DECEMBER 2020 ISSN 2053-7190

# Film and Sheet EXTRUSION

RECENT INNOVATIONS IN FOAMED SHEET

UPDATE: SCREENCHANGERS & MELT FILTRATION

STATIC CONTROL ● POLYOLEFIN ADDITIVES

AMI Bringing the plastics industry together


# Want to read Film and Sheet magazine offline?

EXTRUSION

## Get the app and take your editions anywhere!

The *Film and Sheet Extrusion* magazine app is really easy to use and, once you've downloaded an edition, there's no need for a live data connection. It's great for anyone on the move. Just open the app to browse the latest edition on planes, trains, subways – anywhere.

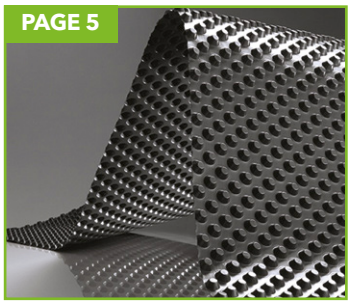
The dedicated *Film and Sheet Extrusion* app is available free-of-charge for iPads, iPhones and a huge range of Android-based tablets and smartphones. Aside from enabling off-line reading, the app also gives you fast access to our archive of more than 38 back issues allowing you to build up your own library. And if you opt for the free subscription on installation, all future editions will arrive on your device automatically.

The *Film and Sheet Extrusion* magazine app has already been downloaded more than 9,400 times by readers in more than 85 different countries. Why not try it out yourself. You can find the app in Apple's App Store, in iTunes and in the Google Play Store. Just search for "*Film and Sheet Extrusion*" or "AMI Plastics". Or click the relevant button below.

Download on the App Store

GET IT ON Google Play

# Film and Sheet EXTRUSION


















## COMING NEXT ISSUE

› Bioplastics › Materials testing/quality control › Agricultural film › Medical materials/applications

## CONTACT US

CLICK HERE TO MAKE SURE YOU GET YOUR COPY


**AMI**
Third Floor, One Brunswick Square,
Bristol, BS2 8PE, United Kingdom
Tel:+44 (0)117 924 9442
Fax:+44 (0)117 311 1534
www.ami.international
www.twitter.com/plasticsworld
Registered in England No: 2140318

**EDITORIAL**

**Editor-in-Chief:** Chris Smith
chris.smith@ami.international

**Editor:** Lou Reade
lou@filmandsheet.com

**Events and magazines director:**
Andy Beevers
andy.beevers@ami.international

**ADVERTISING**

**Advertisement manager:** Claire Bishop
claire.bishop@ami.international +44 (0)1732 682948

**Sales & commercial manager:** Levent Tounjer
levent.tounjer@ami.international +44 (0)117 924 9442

**Sales manager (China):** Jenny Zhou
jenny.zhou@ami.international +86 13651 985526

DOWNLOAD MEDIA DATA

# Polyethylene Films

May 4-6, 2021
**Renaissance World Golf Village Resort, St. Augustine, FL, USA**

**SAVE THE DATE**

## The business and technical conference for the polyethylene films industry

- Explore latest trends in materials technology, machine performance and customer demands
- Hear valuable market insights from leading thought leaders in the industry
- Gain first-hand insights on how industry leaders are integrating sustainability in their business
- Get an up-to-date view on the latest technological developments
- Exchange discussions and benchmark your strategies with the professionals across the supply chain in the polyethylene films industry

**Book your place at www.ami.ltd/attend-PE-film-USA**


**Contact**
Stephanie Hume
Senior Conference Organizer
E/ stephanie.hume@ami.international
T/ +1 610 478 0800


Sponsored by:
AMPACET Plastics Reimagined™
INGENIA REDEFINING THERMOPLASTICS

Media supporter:
Film and Sheet EXTRUSION

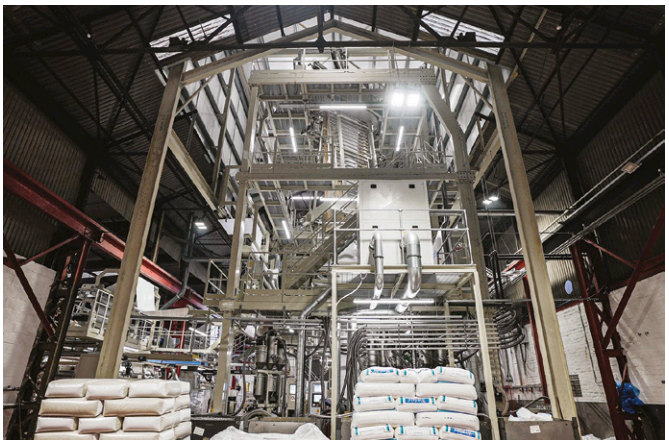
Organized by:
AMI

# Duo investment helps to double output in UK

Packaging specialist Duo says that it doubled UK-based production in 2020 following a major investment.

The company invested £1.85 million (US$2.4m) in new equipment including a conversion machine and a five-layer co-extruder – which has increased polythene film output by around 25%. At the same time, it extended its facilities to produce 58 million more mailing bags in 2020, an increase of 66% compared to 2019. It is also growing its manufacturing team by creating seven new jobs.

"We were able to accelerate the installation of our new equipment and site expansion to ensure we could satisfy growing demand for e-commerce mailing bags and other products being used in the fight against Covid-19, such as hygienic packaging for face masks," said Anthony Brimelow, commercial director at Duo.



**Above: Duo's new equipment includes a five-layer film line**

Total sales in November were up 22% against the same period in 2019, making it the largest total monthly sales in the company's 32-year history, he said.

"As well as increasing UK production capacity, the new equipment improves our range of technical abilities and allows us to manufacture more films using recycled PE. This helps reduce carbon emissions, utilise waste polythene and create more sustainable packaging," he said.

The company has seen a 10% increase in the volume of recycled content it uses during manufacturing.

With the site expansion now complete, the company has committed to a further £1m investment in new equipment to increase production capacity. This includes developing its product range based on waste polythene and growing its international footprint.

› **www.duo-uk.co.uk**

## Altair buys Nordson division

Nordson is to sell the screws and barrels product line from its polymer processing systems division to Altair Investments. The transaction is expected to close in early 2021.

Nordson says the divestment represents a portfolio realignment consistent with its strategy.

The company plans to focus its resources on precision technology solutions that will deliver profitable growth. Sundaram Nagarajan, Nordson president and CEO, said that while the product line no longer fitted its strategic focus, it would perform successfully under Altair.

The division, which generates annual revenues of over US$70 million, employs around 500 people.

› **www.nordson.com**

› **www.altairinvestmentsinc.com**

# New flexo press meets lidding demands

US-based Tekni-Plex has invested around US$2 million in a new narrow web, flexographic press to meet printed lidding demands for large medical devices.

The press is located at its facility in Ashland, Massachusetts and is due to become operational in January.

The press, which is 17in wide, includes a web cleaner for the base material and an inline vision system to ensure that printing meets stringent medical device requirements. It also features 360-degree registration adjustment. Controlled ink densities produce high quality dots in a simple and repeatable fashion.

Tekni-Plex says the new press will significantly reduce lead times, delivering standard materials in two-to-four weeks. This will help medical device manufacturers reach the market more quickly, it says. The four-color press will be used to die-cut coated lidding, using proprietary heat seal coating formulations.

"With more emphasis on minimally invasive procedures, such as laparoscopies, medical device manufacturers are designing larger devices to accommodate the latest practices," said Timm Goodmanson, vice president of the flexible division at Tekni-Plex.

"These require larger thermoformed trays and lidding to contain them. Our investment will handle these demanding applications."

› **www.tekni-plex.com**

## NEWS IN BRIEF...

UK-based slitter and rewinder producer **Atlas Converting Equipment** – which includes Titan-branded products – has joined **Kampf** within the **Jagenberg Group**. Kampf, Atlas and Titan products will continue to be separate brands. The companies say that synergies between them will ensure long-term availability of installed machines by offering a common global service.
**www.atlasconverting.com**
**www.kampf.de**
**www.jagenberg.com**

One year after its foundation, **Exolon** is to launch a comprehensive brand change. From 1 January 2021 its opaque polycarbonate and polycarbonate/polyester sheet materials – formerly branded Bayblend – will now be Exoblend. However, the company says that processing and specifications remain unchanged. Examples of the new branding include Exoblend TF (thermoformable sheet).
**www.exolongroup.com**

# Berry flexpack business becomes part of ABX

Graham Partners, a US-based private investment firm, has acquired Berry Global's flexible packaging converting business.

The business comprises six printing and laminating flexible packaging facilities, and was formerly part of Berry Global's North American extrusion, converting and coating business.

It will be combined with another flexible packaging company in Graham's portfolio, Advanced Barrier Extrusions (ABX), which Graham initially acquired in August 2018. The combined business will operate under the ABX.

"Combined, the strong R&D cultures of these two businesses offer exciting possibilities for the future," said William Timmerman, managing principal at Graham Partners. "We intend to sustain and accelerate their proven track record of developing innovative new products."

ABX is based in Charlotte, North Caroline and has eight manufacturing facilities. It produces co-extruded, high barrier films up to 11 layers, as well narrow- and wide-web flexographic printed rollstock, bags and pouches. Its products are used in food and healthcare packaging applications.

› **www.abxpackaging.com**

# Mono-PET for meat packaging

Italy-based AMB says it has developed mono-PET packaging concepts for meat processors. It says that its high-barrier PET is a sustainable, recyclable material with a design that complies with EU recycling guidelines. The mono material also has very high transparency. Mono-PET bottom films, for instance, provide high barrier protection without EVOH and can be combined with floatable lidding peel film or a mono-PET on the top, says the company.

› **www.ambpackaging.com**

# Amcor adds face masks to healthcare portfolio

Amcor Rigid Packaging (ARP) is expanding its healthcare product portfolio to include general-purpose face masks.

After piloting the assembly for employee use, ARP has since expanded production to support its customers. Face masks are critical in helping to slow the spread of Covid-19, according to the Centers for Disease Control and Prevention (CDC), says Amcor.

"After addressing the health and safety of our employees, we identified an opportunity to extend the offering to support our customers who have similar values and safety protocols in place," said Greg Rosati, vice president of healthcare for ARP's speciality container business.

ARP is assembling the general-purpose face masks at its Millville facility in New Jersey, USA.

The face masks meet general purpose-use requirements with a triple layer consisting of a non-woven inner and outer layer, and a melt-blown middle layer.

The company says it has installed an assembly line, made infrastructure modifications, created an inventory of production materials and invested in design, quality, and packaging.

› **www.amcor.com**

# SEE YOU AT THE NPE 2021

Orlando FLORIDA (USA)

**May 17th-21st 2021**

HALL WEST - BOOTH W8361

## DAILY LIVE DEMOS!

COLINES®

ONE STEP AHEAD

www.colines.it

# KP adds capacity in PET film and thermoforming

Klöckner Pentaplast has made two recent investments in North America – in PET film and thermoformed trays.

The company will expand PET extrusion with in-line stretching capacity by 10,000 tonnes/year. This will take place at the company's Rural Retreat location in Virginia, to address demand growth for heat shrink sleeve labels.

"This multi-million dollar investment will support our customers' need to fulfill the market demand for more sustainable options," said Tracey Peacock, president of the pharma, health and specialties division of KP. "The expansion strengthens our local footprint in the US."

The new PET heat shrink sleeve film production line is expected to be fully operational in the third quarter of 2022.

At the same time, the company will add capacity of thermoformed food trays at its plant in Beaver, West Virginia.

Adam Barnett, president of the food products division at KP, said: "This responds to the growing demand for sustainable post-consumer recycled content PET packaging in modified atmosphere packaging (MAP) and vacuum skin packaging (VSP) in the fresh protein market."

The trays will be made from 100% recyclate and will mean upgrading existing extrusion machinery – such as by adding 'super cleaning' technology. The investment will convert thousands of tonnes of PCR bottles into food safe packaging, said KP.

The expansion will add 21 jobs to the facility and should be fully operational by mid-2021, according to the company.

› **www.kpfilms.com**

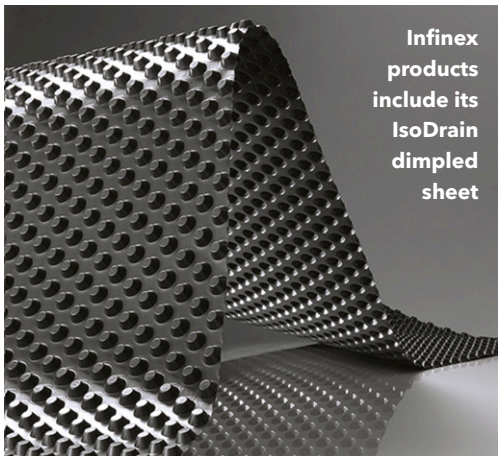
## Euromap: calenders info added

Euromap, which represents European manufacturers of plastics and rubber machinery, has added a new OPC UA information model for extrusion – with a section on calenders.

Within the description, General Type Definitions has been is published as a new Release Candidate, because types for the description of rolls and gaps have been added – which can be used in different components of extrusion lines.

The update is published as Release Candidate OPC 40084-12.

› **www.euromap.org**



**Infinex products include its IsoDrain dimpled sheet**

## Infinex acquires Repoly

Infinex of Germany has bought the Repoly recycling business of Global Solutions.

The Infinex portfolio includes dimpled films and hollow-chamber and structural chamber panels, made mainly from PP and PE. There is increasing demand for these products to be made from recycled material.

"We are already talking about a recycling component of over 50%, which is steadily increasing – so it's important to have your own products that can be recycled again at the end of the life cycle," said Martin Hartl, managing director of Infinex.

The new division, Infinex Repoly, will remain in Gera in Germany.

› **www.infinex-group.de**

# Faerch buys food packaging business from Italy

Danish packaging company Faerch has acquired the Sirap food packaging businesses from Italy's Italmobiliare.

