

Film and Sheet EXTRUSION

 **PLASTICS EXTRUSION**
WORLD EXPO

SHOW PREVIEW

AGRICULTURAL FILM: LATEST DEVELOPMENTS

ALL THAT'S NEW IN FILM SLITTERS AND WINDERS

EXPLORING INNOVATIONS IN FLAT DIES FOR SHEET



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.



Film and Sheet EXTRUSION

5 Industry news

13 Ahead of the field: agricultural film

Agricultural film is becoming increasingly sophisticated – with seven-layer extrusion lines becoming the norm for production. Lou Reade reports

21 Going flat out: sheet die developments

Recent developments in flat dies include a cost comparison calculator, an automatic die concept for solid sheet – and a long-standing manufacturer that has taken its first step into sheet production. Lou Reade reports

25 Extrusion sector meets at new Cleveland expo

AMI's first Plastics Extrusion World Expo is attracting key companies to Cleveland, Ohio, on May 8-9. We preview the exhibitors for the film and sheet sector

45 Reel deal: latest in slitters and winders

Innovations in slitting and winding include an easy change knife system and a machine to separate self-adhesive PVC film from its carrier paper. Lou Reade reports

50 Plastics recycling stakeholders share insights

With pressure on the plastics supply chain to recycle more, we preview AMI's Plastics Recycling Technology conference in June

53 Technology: Materials

54 Technology: Machinery

58 Extruder of the month: Buergofol

60 Dates for your diary

COMING NEXT ISSUE

› Waterproof membranes › Materials handling › Barrier film › Photovoltaics › Chinaplas 2019 preview

PAGE 13



PAGE 21



PAGE 25



PAGE 45



PAGE 54



CONTACT US

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

© Copyright Applied Market Information. No part may be reproduced without the prior written permission of the publisher.

PLASTICS EXTRUSION WORLD EXPO

May 8 - 9, 2019

Huntington Convention Center,
Cleveland, Ohio, USA

▶ GET YOUR FREE TICKET NOW!

Listen to industry leaders at the free seminars, including:



Salvatore Pellingra
VP Innovation & Technology



Steven Sargeant
General Manager R&D



Sunil Daga
President



Ralf Dujardin
VP Marketing & Innovation



Rodney Weaver
Senior Business Development Manager



Andrew Reynolds
Director - Advance BidCo,
owners of AMI



Five free-to-attend conference theatres featuring 130+ speakers across the three expos

Click [here](#) to join thousands of your
industry colleagues already registered!

Co-located with:



▶ **DOWNLOAD
CONFERENCE
PROGRAM**



Bringing the global plastics industry together



Schur grows in Sweden with flexpack acquisition

Austria-based Schur Flexibles has acquired Swedish flexible packaging specialist Scandiflex Pac.

Schur says the takeover will enhance its flexo printing capabilities in the Nordic region. Combining Scandiflex Pac with Schur Flexibles in Denmark and Finland – as well as Danapak Flexibles – the group now has a turnover of more than €120 million (US\$135m) in the region. Scandiflex, a leading Swedish producer of printed flexible packaging laminates for the food

industry, has revenues of around €20m (US\$23m).

"Scandiflex Pac is the perfect addition to our growing company," said Michael Scherthaner, managing director of Schur Flexibles. "As an established player in flexo and digital printing, it will perfectly complement our strong existing European footprint."

Stefan Andersson, managing director of Scandiflex Pac, added: "The flexible packaging market is characterised by growth and innovation. As part of Schur

Flexibles we can benefit from enhanced scale and pooled expertise to more effectively stay ahead of rapidly evolving customer demands and regulatory requirements."

Schur says the acquisition will also add value through the transfer of expertise between Scandiflex Pac and Schur's French business, Schur Flexibles Uni. Scandiflex Pac will also benefit from the digital printing expertise of Schur's internal specialists, it added.

➤ www.schurflexibles.com



RKW is producing high-performance technical films for the stratospheric balloons of French space agency CNES.

Balloons made with RKW film are used for missions at heights of up to 40km and depend on special material properties and high quality.

"We were required to produce a very thin high-performance film for the balloon envelope that had

to be tear- and perforation-resistant," said François Nélias. R&D engineer and product manager at RKW Rémy in Saultain, France. "It also had to carry 1,750kg in the harsh conditions of the stratosphere."

The film is made from a high-impact, puncture-resistant polyethylene resin. No additives – such as polymer processing aids – cannot be used, as there

cannot be any contamination from a second raw material.

"This makes the extrusion process even more difficult," said Nélias.

RKW produces hundreds of meters of the 15-25 micron film – which are processed, cut and welded together to produce the balloon envelope with tear panel and degassing sleeves.

➤ www.rkw-group.com

Recycling shrink hoods

Total and several partners in the construction sector have set up a project to recycle shrink hoods.

The Clean Site Circular Project aims to create new shrink hoods from the material, without any degradation in film performance.

The partners say that a closed loop 'shrink hood to shrink hood' is industrially feasible and technically equivalent to virgin solutions. The film recipe, developed by Total, requires the use of its Lumicene Supertough 22ST05 as 'booster' for the recycles in order to match demanding market requirements.

The project, coordinated by Valipac, also includes Morssinkhof Rymoplast (which produces recycle from collected shrink hoods), Oerlemans Packaging (which produces shrink hood films), Wienerberger (which uses the shrink hoods for its pallets of building materials) and Fema, which represents building materials companies in Belgium.

Through Fema, the partners intend to spread the project to the construction market across Europe.

➤ www.polymers.total.com

➤ www.valipac.be

➤ www.oerlemanspackaging.nl

➤ www.morssinkhofplastics.nl

➤ www.wienerberger.be/fr

➤ www.ufemat.eu

Asahi adds lithium ion capacity

Asahi Kasei plans a further expansion in manufacturing capacity for its polyolefin-based lithium ion battery (LIB) separator film.

The company is investing around ¥30 billion (US\$270 million) to boost capacity at its plants in Moriyama, Japan and North Carolina, USA.

Rapid growth of the LIB market is driven by automotive applications – due to increasing demand for electric-drive vehicles – and by energy storage systems.

Asahi will expand capacity of both its Hipore (wet) and Celgard (dry) processes. This will result in a 300 million m²/year rise in

wet-process capacity and a 150 million m²/year rise in dry-process capacity – for a total increase of 450 million m²/year at these plants.

Existing total capacity at the plants is 730 million m²/year. The expansion is scheduled for completion for the first half of 2021.

Other planned plant

expansions will raise total capacity to 1.1 billion m²/year by 2020. The latest measures will raise total LIB separator capacity to 1.55 billion m²/year in 2021.

Asahi Kasei aims to raise total LIB separator capacity to around 3 billion m²/year by 2025.

► www.asahi-kasei.co.jp

Windmoller boosts Asia presence

Machinery manufacturer Windmoeller & Hoelscher (W&H) has further enhanced its presence in Asia-Pacific – by opening three new subsidiaries.

W&H has opened fully owned subsidiaries with local service and support teams in Jakarta, Indonesia, Kuala Lumpur, Malaysia – and is on the verge of opening a third in Ho Chi Minh, Vietnam. Customers in South Korea and the Philippines will be supported by branch offices managed by W&H.

The regional headquarters of Windmoeller & Hoelscher Asia-Pacific (WHAP) was established in Bangkok in 1996 – followed by Hong Kong in 1998, Australasia in 2008 and Windmoeller & Hoelscher Machinery (Taicang) in 2014. W&H now employs more than 130 people in the region – of whom more than 65 are service technicians.

► www.wuh-group.com



PPG and Avery Dennison will market the new foil to different parts of the marine sector

Ship hull fouling foiled by self-adhesive film products

PPG and Avery Dennison are to further commercialise their self-adhesive fouling release foil for ship hulls.

The foil was developed as part of the Eshark project, a consortium of marine experts and engineers, as a way of bringing an advanced fouling protection technology to market. Eshark had two aims: to maintain fouling protection standards; and to offer a superior option to current paint-based solu-

tions, in terms of eco-friendliness, ease of application and drag reduction.

Avery Dennison will market the foil to the leisure sector under the brand name Mactac MacGlide, while PPG will market it as PPG Sigmaglide foil to the commercial marine sector – focusing mainly on smaller vessels that suit the foil's manual application.

"By combining our expertise in foil technology

with PPG's in marine coatings, we are providing our leisure sector customers with a completely new approach to hull protection," said Fred Noël, vice president of Avery Dennison Graphics Solutions Europe. "This is a unique opportunity to combine improved fuel consumption with a cleaner hull and higher environmental protection."

► www.ppgpmc.com

► www.averydennison.com



POLYMER PROCESSING SOLUTIONS FOR SHEET.

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.

What's more, we now complement our sheet capabilities with TSL thermoforming equipment. This includes a range of equipment options for food packaging applications.



DAVIS-STANDARD®

Where your ideas take shape.

davis-standard.com



Thermoforming Systems LLC
A Davis-Standard Company

tslusa.biz

Over 2000 register for Cleveland expos

More than 2000 people have registered to attend the expos focused on plastics extrusion, recycling and compounding in Cleveland, Ohio on 8-9 May.

The Plastics Extrusion World Expo, Plastics Recycling World Expo and Compounding World Expo will feature more than 250 exhibitors and five conference theatres with over 130 speakers across the two-day event. Free tickets for the exhibitions and conferences are available by registering in advance [HERE](#).

"Bookings are still coming in fast and we expect this to be the biggest dedicated plastics industry event in the USA this year," said Nikola Whyman, senior marketing manager at AMI, the organiser of the exhibitions and conferences.

The companies registering to attend include a wide



The US expos follow AMI's highly successful events in Germany

range of plastics extruders, recyclers and compounders. In addition, the event's large selection of exhibitors and high-level conference sessions are attracting interest from OEMs and end-users.

Representatives from the following companies are among the 2000+ people that have registered to attend: Abbott, Amcor, Ampacet, Associated Materials, Avery Dennison, Azek Building Products, Bemis, Berry Global, Bixby,

Colgate-Palmolive, Dell, Envision Plastics, Ford Motor Company, Genova Products, HP, Laverne, LyondellBasell, NAPCO, Nestle, PolyOne, Primex Plastics, Renolit, Reynolds, Royal Building Products, Southwire, Taghleef, Tarkett, TE Connectivity, Tekni-Plex, Teknor Apex, Trex, Veka, Whirlpool and many more.

To register for your free ticket to the three exhibitions and their five conference theatres, visit:

ami.ltd/Register-AMI-Expos

German converters grow sales

GKV, the organisation that represents German plastics processors, reported a rise of more than 3% in turnover last year.

It said that sales rose to €65.7bn in 2017, a rise of 3.1% compared to 2017. Within this, domestic sales rose more than 2% to nearly €41bn, while exports were up almost 4% to €25bn.

As well as increased turnover, processing volume also increased – up around 2.6% to 14.8 million tonnes of plastic. In the same period, the industry's workforce increased by more than 3% – taking numbers to 335,000 by the end of 2018.

Despite the 3% overall increase in sales, it is slightly short of the 4% growth that GKV predicted one year ago.

➤ www.gkv.de

ECHA creates additives inventory

The European Chemicals Agency (ECHA) has published a comprehensive inventory of plastic additives currently used in the EU, including plasticisers, flame retardants, antioxidants, pigments, heat stabilisers and others.

The work was carried out over two years with trade bodies Cefic, Plastics-Europe and European Plastics Converters, together with academics and EU member state representatives. It screened some 1,000 substances to identify those being used and to validate data on their intrinsic proper-



ties, so enabling ECHA to develop a model to calculate the release potential of each substance into the environment.

ECHA said regulators in EU member

states "will be able to use this inventory as a starting point to decide which substances should be assessed as a matter of priority." Companies will also be able to use it to refine data about uses and exposure potential in their REACH registration dossiers, it said.

The project began in late 2016 and ran until December 2018, with 21 industry sector organisations involved. It is part of ECHA's commitment to map all substances registered under REACH in the >100 tonnes/year band.

➤ <http://echa.europa.eu>



COLINES®

**OPEN
HOUSE**

Discover our latest
ALLrollEX®3000 mm (6-up)
Cast stretch film line technology
at **Marano Ticino Factory**

MAY
8-9-10
2019



COLINES®

www.colines.it

COLINES® S.p.A.

Via Sempione, 16 - 28040 Marano Ticino (NO) - Italy
Ph. +39 0321 923383 - info@colines.it

To get further details and book your visit
marketing@colines.it

Multilayer Flexible Packaging

Chicago / 2019



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

June 25-26, 2019

Chicago Marriott O'Hare, Chicago, Illinois, USA



SPECIAL OFFER

Save **\$300** if you
register before
April 26,
2019

Sponsored by:



Media supporter:

Film and Sheet
EXTRUSION

Italy struggles with exports but boosts machine production

Italian plastics machinery manufacturers saw exports dip last year - though production, domestic demand and imports all rose.

