country's highest profile plastics programs. After graduating in 1981 with his master's degree in plastics, he started working for Xerox and soon took another job at Kodak, which also has headquarters based in Rochester. He did not like the move and was able to return to Xerox after about a year away.

Plastics, Fowler said, gave him "opportunities I never would have thought possible," including international travel for Xerox. "I can't tell you how many times I went back and forth to Japan for Xerox that I never would have done if I wasn't a plastics engineer."

And those opportunities collectively fashioned a career that's being validated by his Hall of Fame induction.

"Over the years, Norm has been an incredible example to many in several plastics industry programs and especially over 50 years with the Society of Plastics Engineers. Besides this involvement within the plastics industry, Norm's activities in many other volunteer organizations have been unprecedented, which gleaned him many awards and honors," said Tim Womer in a recommendation letter for Fowler to the Hall of Fame.

"Norm Fowler is the type of person who has helped make the plastics industry great today," Womer wrote.

While Fowler knew for weeks he was being inducted into the Plastics Hall of Fame, at the time of an interview in Key West he still was trying to get used to the idea.

"This is going to be strange, but it's like Sally Fields at the Oscars. 'They love me. They really love me.' I never would have thought it was possible, but it is," he said.

And as for George Bailey, that's the character Jimmy Stewart played in the Christmas classic, *It's a Wonderful Life*, a story of one man who finds out what the world would be like if he were never born. Fowler can relate as he looks back on his own life.

In the end, Bailey life is validated by what his absence would have brought and the impact he had on those around him. "This whole process has been like George Bailey," he said.

"And so I look at it for me personally, I look at it as the recognition that I did good things that made a difference in plastics, in SPE, in Xerox, in everything that I'm involved with," Fowler said.

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