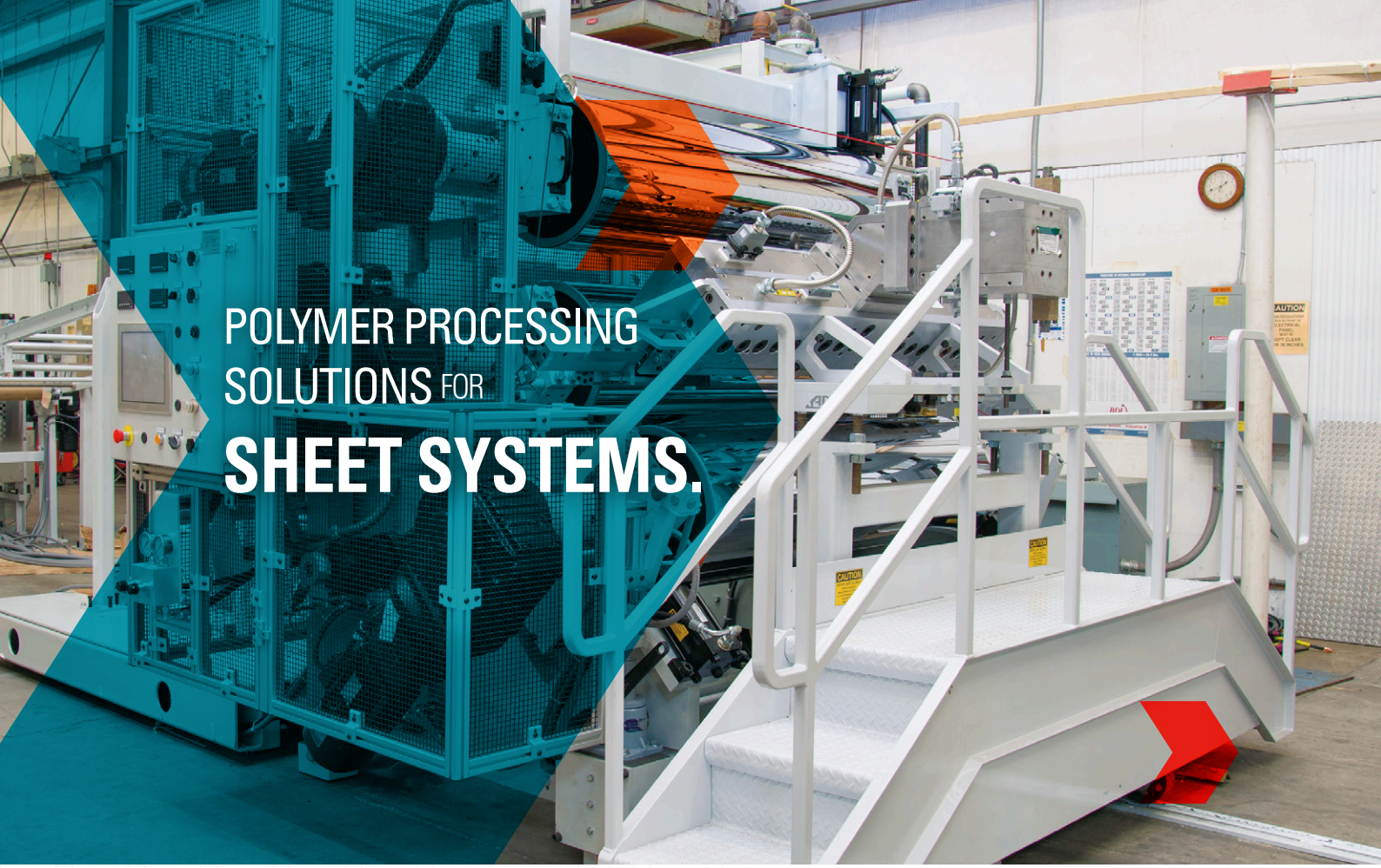
The acquisition comprises three production sites in Italy, one in Poland, one in Spain and around 1,000 employees. Faerch says the deal will help it to increase its pan-European footprint.

"We have been analysing the Italian market and are convinced that Sirap's food packaging business represents a perfect fit for us," said Lars Gade Hansen, CEO of Faerch. "Our local customers will benefit from an extended product range and our circular packaging solutions."

The Polish business complements Faerch's activities in Central Europe, while the Spanish business strengthens its existing presence there, and opens new opportunities for growth, he added.

Other parts of the Sirap business – in the UK, Germany and France – are not part of the transaction and will remain with Italmobiliare.

› **www.faerch.com**



# POLYMER PROCESSING SOLUTIONS FOR SHEET SYSTEMS.

## TAILORED TO YOUR EXACT NEEDS.

What type of sheet system do you need? Foam? Flexible? Rigid sheet extrusion? Our signature XP Express® and EX-M-PLAR® series roll stands, chill roll technology, feedscrew designs, and coextrusion knowledge enable value-added manufacturing of a wide variety of multi-layer sheet.

DAVIS-STANDARD®
Where your ideas take shape.

davis-standard.com
TEL +1 860-300-8600

# PLASTICS EXTRUSION WORLD EXPO EUROPE

1-2 June 2021

## MESSE ESSEN, GERMANY

## Registration now open!

- Reduce costs and improve efficiency by sourcing the latest equipment and technologies
- Keep up-to-date with new challenges and opportunities within the plastics extrusion industry
- Build new and existing relationships in a face-to-face environment
- Make up for lost time in 2020 by accessing the full supply chain in one place
- Benefit from three other co-located shows dedicated to compounding, plastic recycling and testing

**250+** exhibitors
**120+** speakers
**4** exhibitions
**1** free ticket

## REGISTER FOR YOUR FREE TICKET

Be part of the must attend event for the plastics extrusion industry

Brought to you by: AMI

Colocated with: Compounding World, Plastics Recycling World Expo, Polymer Testing World Expo

Proudly supported by: Film and Sheet Extrusion, Pipe and Profile Extrusion

# North America plastic machinery sales enjoy boost in third quarter

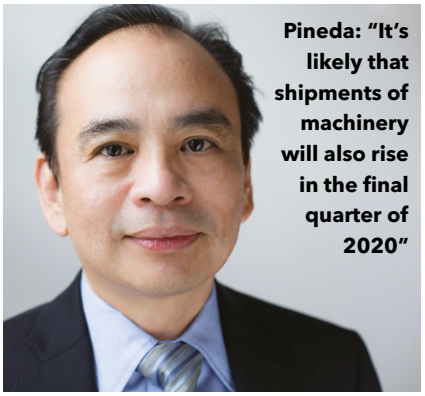
Sales of primary plastics machinery in North America increased by double-digits in the third quarter of the year, according to the Plastics Industry Association's Committee on Equipment Statistics (CES).

A preliminary estimate puts the value at nearly US$307 million, almost 16% higher than the previous quarter. Compared to the third quarter of last year, the figure was nearly 5% higher.

"Shipments of plastics machinery have increased for two consecutive quarters," said Perc Pineda, chief economist at the organisation. "The double-digit increases in the third quarter are in sync with the quicker-than-expected turnaround in other plastics end-markets. Most likely, shipments of machinery will also increase in the final quarter of 2020."

The value of single- and twin-screw extruders grew by more than 27% and 17%, respectively, in the third quarter. Injection moulding equipment was up 15% from the previous quarter and by almost 8% compared to the third quarter in 2019.

In its quarterly survey of plastics machinery suppliers, CES found that

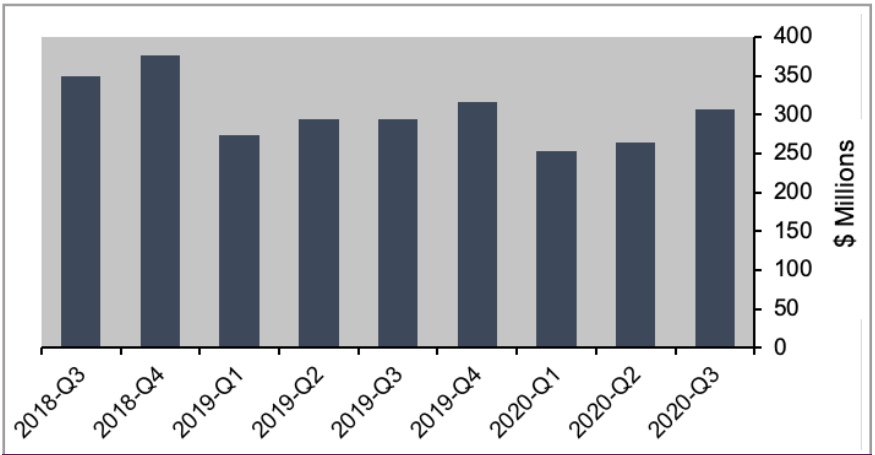


**Pineda: "It's likely that shipments of machinery will also rise in the final quarter of 2020"**

three-quarters of respondents (76%) expect market conditions to improve or hold steady compared to one year ago. This is higher than the 36% who felt this way in the second quarter. For the next 12 months, almost 90% expect the market to be steady-to-better – far above the 48% who said this in the previous quarter's survey.

"The pace of economic recovery is not without risks, and its path will depend on the containment of the coronavirus," said Pineda. "Nevertheless, the overall outlook for plastics machinery and the industry has turned more favourable in recent months."

› **www.plasticsindustry.org**




**Sales of primary plastics machinery in North America**
***Source: Plastics Industry Association, CES***

# Plastic Pouches

2-4 June 2021
World Trade Centre
Barcelona, Spain

Connecting industry professionals to explore the latest technical developments and trends

> "Plastic Pouches is one of the few venues in Europe, and globally, focused on the growing pouch and flexible packaging segment, and providing a place where the industry meets."
>
> Vice President, Global Application and Innovation Development | PROAMPAC

Headline sponsor:

UFLEX
'A part of your daily life'

Media supporter:

Film and Sheet EXTRUSION

## Secure your place

**New for 2021** - Plastics Pouches has moved to Barcelona with a new event format, agenda and exciting opportunities for everyone involved.

The conference agenda will address:

- The growing focus on the 2025 sustainable packaging pledge
- How consumer demands are changing the face of packaging development
- What the industry needs to do to stay at the leading edge of innovation

**Find out more**
**www.ami.ltd/attend-pouches**

AMI

---

**Save $400***

**until December 24, 2020**

**- use discount code**

**PP1135**

# Multilayer Flexible Packaging

## 24 - 25 June 2021
## The Westin Chicago North Shore
## Chicago, IL, USA

Addressing material and technical innovations in multilayer film to deliver efficient, optimized pack formats

- Listen to a global flexible packaging brand-owner's strategy on sustainability and future needs
- Learn about the latest developments in material, technical and machinery innovations
- Get an up to date view on the market trends in high performance packaging
- Find out the technology focus of other leading players

**Secure your place**

Sponsored by: SHELL POLYMERS MAKING THE EXPERIENCE MATTER, INGENIA

Media supporters: Film and Sheet EXTRUSION, FPA Flexible Packaging Association

*Discount codes cannot be used in conjunction with any other offer.

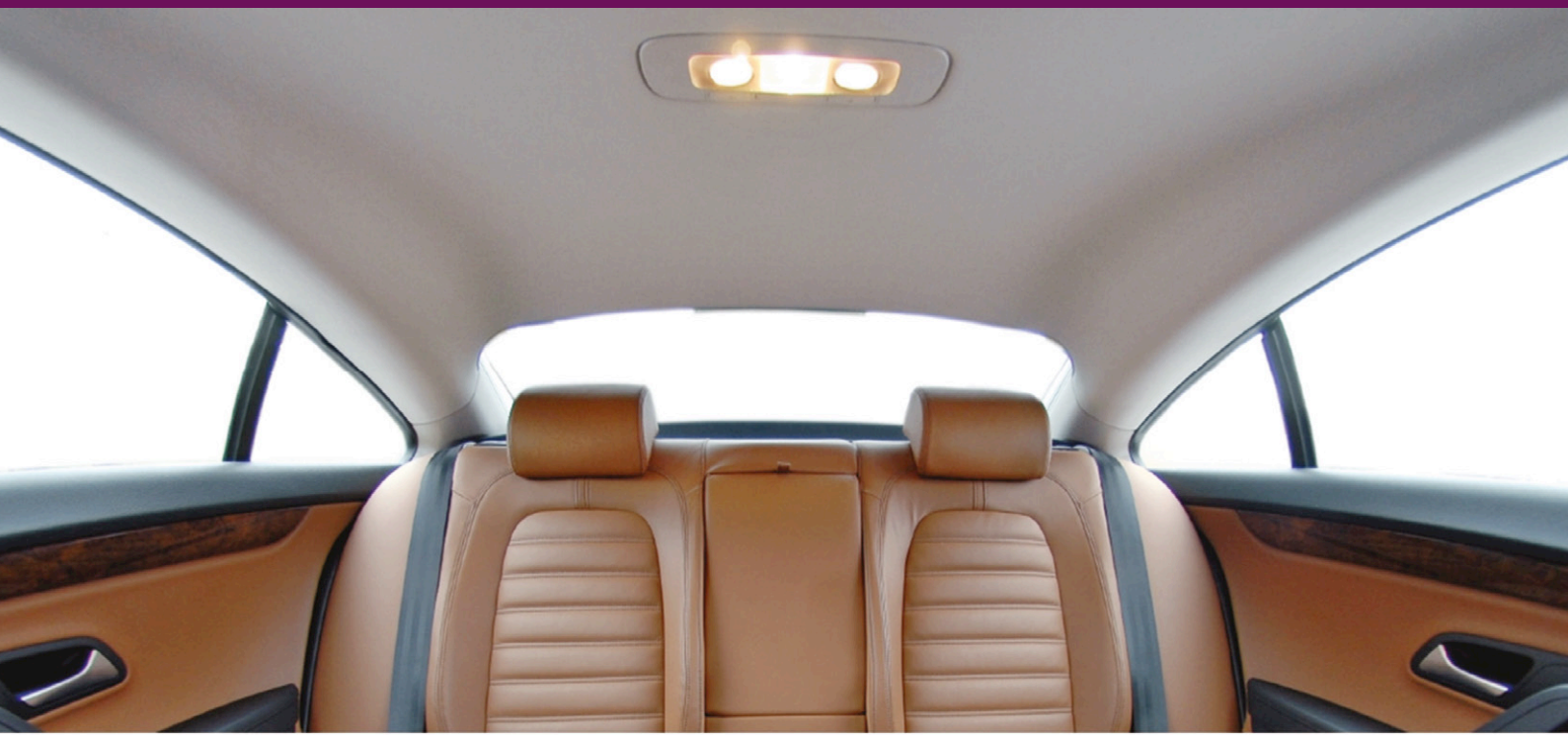

**CONTACT US**

Carole Charrade
Conference Organizer

**T** +1 610 478 0800
**E** carole.charrade@ami.international


Organised by:

AMI



# Light fantastic: latest trends in foamed sheet

***As well as its ability to reduce weight, foamed polymer sheet can absorb shocks – in applications from packaging to footwear – as well as improving insulation properties***

Foamed sheet can be made from a variety of polymers – whose properties can be modified to extend its properties to areas such as high temperature resistance and superior insulation. The products are used across a number of industries including construction, packaging and automotive.