Overall, production of machinery was up by 0.6% to €4.7 billion. Trade association Amaplast pointed out that this came after "the all-time record set the previous year".

"On the whole, we are happy with the results from 2018," said Alessandro Grassi, president of Amaplast.

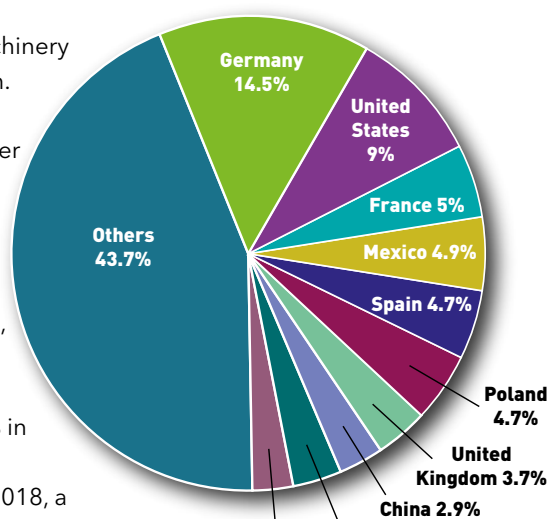
Amaplast members saw revenues rise by around 3.6% in 2018, he added.

Exports fell to €3.26bn in 2018, a fall of 1.5%. Much of this was due to stagnation in European markets - which are historically strong for Italian machinery. Exports to Germany - its main export market - fell by more than 2%.

Further afield, there was a fall of 13% in exports to China - though sales to the USA rose by more than 6% to reach nearly €294m, and those to Mexico by nearly 12% to €159m.

Domestic demand for machinery rose nearly 5%, which Amaplast said was due to "support measures implemented in the previous Stability Law". Many Italian manufacturers saw

Top export markets for Italian plastics machinery, 2018
Total exports: €3.3bn



Source: Amaplast/Istat

increases in their order books in the second half of 2018, it added. In addition, sales of imported machinery rose by 3% to €1bn.

Amaplast's latest year-end member survey shows less optimism - or a reluctance to take risks - regarding orders and revenues, it said: in the latest half-year, fewer members expect an increase (or decrease) - while the proportion of those foreseeing stability has increased.

► www.amaplast.org

KM builds new China plant

KraussMaffei (KM), the German plastics machinery manufacturer, has begun building a new production plant in China.

The facility, in Jiaxing in Zhejiang Province, will build all primary rubber and plastics processing machinery including extruders, according to

KM's parent company China National Chemical Corporation (ChemChina).

ChemChina says that the plant will double the existing production capacity by mid-2020.

KM is now listed on the Shanghai Stock Exchange.

► www.kraussmaffei.com

**BRÜCKNER
MASCHINENBAU**



A Member of Brückner Group



**STRETCHING
THE LIMITS**

*High Quality Film Production Lines:
Efficiency, Productivity, Flexibility*



www.brueckner.com

Thin Wall Packaging

Chicago / 2019

Identifying opportunities and maximizing returns in light-weight plastic tubs, pots and trays industry

June 18-19, 2019

The Westin Chicago North Shore, Wheeling, Illinois, USA



**CLICK
HERE FOR
DETAILS**

Sponsored by:



Media supporters:

Injection **Film and Sheet**
WORLD **EXTRUSION**

AMI

Bringing the plastics industry together.



@Contact_AMI #AMIThinWallUS

Ahead of the field: agricultural film

Agricultural film is becoming increasingly sophisticated - with seven-layer extrusion lines becoming the norm for production. Lou Reade reports

Fierce competition in the agricultural film market has seen producers improving both the quality and output of their products.

Recently, **RKW** put a new multilayer extrusion plant into operation at its site in Hoogstraten in Belgium.

The company's e7 technology line enables efficient production of various films for applications in agriculture and horticulture and increases RKW's agricultural production capacity by more than 10%. RKW earlier expanded its extrusion capacities for agricultural films at its site in Michelstadt in 2018.

RKW has invested a double-digit million Euro amount in the technical infrastructure and additional production capacities in its agriculture business.

"We continuously improve our products and own brands to the benefit of end customers," said Paul Leenders, vice president for agriculture at RKW and general manager in Hoogstraten. "Our investments in our agricultural centres in Michelstadt and Hoogstraten add capacity and enable us to offer the highest added value."

The e7 technology line allows each layer to be produced with precisely defined properties - whether it is for special silage and barrier films, silo bags or greenhouse applications.

Films and bags for agriculture and films for horticulture benefit from the seven-layer system. The films with a width of 8-18m (26-59ft) and bags up to 4.3m (14ft) are more resistant to mechanical stress, lighter and suited to a broader range of applications. In particular, greenhouse films have increased performance regarding thermic and surface modification, says RKW. At the same time,



lighter films translate into reduced transportation - meaning lower CO₂ emissions and fewer resources required in production.

Multilayer benefits

Rani Plast of Finland has seen rising profits in its agricultural film operation, two years after installing a seven-layer blown film line from **Davis-Standard**.

Since the line started running in August 2016, Rani Plast has optimised production, developed its distributor network and introduced new products. At the time of installation, it was the largest seven-layer blown film line Davis-Standard had ever built for a customer.

"Before this line, we lacked capacity and were limited to film widths of 18 metres," said Mikael Ahlback, Group CEO of Rani Plast. "Being able to run expanded widths has given us access to new distributors and end customers."

At the same time, he says it has provided greater flexibility to react to immediate demands from

Main image:
RKW has applied its e7 technology to boost agricultural production capacity by more than 10%



Above: A seven-layer line from Davis-Standard has helped Rani Plast boost its agricultural film output

customers – thus shortening lead times.

“We’re able to offer new products such as EVOH-based barrier films that will be available the next agricultural season,” he said. “This product will be sold as an underlay film as well as a conventional silage film to help customers make better silage than before.”

The demand for silage films – one of Rani Plast’s largest markets – has risen due to the increased size of farming operations. Silage film provides a way to preserve and protect feed for animals. The seven-layer structure offers improved mechanical film properties in a way that was not previously possible.

A 2.3m, seven-layer Centrex IBC die has been integral to the line’s performance. It enhances film quality while providing Rani Plast with versatility for its diverse portfolio. This includes the capacity to process high-quality films with optimised coextrusion ratios for thicker skin layers and low-percentage core layers for barrier-based structures, as well as non-barrier structures using a variety of polymer blends. The die and tower can produce a bubble up to 23m unfolded – at high-output rates with a dual-lip, automatic profile control air ring.

The line’s seven Davis-Standard MAC extruders are fitted with DSB feedscrews for homogenous mixing and low-temperature melt streams, essential to film quality and the production of large width films.

Right: Sabo has launched a new UV light stabiliser following six years of testing



Stabiliser launch

Sabo of Italy has commercialised a new UV stabiliser for agricultural applications.

The launch of Stab UV 216, which is now part of the company’s light stabilisers portfolio, follows six years of testing – including field trials in Southern Italy and Northern Africa, and accelerated weathering tests.

Stab UV 216 has been shown to provide thermal and UV protection to greenhouse films, with proven resistance to agrochemicals – ensuring two or more years lifetime even in the presence of high concentrations of sulphur.

It exceeds the pesticide resistance achieved by Stab 119, the hindered amine light stabiliser (HALS) used to stabilise PE-based greenhouse covers. The new system is available globally.

High transmission

At the recent IPM horticultural exhibition in Essen, Germany, Evonik highlighted its Plexiglas Resist multi-skin sheets with hail-resistant finish. The product also high light transmission – which is vital for plant production.

“The new version, Plexiglas Resist AAA 16-64 SDP in D-Structure, offers high light diffusion,” said Bernd Petri, head of the roofing business in the acrylic products division at Evonik.

With a high chamber spacing of 64mm, the multi-skin sheeting is almost as transparent as glass but also dimensionally stable and tough. The high light diffusion and transmission provide optimal growth conditions for plants, says Evonik.

Also on display was Plexiglas Alltop multi-skin sheeting, with high transparency. The no drop coating allows rain and condensed water to flow away rapidly and prevents drop formation. This allows a light transmittance of about 91%.

Anti-drip properties

Delegates at the recent Agricultural Films conference in Spain, organised by **AMI**, heard of several advances in various types of product.

BANDERA
EXTRUSION INTELLIGENCE®

PACKAGING FORWARD®

Eco packaging solutions from recycled
and biodegradable materials



Flat Die Technology



Blown Film Plants



Visit us at
K 2019

HALL 17
BOOTH C07

luigibandera.com

Right: Mulch film helps promote crop growth

UK-based **Interface Polymers** has developed a range of anti-drip additives for greenhouses and agricultural films, based on its Polarfin Di-block technology.

Simon Waddington, business development director, told delegates that the development came in response to customers who complained that typical film degrades after three years - and anti-drip properties last only 12-18 months.

The company uses polar block copolymers in the film formulation. These have higher polar densities than grafted polymers, with a stronger bond between surfaces.

Its Polarfin technology can either be added at the compounding stage or applied as a surface coating.

"We are working with producers of greenhouse film to validate the surface application approach at industrial scale," said Waddington.

It is also continuing to develop an additive that gives anti-fog and anti-drip properties when compounded into the polymer.

Much more mulch

Mulch film has become increasingly important in agriculture, but is still relatively unused in India, said Francis Rodrigues, head of technical services at masterbatch producer **Plastiblends**.

"India has been a latecomer in adopting plasticulture," he told delegates. "Overall, producers treat mulch film as a commodity and not as an engineered film - which results in high failure rates."

He says that factors such as excess use of pesticides - many of which are banned in other countries - can also affect mulch film life. Another factor is poor design of the films - with metallocene grades and UV stabilisers rarely used, he said.

He said the answer is to use stronger film - using bimodal resins and metallocene grades, and to make films thicker (suggesting it is typically raised from 21 microns to 50 microns). These factors might help to extend lifetimes from 6-9 months up to 24 months.



Reflected glory

Ralf Dujardin, vice president of marketing and innovation at **Imaflex** of Canada, told delegates that the company's metallised films offered potential advantages over traditional mulch film - in terms of factors such as insect protection and crop growth acceleration.

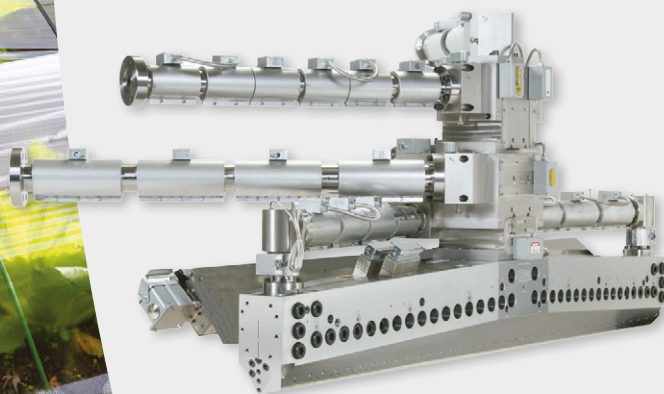
"Our crop protection films provide enhanced benefits through adding physical, chemical or biological effects," he said.

One example was the ability to reflect solar radiation - including visible light, UV and infrared light - almost completely.

"A highly reflective metallised mulch reflects more than 90% of all incident radiation - more than any other coloured mulch including silver and white," he said.

A metallised mulch, he explained, was coated with a nanolayer of aluminium, while a 'silver' mulch is 'bulk coloured' with an aluminium pigment.

He said that high reflectance helped to impair insects' sense of orientation. In tests, he said that Shine N' Ripe, the company's metallised film, had



EDI® Cast Film Die Systems

Produce durable film to protect crops from even the harshest conditions.



Make
Technology
More
Artistic
// 2019

+

Multi-layer Co-extrusion Blown Film Die Series

- with advanced hydromechanics technology, each layer is designed and tailor made to the specific raw material;
- Multi-layer flow channel design, combined with process conditions in real production;
- Five-layer central feeding blown film die, precision guaranteed by advanced 5 axis machining center, which can make and accomodate any curved, or sloped surface process, thus further qualify the film uniformity and capacity .

www.jc-times.com



Ufi
Approved
Exhibitor
Chinaplas[®] 2019
Guangzhou, China. 21st-24th, May
Welcome to visit
our booth No. **2.1J41**

JCTIMES 
From dreams to reality



Above: Silage film needs good mechanical properties as it needs to protect animal feed for long periods of time

been proven to control a wide range of pests.

Imaflex produced a specific grade of the film for newly planted citrus groves – in order to ward off specific insects. It was used as an alternative to chemical insecticides – which cost around the same. After three years, revenue from a grapefruit grove was \$6,000 per acre with the metallised film – three times that of the ground using pesticides.

“It provides profits at least two years earlier after planting than conventional bare ground production,” he said.

Another effect included modifying soil temperature: a metallised mulch with a black strip helped to warm root zones in spring and cool the bed in summer. At the same time, black mulches with a metallised strip cool roots in autumn and warm the bed in winter.

Feed protection

Marcial Cesar Vieira, application engineer at **Braskem**, told delegates that silage film is commonly used in Brazil to preserve hay for feeding dairy cattle. There are many incentives to use the film – but he said that much of it has traditionally been imported.

We wanted to develop high performance bale wrap, and used a cast coextrusion process,” he said.

The film had to have attributes including high

cling level and puncture resistance, and good mechanical properties. Braskem’s films are made using metallocenes blended with polyisobutene.

The three-layer coextruded film was 25 microns thick and 500mm wide. It performed well against reference films – with high load retention and cling properties, for instance. In conclusion, he said the products – Flexus Cling and Flexus 3600 – showed better properties than reference films.

“Field tests confirmed the lab results – and showed excellent film performance during the wrap bale process,” he said.

Silage challenges

Similarly, Lucio Baccaro, market developing and technical support at **SABIC** in the Netherlands, addressed the need to address challenges in silage film – including mechanical performance, the wrapping process and reduction of silage losses.

It carried out a field test in collaboration with machinery manufacturer Bandera and film converter Granitol, to produce silage film, wrap bales, and test them after 12 months.

The film, which was produced on a Techno Flex blown film line, was 25 microns thick and used Supeer and Cohere material grades. Mechanical properties were comparable – or superior – to a market reference, and after 12 months there were no signs of mould.

CLICK ON THE LINKS FOR MORE INFORMATION:

- www.rkw-group.com
- www.davis-standard.com
- www.sabo.com
- www.evonik.com
- www.ami.international
- www.interfacepolymers.com
- www.plastiblends.com
- www.imaflex.com
- www.braskem.com.br
- www.sabic.com

SUPER G® HighSPEED™ EXTRUSION SYSTEMS

LEADING SHEET EXTRUSION TECHNOLOGY

- ENERGY EFFICIENT (PP 6-7+ PPH/HP, 2.7-3.2+ KG/HR/HP)
- HIGH MACHINE THROUGHPUTS (2,500+ PPH, 1135 KG/HR)
- ULTRA COMPACT FOOTPRINT
- ULTRA HIGH REGRIND RECOVERY RATES (+80%)
- EXCELLENT MELT QUALITY
- AVAILABLE WITH ALL PTI ROLL STAND CONFIGURATIONS

SUPER-G® HighSPEED™ extruders offer “High Density Manufacturing” solutions that yield high production outputs with small machinery footprints.



World Class Sheet Extrusion Systems

www.ptiextruders.com

Processing Technologies International, LLC | 2655 White Oak Circle Aurora, IL 60502 | Tel: 630.585.5800 | Fax: 630.585.5855

MADE IN
U. S. A.



EXTRUDER

FILTER AND PUMP

COEXTRUSION BLOCK

DIE

CALIBRATOR

TAKE-OFF AND TRIMMING UNIT

SHEAR CUTTING UNIT

STACKING UNIT

TIMELESS QUALITY

OMIPA EXTRUSION LINES
ARE PERFECT IN EVERY
SINGLE "GEAR".

COMPLETELY CUSTOM-
DESIGNED AND IN-HOUSE
MANUFACTURED.

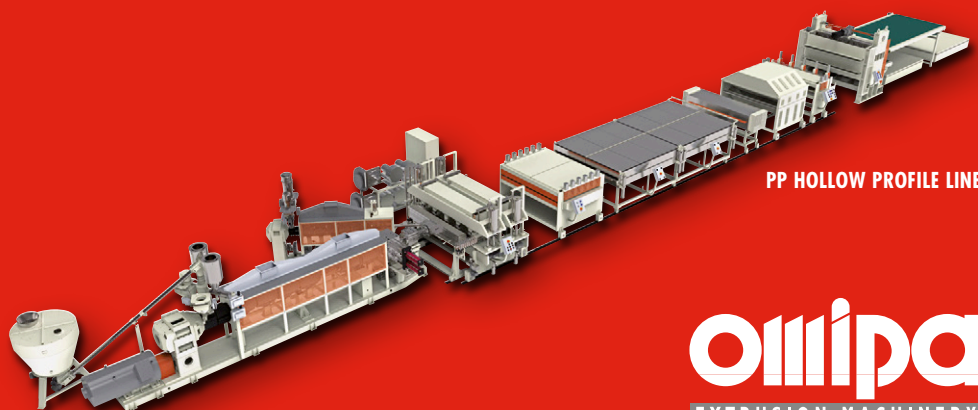
FOR MORE THAN 50 YEARS.

COMPLETE EXTRUSION LINES FOR:

TECHNICAL SHEET AND FOIL IN
ABS, PS, PP, PE, PET, GPPS, SAN, CA.

HOLLOW PROFILES IN
PC, UV-PC, PMMA, PP, HDPE.

HIGH OPTICAL QUALITY SHEET IN
PC, PMMA, PETG, PET.



PP HOLLOW PROFILE LINE

PLASTICS EXTRUSION WORLD EXPO

Cleveland, Ohio, USA / May 8 - 9, 2019



7 REASONS

YOU WON'T WANT TO MISS THE PLASTICS EXTRUSION WORLD EXPO THIS YEAR...

The Plastics Extrusion World Expo is part of North America's largest dedicated plastics event of the year and more than 2,000 people have already signed up to attend! Join representatives from some of the biggest industry names to see more than 250 exhibitors and over 130 expert speakers across the focused plastics extrusion, compounding and recycling exhibitions.

1. Debate the future of extrusion markets

Seven panels will debate the future for plastic packaging, profiles, stretch & shrink film, pipes, agricultural film, medical tubing and WPCs. They will feature industry leaders from Balcan Plastics, CertainTeed, Deceuninck, Dura-Line, Eldon James, Envirolastech, Imaflex, ProAmpac, Raumedic, Sealed Air, WL Plastics, Wraptite etc.

2. Compare the latest extrusion machinery

The focused exhibition will feature more than 20 suppliers of extrusion lines, including Alpha Marathon, Bandera, Bausano, Colines, Collin, Davis-Standard, Gneuss, Greiner, KraussMaffei Berstorff, Kuhne, Labtech, Macchi, Macro, NFM, Omipa, PTi, R&B Plastics Machinery, Reifenhäuser, Simcheng and Labtech, Macchi, Macro, NFM, Omipa, PTi, R&B Plastics Machinery, Reifenhäuser, Simcheng and more.

3. Learn new skills at the free training seminars

A series of free training seminars will provide practical tips on vitally important topics such as: complying with food contact legislation; color measurement and control; product stewardship; designing for recyclability; and understanding polymer degradation and stabilization.

4. Network with other extruders and end users

The 2,000+ visitors who have already registered to attend include representatives from Amcor, Associated Materials, Avery Dennison, Azek Building Products, Bemis, Berry Global, Bixby, Colgate-Palmolive, Genova Products,

NAPCO, Nestle, Parker Hannifin, Renolit, Reynolds, Royal Building Products, Taghleef, Tarkett, Tekni-Plex, Trex, Veka and many more.

5. Compare the latest auxiliary equipment

The exhibition will feature a huge range of auxiliary equipment for extrusion lines from suppliers such as Addex, Adescor, Advanced Blending Solutions, Berlyn ECM, Cloeren, Custom Downstream Systems; Dotecco, Frigosytem, Maguire, Nordson, Maag, Pall, Parkinson Technologies, Pixargus, Plastic Systems and many more.

6. Learn from expert technical speakers

There will be two focused conference theaters at the Plastics Extrusion World Expo with presentations on: high-barrier packaging; technologies for growing the use of plastic pipes; Industry 4.0; CPVC processing; direct extrusion; extruder upgrades; quality control; mixing technologies; sustainability; and many more hot topics.

7. Discover new opportunities in recycled and compounded plastics

Visitors to the Plastics Extrusion World Expo will have free access to the adjacent Plastics Recycling World Expo and Compounding World Expo plus their three conference theaters. In total, there will be more than 250 exhibitors and over 130 speakers to choose from.

Get your free ticket

The Plastics Extrusion World Expo will take place at the Huntington Convention Center in Cleveland, Ohio, USA on May 8-9, 2019. Admission to the trade show and its conference theaters will be free of charge to visitors who register in advance [HERE](#). Your free ticket is valid for both days of the event.

Co-located with:

COMPOUNDING
WORLD EXPO

PLASTICS RECYCLING
WORLD EXPO

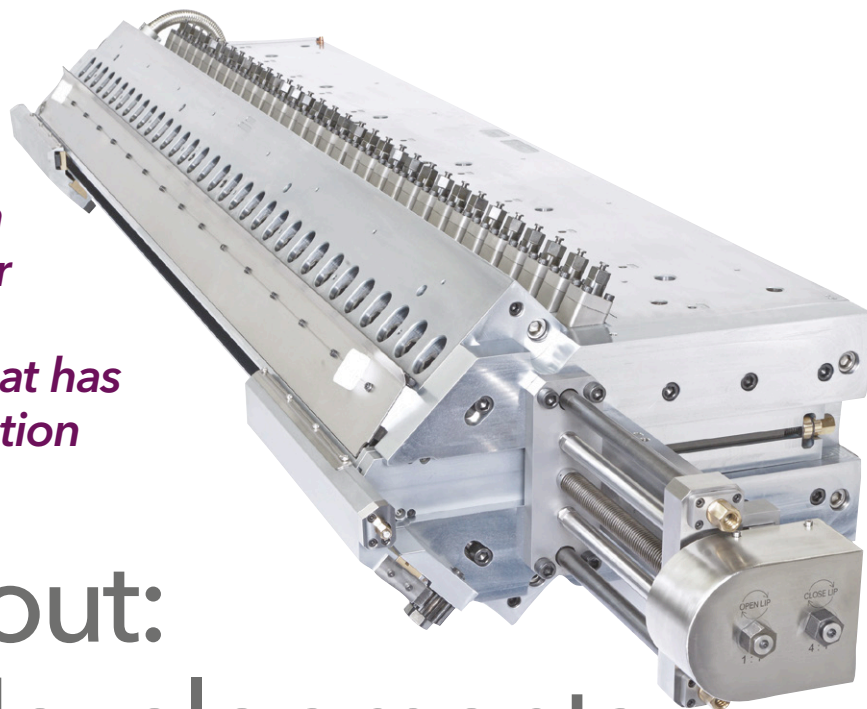
**GET YOUR FREE
TICKET NOW!**

AMI

Bringing the global plastics industry together



Recent developments in flat dies include a cost comparison calculator, an automatic die concept for solid sheet – and a long-standing manufacturer that has moved into sheet production



Going flat out: sheet die developments

Moving sheet production in-house is not a job for the faint hearted, but one established US manufacturer has done just that.

Legendary Auto Interiors, which helps owners of classic cars restore their vehicle interiors to as-new condition has made its first move into extrusion processing. It has produced many soft trim components for retrofitting into vintage cars – ranging from door panels and sun visors to upholstery and carpets. Many of them are cut, sewn, and thermoformed in-house at the company's headquarters in Newark, USA. For years the company used outside vendors to supply flexible PVC sheet for its floor mats but has now purchased its first extrusion line – including a sheet die from **Nordson**.

"We have thirty-plus years of experience in cutting, sewing, and thermoforming, but none in sheet extrusion until now," said Martin Beckenbach, the company's owner. "Nordson played a critical role in helping us get up to speed and manufacture vinyl sheet that perfectly meets our requirements."

Although the extrusion line is refurbished, the EDI Ultraflex sheet die is new – and equipped with a restrictor bar to enhance control of sheet uniformity. Nordson provided start-up service – including hands-on training for how to operate the die, make adjustments, perform maintenance, and ensure operator safety.

A key part of the training involved taking full advantage of the restrictor bar, which is located inside the die and is externally adjustable. Nordson equips sheet dies with restrictor bars for product thicknesses above 2mm, according to James Winning, Nordson's regional sales manager.

"Along with the flexible upper lip that is standard with EDI extrusion dies, the restrictor bar adjusts the thickness profile across the width of the die," he said. "One benefit is to ensure uniformity in the melt bank flow that occurs in the sheet just before the nip point between the rolls. In turn, this uniformity reduces operational expenses and material consumption, preventing loss of material caused by surface irregularities."