## Car interiors

**Foam Partner** of Switzerland has introduced its OboNature foam technology, which is aimed at automotive interior applications such as headliners, interior trim and seating.

The company says that the foams – which are based on sustainable raw materials – help to reduce construction weight and manufacturing costs. The VOC and FOG values of the foams are below current thresholds for a healthy interior climate, says the company. They also pass FMVSS 302 flammability testing.

The product range include OboSky Nature 3540 T for headliners. This fine-pored, elastic foam meets the highest requirements for elongation at break and tensile strength, says the company. It also offers good thermoformability – even in critical radii. Its homogenous cell structure and colour result in optimum surface structure and appearance without undesirable 'orange peel' effects.

At the same time, its OboTrim Nature 3540 T – for interior trims – has slightly less fine pores, but is easy to process, has good elongation at break and tensile strength, and enhanced recovery after thermal compression. It is particularly aimed at armrests and door panels.

**Main image: Foam Partner's products include a fine-pored, elastic foam product for headliners**

## APET for hot fill

**SML** has developed a process to make foamed APET sheet with a heat resistance up to 140°C – making it suitable for hot fill applications.

"Inspired by customer-feedback, we have used our pilot sheet line to further develop the production process of foamed APET sheet for thermoforming, in cooperation with Kiefel Packaging," said Max-Phillip Lutz, product manager at SML.

As well as having a heat resistance of up to

**Above: ArmaGel DT is a flexible aerogel blanket from Armacell that works at temperatures down to -180°C**

140°C, the thermoformed sheet shows good heat insulation and dimensional stability. Hot fill applications, thermoformed from this material, can be used for heating in microwave ovens as baking in conventional ovens.

"It is no problem to hold a fully filled cup with 140°C hot oil in the hands for a couple of minutes," said Lutz.

In addition to improving the heat resistance of foamed APET sheet, SML is carrying out trials on a new type of foamed PP sheet.

## Blanket coverage

Foamed plastic specialist **Armacell** has developed an insulation blanket based on aerogel – a very light material with highly insulating properties.

ArmaGel DT is a flexible aerogel blanket for dual-temperature and cryogenic applications, says the company. It operates at temperatures as low as -180°C, and is available in thicknesses of 5, 10, 15 and 20mm.

The material offers low thermal conductivity, high thermal performance and a reduction in insulation thicknesses compared to competing insulation products, says Armacell.

ArmaGel DT does not shrink at cryogenic temperatures. At the same time, its hydrophobicity and flexibility can provide protection against corrosion.

"ArmaGel DT enables us to deliver a complete portfolio of cryogenic, dual-temperature and high-temperature aerogel insulation blankets," said Alessandro Argelli, director of global energy at Armacell. "In combination with ArmaGel HT, we have extended our temperature capabilities from -180°C to +650°C."

The product is made on Armacell's new aerogel production line at its 21,000 sq m manufacturing facility in Cheonan, South Korea.

## Foam expansion

Armacell is already planning to expand foam production at two other locations.

In September, it began work on two extra PET foam production lines at its facility in Thimister-Clermont in Belgium. This follows the start of PET foam core production at its plant in Suzhou, China.

The investment in Belgium will increase the size of the existing premises by one third. From 2021 it will include a production hall extension and a new warehouse to accommodate the weekly output from four PET production lines.

Once the new lines are operational, 180,000 cubic metres of PET foams will be produced per year at the plant to provide PET-based foam for the composite industry. Armacell's patented rPET processing technology enables all these PET foams to be made from recycled plastics.

Bart Janssen, vice president of engineered foams and energy at Armacell, said: "This is the fourth in a series of investments for PET foam products, with plants in Belgium, North America and China. The total capacity of our six PET foaming lines will enable us to support our global customers' growth over the long term."

Back in May, the company began foam production at its new line in China. It had earlier supplied local clients by welding and slicing blocks that were imported from its European and North American plants.

Thomas Kessel, managing director of PET foams at Armacell, said: "China has become one of the most important markets for our high-performance PET-based core materials."

## No more shocks

**Sekisui Alveo** has developed its first shock-absorbing polyolefin foam, aimed at orthopaedic applications.

Alveolux XSA is a physically crosslinked closed-cell EVA-based polyolefin foam. It is designed to meet the stringent requirements of orthopaedics and other

**Right: Shoe insoles are one application of Sekisui's Alveolux XSA polyolefin foam**

demanding applications such as body protection. The material is also suited to applications such as vibration protection, child car-seats and packaging.

Physical forces applied to the foam are absorbed and dissipated by means of compression distribution, as opposed to the foam compressing and rebounding – the typical behaviour of most conventional foams.

Alveolux XSA is available as bun in 35mm minimum usable thickness measuring 1200 x 1200mm. The nominal density is 110 kg/m$^3$. Most colours are available, and the product is available in small quantities.

It is aimed at applications such as running shoes ski boots, and orthopaedic shoe shapes – especially insoles and diabetes-adapted insoles. The foam has suitable viscoelastic properties for efficient shock absorbing and soft cushioning. The closed-cell material is hygienic, clean and washable.

With high resilience and long-term elasticity of the material, components keep their shape with use over time, says the company.

The material has been tested at temperatures from -15°C to 40°C and retains its shock-absorbing behaviour across the range. Thermal stability is comparable to that of Alveolux XE up to 65°C. Compression set behaviour of Alveolux XSA is good in comparison with other foams of similar softness, and the material is lighter than PU or rubber foams with comparable performance.

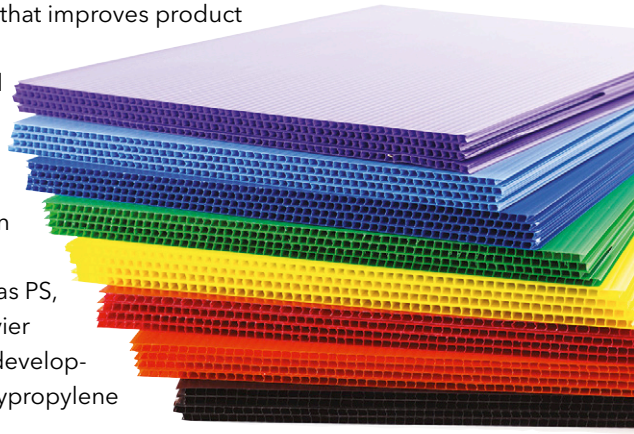
"Because it is a thermoplastic polyolefin, Alveolux XSA can be recycled or down cycled when the end of service life of the component has been reached," said the company.

## High volumes

**ExxonMobil** has introduced a foamable polypropylene (PP) resin for high volume applications including food and beverage packaging, industrial packaging and building products.

Achieve Advanced PP6302E1 is a high melt strength (HMS) grade that improves product stiffness by up to 30% compared to standard HMS PP foam, says the company.

"Historically, foam applications have been dominated by amorphous polymers such as PS, PU and PVC," said Olivier Lorge, global market development manager for polypropylene at ExxonMobil.



**Above: ExxonMobil's foamable PP resin can be used to replace corrugated sheet in industrial packaging**

The material is processable on existing PS foam lines with varied blowing agents. It also reduces material use while delivering product integrity and is recyclable where appropriate collection and recycling facilities exist.

"Converters, brand owners and OEMS can unlock opportunities in a range of applications that benefit from lightweighting and insulation while leveraging PP properties," said Lorge.

In food and beverage packaging (such as meat trays), the material delivers stiffness and affordability, says ExxonMobil. It also offers insulation properties and durable grease and moisture resistance. In industrial packaging it offers toughness, temperature stability, moisture and chemical resistance, as well as lightweight installation.

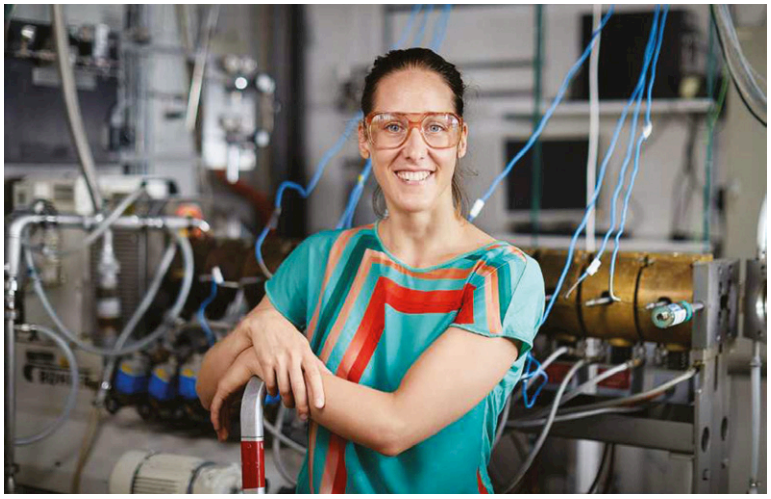
In building products (such as insulation), it gives durability and flexibility for ease of installation, says the company.

## Sheet from Turkey

**Simona** of Germany is planning to acquire MT Plastik, a leading Turkish manufacturer of PVC foamed sheet.

Its products are used mainly in digital printing, advertising and structural engineering. Simona says the acquisition will strengthen its position in PVC foam products.

›



**Above: Zuzana Sediva of ETH Zurich has says green waste can be processed into biodegradable foamed plastics for applications such as packaging**

"We want to become Europe's market leader for PVC foam sheets with regard to quality, breadth of product portfolio and market share," said Matthias Schönberg, CEO of Simona. "In acquiring MT Plastik, we have laid the foundation."

Simona will buy a 70% stake in MT Plastik. Subject to approval from anti-trust authorities, the transaction will close on 31 December 2020. Further details, such as the acquisition price, have not been disclosed.

Tufan Kalkan, chairman and majority shareholder of MT Plastik, will remain a member of the management team after the takeover.

## Packaging pilot

**Stora Enso** is to build a pilot facility for making Cellufoam, a lightweight fibre-based foam material for protective packaging.

The bio-based foam is renewable and recyclable and can be used to replace foams made from fossil-fuel resources. The pilot plant will be at the company's Fors Mill in Sweden.

The initial target application for Cellufoam will be protective packaging for fragile products such as electronics.

"Interest in sustainable packaging is growing," said Markus Mannstrom, executive vice president of the biomaterials division at Stora Enso. "Our bio-based foam offers an alternative to traditional oil-based packaging foams such as expanded polyethylene (EPE) and polystyrene (EPS). With this pilot, we continue to build on our long-term R&D work."

The company aims to evaluate and validate the material as a packaging foam in customer tests and further develop its production process. The plant is expected to be completed by the end of 2021. After evaluating pilot-scale results, the company will make decisions about potential commercialisation, it says.

## Foam from waste

A researcher at **ETH Zurich** in Switzerland has developed a biodegradable plastic foam for industrial applications.

Zuzana Sediva, a research fellow at ETH, says that green waste can be processed into biodegradable foamed plastics. This can be used in a variety of industries, including automotive, construction and packaging.

"I think packaging would be a good entry point," she said.

The solution is sustainable in two ways, she says: first, the biomass used is a natural waste product – coming partly from agriculture – so no extra land cultivation is needed; and secondly, the organic foam breaks down more quickly than conventional foamed plastic.

The process involves using a novel propellant that is added during manufacturing, allowing the biomass to foam at lower temperatures. The bio-propellant is also 'green', and is based on a mixture of gas and water. Sediva's next task is to try to scale-up production of the propellant, but she believes this will not be difficult.

The method of production is compatible with traditional processes used to manufacture foamed plastics, so potential customers would not require additional equipment, she said. Sediva is looking for industry partners to get involved in pilot projects.

## Open innovation

**Porex**, a specialist in porous polymers, has begun work on three sustainability projects, including one on open cell foam. The company says that, by working with its experts, manufacturers can create more sustainable products for many end-use applications.

For instance, Porex says it has been using recycled content such as resins from PE and PET packaging in innovative ways.

"We are committed to long-term sustainability and the adoption of green business practices," said Avi Robbins, vice president of global product development and R&D at Porex.

**CLICK ON THE LINKS FOR MORE INFORMATION:**

- **www.foampartner.com**
- **www.sml.at**
- **www.armacell.com**
- **www.sekisuialveo.com**
- **www.exxonmobilchemical.com**
- **www.simona.de**
- **www.storaenso.com**
- **www.ethz.ch**
- **www.porex.com**

# Polymer Foam
## VIRTUAL SUMMIT

19th January | 26th January
2nd February 2021

Free-to-attend virtual forums exploring advances in polymer foam materials, processes and applications


Sponsored by:

BAUMER AVIENT evoco

EVONIK Leading Beyond Chemistry AICL Industrial Products Mitsui Chemicals

سابك sabic Sanitized Sumitomo SHI DEMAG TROCELLEN A FURUKAWA COMPANY

Organised by:

AMI

Media supporter:

Compounding WORLD

**This forum series, held over three consecutive Tuesdays, will give you the chance to:**

- Learn how market trends will influence the future direction of the foam industry
- Obtain valuable insights into new materials and processes in foam markets
- Discuss the role of sustainability and its impact on the industry
- Position your company in the marketplace
- Network with global foam professionals from across the supply chain and academia

**All from the safety of your own home or office!**

Register for free

*As more processors look to handle recycled feedstocks, effective melt filtration will become increasingly important in maintaining product quality.* ***Peter Mapleston*** *reports*

IMAGE: GNEUSS

# Melt filters take on recycling challenge

Melt filters are a key component in many plastics extrusion systems but especially in those where recycled polymers are being processed – which will become increasingly common as markets adapt to the concepts of the circular economy.

Melt filtration systems are able to remove all sorts of contaminants, including paper, wood, sand, glass, and metals, as well as some non-melting plastics. They can handle recycled materials from a wide range of sources, with much of the more recent development work among filtration system suppliers concentrated on improving the quality of melts containing post-consumer recyclate (PCR).

"To achieve high quality pellets at the end of the recycling process, the right filtration technology should be chosen based on the input materials," said Robert Obermayr, head of the **Powerfil** business unit at Erema.

The Austrian plastics recycling systems maker established its Powerfil operation three years ago. It says it wanted to offer melt filters to the industry that it had already proven as individual components in its systems (a number of modifications were made to the system filter systems to suit the Powerfil market). Its SW RTF partial surface backflush filter system and Laserfilter are both individual components and are compatible not only with Erema extrusion systems but also those of other suppliers.