According to Beckenbach, the restrictor bar was "working perfectly" and was easy to use – allowing him to control bank flow "with perfection".

Once the die was installed, Nordson also demonstrated how to heat it properly – to drive the moisture out of the heaters then start the extrusion line to purge remnant polymer through the system. Then, after an explanation of how to adjust the die and zone temperatures to control the quality and thickness of the sheet product, Legendary operators made sheet within the desired tolerance.

The company is using the extrusion line and Ultraflex die to make a new generation floor mats, along with its custom vintage floor mat products. The new extrusion capability will also be used to make various gauges of sheet for other sewn, heat sealed and thermoformed products.

Cost comparison

Nordson has also developed a digital tool that compares the cost inputs of standard sheet dies with removable lower lips and those of its EDI SmartGap mechanism for rapidly changing sheet thickness. The tool, called SmartGap Payback Analysis, enables sheet manufacturers to calculate

Main image:
Nordson has developed a digital tool that calculates payback times for switching to its SmartGap sheet die technology

Right: Legend-ary Auto Interiors has begun using an EDI Ultraflex sheet die to make PVC floor mats for vintage cars

the payback time for switching to SmartGap technology.

The company says that SmartGap enables manufacturers to make changes in thickness very quickly, extend the range of thicknesses that they can produce, and achieve these improvements while enhancing sheet quality. The system uses a single-point adjustment mechanism that changes the lip gap while modifying the length of the lip land to provide the most appropriate conditions for the newly adjusted thickness as the sheet exits the die. By mechanically linking the adjustment of these two key process variables, the SmartGap system ensures a proper set-up of the die and takes substantial time and guesswork out of the process for achieving desired sheet properties.

Fourth line

Bandera of Italy recently supplied its fourth rigid PET extrusion line to Flight Plastics Group, including flat extrusion die. Two of the lines went to its headquarters in New Zealand, while the others

were delivered to its UK-based subsidiary.

The line is used to make thermoforming sheet for food packaging and has an output up to 1200 kg/h, with a net width of 1700mm and thickness range of 150-1500 microns.

A key part of the line is a single manifold flat extrusion die, with internal deckling system - for film width adjustment - and feedblock, for layer distribution.

This comes after a 'triple deal' last year, in which Bandera supplied three lines to separate customers in Eastern Europe. The first, for a multilayer PET rigid film/sheet line for thermoforming and FFS, included a single-manifold flat die. The second, for multi-layer extrusion of several materials, included an automatic Bandera single-manifold flat die. The third, a high output line with a net width of 1500mm, included two flat dies: one was a Cloeren flat die for rigid products, while the second was a Bandera flat die for foamed and semi-rigid products.



COMPOUNDING
WORLD EXPO

PLASTICS EXTRUSION
WORLD EXPO

PLASTICS RECYCLING
WORLD EXPO

Networking Party Rock & Roll Hall of Fame

**► DON'T MISS OUT
TICKETS SELLING FAST!**



Have fun with your new business contacts at the ultimate networking party on May 8, 2019 at the Rock & Roll Hall of Fame.

The party ticket is \$20 per person and will give you full access to this iconic venue with drinks and canapes. Doors open at 7pm.

Click here to find out more

*Tickets are available to registered attendees of the exhibitions only.

Thank you to
our sponsors:

ENTEK

TPEI
Technical Process
& Engineering Inc.
Customer Service, Compounded Daily

Brought to you by:

Compounding
WORLD

Plastics Recycling
WORLD

Film and Sheet
EXTRUSION

Pipe and Profile
EXTRUSION

PHOTO: PETER MAPLESTON



Left: Omipa's automatic die for solid sheet enables fast regulation of the gap while the lips stay parallel across its entire width

Automatic die

At the Plast show last year, **Omipa** showed a new automatic die concept for solid sheet with thicknesses ranging from 1mm up to around 30 mm. What is remarkable about this die is not only that it enables fast regulation of the gap, but that the lips stay parallel all across the width of the die. There are no bolts, manually adjustable or thermal, to be seen.

Sales manager Massimo Maccagnola would not reveal exact details about how the die works, saying no more than it is connected with thermo-regulation and flow.

Omipa's main market is hollow profile PP sheet, a

market that it has been in for decades. The company says that over the last couple of years, business has increased considerably. Applications are various, ranging from flooring, through various types of boxes, to pallet interlayers and advertising panels. Maccagnola said business in polycarbonate sheet extrusion systems is also picking up, but is being hindered by polycarbonate supply problems.

CLICK ON THE LINKS FOR MORE INFORMATION:

- > www.nordson.com
- > www.luigibandera.com
- > www.omipa-extrusion.com

MacroPack™ Blown Film Dies



Automax™ Automatic Winders



Visit Us at K 2019
Hall 16 Booth # A21



+1.905.507.9000
sales@macroeng.com
www.macroeng.com

MacroPlast™ Extruders



MacroMax™ D10 and T12 Air Rings



Smart Packaging 2019

*Harnessing active and intelligent technologies to add value
to flexible and rigid packaging*

10-11 September 2019
Hamburg Marriott Hotel, Hamburg, Germany



**SPECIAL
OFFER**

Save **€200** when
you register before
28th June
2019

Media supporters:

Compounding **Film and Sheet** **Injection**
WORLD **EXTRUSION** **WORLD**

AMI's first Plastics Extrusion World Expo is attracting key companies to Cleveland, Ohio, on May 8-9. We preview the exhibitors for the film and sheet sector



Extrusion sector meets at new Cleveland expo

AMI's Plastics Extrusion World Expo is set to launch in the North American market when it opens its doors on May 8-9 at the Huntington Convention Center in Cleveland, Ohio. The extrusion exhibition and conference are making their debut in the US alongside the Compounding World Expo and Plastics Recycling World Expo, which both ran for the first time in Essen, Germany last year and drew a hugely positive response from visitors and exhibitors. Each event combines a focused, free-to-enter exhibition with high quality free conference streams targeted at their respective markets. More than 250 companies have booths at the expos and more than 2,000 visitors have already registered to attend.

The quality and breadth of the companies exhibiting at the Plastics Extrusion World Expo can be seen in the preview of exhibitors supplying the film and sheet extrusion sector in the following pages. Among the exhibitors are key companies showing the latest innovations in extrusion machin-

ery and auxiliary equipment, polymers and additives and providing important services to plastics extrusion manufacturers.

The five free conference streams, with more than 130 speakers, include a stream at the Plastics Extrusion World Expo in which the business issues, technical challenges and market opportunities for film and sheet extruders are addressed. The outlook for the industry will be discussed in four high-level debates, plus attendees can get solutions to technology and materials questions from experts at leading companies – covering everything from additives and mixing to extruder and process optimisation. Click [HERE](#) to view the full conference programme.

As well as all the networking opportunities on the show floor and in the conference theatres, attendees can join exhibitors at a special after-show party at the Rock and Roll Hall of Fame, nearby in downtown Cleveland. Tickets for the party are available at a special rate of \$20 – [DETAILS HERE](#). ➤



Dates: May 8-9 2019 – Entry is free

Opening hours: 9am to 5pm on both days

Venue: Huntington Convention Center, Cleveland, Ohio, USA

Online registration: <https://extrusion-expo.eventkit.live/usa>

Right: Addex is a specialist in cooling technology

Addex offers cooling technology for higher throughput, film quality, and operational simplicity. It has directly integrated Intensive Cooling Technology (patent pending) into the dual-flow air ring design. These new IC air rings typically increase output by 15-20% by boosting bubble stability. At the same time, Addex's Intensive Cooling-Compatible IBC hardware, coupled with Digital Internal Bubble Cooling control system, ensures precise bubble control.

➤ www.addexinc.com

Adescor is an industrial machine builder and automation company with a focus on developing innovative solutions for the manufacturing industry. While its main business is in machinery for corrugated pipe extrusion, it also supplies downstream equipment – such as for cutting and materials handling – as well as sheet extrusion equipment.

➤ www.adescor.com

Advanced Blending Solutions designs and supplies material handling, blending, and controls for the plastics industry. All its products can be customised to meet customer needs, and include: gravimetric continuous blenders; extrusion throughput control weigh hoppers; vacuum and pressure pumps for material conveying; dust collectors; vacuum receivers; Smart material distribution systems; a fully integrated controls system; resin wands; knifegates; static eliminators; flexible and wye-line diverters; angel hair traps; and custom equipment.

➤ www.adv-blend.com

Right: Alpha Marathon technologies include extrusion dies systems and bubble control technology



Alpha Marathon helps packaging companies improve film quality and productivity on their manufacturing lines. Its Alphaglacier water-quenching process provides a cost-effective solution while improving product film properties; its Alphabubble Direct Extrusion Cast Bubble Wrap Line produces protective packaging and insulation; and the ADSSM Multi-Layer Extrusion Die System improves film properties to meet the changing needs of the packaging, medical, food and other industries.

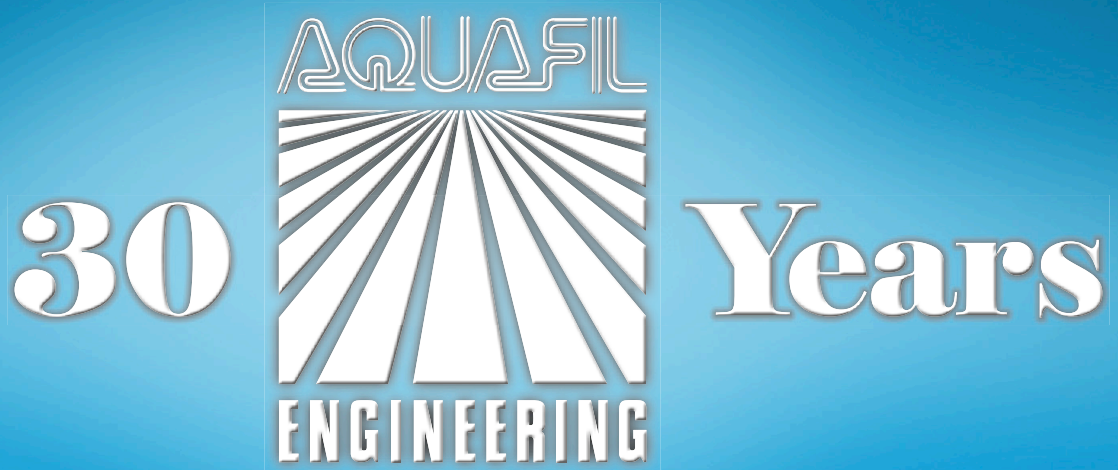
➤ www.alphamarathon.biz

Arlington Machinery specialises in the purchase and sale of used machinery. Its inventory of used plastic machinery can serve any extrusion facility, from extruders to complete extrusion lines. On an individual machine basis, it also offers ancillary equipment such as granulators, shredders, dryers and screen changers – which can all be test run and shipped immediately. Arlington can also liquidate entire plants or individual machines – either onsite or via the web – and offers complete certified appraisal reports for asset-based lending, insurance, taxes or accounting. It can also provide USPAP, IFRS and IVS-compliant reports.

➤ www.arlingtonmachinery.com

Berlyn ECM designs, engineers and manufactures plastic processing equipment. Its product line includes extruders, low bulk density feeders, screen changers (manual and hydraulic), continuous filters, dies and water baths. It also offers screws and barrels for all brands, as well as rebuild and refurbishing services. Its equipment is used by manufacturers of film, sheet, pipe, profile, and tubing.

➤ www.berlynecm.com



Innovation · Experience · Quality

We thank all our clients and partners for their cooperation and our staff for their hard work and loyalty for many years.

Polyester
Plants



Polyamide
Plants



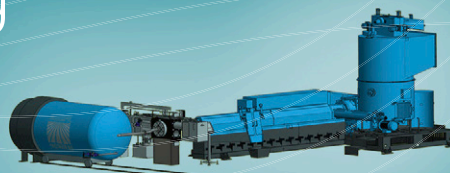
Chemical
Plants

Equipment

Drying
Plants

Services

Recycling
Plants



AQUAFIL ENGINEERING GMBH

D-13469 Berlin-Germany | Düsterhauptstraße 13
Phone +49-30-40 30 03-0 | Fax +49-30-40 30 03-99
www.aquafleng.com | polymer@aquafileng.com

Right: Clariant's additives imbue plastics with many extra properties, such as preventing oxidation, dissipating electric charge and improving weather resistance

For over 90 years, **C.W. Brabender Instruments** has manufactured test equipment for measuring and recording rheology, viscosity, process development, laboratory scale compounding, extrusion, mixing applications and moisture in the polymer industry. It is the original manufacturer of the torque rheometer. The recording dynamometer system was developed by Carl W. Brabender in 1930. Since then, the company has delivered high quality instrumentation to attain the desired results demanded by Quality Control, Product Development and Research Applications environments.

➤ www.cwbrabender.com

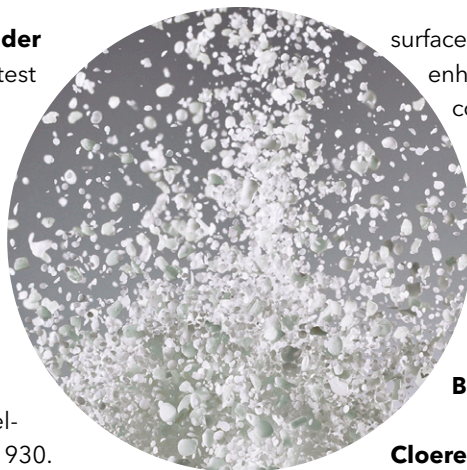
Chemagineering supplies water management products and services, with a focus on plastics extrusion. Its products and services help maintain clean heat transfer surfaces and minimise system metal losses. In addition to using safe, environmentally friendly water management products, it has looked to maximise water conservation while minimising energy costs. It supplies both distributors and end-users, and also provides in-plant consulting and problem-solving services, internal customised training courses, technical seminars and lectures, R & D direction and formulary development.

➤ www.chemagineering.com

Clariant is a global speciality chemicals company that reports in four business areas - including plastics and coatings. It is a major supplier of products with functional effects in plastics, coatings and consumer applications. Innovative solutions include non-halogenated flame retardants - for applications such as construction - while it also produces advanced

surface solutions that protect and enhance surfaces in plastics, coatings and inks, adhesives, agriculture and care applications. Clariant's additives prevent oxidation, dissipate electric charge accumulation and improve heat, light and weather resistance.

➤ www.clariant.com/en/Business-Units/Additives



Cloeren engineers and manufactures customised coextrusion feedblocks, single and multi-manifold dies, and related accessories. Each system is tailored to meet unique customer requirements. Cloeren's engineering excellence means higher output, less waste, and less downtime. Since the introduction of its first patented Cloeren Feedblock, this family-owned business has led the way in flat die extrusion technologies - from conventional mono-layer to sophisticated multi-layer polymer applications.

➤ www.cloeren.com

Colines manufactures a wide range of extrusion lines. These include: cast lines for the production of stretch film, CPP film, barrier film, breathable film and embossed film; extrusion coating units and complete lines with automatic unwinders; lines for the production of Bubble Guard Board and Flex in PP (patented technology); lines for PE air bubble film; complete technology for the production of PVC gaskets for refrigerators; and Allwrapper any bundle packaging system.

➤ www.colines.it

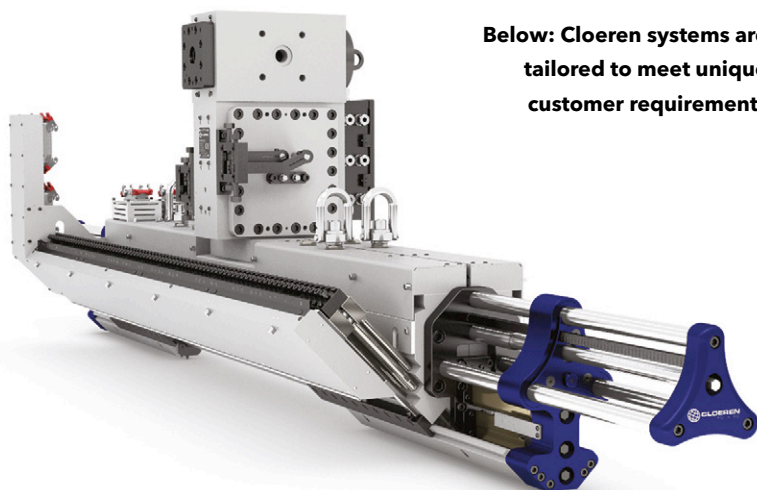
Luigi Bandera is a leader in designing and manufacturing complete extrusion lines for packaging and converting. Beginning as a mechanical workshop during the 1940s, Bandera is now a worldwide leader in the extrusion industry. It strongly believes that a group of people who share passion can achieve the most challenging goals.

➤ www.luigibandera.com

CR Meyer is an industrial general contractor with eight offices located across the United States. With over 130 years' experience, it is an industry leader in the plastics and packaging industry. From supporting maintenance efforts, installing new equipment, or providing design/build services, it delivers optimum constructability to meet the most rigorous quality, budgetary, and timeline objectives.

➤ www.crmeyer.com

Below: Cloeren systems are tailored to meet unique customer requirements



A sustainable partnership.

viscotec
foodgrade without compromise

We provide entire solutions
for 100 % recycled PET to our
customers around the globe.



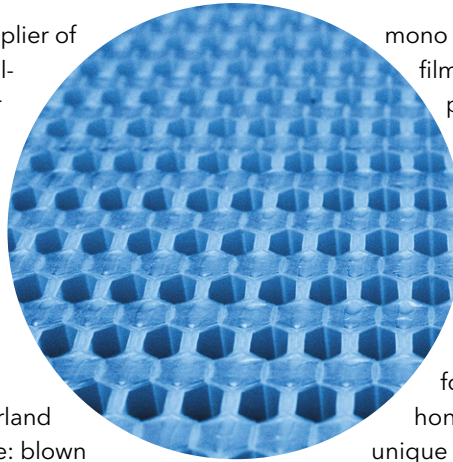
Right: EconCore's thermoforming-based technology is used to make honeycomb sandwich materials

Davis-Standard is a leading supplier of extrusion and converting technology. Its systems encompass over 10 product lines that are used in major industries including agriculture, automotive, construction, healthcare, energy, electronics, and food and beverage packaging. It has manufacturing and technical facilities in the USA, Canada, China, Germany, Finland, Switzerland and the UK. Product lines include: blown film; cast film; pipe, profile and tubing; reprocessing and compounding; and sheet extrusion.
 > www.davis-standard.com

Doteco develops automation solutions - especially in the extrusion of plastic film, sheet, profile and synthetic fibres. It has earned a leading position in the production of gravimetric blenders, yield control, auto profile control and complete supervisory systems. Each product undergoes careful quality control, starting with rigorous supplier evaluation for component purchase or the construction of parts from drawings. Its competitive advantages include its quality/price ratio and an efficient after-sales technical service.
 > www.doteco.com

Dr Collin Lab & Pilot Solutions develops pilot and laboratory lines for the plastics industry from raw material production, processing, finishing and converting to R&D and education/training. It supplies customers in medical, agricultural, packaging, coating, finishing and recycling. As part of its product lines (Teach-, Lab-, Pilot- and Medical-Line), it develops individual solutions. Its portfolio includes platen presses, roll mills, calenders, extruders, compounders, mono and co-extrusion lines for

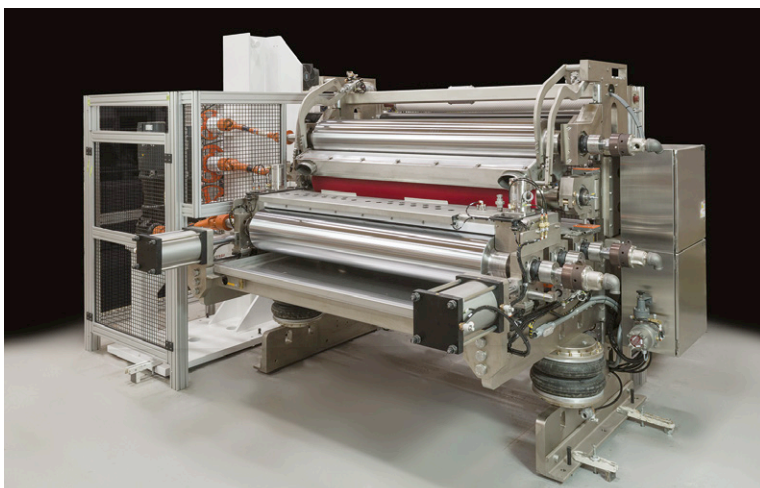
Below: Davis-Standard offers a range of equipment for film and sheet production



mono and multi-layer flat and blown film, as well as for pipe, tube or profiles - plus quality control equipment such as filter pressure tests, rheometers and optical inspection systems.
 > www.drcollin.de/en

EconCore, based in Leuven, Belgium, provides technology for the continuous production of honeycomb sandwich materials. The unique ability to produce rigid but lightweight panels within a cost-efficient, integrated high-volume production process is licensed by several companies over the world. The fast, versatile, continuous thermoplastic honeycomb production process allows users to produce sandwich materials for various applications including automotive, transportation, building and construction, industrial packaging/graphical displays, furniture and many others at minimal cost, weight and environmental impact.
 > www.econcore.com/en

FACTS provides integrated control system upgrades for applications including extrusion, compounding, batch mixing, weigh scale and thermoforming systems. It integrates on-line measurement systems and supplies complete scanning gauges for sheet, film and web applications. FACTS Machinery Group's capabilities include: complete extrusion lines for medical tubing, profile, pipe, sheet, film, wire and cable, and rubber; single screw extruders, conical and parallel twin screws, and rubber extruders; downstream extrusion machinery including tools, tanks, pullers, cutters, and winders; downstream machinery; and gearbox rebuilds.
 > www.facts-inc.com



Frigosystem-Corema is focused on the design, manufacture and sale of industrial chillers and temperature controllers, and it has long experience in high accuracy systems. Its range of products allows it to satisfy the demands of both large and small players. Frigosystem can structure its offer with tailor-made plants and proposals, oriented to efficiency and energy saving.
 > www.frigosystem.it/en

Gneuss is a supplier of innovative solutions for the extrusion and recycling industry. Its patented MRS extruder offers new possibilities with regard to the efficient devolatilisation and extrusion of hygro-

The solution for improving plastic sheets and rigid food packaging

- Anti-block agents
- Anti-static agents
- Anti-fog agents
- Specialty fluids
- Polymer masterbatch

Long-term solutions and cost-performance additives

Discover how ideas become innovations

Van Meeuwen Chemicals supplies several types of anti-static, denesting and anti-fogging agents. These are partly based upon functional chemicals. Or available in the form of masterbatch additives. The additives are successfully used in plastic extruded rigid sheets, thermoformed trays, containers and food packaging.

Outperform your plastic with specialty fluids

Specialty fluids have proven to be the best solution in cost-performance. Our products are in line with the EU Directive Regulation (EU) No 10/2011 and its amendments, plastic materials and items intended to come into contact with food. Specialty fluids are dedicated to apply with a coating station.

Masterbatch for PET extrusion

A unique additive for PET instantly reduces surface friction without having any adverse effects on PET's physical properties and optical effect. It is designed as a slip additive, which decreases surface friction (COF) of food packaging. The advantage of using a masterbatch additive is its crystal clear appearance. Masterbatches are successfully used for food packaging and extruded sheets, suffer no loss of performance and can resist a high melt temperature.

lubrication ■ services ■ systems ■ chemicals ■ education

Right: Kuhne has a wide range of expertise in film and sheet

scopic polymer melts like polyester, nylon or polyolefins. Combining these with Gneuss process-constant and fully automatic screen changers and high-quality pressure and temperature sensors allows very efficient processing of highly contaminated materials.

➤ www.gneuss.com

Integrated Control Technologies (ICT) specialises in extruder drive and control upgrades for the plastics industry, and helps customers develop a plan for upgrading their extruder to give it capabilities equivalent to that of a new system. At its booth, it will distribute free copies of *A Guide to Extruder Upgrades*. It can help identify individual levels of risk, supply quotations that align with business objectives, and explain how to evaluate quotations based upon multiple criteria to establish a reliable recommendation.

➤ www.integratedcontroltech.com

Jelliff has a facility in Hickory, North Carolina that manufactures and supplies all types of extruder screen packs. Screens are available in both plain steel and stainless-steel alloys. Jelliff can supply various diameter screens as single or spot-welded packs. The company also produces all types of wire cloth cylinders, aluminium and stainless-steel bound packs, made to customer specification. Jelliff also supplies copper gauze for cleaning breaker plates.

➤ www.jelliff.com

Below: Gneuss supplies a number of innovative solutions for extrusion and recycling, including its patented MRS extruder

Kolcor designs, builds and supplies melt filtration equipment. Its staff have the unique ability to quickly grasp customer needs and recommend the right piece of equipment for each material and process. Every Kolcor screen changer is based on three fundamental design criteria: functionality, quality, and safety. Because Kolcor does all of the design, sales, and service in one place, customers



enjoy the convenience of one-stop shopping.