The company says that cyclical filtration using wire mesh filters in a piston screen changer is typically appropriate for contamination levels of up to around 0.05%, while continuous filtration using a laser filter is able to process contamination levels of 3-5 %.

For its wire mesh filters, Erema uses piston screen changer systems with back flushing. Each piston carries two filter cavities in which the wire mesh screen packages are inserted. "This system involves a cyclical process providing excellent filtration options down to mesh sizes as small as 32

**Main image: Developments in melt filters aim to enable more heavily contaminated material to be processed with higher yield, reduced downtime, and improved process consistency**

# Be part of the global forum for the single-serve supply chain

Join our first ever Single-Serve Capsules 2021 online global conference, where expert speakers will discuss both the European and American market trends within capsules industry.

The virtual sessions are complemented by access to a virtual booth area where you will have the opportunity to explore and interact with the suppliers

## Five good reasons to attend:

- **Gain** insight into the latest industry trends and product innovations
- **Discover** dynamic new applications from food companies looking at the capsule format
- **Network** with key stakeholders from the entire capsules supply chain from the safety of your own home or office
- **Learn** about the latest developments in recycling opportunities for single-serve capsules
- **Explore** different approaches to sustainability from material innovations to end-of-life choices

# Single-Serve Capsules

## VIRTUAL SUMMIT

9-11 March 2021

The global virtual summit on identifying opportunities and overcoming obstacles in the single-serve capsules industry

**Register your interest**

Organised by: AMI

Media supporters: Injection WORLD, Film and Sheet EXTRUSION


**CONTACT US**

Rebecca Weir
Senior Conference Organiser

**T** +44 (0) 117 314 8111
**E** rebecca.weir@ami.international

microns and even smaller," said Obermayr. "Because the filter is made out of woven wires it provides high porosity, which means that it has a high proportion of open area per unit of surface area."

Erema wire mesh filter systems start with one piston and two screens and go up to six pistons and twelve screens. "With the six-piston screen changer the melt pressure difference during backflushing is extremely low," said Obermayr. "Only one out of twelve screens is in backflush mode while the other eleven screens are in full production."

## State-of-the-art

For its laser filters Erema uses a special hard steel plate in which the filtration holes are manufactured, as the name implies, using a laser. Obermayr says these systems represent the state-of-the-art in terms of continuous melt filtering. As holes get blocked by contaminants, a scraper movement is actuated to free them. Each screen has three scrapers, and wiping occurs on a virtually continuous basis. According to Obermayr, this ensures a high proportion of open area, which enables a high throughput even with very contaminated materials.

Laser filters are known to provide continuous filtration at very stable pressure levels and are capable of supporting uninterrupted periods of operation lasting many days or even weeks. They also provide a very short residence time of contaminants on the filter media compared to mesh screen filters, where the particles will not be removed until the next periodic backflush.

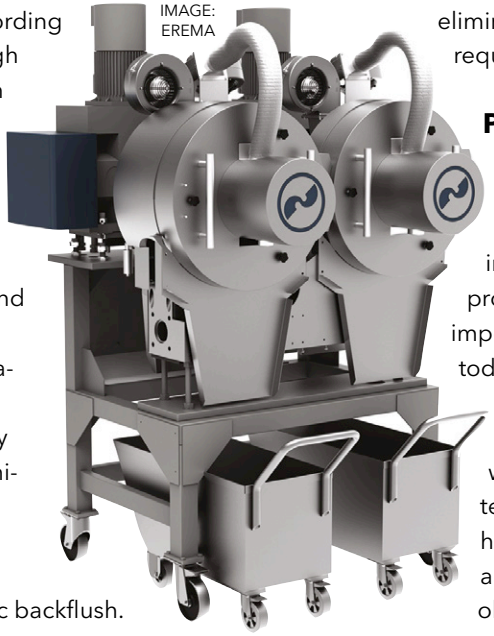


IMAGE: EREMA

"The filtration fineness can go as low as 70 microns, although in many cases a direct comparison of mesh filters and laser filters shows that the laser filter screen provides a better-defined hole-geometry which ensures a better classification efficiency," said Obermayr.

Erema calls its filtration system that adjusts automatically and which allows for filter changes while the extruder continues to operate as "Lock and Change". In these a valve system allows the laser filter screen to be changed on one filter head while the other filter is in full production.

Erema melt filtration systems feature screens with large surface areas to prevent pressure spikes. "The filters are easily accessible so that they can be reached quickly, and our intuitive HMI helps the operator to interact with the system," Obermayr said. "Any wear components in the system are easily accessible to minimise down time and eliminate complex training requirements for operators."

IMAGE: EREMA

**Above: The SW RTF filter from Erema's Powerfil division is a partial surface backflush design**

## PCR processing

At Italian machinery manufacturer **Fimic**, sales director Erica Canaia also points to increasing requirements for processing PCR. "One of the important issues in melt filtration today is that the post-consumer recycling market is improving and increasing worldwide," she said. "Better technology is required for high-end recycling applications and filtration is a critical step to obtain high-quality pellets from

**Left: Erema describes its Laserfilter as a state-of-the-art melt continuous filtration solution**

**Right: Gneuss says filters such as it RSFgenius can maintain process consistency at high contamination levels**

post-consumer waste."

Canaia points out that PCR melt streams can differ significantly depending on the material's origin, sorting, and pre-treatment. Prime customer considerations include increased throughput capabilities and reductions in operating costs. "Melt filters need to be automatic and able to reprocess contaminated materials on a continuous basis," Canaia said. "They must be simple to use and to maintain, as well as efficient. After China's 'green fence' was created, we saw higher levels of plastics waste worldwide with more aggressive contamination, which conventional technologies were not able to handle."

## Taking on PVC

One of the latest developments at Fimic is a filtration technology applicable to recycling of flexible and rigid PVC. "This is a breakthrough, because until now no continuous scraping technology could be applied to recycle PVC waste constantly," said Canaia. "In terms of filtration, the only option PVC recycling companies had was either a slide plate screenchanger or a continuous mesh changer…PVC is a very sensitive material and easily degrades with higher residence times in the melt filtration process."

Canaia said that using Fimic's PVC filtration technology, no degradation takes place during the melt filtration phase. The company has collaborated with a number of extruder suppliers and has implemented adaptations to its existing RAS technology to achieve this, including special hardening treatments on filter parts to provide greater corrosion resistance. In addition, some components have been modified internally to enable higher melt flow. The filters were tested for two years before installations began.

**Below: The latest variant of Fimic's RAS design brings continuous scraping laser filter operation to PVC processing**


Fimic recently installed a melt filter for a German company recycling flexible PVC from garden hose. This involved 150 micron laser filtration, which replaced the 400 micron mesh filter installed on the previous filtration system. In a second example, the installation of an RAS400-PVC filter enabled intervals between screen changes to be increased from 15 minutes to four days on a line processing 450-500 kg/h.

The company said it also now plans to assess the applicability of its technology for recycling post-consumer PET fines, which typically contain much more contamination than classic PET flakes.


## Focused on quality

At **Gneuss**, regional sales manager Andrew Prangnell also points to the drive to put post-consumer recycled material into high-quality final product—sheet and film being primary examples—where until recently only 100% virgin material would have been used. "But the process requires fairly fine filtration. Original equipment filtration, designed with processing virgin material in mind, very quickly becomes a bottleneck," he said.

"When processing recycled material into film or sheet, it is important that nothing is done to interfere with the stability and continuity of the process. If processing recycled materials leads to disruption and production interruptions, then the replacement of virgin material with recycled material is simply not viable," he said.

Prangnell said that typical screen changers offered for processing recycled material were originally developed for repelletising applications and are not so suited to final products. "Process and melt pressure stability are of far less importance when processing material to pellets than when manufacturing a semi-finished product such as sheet or film," he explained.

"Gneuss offers a range of melt filtration systems which offer both the ability to deal with high levels of contamination whilst at the same time maintaining extremely high levels of process consistency—for example, pressure variations of less than 4 bar during operation, together with 100% availability and a patented self-cleaning technology with unparalleled efficiency," he claimed. ›

# Macro's New Technology for Advanced Packaging

- New MacroPack™ FP blown film die for ultimate versatility
- New extrusion systems for increasing recycling content
- MacroCool D10 air rings for high output
- MacroCool DP & SP - Special PVC air rings of all BURs

MacroPack™ FP blown film die

MacroCool D10 air rings

MacroCool DP & SP PVC air rings

MACRO® ADVANCED EXTRUSION SYSTEMS

**+1 905-5079000 | sales@macroeng.com | www.macroeng.com**

---

# Save the date

# Thin Wall Packaging

## June 22-23, 2021
## The Westin North Shore, Chicago, IL, USA

Identifying opportunities and maximizing returns in the lightweight plastic tubs, pots and trays industry

- Hear leading experts discuss the latest material, technical and machinery innovations
- Discover the latest trends in global thin wall packaging markets
- Understand developments in recycling technology
- Gain insight into upcoming commercial opportunities
- Network and engage with industry peers

**Book your place: www.ami.ltd/attend-thin-wall-USA**

**CONTACT US**

Stephanie Hume
Conference Organizer

**T** +1 610 478 0800
**E** stephanie.hume@ami.international

Organised by:
AMI

Media supporters: Injection WORLD, Film and Sheet EXTRUSION

**The new FlexDisc filter stack from Nordson showing the complete stack (above) with two of the internal screenpack components**

IMAGE: NORDSON CORPORATION

## PET project

Gneuss recently helped a South American packaging producer to retrofit existing machinery with components that allow it to process recycled PET.

Cotnyl, based in San Martín in Argentina, says it is the first company in the country to obtain local approval to produce packaging made of 100% recycled PET. To do this, it has installed an RSFgenius filtration system and Multi-Rotation System (MRS) extruder.

Gneuss says that an existing South American customer has been using its Rotary Filtration Systems for several years to produce PET thermoformed trays with 70% recycled content. The filter discs operate automatically, continuously, and with constant pressure.

Fluctuating levels of contamination in the input material is a major problem when processing recyclate. This can cause screens to get dirty quickly – which increases upstream pressure and possible temperature and viscosity fluctuations.

The RSFgenius filtration systems have back-flushing technology to help overcome this. Screen cleaning is carried out automatically during production via an integrated back-flushing piston. Only a small portion of filtered melt is regularly shot through the dirty screen via a narrow gap by means of high-pressure pulses. Even with high contamination, the screens of the RSFgenius can be reused up to 400 times – allowing automatic production without the need for personnel for several weeks.

## Cutting losses

**Nordson Corporation** has developed a filtration device that, according to BKG business development manager Tobias Walcesky, substantially reduces material loss from backflush screen changers when used in the compounding and recycling of PET.

Backflushing is a self-cleaning feature in which a small portion of the melt is discharged in the reverse direction back through a screen to remove contaminants. It is automatically initiated when the pressure differential caused by contaminant build-up increases to a pre-set level. In one of Nordson's BKG HiCon V-Type screen changers with four screen cavities, for example, this backflush process is performed in one cavity after another, allowing melt flow to continue through the other three cavities.

## Reducing losses

To cut back on the material lost during backflushing, Nordson has developed a filter stack that replaces the standard screen in each cavity. Each of these filter stacks consists of two to four FlexDisc cassettes, with two screen packs in each cassette. This substantially increases filtration area and reduces material loss by reducing the amount of polymer used in the backflush cycle and the number of cycles needed in a given period of time.

The potential for cost savings is considerable, says Nordson. "In recycling, for example, if a ton of PET bottle flake sells at $1000 (around €920) annual material losses with a standard backflush screen changer with flat screens operating 24/7 can add up to more than €100,000. The BKG FlexDisc filter stacks can reduce such losses by more than 50%."

In operation at one PET recycling company, for example, a BKG HiCon V-Type screen changer equipped with FlexDiscs is said to have provided more than double the filter area versus a comparable standard unit. The FlexDisc-equipped screen changer recorded 239kg of material loss per day, compared with a daily loss from the standard unit of 680 kg. The materials savings amounted to 65%.

In addition, Nordson says it has supplied large quantities of screen changers to producers of melt blown polypropylene (PP) microfibre sheet for the masks, gowns, and other personal protective equipment (PPE).

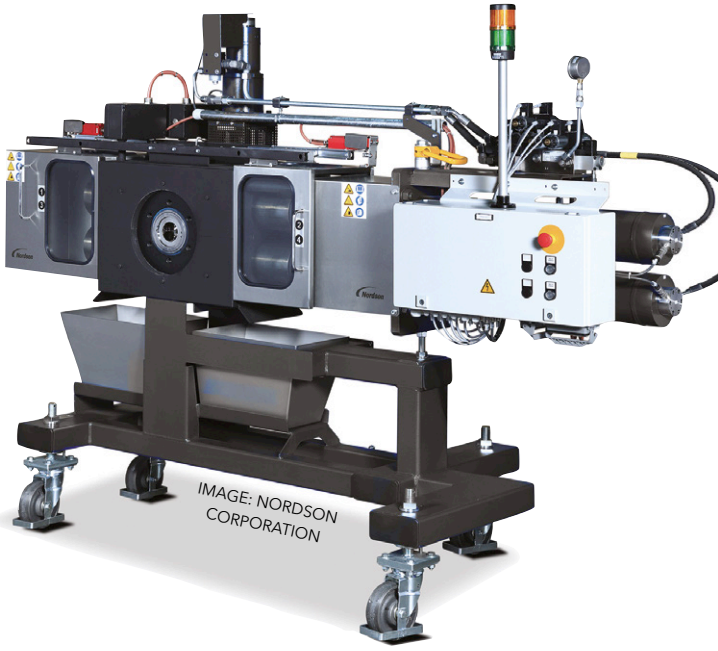


IMAGE: NORDSON CORPORATION

**Right: A BKG HiCon V-Type 3G screen-changer with FlexDiscs delivered a 65% material saving for a PET recycler**

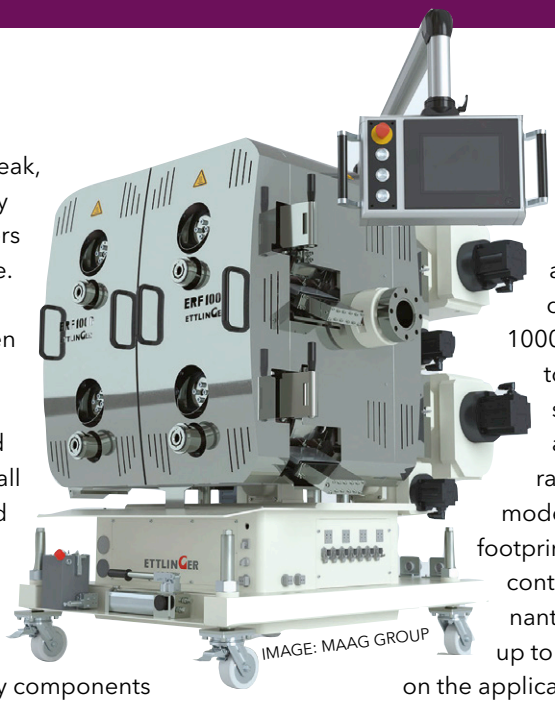



IMAGE: MAAG GROUP

**Left: The ERF 1000 is the latest and largest high performance melt filter from Maag Group company Ettlinger**

Since the Covid-19 outbreak, Nordson has delivered many BKG NorCon screen changers to extrusion OEMs in Europe. More orders are under discussion, according to Sven Conrad, global business director.