➤ www.kolcor.com

Kuhne Maschinenbau provides plastic converters worldwide with equipment for sheet and flat film extrusion and other extrusion processes. If needed, it can be a single source supplier of a production line, from the extruders all the way downstream to the packer. As part of Kuhne Group – which includes K-Tool, an in-house manufacturer of high-end extrusion components, and Kuhne Anlagenbau, which supplies blown-film machinery – it has two strong partners. Its expertise enables it to transfer ideas and drafts into customised solutions.

➤ www.kuhne-group.com

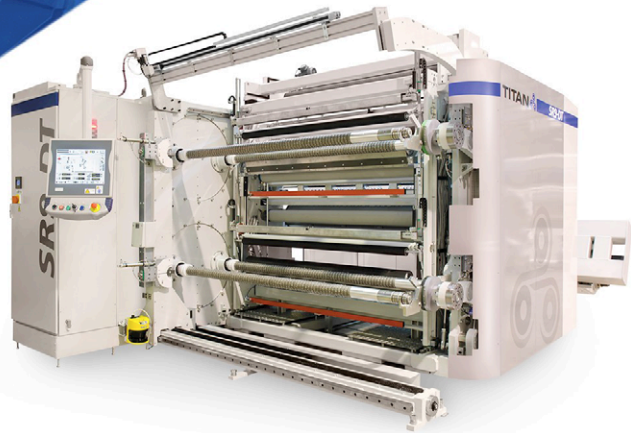
Labtech Engineering is a specialist in laboratory and pilot plant polymer processing machines. Its machines are made under Swedish management and technology combined with a skilled Thai staff of engineers and technicians. In 2010 it moved into its new manufacturing facility. The company has one of the largest ranges of laboratory and pilot plant plastic processing machines, which includes twin and single screw extruders, co-ex and single layer sheet and film extrusion lines, two roll mills, presses, filter testers and pelletising systems.

➤ www.labtechengineering.com

Lung Meng Machinery is a manufacturer of blown film extruders, flexographic printing presses, recycling machines and bag making machines. Its All In Line System integrates blown film extruders, printers and bag making machines, and has independent modules that can be added or removed depending on the types of bags to produce. The company builds extruders for everything from W3 mono-layer films to W200 multi-layer films. The printing department builds stack and central impression presses from 1-colour

ATLAS TITAN

British made. World class.



FLEXIBLE PACKAGING
FILM SLITTING
LABELSTOCK/PSA
PAPER
LAMINATES

SLITTER REWINDERS FOR FILM & PACKING

Atlas Titan specialises in the design and manufacture of primary and secondary slitter rewinders for a wide range of flexible materials.

The company's success and expansion has made it one of the most successful manufacturers and a world leader in slitting and rewinding technology for the global converting industry, with an installed base of over 3700 slitter rewinders.

www.atlasconverting.co.uk

Right: Maguire is an expert in blending and material handling systems

to 8-colour, while the bag converting department produces machines to make bags individually, in a bundle or on roll.

➤ www.lungmeng.com.tw

Macchi is a worldwide leader in film extrusion machinery, delivering an average of 60 lines per year in 3-, 5-, 7- and 9-layer formats, which are all fully tested prior to shipment. Coex-flex is recognised as a high performance integrated modular flexibility concept, and there are almost 900 units running worldwide. User-friendly, reliable, energy-saving technology, with innovative state of the art drives and controls help to produce a high-quality end product. Macchi's sales team works worldwide, with a network of more than 40 agents.

➤ www.macchi.it

Macro Engineering & Technology is a supplier of film and sheet extrusion systems that specialises in barrier film lines and custom designed extrusion machinery. For 40 years, it has helped film and sheet producers reach their production goals with a project-oriented philosophy and an underlying commitment to developing innovative technologies.

➤ www.macroeng.com



Maguire Products is a specialist in blending and material handling systems for the plastics industry. It has six production facilities across the USA and operates globally, developing equipment for accurate conveying, loading, drying and dosing of raw materials, additives and masterbatches along with systems that provide real-time data on material consumption. It recently partnered with Italy-based Syncro - which has expertise in extrusion control, including blown and cast film, sheet, pipe and profile - to expand options for advanced extrusion control technologies.

➤ www.maguire.com

Main Tech offers a new generation of auxiliary equipment and complete systems for the plastics industry. It combines a culture of innovation and skill to develop state of the art products and services. Main Tech has developed a substantial knowledge for every problem related to material storage, conveying and treatment of the various plastic materials. It designs and manufactures equipment for engineering solutions, complete material handling systems as well as storage,

Experts speak at free conference

Visitors to the Plastics Extrusion World Expo can attend the free conference in the show's *Film and Sheet Extrusion* theatre. Business intelligence, market opportunities and updates on technology and materials will be presented by industry experts during the event.

The keynote address on May 8 will be given by Charmaine Russell, business manager - conferences at AML. She will talk about opportunities in high barrier packaging.

The opening keynote on May 9, which examines global trends in film, will be given by Andrew Reynolds, director Advance Bidco - the owner of AML.

There will be four industry debates across the two days, focusing on the future for plastics packaging, agricul-



Speakers at the event include (from left): Kevin Kenny of Decernis; Steve DeSpain of Reifenhauer; and Olivier Catherine of Cloeren

tural films, women in plastics and stretch and shrink. These will be hosted by Charmaine Russell or Andrew Reynolds. The panellists include influential representatives from companies such as Sealed Air, Flex Films, ProAmpac, Imaflex, Grupo Polytec, Americhem, BASF and Simona.

A special training seminar on the afternoon of May 8 will focus on food

contact material compliance. It will be presented by Kevin Kenny, chief operating officer of Decernis.

A series of technical presentations throughout the two-day programme will provide useful ideas for optimising extrusion lines and operations.

For more information about the Plastics Extrusion World Expo conference and the full line-up of speakers, [CLICK HERE](#).



Housewrap 2019

**CLICK
HERE FOR
DETAILS**

September 17-18, Ft. Lauderdale Marriott Coral Springs Golf Resort

Investigating
advances in
polymer materials
and processing
technologies
for barrier wrap
in building
applications

AMI is pleased to announce the launch of Housewrap 2019, taking place September 17-18, 2019 in Coral Springs, Ft. Lauderdale, Florida.

Housewrap 2019 covers the latest technical developments and market trends in this dynamic sector and focuses on the most commonly used types of housewrap. The program looks at developments in raw material characteristics, machinery, testing techniques, material formulation, extrusion & processing technologies continuing to facilitate cost reduction without compromising performance and safety criteria.

The conference sessions are complemented by a focused table-top exhibition and plenty of networking opportunities, including an evening drinks reception.

Media supporter:

Film and Sheet
EXTRUSION

Join us and be part of the event!

To register as an exhibitor or delegate and to get more information on sponsorship packages, please contact the organiser Lindsey Bower at

Tel: +1 610 478 0800

Email: lindsey.bower@ami.international

Click
here to
register
for your
free
ticket

material drying, dosing and recycling devices, for both granules and powder materials.

➤ www.maintechworld.it

NFM is a leader in design, manufacturing, performance, support and service for polymer processing and extrusion systems. It provides reliability through every step of polymer processing system development, which leads to: reliable products (from the extruders to the equipment that is integrated with them); reliable systems and engineering (including a range of turnkey systems and solutions); reliable after-sales support (working directly with experienced craftsmen); and reliable service and spare parts.

➤ www.nfm.net

Oden Technologies is an intelligent industrial automation company that helps manufacturers achieve high quality production by providing complete visibility of all production processes in real-time. The Oden platform wirelessly collects data from any machine, integrates it with third party systems and delivers instantaneous insights leading to effective quality control, timely maintenance and lower machine downtimes, optimised operations and higher customer satisfaction.

➤ www.oden.io

Omipa designs and builds complete extrusion and co-extrusion lines for sheet, foil, film and hollow profile in various materials. It handles all elements of the extrusion line in-house, from design through to installation of the finished line. Its after-sales service relies on sending skilled staff to customers'

sites, a rapid spare part service, and on-line assistance. Omipa produces complete extrusion and co-extrusion lines for: high optical quality sheet and foil; hollow profiles; thermoforming sheets; and foil in composite materials. It also supplies downstream equipment for rigid and PVC sheets, special extrusion lines, and ancillary equipment.

➤ www.omipa-extrusion.com

Pall Corporation is a supplier of filtration, separation and purification technology. Its equipment helps polymer producers make high quality end products by capturing and removing both hard and soft (gel) contamination. Its patented filter elements enable long on-stream life at the lowest possible operating pressure drop. Pall's polymer element and system design technology, along with sintered metal fibre, sintered powder and wire-mesh type filter media, deliver a broad array of solutions for all polymer producers and processors.

➤ www.pall.com

Parkinson Technologies is a leading designer and manufacturer of large-scale web handling, winding and plastics processing equipment for continuous web processing. It incorporates Key Filters screen changers, Marshall & Williams Plastics orientation lines, Parkinson Winders surface and centre winders, and Dusenbery Converting Systems slitter-rewinders. Parkinson also offers its customers flexibility to conduct plastics sheet/film extrusion and orientation R&D and to produce commercially viable marketing samples.

➤ www.parkinsontechnologies.com

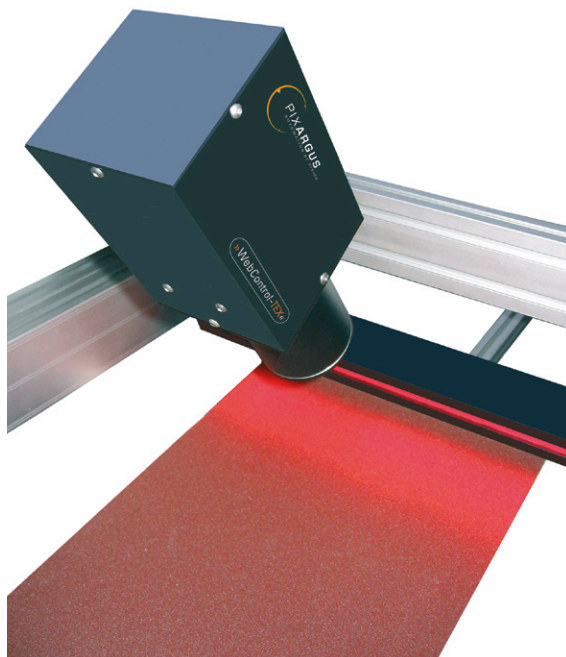
Pixargus specialises in systems for automatic surface inspection and dimension measurement of continuously produced long products such as profiles, tubes, webs and cables in a wide range of materials, as well as for single piece inspection. All its systems feature its proprietary, high-performance machine vision technology. Today, Pixargus systems are in use 24/7 in manufacturing operations in the automotive, medical, building and infrastructure as well as consumer goods sectors.

➤ www.pixargus.com

Plastics News and its sister publications together comprise the world's largest plastics publishing organisation, the Crain Global Polymer Group, which includes multiple websites, more than a dozen e-newsletters, multiple conferences and industry award programs.

➤ www.plasticsnews.com

Left: Pixargus offers web control using machine vision software



Plastics Recycling Technology

2019

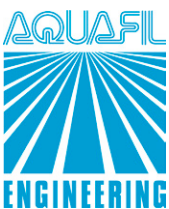
*Exploring the future of plastics recycling -
new ways to boost productivity, quality and profitability*

18 - 19 June 2019

Hilton Düsseldorf, Düsseldorf, Germany



**CLICK
HERE FOR
DETAILS**



Sponsored by:



Media supporters:

Plastics Recycling **Compounding**
WORLD **WORLD**

Film and Sheet **Pipe and Profile** **Injection**
EXTRUSION **EXTRUSION** **WORLD**

AMI

Bringing the plastics industry together.