In melt blowing, extruded polymer passes through small holes in a nozzle surrounded by high-speed blowing gas, producing randomly oriented microfibres that make up a nonwoven sheet. The BKG melt delivery components are used between the extruder and the melt-blowing tool. A gear pump provides uniform melt flow and pressure, while the screen changer filters out impurities to protect the dispense tool and yield the clean product needed in medical applications.

"There continues to be an urgent need for the microfibre fabrics for PPE," said Conrad.

At K2019, Maag Group company **Ettlinger** unveiled its largest ERF continuous melt filter for ultra-high throughputs and removing difficult contaminants. The ERF 1000 has four filter drums that together provide a filtration surface of 6280cm², twice as much as on its previous range topping ERF 500 model (which has the same footprint). It can handle feedstock containing up to 18% contaminants on lines with outputs of up to 10,000 kg/h, depending on the application.

A new feature introduced on the ERF 1000 allows the four filter drums to be replaced individually without disrupting production. This means the device can run continuously and fully automatically, often over a period of several months at a time, with advantages such as ultra-low melt losses and good mixing and homogenising of the melt. The large surface area of the drums, along with the continuous cleaning principle employed, makes it

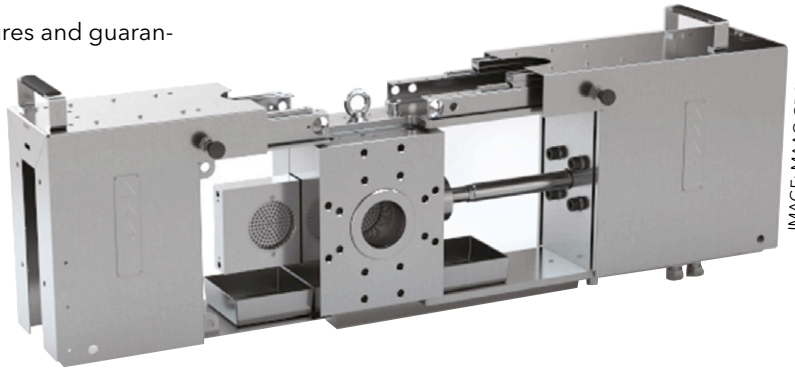


IMAGE: MAAG GROUP

**Right: Maag's FSC screen changer in standard execution with stainless steel covers**

easier to check the process pressures and guarantees a constant pressure during operation. Existing Ettlinger filter owners that buy an ERF 1000 will, in the future, be able to profit from compatible wear parts such as screens, frames, and scrapers, leading to simplified spare parts management.

## Compound options

Aside from its Ettlinger developments, **Maag** says it has updated its melt filtration product portfolio. "Besides their main task of removing contaminants and gels from the polymer matrix, filter systems help to homogenise the material," said the company.

The range includes continuous melt filters and various types of discontinuous melt filters.

"All melt filters have been re-designed specifically with market and customer needs in mind," said Maag. "Requirements are met by a large number of options, which can also be combined with one another."

Maag's FSC flat slide technology covers a wide range of viscosities and temperatures, for low-viscosity polymers, such as hot-melt adhesives. It incorporates a metal hybrid sealing system and can handle temperatures up to 320°C. Meanwhile, DSC and CSC piston screen changers are available with three different cavities: the standard round cavity for very high filler contents; the enlarged "PE" cavity, which Maag says provides versatility in balancing throughput and filler loading; and the "R" cavity in the form of a curved sieve to realise a four times greater filter area.

Last year, **Parkinson Technologies**' Key Filters brand unveiled several refinements to its KCH continuous belt screen changer, including a more robust construction, cooling enhancements and maintenance features. "From the start [in 2012], the KCH has been a well-received high-performance machine in the continuous melt filtration market," said Justin Marriott, Key Filters product manager. "This recent iteration saw the most advancements since the KCH's inception." As a consequence, he says the system is now more robust, faster, more reliable, and easier to maintain.


IMAGE: PARKINSON TECHNOLOGIES

**Left: The latest version of the Key Filters KCH continuous belt filter is said to offer greater throughputs and easier maintenance**

## Sensor updates

To increase overall robustness, vital machine sensors were guarded, moved further away from high-heat locations and upgraded to meet extreme production environments. Marriott cites the puller sensor as one example, which has been upgraded from a string potentiometer to an extreme-duty, non-contact inductive sensor that has already been proven across a broad range of demanding applications.

Additional developments include increased cooling through the inlets and outlets, resulting in three times the flow rate compared to the previous version.

Marriott says this accelerates formation of the sealing plug, "which allows the KCH to advance the screen at an even quicker rate, thus filtering out higher volumes of contaminants and reducing the risk of downtime due to seal failure."

Marriott also says that the KCH is now more capable of reacting to unintended variations in extrusion line conditions, such as an over-ambitious increase in extruder screw speed at start-up or an interruption in the cooling water to the screen changer (which can result in the loss of the sealing plug in the screen outlet).

"The Key Filters team looked at ways to reduce potential down-time to these unfortunate situations by separating the puller and outlet assemblies. The heated polymer will bypass the puller assembly, eliminating component damage and providing an easier clean-up if plug loss occurs," he said.

**CLICK ON THE LINKS FOR MORE INFORMATION:**

- **www.powerfil.com**
- **www.fimic.it**
- **www.gneuss.com**
- **www.nordsonpolymerprocessing.com**
- **www.ettlinger.com**
- **www.maag.com**
- **www.parkinsontechnologies.com**

# PLASTICS EXTRUSION WORLD EXPO

# PLASTICS RECYCLING WORLD EXPO

# POLYMER TESTING WORLD EXPO

# COMPOUNDING WORLD EXPO

**REGISTER FOR FREE**

1-2 June 2021, **Essen, Germany**

## These are just some of the 250+ exhibitors who will be in Essen:

AMUT GROUP
ALL YOU NEED IS poex
AUSER POLIMERI
BANDERA EXTRUSION INTELLIGENCE
BRITAS FILTRATION SYSTEMS
AQUAFIL ENGINEERING
COLORS & EFFECTS · BASF We create chemistry
AZO
CLARIANT
MITSUI & CO.
brabender TECHNOLOGIE
MONTELLO Recovery and Recycling Industry Plastic - Fertilizers - Energy - Biomethane
Vecoplan®
INOEX THE FUTURE OF EXTRUSION
binova COMPOUNDING & RECYCLING
FEDDEM
coperion confidence through partnership
Dynisco
Westlake Global Compounds
BUNTING
CABOT
WACKER
NGR PLASTIC RECYCLING TECHNOLOGIES
motan colortronic
EREMA PLASTIC RECYCLING SYSTEMS
EVONIK POWER TO CREATE
ExxonMobil
MPI chemie
norner The Polymer Explorers
Fraunhofer LBF
FRONTIER LAB www.frontier-lab.com
soremA PLASTICS RECYCLING SYSTEMS
ICMA SAN GIORGIO Advanced Compounding and Extrusion Systems
VEOLIA
GAMMA MECCANICA RECYCLING LINES FOR PLASTIC MATERIALS
IMERYS Performance Additives
JSW THE JAPAN STEEL WORKS, LTD.
JWELL
Krauss Maffei Pioneering Plastics
PALLMANN TOP PERFORMANCE IN SIZE REDUCTION
Leistritz
Piovan Piovan Group
Macchi
MARIS Technological Company
Sanitized Swiss antimicrobial expertise since 1935
Reifenhäuser EXTRUSION SYSTEMS
RODEPA PLASTICS
SIKORA Technology To Perfection
van werven
sogapol
SOLVAY asking more from chemistry®

Brought to you by: AMI

Proudly supported by:

Compounding WORLD | Film and Sheet EXTRUSION | Pipe and Profile EXTRUSION | Plastics Recycling WORLD

# 4 EXPOS 2 CONTINENTS

The international exhibitions for the plastics compounding, recycling, extrusion and testing industry

## BOOK YOUR STAND

**FIND OUT MORE**

November 3-4, 2021, **Cleveland, Ohio**

These are just some of the 250+ exhibitors who will be in Cleveland:

ABS Advanced Blending Solutions LLC
ADDEX Experience Addex
AdvanSix
Dynisco
Baerlocher
Aditya Birla Birla Carbon
B&P Littleford
Brenntag Specialties
Budenheim
Buss excellence in compounding
BYK
Cardinal Recycling Company
CPM Extrusion Group Local Service Global Reach
cumberland
aec
Davis-Standard Where your ideas take shape.
Dover Chemical Corporation
gneuß
Heritage Plastics
GreenMantra Technologies
Entek
GEON Performance Solutions
Greiner Extrusion Group
MTI the mixing company
intertek Total Quality. Assured.
kaneka
Konica Minolta Sensing Americas, Inc.
MAAG Group a POWER company
MACRO Advanced Extrusion Systems
MIXACO Maschinenbau
Maguire Syncro
Matsui
Milliken
Polystar
NETZSCH Proven Excellence.
NFM
Nordson
Omya
orion Engineered Carbons Focused. Innovative. Responsive.
FB Balzanelli
Q-Lab
schenck process
SI Group The Substance Inside
STEER AMERICA
struktol
KA SUONO
ThermoFisher Scientific
TPEI Technical Process & Engineering Inc. Customer Service, Compounded Daily
Zeppelin We Create Solutions
ZERMA The Home of Size Reduction 847-291-1300
ZOLTEK Toray Group

**www.ami.international/exhibitions**

# Polymers in Footwear

## VIRTUAL SUMMIT

Capitalising on advances in polymer materials and processing technologies for footwear applications

21 January | 28 January | 4 February 2021

**FREE VIRTUAL EVENT**

## Meet forward-thinking experts from the polymer and footwear supply chain

For the first time this international event has gone virtual! Polymers in Footwear Virtual Summit will bring together expert speakers from across the industry.

- Hear from brands on latest market developments and future trends
- Learn about innovative materials and technologies for footwear applications
- Explore new technologies and ways of manufacturing shoes

**Register for free today**

Sponsored by:

BLOOM, BASF We create chemistry, DESMA, DSM, evoco, EVONIK Leading Beyond Chemistry, HUNTSMAN Enriching lives through innovation, Lenzing Innovative by nature, OIA GLOBAL, Rhenoflex The Reinforcement Company, RobinsonBrothers, susterra, Texon materials for life.

Media supporters:

Compounding WORLD, Injection WORLD

AMI

www.ami.ltd/attend-footwear | #AMIFootwear

***Static control is an important technique in plastic film production – and is vital to a range of operations including printing, surface cleaning and quality control***

# Clean break: developments in static control equipment

Surface treatment of plastics is often ignored, through the number of areas in which it is used is extensive – especially in treating a surface before printing or coating.

To help users understand more about the process – and to get their products ready for market – surface treatment specialist **Vetaphone** has opened a test laboratory at its headquarters in Kolding, Denmark.

The lab offers printers, converters, laminators and extruders the chance to run tests under controlled laboratory conditions prior to committing to the expense of commercial production. The facility is also available to ink, lacquer, and substrate manufacturers, to help them ensure that their new products meet or exceed current international standards.

Vetaphone expects to attract visits from technical staff whose skill and recommendation are key to ensuring successful commercial production. In addition, it says that the lab will help all kinds of user to understand the surface treatment process in greater detail.

"With our experience in surface treatment technology, we have become the 'go to' supplier for many printing, converting and laminating machinery manufacturers, who realise the importance of detailed R&D on every component in the production line," said Frank Eisby, CEO of Vetaphone. "We can advise how best to ensure maximum productivity and lowest energy consumption across substrates that are becoming increasingly complex and difficult to process."

## Remote access

Away from its headquarters, the company says it is giving its customers remote support – as local rules to fight the Coronavirus pandemic do not always allow easy access by its technicians. The company has created a remote service tool, to help customers diagnose problems without on-site help.

Søren Kusk Pedersen, a member of Vetaphone's on-call support team, said: "We created the software in-house as a diagnostic tool for our generators. It allows us to see and change the state

**Main image: Fraser's Xifos 33 long-range static eliminator delivers 33 kV of pulsed-DC ionising power to neutralise charge on a material**

of input and output signals, read the error log, and modify parameters. We can also upload and change all the settings in the generator – so it acts as a remote troubleshooting service for any Vetaphone customer."

The concept was put into action recently when Advanced Labels – based 10,000km away in South Africa – was having issues with one of its Nilpeter narrow web presses. The company has a Vetaphone 2kW corona treater fitted to a Nilpeter, and it was failing to start up – though the display on the press was not showing an error. The Vetaphone service tool allowed its local agent to log in and diagnose what was wrong with the generator.

Having done this, a new generator was ordered from Vetaphone in Denmark, then delivered and installed. After commissioning, it was tested using the service tool and all readings confirmed as normal.

"It's good to have this facility on our laptops. It has given us a new way to support our customers wherever they are located," said PJ Prinsloo, a service engineer at Ipex Services KZN, Vetaphone's representative for southern Africa.

## Long range

UK-based **Fraser Anti-Static Techniques** says that its Xifos 33 long-range static eliminator is easy to install and avoids the need for additional remote programming or control equipment.

The device delivers 33 kV of pulsed-DC ionising power with built-in field polarity sensing and adaptive ionisation output – which neutralises actual charge on a material. The ionisation distance and intelligence settings are easy to adjust locally, without using tools, through an intuitive on-bar interface.

The status of the bar is easily monitored by viewing the five green/red on-board LEDs. Additionally, it is compatible with IEC 61131-2 Type 1, 2 and 3 PLC inputs. Connectivity is via a standard 5-pin M12 connector, enabling customers to monitor performance in any environment.

The Xifos 33 is backwards compatible with Fraser's NEOS 30 static eliminator and available in lengths of 600mm, 750mm, and in steps of 250mm to a maximum length of 6,000mm – with active ionisation along the length of the bar. Configured to neutralise charges at a range of 250-1,500mm, the power of the Xifos 33 makes it ideal for OEMs and end users with large winders – including slitters/rewinders, cast and blown film extruders and laminators.

"The Xifos 33 has been rigorously designed from inception with reliability and scalability in mind to meet future customer requirements," said Bruce Clothier, CEO of Fraser. "By refining our software algorithms, we can offer customers a way of delivering optimal static neutralisation to enhance the quality of their output on high-speed machinery."

Fraser also offers a small, close range ionising tool. With an operational length of just 47mm, the 3024 Ultra-Compact 24 V DC static eliminator can be combined with a fixed nozzle for ionised air cleaning, as well as forming an ionised airgun.

The 3024 Ultra-Compact can be used in confined of spaces. Like its sister product – the 3024 Compact bar – the 3024 Ultra-Compact has built-in high voltage electronics to deliver powerful static elimination at close range to a substrate or other material.

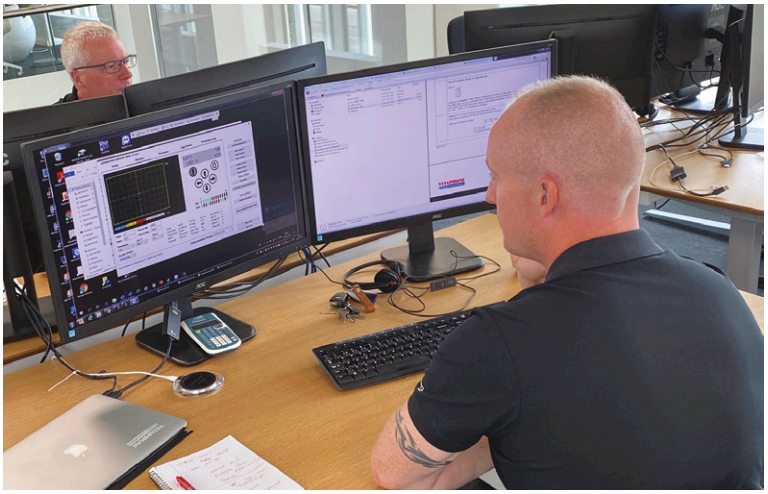
It is easy to retrofit, with integrated mounting holes and standard M8 4-pin connector. At just 80 x 47 x 16mm (excluding connector), it has an ideal operating distance of 20-150mm. Each device can deliver up to 7.5kV from a low voltage 24V DC input.

## Clean surfaces

**Simco-Ion** of the Netherlands has developed the Cleanflex Easy ionising air gun, which is used to clean and neutralise surfaces.

On-board generation of high voltage means there are no high voltage cables. The gun requires a 24V DC power supply – from an existing source or Simco's plug-in adaptor. At one point, damage to the gun's high voltage cable required a costly, time-consuming repair process. Now, all that is needed is to change the cable with M12 industrial connector.

The device has been designed ergonomically, with a soft grip and grip fixation making it easy to hold without muscle tension, says the company. Airflow is controlled by a full hand trigger – not a single finger – which makes it easy to operate over



**Below: Vetaphone has a team that offers remote customer support its users via its new support tool software**

# Functional Fillers

## VIRTUAL SUMMIT

16-18 March 2021

Using fillers to add functionality and boost the profitability of plastics materials and products


**How to get involved**

**Attend as a delegate**
If you are a compounder, masterbatch maker, plastics processor (eg moulder or extruder) or an end-user (eg OEM or brand owner) you can attend as a free delegate.

**Other ways to take part**
For any other company types (eg suppliers of polymers, additives and machinery), please contact Levent Tounjer to discuss how you can get involved in this event as a speaker, exhibitor or sponsor.

Organised by: AMI

Media supporter: Compounding WORLD

# New exclusive industry event

Functional Fillers 2021 is a new global online conference hosted by AMI, the leading organiser of events for the plastics compounding industry.

It will be free-to-attend for compounders, masterbatch makers, plastics processors and end-users around the world. They will learn how mineral and synthetic fillers can add functionality and improve the profitability of their polymer materials and products.

The event will cover the latest development in functional fillers and their applications, as well as advances in coupling agents, plus processing tips for increasing filler loadings and dispersion.

**Register your interest today**

# Polymer Sourcing & Distribution

17-19 May 2021
Hotel Grand Elysee
Hamburg, Germany

Disruptive forces, challenges and opportunities in global polymer sourcing & distribution

Headline sponsor:

Biesterfeld
Competence in Solutions

Also sponsored by:

PLASTICFINDER
The number one online plastics marketplace

Media supporter:

Compounding WORLD

Organised by:

AMI

## 5 REASONS WHY YOU SHOULD ATTEND:

- Take a deep dive into the trends affecting polymer markets and their future prospects
- Deepen your understanding of the polymer supply chain and sourcing challenges
- Learn about the recycled polymer market and the impact of circular economy on supply chain dynamics
- Find out about the impact of Coronavirus on the plastics industry, and what the recovery may look like
- Meet and network with senior personnel from every part of within the polymer supply chain

**Book your place**

"AMI's Polymer Sourcing is a must go conference. Good networking and learn latest trends on Europe polymers distribution"

Chief representative- CHEMORBIS

long periods, with less chance of repetitive strain injury (RSI).

Other benefits include a reduction in air consumption of around 40%, reduced blow off force and a reduction in noise level – up to five times less.


**Above: Meech's CyClean-R uses computational fluid dynamics to boost surface cleaning performance**

## CFD for cleaning

**Meech International** of the UK has added expanded its range of non-contact web cleaners with the CyClean-R – which uses computational fluid dynamics to allow thorough cleaning performance.

Usable in a variety of applications, including narrow, mid and wide web, CyClean-R is available as a single-sided and double-sided web cleaner. From its position on the web roller, it removes dry, unbonded contamination from any web material. Particle removal to 0.5 micron is achievable.

"CyClean-R was designed after we became aware of a need for an advanced web cleaning system that can be used on a web that sits around a roller," said Adam Battrick, sales director at Meech. "This makes it ideal for many applications, especially those with low-tension webs. This type of web has always been difficult to clean as effectively as a high tension web.
This issue is now eliminated.
Because it's a non-contact cleaner, there is no risk of surface damage, or interference with web tension and tracking."

CyClean-R is suitable for a variety of web widths up to 9,000mm. Every system also has air balancing and auto airflow adjustment, so can be set for a specific application and maintain optimum cleaning performance without operator intervention.

CyClean-R is available in three configurations: fixed, manual operation and pneumatic. All versions incorporate Meech's Hyperion static control bars, designed to eliminate static charges from web materials.

In addition, the company is planning to move production to a new 22,000 sq ft facility, next door to its existing headquarters in Witney, Oxfordshire. ❯

**Above: Vetaphone says its new test laboratory offers the chance to run tests under controlled conditions prior to scale-up**

The new unit will house all of Meech's production, while its existing facility will retain its commercial and administrative offices, plus engineering and R&D departments.

Meech is scheduled to move into the new facility – Unit 2 at Tungsten Park – in July 2021.

Chris Francis, CEO at Meech, said: "We have seen substantial growth as a company over the years, and this expansion gives us a platform to continue developing our R&D resource to meet future demand."

## Saving air

**Exair** says that its Gen4 standard ion air knife eliminates static electricity 30% more effectively at low inlet pressures – which saves compressed air and money.

"Production speeds, product quality and surface cleanliness can improve dramatically," said the company. "It eliminates static on plastics, webs, sheet stock and other product surfaces where tearing, jamming or hazardous shocks are a problem."

The Gen4 standard ion air knife incorporates Exair's standard air knife that minimises compressed air use by inducing surrounding airflow at a ratio fo 30:1. The amp;lified airflow carries the ions to their target, making it possible to eliminate static charges in less than half a second. Air volume and velocity are controllable from a 'breeze' to a 'blast'.

The standard air knife is available in 3-48in lengths. The electrical ion source is shockless, and there is no radioactive element.

Applications include surface cleansing, neutralising plastics, bag opening, printing machinery and packaging operations.

The company has also developed Gen4 two-outlet selectable voltage power supplies, allowing users to choose input voltages of 115V or 230V AC. Two 5kV stainless steel output connectors can energise two static eliminators. Applications using up to two Gen4 super ion air knives, ion air guns, ion air cannons, ionising bars or other Gen4 product can be connected to a single power supply.

The two-outlet power supply is housed in a durable metal enclosure (5.5 x 4 x 3.4in) for rugged, industrial environments. Gen4 static eliminators have a bayonet-style connector that can be inserted into the power supply where the electrical connection is made.

## Nozzle performance

**Eltex** has developed two new rotary nozzles that offer improved cleaning performance compared to conventional blower nozzles, says the company.

The EasyClean nozzle has a pulsating air stream – comparable to a steam jet – and allows a larger surface area to be cleaned. It is recommended that the nozzle, for blow pistols, is used with a duo spiral hose. It offers high performance at low price because there is no speed control, as well as having low weight and low air consumption.

In addition, the VarioClean is a speed-controlled nozzle for constant cleaning, even with compressed air fluctuations and sensitive parts. It operates from 2.5 to 6 bar. Nozzles can be operated individually or together. Diameters can be adjusted without tools. Extra airflow along the high voltage tip improves ionisation and reduces pollution during operation. It is aimed at automated processes.

The company adds that electrostatic charging systems can also be used to improve the production of personal protective equipment (PPE) – which is on the increase due to the Coronavirus pandemic.

Electrostatic charging can be used in the meltblown production process – which is commonly used to make products such as facemasks. Here, electrostatic charging helps to improve the filter effect and high air permeability. Charged non-woven material catches particles and aerosol droplets, even if they are tiny.

"Filtration stability over a long period of time results from the fact that no particles remain attached to the filter," said the company.

The company says that its Power Charger high voltage generator is already being used by mask manufacturers in Germany and China.

**CLICK ON THE LINKS FOR MORE INFORMATION:**

- **www.vetaphone.com**
- **www.fraser-antistatic.com**
- **www.simco-ion.nl**
- **www.meech.com**
- **www.exair.com**
- **www.eltex.de**

# Post-Brexit Regulations

**18-20 January 2021**

Exploring post-Brexit regulations and the practical implications for the plastics industry

## How will Brexit affect regulations on plastics?

**ONLY €395***
until
31 December 2020

Hear from leading legislation experts on the implications of Brexit for plastic regulations. Taking place over three days, these workshops will cover different perspectives of the effects of Brexit including the UK, European and business viewpoints.

**Topics include:**

- The legal implications of leaving the EU
- The impact of Brexit on the regulation of chemicals and plastics
- Dealing with a post-Brexit sovereign UK (and what it might mean for business)
- Practical implications for EU-27 based legal entities trading with the UK.
- Practical implications for UK-based legal entities trading with the EU-27
- Practical implications for non-EU legal entities dealing through UK-based Importers or Only Representatives
- What has changed/will change in the supply chain
- Transitional arrangements
- Actual risks - and potential benefits

**Find out more**

### Contact Us


Emily Nicholson
Conference Organiser

**T** +44 (0) 117 314 8111
**E** emily.nicholson@ami.international


* price may be subject to VAT

### Speakers include

**Mr. Simon Tilling**
Partner
BURGES SALMON LLP

**Mr. Paul Ashford**
Managing Director
ANTHESIS-CALEB

**Dr. Anna Gergely**
Director EHS Regulatory
STEPTOE & JOHNSON LLP

# PLASTICS EXTRUSION WORLD EXPO

## NORTH AMERICA

## FILM AND SHEET EXTRUSION

# New dates

November 3-4, 2021

**CLEVELAND, OHIO, USA**

## Highlights from 2019

From across the co-located expos

| Total number of exhibitors: | Total number of visitors: | Number of countries represented: | Combined budget of visitors: |
|---|---|---|---|
| **261** | **4,375** | **42** | **$8.9BN+** |

**BOOK YOUR BOOTH**

To book your booth, contact:

**exhibition_sales@ami.international**
**+1 610 478 0800**

Find out about the

**Plastics Extrusion World Expo, Europe**

Brought to you by: AMI

Colocated with: Compounding World Expo, Plastics Recycling World Expo, Polymer Testing World Expo

Proudly supported by: Film and Sheet Extrusion, Pipe and Profile Extrusion

*Polyolefins are used extensively in applications from agriculture to packaging. Additives help boost their performance properties in areas ranging from flame retardancy to recyclability*

# Lifting performance: polyolefin additives

Additives as diverse as flame retardants, light stabilisers and chain extenders can help to extend the properties of polyolefins – in applications as diverse as plasticulture, construction, recycling and packaging.

**Baerlocher** says that its Baeropol T-Blend range of chain extenders has helped to improve the properties of products made from recycled plastics.

The range is based on the company's RST stabiliser, which forms the basis for a set of additive blends that have been proved useful in polyolefin recycling applications.

Baerlocher offers fully formulated anti-oxidant packages under the Baeropol T-Blend range. The stabilisers are available in a dust-free pastille form. The company says this is appreciated by recyclers, who often struggle to handle powdered materials. Unlike additives in masterbatches, these products have 100% active content, says Baerlocher.

The pastilles can be fed directly into the compactor unit of a film recycling line using low-cost volumetric feeders. The improved quality of the recyclate quickly becomes obvious in, for example, a downstream film blowing line – where less gelling and fewer degradation products lead to fewer bubble breakages and a more homogenous mechanical performance of the film.

"Since K2019 we have gathered a lot more data that show the benefits of our products, which we are now excited to share with recyclers, converters and brand owners," said Henrik Eriksson, technical product manager at Baerlocher. "Our analytical work can provide the tools that recyclers need to communicate the higher value of recyclate upcycled with Baeropol additives."

One grade of Baeropol T-Blend safeguards processability and mechanical properties and also makes PP solidify faster and more uniformly. This enables shorter cycle times and ensures dimensional stability from batch to batch.

## Plasticulture expansion

**BASF** has completed construction of a new plant for agricultural film additives, at its site in Pontecchio Marconi, Italy.

The facility will make a broader range of BASF's

**Main image: BASF says that greenhouses with covers made from NOR-stabilised films create a favourable environment for pollinators such as bumblebees**

**Right: Dynamic Modifiers says that its flame-retardant PP concentrate can be used in film and thicker gauge extruded parts**

NOR technology platform. This comprises a range of light and thermal stabilisers that are used extensively in plasticulture applications such as greenhouse covers, macro and small tunnels, nettings and substrate bags.