[in](#) [f](#) [t](#) @Contact_AMI #AMIRecycling

COMPOUNDING
WORLD EXPO

PLASTICS EXTRUSION
WORLD EXPO

PLASTICS RECYCLING
WORLD EXPO

MAY 8 - 9, 2019

**HUNTINGTON CONVENTION
CENTER, CLEVELAND,
OHIO, USA**

Access more than 250 exhibitors over two days



Milliken



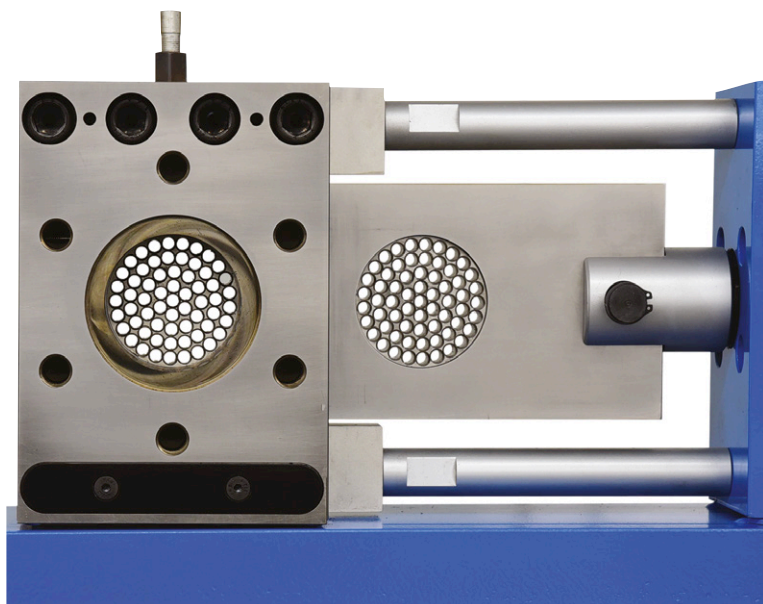
**REGISTER
TO ATTEND
FOR FREE**

**SEE FULL
LIST OF
EXHIBITORS**

Limited free tickets - get yours today!



and many more...



Above:
PSI-Polymer Systems offers a range of screen changers, gear pumps and static mixers

Polyfil focuses on the development and production of performance-enhancing additive concentrates for polyolefins. Its product line includes antistats, antifogs, chemical foaming agents, ultraviolet stabilisers and blockers, purge and shutdown compounds, slips, antiblocks, processing aids, antioxidants, flame retardants, nucleator/clarifiers, gas and odour absorbers, release agents, mineral-filled concentrates, multifunctional additive concentrates, and custom formulated products. The company, which is ISO 9001 certified, became part of the Kafrit Group in 2018.

➤ www.polyfilcorp.com

PolymerOhio is a non-profit membership organisation for Ohio's polymer industry. It serves as a network hub for a broad range of polymer industry participants - from manufacturers and suppliers to universities, technical institutions, government agencies, and economic development organisations. Among other things, it can help local companies: network with industry professionals; find and develop new technologies; build or fill gaps in their supply chain; and, conduct market research and train their workforce.

➤ <https://polymerohio.org>

PolyOne is a premier provider of specialised polymer materials, services and solutions, including Geon vinyl formulations. The company is dedicated to serving customers in diverse industries around the globe by creating value through collaboration, innovation and a commitment to excellence. PolyOne is an ACC Responsible Care certified company committed to its customers, employees, communities and shareholders through ethical, sustainable and fiscally responsible principles.

➤ www.polyone.com

PTi is a global supplier of complex, high-performance sheet extrusion machinery, offering a unique array of advanced design features that result in superior equipment performance. PTi provides both single- and twin-screw extruder systems for the production of mono, multi-layer, high barrier and foamed sheet, for applications in sectors including packaging, automotive, industrial, agricultural and marine. Complete turnkey solutions are configured to customer's specific requirements. PTi sheet extrusion systems feature state-of-the-art technologies and are engineered to precise quality protocols resulting in the manufacture of high-quality sheet.

➤ www.ptiextruders.com

PSI-Polymer Systems manufactures high-performance screen changers, gear pumps and static mixers to improve product quality and output between the extruder and the die. By building technology into every product and guaranteeing performance, PSI has helped its clients exceed standard capabilities of new lines and breathe new life into lines that are ready to be sidelined. It can also dedicate resources to solving unique problems, such as products for manifolds, block valves, die changers and low-viscosity. PSI engineered systems provide you with flexible solutions that stay within your budget, are delivered on time and work out of the box.

➤ www.psi-polymersystems.com

R&B Plastics Machinery is a manufacturer of single screw extruders and has expertise in compounding, cast film, pipe, profile, sheet, tubing, and speciality applications. It offers a true turnkey solution, and can integrate the operation of downstream equipment into its control system. Aside from new machinery, R&B offers rebuilds on all existing makes and models of single screw extruders.

➤ www.rbplasticsmachinery.com

Founded in 1911 and headquartered in Troisdorf, Germany, the **Reifenhäuser** Group is a leading provider of innovative technologies and components for plastics extrusion. The company's specialised business units provide advanced solutions to customers around the world. With the group's technologies and a skilled workforce of over 1,500 employees, the company enables customers to produce blown films, cast films, sheets and nonwovens, and delivers high quality components for the plastic extrusion industry.

➤ www.reifenhäuser.com

Click
here to
register
for your
free
ticket

Polymer Sourcing & Distribution

Barcelona / 2019

Paradigm shift in global polymer sourcing & distribution

13-15 May 2019

Hilton Hotel, Barcelona, Spain

**CLICK
HERE FOR
DETAILS**

Headline Sponsor



Media supporter:

**Compounding
WORLD**

AMI

Bringing the plastics industry together.

   @Contact_AMI #AMIPSD

RKC Instrument manufactures industrial single loop and multi-loop PID temperature and process controllers for industries including plastics extrusion. Other products include pressure and temperature sensors, high limit controllers, ramp soak controllers, communication converters and supportive software. The company has ISO 9001 and ISO 14001 certification. Temperature and process controllers carry a three-year warranty. They are CE approved, RoHS compliant and are UL and cUL recognised.

➤ www.rkcinst.co.jp/english

Simcheng Plastics Machinery is an equipment manufacturing enterprise serving five main industries: soft food packaging, automotive and safety glass for buildings, new energy, hygienic materials and environmental film. The main production includes CPP and CPE, EVA solar battery encapsulation, PVB automotive glass interlayer, high-barrier multilayer co-extrusion film lines, and BOPP biaxial oriented film lines. Simcheng, as a privately-owned technology enterprise, offers high quality, trustworthy partnership and full service.

➤ www.simcheng.com

Stone Base Vietnam has calcium carbonate (CaCO_3) production lines with capacity of 60,000 tonnes/ year including coated and non-coated CaCO_3 powder, and filler masterbatch production lines with a capacity of 50,000 tonnes/year. Advanced technologies are applied to make the best quality input materials for plastics and other industries. Products are widely used by many domestic and international customers. The company has particular expertise in filler masterbatch for woven bags and film blowing. For example, it can use up to 50% filler for PP woven bags and still guarantee quality. Due to expansion, it is looking to recruit more long-term business partners and agents.

➤ www.stonebase.vn

Union, located in Italy, engineers, manufactures and assembles complete extrusion lines for roll-stock sheets, cast film, flat and hollow sheets, corrugated and Greca sheets, special lines for composite panels of plastics and metal and complete equipment for foam board, sheet and profiles. The company has more than 1,200 lines installed in 54 countries, and provides technical service to its worldwide customers with the latest up-to-date high technology. In 2018, it was recognised as one of the best 500 Italian companies.

➤ www.unionextrusion.it

Looking beyond the PEWE event

In addition to all these companies within the PEWE show, there are many others in neighbouring exhibitions. Here is a selection of other companies you might want to seek out, which are relevant to film and sheet extruders.

Addivant/SI Group

Performance additives and process solutions.

➤ www.siigroup.com

Alok Masterbatches

Single pigment concentrates (SPCs) and mineral-filled masterbatches.

➤ www.alokmasterbatches.com

AMI

Market intelligence, databases, and plastics industry events.

➤ www.ami.international

Brabender Technologie

Feeding equipment for a range of applications.

➤ www.brabender-technologie.com/en

Cabot

Specialist in black masterbatches.

➤ www.cabotcorp.com

Extreme Coatings

Wear-resistant solutions for screws.

➤ www.extremecoatings.net

Inspection Technologies

Inspection/measurement of plastics – including sheets and films.

➤ www.sheetinspection.com

Milliken

Plastics additives, including clarifiers.

➤ www.milliken.com

Netzsch Instruments North America

Thermal analysis instrumentation for material characterisation.

➤ www.netzsch.com

Schwing Technologies

Thermal cleaning to remove polymers and contaminations from tools and machine parts.

➤ www.schwing-technologies.com

Struktol

Lubricants and process additives for all major polymers.

➤ www.struktol.com



CLOEREN

Often Imitated *Never* Duplicated



www.cloeren.com

PLASTICS EXTRUSION WORLD EXPO

May 8 - 9, 2019

Huntington Convention Center,
Cleveland, Ohio, USA

GUARANTEE YOUR FREE TICKET NOW

- **Network** with leading players in the industry
- **Discover** solutions to current and future challenges
- **Meet vendors** and make informed purchasing decisions
- **Keep up-to-date** with industry advances and the latest technology



250+ EXHIBITORS

130+ SPEAKERS

across the three expos

May 8, 2019

**Rock & Roll
Hall of Fame
Networking Party**

Don't miss out!

LONG LIVE ROCK

www.extrusion-expo.com

Co-located with:

COMPOUNDING
WORLD EXPO

PLASTICS RECYCLING
WORLD EXPO

Brought to you by:

Film and Sheet
EXTRUSION

Pipe and Profile
EXTRUSION

AMI

Bringing the global plastics industry together



Reel deal: latest in slitters and winders

Innovations in slitting and winding include an easy change knife system and a machine to separate self-adhesive PVC film from its carrier paper. Lou Reade reports

Visitors to the two recent ICE converting shows – one in Europe, the other in the US – found plenty of examples of new slitting and winding technologies.

At the recent **ICE Europe** exhibition, **Laem System** of Italy showed its RB 4 – a centre-driven slitter rewinder aimed at film manufacturers and converters that produce finished reels with web widths starting at 40mm. The RB 4 is designed for unwinding diameters of up to 1,000mm and a maximum rewinding diameter of 600mm. At production speeds of up to 600 m/min, it processes mother rolls with up to 1,800kg and web widths of 1,200-1,600mm. The dual shaft machine offers short cycle downtimes and highest productivity thanks to its fast loading and unloading systems. Depending on customer requirements, the RB 4 is equipped with one motor driving both rewinding shafts or two rewinding motors for independent control of upper and lower shafts.

Laem recently agreed a strategic partnership with **Goebel IMS** of Germany. The aim is to offer an expanded machine range of converting, slitting and winding technologies to the market.

For its part, Goebel highlighted its newest slitting and winding machines – including the Xtraslit 2 – at ICE Europe. Xtraslit 2 offers high efficiency and winding quality in the conversion of films and flexible packaging materials. Thanks to its modular machine concept and individual technical features, it covers most customer requirements and can be configured as requested.

Slitting innovation

Dienes of Germany presented its latest developments in slitting technology at this year's ICE Europe.

Its DS 8 knife holder has gained a comfort feature – the 'easy change' – which makes it convenient to change knives without tools. This

new, patented knife change system minimises set-up times and contributes to work and process reliability. The knife is easily removed and replaced by unlocking the safety bar and removing the clamping nut. The ring nut is then screwed back onto the knife holder until the locking clip engages in its fixing position. The locking pin prevents the knife carrier from twisting when changing knives, which reduces the risk of accidents.

The advantages include shorter set-up times, positive locking of the ring nut (easy change), and the fact that screws and tools cannot fall into the machine (as is possible with conventional systems).

Dienes has also developed an electronically driven knife holder called PSGs-DF-P-DC, for cutting wafer-thin foils, adhesive foils and labels from 70mm cutting width. The use of the driven knife holder offers more flexibility in the cutting widths, optimum cutting edge quality and optimised knife life, says the company.

Material separation

Nepata of Germany says that it presented a world first at ICE Europe: a machine that separates self-adhesive film from its carrier paper – making it possible to obtain pure, recyclable PVC from faulty film media.

The DL1650 film separator allows automated delamination of films, helping to avoid plastic



Main image:
The DS 8 knife holder from Dienes can now have blades changed without needing tools

waste and expensive disposal. During the manufacture of self-adhesive films waste material is created. To date, the disposal of faulty film rolls was expensive, says Nepata.

The new machine separates a 50m roll in around two minutes. Rolls of up to 350mm in diameter and 1,650mm wide can be processed. The DL1650 separates the layers and rewinds PVC film and kraft paper individually. At the film side, this process is coreless – and so generates pure material. A single machine operating around the clock can recover several thousand tonnes of PVC each year.