The site is already a major production unit for hindered amine light stabilisers (HALS) and NOR HALS product ranges. It also houses a global testing hub for agricultural applications and a regional weathering centre.

"With this expansion, we are well positioned to serve the growing plasticulture market with a broader range of NOR technology," said Achim Sties, senior vice president of performance chemicals Europe at BASF. "With the NOR technology platform and the knowhow of our experts, we can optimise the level of performance of agricultural plastics applications."

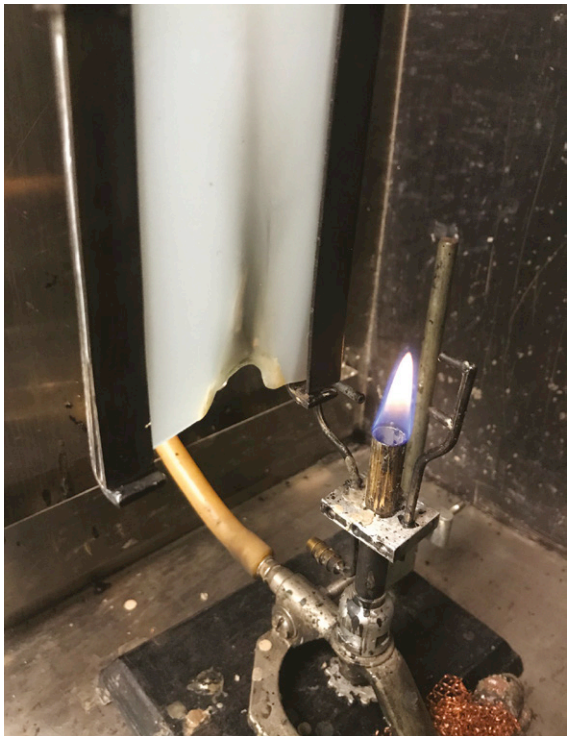
For instance, greenhouses with covers made from NOR-stabilised films create a favourable environment – with the optimum light required for growing fruits, vegetables and flowers, and for pollinators such as bumblebees and other insects, says the company.

## FR concentrate

US-based compounder **Dynamic Modifiers** has introduced a flame-retardant polypropylene (PP) concentrate/masterbatch.

PAL NH-LS Performance FR is a non-halogenated, non-antimony vapour phase flame retardant concentrate for use in the production of a range of products, including film and thicker gauge extruded parts.

Exposure to flame results in a UL-94 V-2 level of flame-retardant performance in thicker gauge extruded parts and rapidly self-extinguishing behaviour without consuming the test specimen. When used in fibres or tape yarns it meets many of the vertical burn requirements of textile/film flame retardant standards, such as NFPA 701, says the company.



The PP concentrate contributes little to the overall specific gravity of the final product, preserving the lightweight properties characteristic of polyolefins. It is non-toxic, sustainable and yields advantages for brand-owners to gain LEED points in the Green Building market.

The product is also water-repellent, printable and chemically resistant – and can be tailored for specific needs, such as with UV resistance, colour and even glass fibres for extra stiffness.

Unlike many non-halogenated FR materials, the concentrate does not contain heavily loaded magnesium hydroxide – which can affect mechanical properties, says the company.

**CLICK ON THE LINKS FOR MORE INFORMATION:**

- **www.baerlocher.com**
- **www.basf.com**
- **www.dynamicmodifiers.com**

# Plastics Recycling Technology

**20-21 April 2021**
**Hotel Savoyen**
**Vienna, Austria**

**Exploring the future of plastics recycling - new ways to boost productivity, quality and profitability**

**BOOK YOUR PLACE TODAY**

Save **€200*** on your delegate place - use code EB1137

**Grow your business with the latest technology, increase volume and quality of recycled materials, and network with key industry innovators.**

- Gain insight into market trends and the latest technology for post-consumer recycling
- Understand how key recycling projects are enabling collaboration along the entire value chain
- Discover how new technologies are increasing recycling rates and producing better quality products

**Download conference programme**

Sponsored by:

CMG GRANULATORI · Starlinger · AQUAFIL ENGINEERING · SONGWON · EREMA PLASTIC RECYCLING SYSTEMS

## Industry-leading speakers include:

**Mr. Pablo Leon**
CEO Asia Pacific
FOSIMPE

**Ms. Charlotte Glassneck**
Manager for Plastic Applications
Circular Economy Department
TOMRA SORTING GmbH

**Mr. Stefan Süllwald**
Sales Manager
GNEUSS KUNSTSTOFFTECHNIK GmbH

**Mr. Jean-Luc Dubois**
Scientific Director
ARKEMA

**Dr. Manuela Casutt**
Product Manager Polymer additives
L. BRÜGGEMANN GmbH & Co. KG

**Dr. Martin Schlummer**
Business Field Manager Recycling and Environment
FRAUNHOFER IVV

Media supporters:

RE³ WERTSTOFF MAGAZIN · Plastics Recycling WORLD · Compounding WORLD · Film and Sheet EXTRUSION · Pipe and Profile EXTRUSION · Injection WORLD

*Prices may be subject to VAT. Discount codes cannot be used in conjunction with any other offer.

AMI

**Book your place today at www.ami.ltd/attend-recycling**

# PVC Formulation

April 20-21, 2021
The Westin Cleveland Downtown, OH, USA

A two-day program of technical and market presentations from expert speakers will covering global trends in PVC trade and technology, including the latest advances in a range of PVC additives.

Sponsored by:

NITTO since 1947

Media supporter:

Compounding WORLD

Organised by:

AMI

# BOOK YOUR PLACE

Join your industry at this conference:

- Learn about applications and market developments
- Exchange tips and tricks on formulation practice
- Meet with international chemists representing the entire PVC supply chain
- Find out how to optimize formulations for rigid and flexible compounds
- Discover how regulatory changes and industry-driven sustainability campaigns impact on your business

**BOOK YOUR PLACE TODAY**
**www.ami.ltd/attend-PVC-USA**

**POLYPROPYLENE**

# PP grade promises to replace PET in consumer packaging

Braskem has developed a grade of polypropylene (PP) that it says can replace PET in consumer packaging applications such as ready-made meal trays.

The grade, part of its Inspire series, has optical properties approaching those of PET, and thermal properties that are superior to both PET and traditional random copolymer PP. The new grade can be thermoformed, which demands a balance of clarity and heat resistance. The higher heat resistance allows containers to be used in dishwashers and re-used.

"Our Inspire series allows thermoformers to use a single pellet for a wide-range of applications that require varying levels of stiffness, clarity or impact – creating a simplified inventory approach," said Alexandre Elias, vice president of polyolefins at Braskem America. "This latest grade is designed as an ideal solution to replace PET because of its recyclability and unique properties."

In June 2020, Braskem finished building a new PP production facility in La Porte, Texas, which has a production capacity of over 450,000 tonnes/year. It can produce the companys entire PP portfolio including homopolymer, impact copolymer and random copolymer grades.

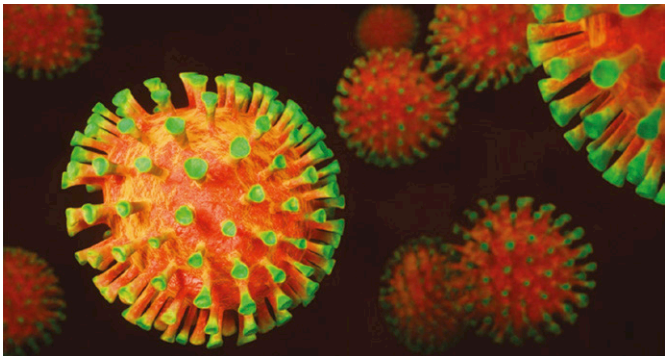
› **www.braskem.com**

**ADDITIVES**

# Biocide also has viricidal activity

Tolsa says that its Adins range of biocidal additives also show viricidal activity.

It says that Adins Protection S10 has shown to be active against all enveloped viruses, including Coronavirus type, Norovirus, Rotavirus, and Adenovirus, according to the EN 14476 standard.



The tests, conducted by an external laboratory, have confirmed that it reduces viral load by up to 99.99% in both short and long periods. In addition to viricidal activity, Adins Protection also shows also bactericide, fungicide and algicide activity.

Tolsa says that the active silver-based biocide offers high antimicrobial activity at lower dosages. In addition, the products allow an optimal dispersion into the matrix in which they are incorporated.

Adins Protection is supplied as a powder.

› **www.tolsa.com**

**COATINGS**

# Anti-bac surface for PET film

UK-based Idvac has developed an anti-microbial coating for surfaces including polyester films.

The company, a specialist in vacuum metallisation, has used the technique to apply a thin, polymer-based coating onto a range of flexible substrates. Idvac says it could find use in a range of healthcare applications such as face masks, hospital bed sheets and protective clothing.

The properties of the coating were tested by Gencoa, using its 'Gencoa-Miller' method of measuring anti-microbial efficacy. Results showed that polymer-coated PET film presented very good antimicrobial properties.

The novel polymer layer can be applied as a single or as polymer/metal multilayer coating onto a moving web of film or fabric, using roll-to-roll vacuum metallising equipment.

Vacuum metallising deposits materials in a clean, dry environment and can be done at high speed.

› **www.idvac.co.uk**

**FLAME RETARDANTS'**

# Halogen-free flame retardants boost PE film

Ampacet has introduced two halogen-free flame retardants for use in polyethylene (PE) film. Halofree 709 and 229 work at low addition rates and comply with health and environ- mental safety regulations. In addition, they have superior optics and film clarity.

Both comply with a range of human health and safety protection regulations, including the European packaging and packaging waste directive.

› **www.ampacet.com**

PRINTING

# Gravure line helps flexpack converters

Bobst has launched a new gravure printing press for flexible materials.

It says that the Expert RS 6003 will help gravure converters tackle market challenges such as faster production and greater sustainability. The machine can reach a maximum speed of 500 m/min and be configured with either shaftless or shafted printing cylinders.

"The flexible packaging market demands increasingly short run production, packaging versioning, lighter, thinner, recyclable solutions and global colour consistency," said Jonathan Giubilato, gravure product line manager at Bobst Italia. "We are ready to support our converting customers with solutions delivering faster time to market, increased quality, productivity, agility and safety."

Configuration options extend to the inking system choice, to ensure the best quality output according to production requirements. The standard MPI (Multi-Purpose Inking) or the optional HSM (High Speed Metering) inking systems both deliver high-quality printing with all ink and solvent types, said Bobst.

To make job changeovers easier and faster, Bobst has devised a new system called Flex Trolley – a service-type trolley that can stay onboard during printing or be removed after the print unit has been set-up. This reduces the minimum number of trolleys needed for press operation and allows maximum flexibility.

› **www.bobst.com**

PLANNING

# Software adds 40% to output

Packaging manufacturer Retal Baltic has invested in tracking and planning software from Greycon to increase production capacity by 40% at a facility in Lithuania.

Retal was looking to expand production by adding a new APET film-line and wanted to cooperate with its established IT team.

To help Retal achieve its objectives, Greycon delivered its Opt-Studio planning and scheduling solution, its trim optimisation software, X-Trim, and its MES solution, Greycon-Mill. Greycon has developed these products especially for film production, with Opt-Studio offering a way of controlling and optimising production efficiencies continuously.

› **www.greycon.com**

SIMULATION

# Collaborative project extends use of AR in thermoforming

Ampli is a one-year collaborative project to extend the use of augmented reality (AR) in simulation software for thermoforming.

Partners include white goods manufacturer Whirlpool, Innovation Plasturgie Composites (IPC) and virtual prototyping company ESI.

The project will combine the advantages of simulation and augmented reality to provide manufacturing workers with real-time knowledge and information.

The project will bring an important step forward in the digital transformation of European factories, say the organisers.

The project has three main targets: to improve manufacturing efficiency; to eliminate skill shortages, by capturing knowledge; and to increase the attractiveness of working on the shop floor.


The approach is to embed and enable physically realistic virtual objects in a real environment to be interactive. It is based on the improvement of AR mechanisms and usability.

ESI will integrate the final output based on an existing AR tool. IPC will simulate current thermoforming process using ESI's Pam-Form software. Whirlpool, as the plastic converter, will provide a pilot thermoforming line to test and validate the product on an industrial scale.

"Ampli will bring to the market a new product with AR integrating both plastic domain knowledge and simulation," said the organisers.

"In the medium term, benefits will be transferred to other manufacturing processes."

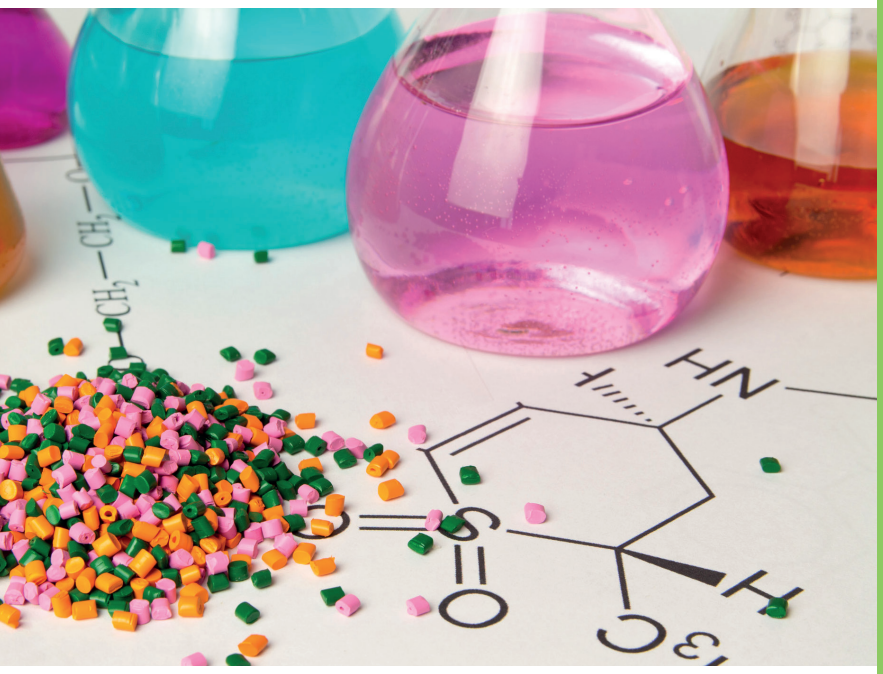
The project team aims to have the new solution on the market by mid-2022.

› **www.esi-group.com**

# Chemical Recycling
## VIRTUAL SUMMIT

March 2-4, 2021
Virtual Summit

The virtual summit for exploring the potential of advanced recycling techniques to turn waste plastics into new materials



### Ways to get involved:

**Secure your attendee place** at the early booking rate and SAVE $300*, until December 31, 2020.

**Become a sponsor:** promote your company with your logo showcased throughout the event, on the website and in marketing communications.

Contact us to find out more

Organised by: AMI

Media supporter: Plastics Recycling WORLD

Headline Sponsor

American Chemistry Council

## Speakers include:

**Paula Luu**
Director, Center for the Circular Economy, Closed Loop Partners

**Craig Cookson**
Senior Director, Recycling & Recovery American Chemistry Council

**Dr. Bill Hoffman**
Program Manager and Corporate Fellow, UL

**Eric Hartz**
President & Co-founder, Nexus LLC

**Domenic di Mondo**
Vice President of Technology, GreenMantra Technologies

**REGISTER YOUR INTEREST TODAY**

*Discount cannot be retrospectively applied or used in conjunction with any other offer

# Download these new product brochures

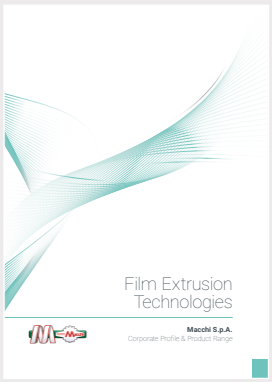
**Simply click on the brochure cover or link to download a PDF to your PC or smartphone**

## SCANFILL: GREENER PACKAGING


Based on a novel polymer/ mineral mix, the Scanfill range of packaging resins can minimise environmental impact by reducing polymer consumption, non-renewable energy use and greenhouse gas emissions without sacrificing barrier performance. Find out more in this brochure.

❯ CLICK HERE TO DOWNLOAD

## MACCHI: FILM EXTRUSION




This 28-page brochure from Macchi covers the company's wide range of film extrusion technologies including coextrusion lines, wide webs, die heads, take offs, winders, trim recovery and control systems.

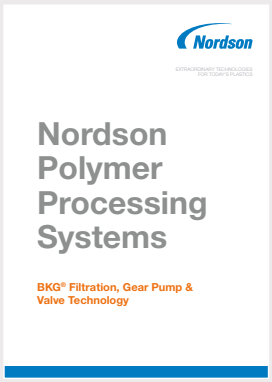
❯ CLICK HERE TO DOWNLOAD

## COLINES: BARRIER FILMS


This new brochure from Colines focuses on extrusion lines for the production of barrier films for vacuum and modified atmosphere packaging to preserve foodstuffs and medical products.

❯ CLICK HERE TO DOWNLOAD

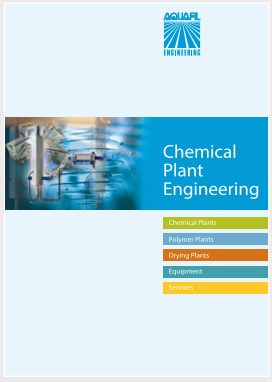
## NORDSON: FILTRATION SYSTEMS




The BKG range of filtration systems and screen changers from Nordson Polymer Processing Systems are detailed in this six-page brochure which also features products from BKG's ranges in gear pump and valve technologies.

❯ CLICK HERE TO DOWNLOAD

## AQUAFIL: PLANT ENGINEERING




This 12-page brochure from Aquafil Engineering details its comprehensive range of chemical plant engineering capabilities, which include polyamide polymerisation, polyester condensation and polymer drying installations.

❯ CLICK HERE TO DOWNLOAD

## STRUKTOL: INNOVATIVE ADDITIVES


Struktol manufactures a wide range of additives that benefit performance and processing of resins and compounds. Its portofolio includes additives for PVC, wood-plastic composites, recycling, odour control and more, as this brochure shows.

❯ CLICK HERE TO DOWNLOAD

**If you would like your brochure to be included on this page, please contact Claire Bishop claire.bishop@ami.international. Tel: +44 (0)1732 682948**

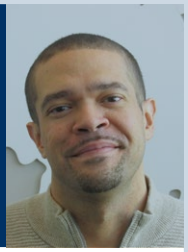
# AMI Webinars

Free webinars available to view on-demand

# Stay up to date: watch these free industry webinars

**Click** on a webinar to **watch in your own time**.

**Simple solution for reliable permeation testing of flexible pouches**
Mike Kragness
Permeation Application Scientist



AMETEK | mocon

**Forecasting the impact of coronavirus on economies and plastics markets**
David Buckby
Principal Global Resin Analyst

AMI

**Developments in SEBS for TPE tubing applications**
Ana García Henche
Technical assistance and development

Dynasol Group

**SLENTEX – The space saving, non-combustible insulation**
Dr Wibke Lölsberg
Manager Global Marketing

BASF We create chemistry

**Drill, Punch, Skive – The Hole Truth**
Speakers:
Bryan Mathias, Director of Business Development
Kerri McGillicuddy, Office Administrator

SYNEO precision tooling & automation solutions

**Plastics and the Pandemic Virtual Forum Series**
Analysing the impact of Covid-19 on the global plastics industry

VIRTUAL FORUM
Plastics and the Pandemic

AMI

**Flexible Compounding With Kneading-block-free Screws**
Klaus Hojer, Business Development

FEDDEM

**Applications and solutions of plastics in the medical sector**
Ing. Raquel Llorens-Chiralt
Senior Researcher – Health Group

AIMPLAS PLASTICS TECHNOLOGY CENTRE

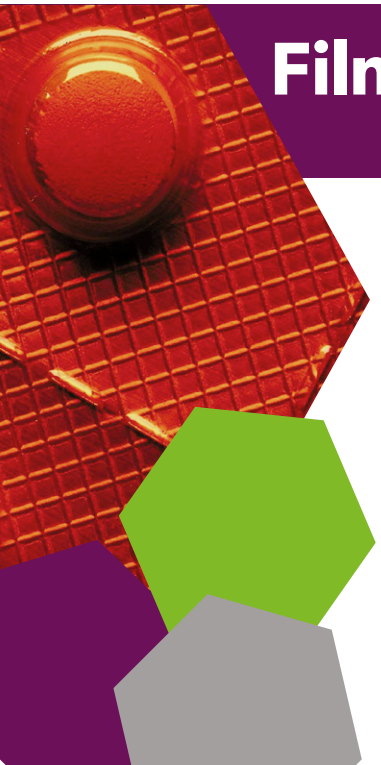
## Access the free Webinar Library Today

Register once to view all AMI library webinars

# Polyplex

| | |
|---|---|
| **Head office:** | New Delhi, India |
| **CEO:** | Pranay Kothari |
| **Founded:** | 1984 |
| **Ownership:** | Public (traded on Mumbai and National stock exchanges) |
| **Employees:** | Around 2,300 |
| **Turnover:** | Around US$638 million |
| **Profile:** | Polyplex was founded in 1984 in Khatima, a small town in northern India. It has since grown into a major producer of polyester film with production sites in a number of countries, including Thailand and the USA. It claims to have the fifth largest capacity of polyester film worldwide. In addition to BOPET film, the company also produces BOPP, CPP and other products. |
| **Product lines:** | The company offers four main products lines: Sarafil, Saracote, Saralam and Saraprint. Sarafil base films are used in a range of applications, including confectionery packaging and electrical applications. It includes BOPET, BOPP, CPP and blown PE/PP films. It also offers bio-based versions. Saracote films are silicone-coated PET/PP films for applications such as labels and tapes. Saralam films are extrusion coated with adhesive resins – such as EVA – to make films for applications such as thermal lamination of documents. |
| **Factory locations:** | Polyplex has six manufacturing facilities in five countries. Its original plants in India – in Khatima and nearby Bazpur – have since been joined by facilities in Thailand, Turkey, Indonesia and the USA. The company is in the process of expanding production in the USA – with a new 10.6m wide line that runs at 550 m/min. |

To be considered for 'Extruder of the Month', contact the editor on lou@filmandsheet.com



## Film and Sheet Extrusion FORTHCOMING FEATURES

**The next issues of Film and Sheet Extrusion magazine will have special reports on the following topics:**

**January/February 2021**
Bioplastics
Materials testing/quality control
Agricultural film
Medical materials and applications

**March 2021**
Thermoforming
Additives for film
Control/instrumentation
Barrier film

**Editorial submissions should be sent to Lou Reade: lou@filmandsheet.com**

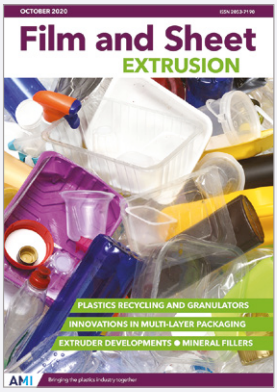
**For information on advertising in these issues, please contact:**
**Claire Bishop: claire.bishop@ami.international Tel: +44 (0)1732 682948**
**Levent Tounjer: levent.tounjer@ami.international Tel: +44 (0)117 314 8183**

# Keep informed: read our latest editions

**AMI publishes five process-specific FREE plastics industry magazines. Simply click on the cover below to read each magazine. Or download the issue in the relevant Apple or Android app**


**Film and Sheet November 2020**
The November issue of Film and Sheet Extrusion contains in-depth features covering sheet materials, thin wall packaging, construction applications and how smart packaging can help improve recycling. Plus news from around the global industry and regular features.

› CLICK HERE TO VIEW




**Film and Sheet October 2020**
The October edition of Film and Sheet Extrusion looks at how machinery and materials suppliers are helping film and sheet producers include more recyclate in their products. Plus articles on the latest extrusion lines, mineral fillers and more.

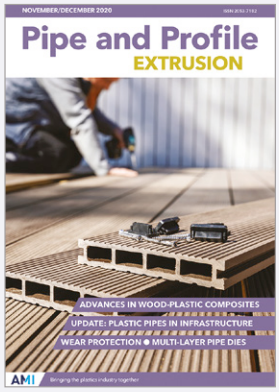
› CLICK HERE TO VIEW


**Compounding World December 2020**
The December issue of Compounding World reports on tighter regulation pushing development of more sustainable flame retardants. Plus features on lab-scale compounders and markers for tracing plastics materials.

› CLICK HERE TO VIEW

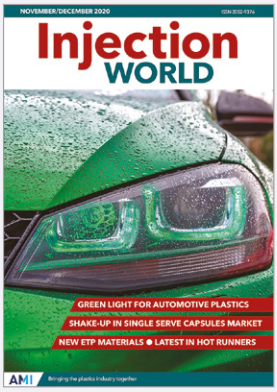

**Plastics Recycling World November/December 2020**
The final 2020 edition of Plastics Recycling World looks at the latest developments in the world of plastics granulation. This edition also reviews innovations in PVC recycling and examines some applications of automated quality control technology.

› CLICK HERE TO VIEW




**Pipe and Profile November/December 2020**
The November-December issue of Pipe and Profile Extrusion has in-depth features which cover infrastructure pipe, innovations in wood-plastic composites, the latest in multi-layer pipe and an update on extruder wear.

› CLICK HERE TO VIEW




**Injection World November/December 2020**
Injection World's November-December edition has features on materials for automotive interiors and exteriors, new ETPs, the latest in hot runners, plus an article by AMI Consulting on a shake-up in single-serve capsules.

› CLICK HERE TO VIEW

**Take out your own FREE subscriptions to any of the magazines. Click on the logos below to simply register on-line.**

Compounding WORLD
Film and Sheet EXTRUSION
Pipe and Profile EXTRUSION
Injection WORLD
Plastics Recycling WORLD

## GLOBAL EXHIBITION GUIDE

2021

| | | |
|---|---|---|
| **25 February-3 March** | Interpack, Dusseldorf, Germany **CANCELLED** | www.interpack.com |
| **9-11 March** | Plastimagen, Mexico City, Mexico | www.plastimagen.com.mx |
| **7-9 April** | Plastics Printing Packaging, Dar-es-Salaam, Tanzania | www.expogr.com/tanzania/pppexpo |
| **13-16 April** | Chinaplas, Shenzhen, China | www.chinaplasonline.com |
| **4-6 May** | Kuteno, Rheda-Wiedenbruck, Germany | www.kuteno.de |
| **4-7 May** | Plast 2021, Milan, Italy | www.plastonline.org/en |
| **17-21 May** | NPE 2021, Orlando, USA | www.npe.org |
| **1-2 June** | Plastics Extrusion World Expo Europe | https://eu.extrusion-expo.com |
| **15-18 June** | FIP, Lyon, France | www.f-i-p.com |
| **22-25 June** | Colombiaplast | www.colombiaplast.org |
| **29 June-1 July** | Interplas, Birmingham, UK | www.interplasuk.com |
| **14-18 September** | Equiplast, Barcelona, Spain | www.equiplast.com |
| **12-16 October** | Fakuma, Friedrichshafen, Germany | www.fakuma-messe.de |
| **3-4 November** | Plastics Extrusion World Expo USA | https://na.extrusion-expo.com |
| **15-18 November** | Arabplast, Dubai,UAE | www.arabplast.info |
| **1-3 December** | Plast Print Pack West Africa, Accra, Ghana | www.ppp-westafrica.com |

## AMI CONFERENCES

| | |
|---|---|
| **2-4 March 2021** | Chemical Recycling North America, **VIRTUAL SUMMIT** |
| **23-24 March 2021** | Speciality Packaging Films Asia, **VIRTUAL SUMMIT** |
| **13-14 April 2021** | Breathable Films Europe, Berlin, Germany |
| **4-6 May 2021** | Polyethylene Films North America, St. Augustine, USA |
| **2-4 June 2021** | Plastic Pouches Europe, Barcelona, Spain |
| **8-10 June 2021** | Stretch & Shrink Film Europe, Barcelona, Spain |
| **22-23 June 2021** | Thin Wall Packaging North America, Chicago, USA |
| **24-25 June 2021** | Multilayer Flexible Packaging North America, Chicago, USA |
| **30 June-1 July 2021** | Chemical Recycling, Dusseldorf, Germany |

**For information on all these events and other conferences on film, sheet, pipe and packaging applications, see**

**www.ami.international**

PLASTICS RECYCLING WORLD EXPO

POLYMER TESTING WORLD EXPO

**1 - 2 June, 2021**

**ESSEN, GERMANY**

PLASTICS EXTRUSION WORLD EXPO

COMPOUNDING WORLD EXPO

**3 - 4 November, 2021**

**CLEVELAND, OHIO**

**www.ami.international/exhibitions**