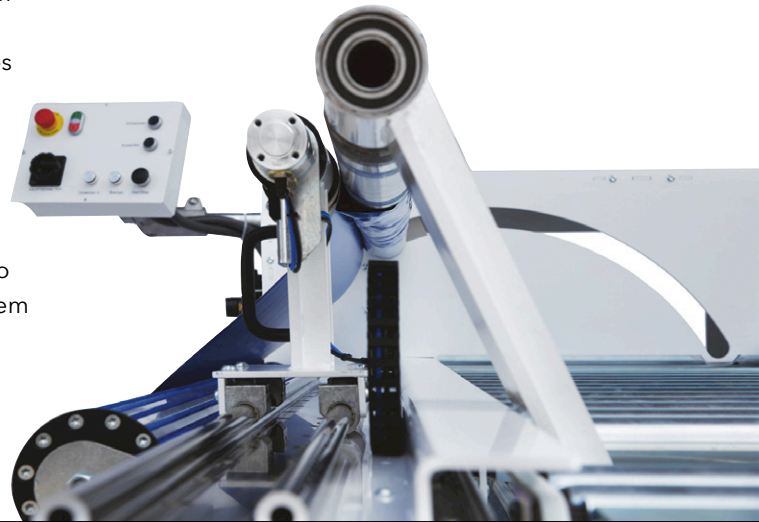
In addition, Nepata displayed other machines from its range – including its UA1650 ADWS precision conversion centre, 1900 ADWS slitting machine and the UA770 rewinding and cutting machine. All Nepata slitting machines and conversion centres (ADW/ADWS models) now include two new features to make them more precise: a jaw lubrication system for the slitting head, which lightly lubricates the blade with silicone oil; and a line laser on the slitting head, which accurately displays the slitting blade's exact position on any film or paper surface.

Right: Nepata says its DL1650 film separator makes it possible to recover PVC from faulty film media

On the overlap

Davis-Standard exhibited its side-by-side DS S3 overlapping winder at ICE Europe.

The DS S3 It enables maximum slit widths for hand-wrap, machine-wrap and jumbo rolls. Rolls are discharged on the downstream end of the winder and conveyed to a common side of the line to simplify roll packing and future automation. Cores are also same-side loaded from the back to prevent disruption of packing activities.



DO YOU HAVE EQUIPMENT FOR SALE?



We BUY And SELL Used Equipment.
Call us now to see what yours is worth!

**Visit Arlington Machinery at the Plastics Extrusion
World Expo Cleveland May 8-9th. BOOTH C142**

**Click Here
For Information**



866-275-1311

An auxiliary lay-on roll eliminates top-wind waste during transfer, which improves roll quality and eliminates outer wrap transfer waste. High-volume core bins minimise refilling frequency and have a simultaneous core-set discharge of multiple core lengths that decrease cycle times, and improve slit-width flexibility and net film utilisation. Core widths can also be changed on the fly to maximise uptime. There is a 30-second cycle time regardless of the number of slit widths, ideal for hand-wrap products.

New generation

Dusenbery – a brand of **Parkinson Technologies**

– showed its new MasterSlit DC2 centre slitter rewinder at the recent **ICE USA** event. The new DC2, based on the original Dusenbery 635, features the same roll pusher and laser core alignment system as its larger DC4 model.

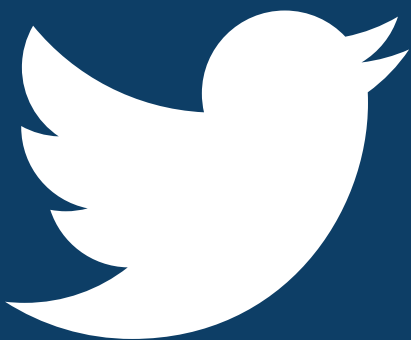
“The DC2 was based on the original Dusenbery 635,” said Joe Connelly, product manager of winding and slitting at the company. “This new slitter continues to offer an economical solution – but with the DC2 you’re getting a much higher level of performance and available features.”



At the show, the DC2 was paired with a reengineered SD40 unwind. This entry level unwind was redesigned with safety in mind by eliminating pinch points during operation. The SD40 also incorporates linear bearings in the edge guide system for smoother, more accurate movement – which is necessary for its higher speed operation. The unwind on display featured the optional lift-from-the-floor loading arms and a splice table. Also featured on the DC2 is the new PH90

Above: The DS S3 winder from Davis-Standard enables maximum slit widths for hand-wrap, machine-wrap and jumbo rolls

Follow us on...



Be the first to know when we publish a new edition, plus updates on our conferences and useful links.

Compounding
WORLD

Film and Sheet
EXTRUSION

Pipe and Profile
EXTRUSION

Injection
WORLD

Plastics Recycling
WORLD

www.twitter.com/plasticsworld

Right: Atlas Converting Equipment upgraded two existing systems at URC Film Division of the Philippines

pneumatic knife holder with removable knife cartridge. Three quick-change knife heads accommodate shear, score, and razor blade slitting methods.

This holder was engineered for light duty converting applications with incorporated, proven, and dependable technology developed for the cost-conscious end user without compromising holder performance and reliability.

Hungary delivery

Indian film manufacturer SRF recently ordered four **Kampf** slitting machines for a new 10.6 m BOPET line in Budapest, Hungary. Two Universal 108/12 slitters and two Unislit 630 machines will be delivered in autumn 2019. SRF says it bought Kampf machines to meet the quality demands of the European market.

SRF will also take delivery of two Universal 108/12 slitters and a Unislit 630 at the end of this year for a new production facility in Thailand, where a new 10.6 m BOPET line will be installed. The plant, which has a production capacity of around 40,000 tonnes/year, will be built at the existing site in Rayong in eastern Thailand and is scheduled for completion in around two years.

Atlas Asian updates

Atlas Converting Equipment of the UK recently supplied systems to Asian customers.

In late 2018, it upgraded two existing systems at Philippines-based URC Film Division. The company two Atlas CW960AP slitter rewinders dated from 1996 and 2002. However, these were running at maximum capacity - so had to be upgraded in order to keep pace with increased film production.

By replacing the now-obsolete original AC drives, upgrading the winding method and adding anti-static bars, the machines can now operate at a higher speed and deliver higher quality final packaging.

As well as performance upgrades, safety fences



to the latest European standards were installed in order to boost operator safety.

Both machines have also been fitted with the Atlas Gateway remote access support which allows Atlas customer service engineers to interrogate the operating systems via remote access allowing for faster fault diagnostics and reduced down time.

Prior to this, it supplied a 10.4m Atlas CW1040 primary slitter rewinder to Fujian Furong Technology Group of China.

Fujian Furong, one of the three largest producers of BOPP film in China, already has six Atlas CW1040 primary slitter rewinders - two at 8.3m and four at 8.7m.

The machines are installed at three production sites in China: Fuqing, Fujian Province; Guangzhou, Guangdong province; and Nantong, Jiangsu Province. It uses a selection criterion based on machine performance, after-sales service, the global installed base of the manufacturer and of course the price.

Stan Braycotton, sales director for Atlas, said: "Despite a competitive marketplace, we have been selected as the supplier of the next slitter rewinder to Fujian Furong Technology Group. It not only proves the performance and reliability of the Atlas CW1040 but also of our commitment to supporting customers and building long-term partnerships."

Below: Kampf recently sold six slitting machines to Indian film manufacturer SRF, across two locations



CLICK ON THE LINKS FOR MORE INFORMATION:

- www.ice-x.com
- www.laemsystem.com
- www.goebel-ims.com
- www.dienes.de
- www.nepata.de
- www.davis-standard.com
- www.parkinsonstechnologies.com
- www.ice-x-usa.com
- www.kampf.de
- www.atlasconverting.com

Thermoformers in Europe

Database listing of 647
thermoforming sites

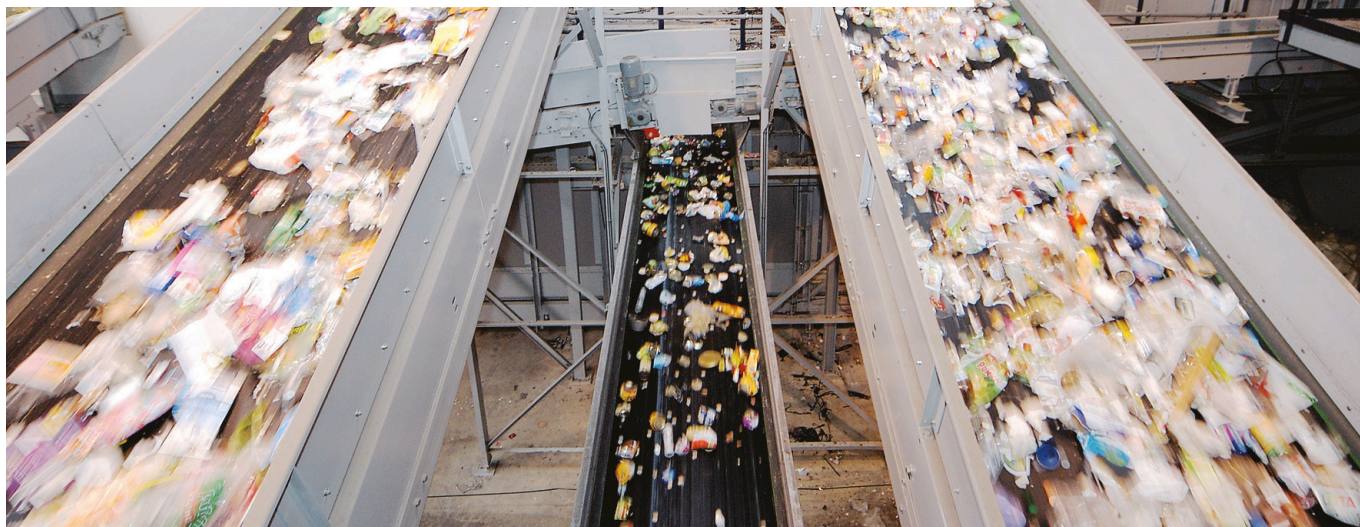
Identify key companies for your business:

- ✓ *Managerial contact names*
- ✓ *Source of sheets processed*
- ✓ *Types of sheet material processed*
- ✓ *Size of sheet thermoformed*
- ✓ *Markets served*
- ✓ *Company specialisation*

See more **online**



With pressure being exerted on the plastics supply chain to recycle more plastics and add value to reclaimed materials, we preview AMI's second Plastics Recycling Technology conference taking place in Düsseldorf in June



Key plastics recycling stakeholders share insights

After the hugely successful launch event in 2017, *Plastics Recycling Technology* returns in 2019 and examines the latest technologies for increasing the volume of plastics being recycled. It also explores ways to improve the quality of reclaimed materials so that they can be used in higher value applications. This two-day event takes place on 18-19 June 2019 in Düsseldorf, a city which has always been a centre of innovation and progress.

Experts at *Plastics Recycling Technology* will provide an analysis of the European recycling market, innovations driving the recyclability of packaging and will discuss strategies to optimise plastics recycling lines. In addition, the conference covers the circular economy and relevant regulations, the growing importance of additives and delves into developments in chemical recycling, including case studies of exciting new applications across these various topics.

The opening session kicks-off with **Lizzy Carroll**,

Research Analyst at **AMI**, who analyses trends in the European plastics recycling market with a closer look at the key findings of her new AMI study. **Mike Baxter**, External Affairs Director at **RPC-BPI Group** in the UK, then discusses the impact new EU regulations on plastic packaging will have on the European plastic recycling industry. A study on the use of recyclates by European plastics converting companies is presented by **Alexandre Dangis**, Managing Director of **EUPC** in Belgium.

Innovations

The next session takes a closer look at what is happening with regards to packaging and **Gian De Belder**, Packaging Technologist from **P&G** in Belgium, showcases the standardisation of tracer/watermark-based sorting technologies for plastic packaging. This is followed by a talk focusing on recycling technology for plastics in packaging material given by **Mikael Hamskog**, Recycling Spe-

cialist at **Tetra Pak** in Sweden. The third paper of the session is presented by **Dana Mosora**, Founder of **Dana Mosora Consulting** and a consultant for the European Ceflex consortium, based in Switzerland, who will provide insights from Ceflex.

The conference's third session opens with **Gerold Breuer**, Head of Marketing & Business Development from **Erema Group** in Austria, who discusses the next level of plastics recycling and its contribution to the circular economy. A technology presentation on innovative granulator designs to maximize profits in scrap recovery is given by **Marco Bellotti**, Sales & Marketing at **CMG** in Italy. **Jürgen Morosz**, Sales Manager at **MAS** in Austria, then explores recycling and compounding in one step and delves into tailor-made plastic compounds. After the refreshment break **Carl Pöpel**, Head of Product Management Compounding at **Kraussmaffe Berstorff** in Germany, closes the session with a paper on innovative extrusion and injection moulding applications.

The fourth and final session of the day features **Bernhard Gabauer**, Head of Segment Plastics, Business Area Digital Technologies from **Bühler** in the UK, talking about the crucial role of optical sorting in the plastic recycling industry. The last paper of the day is given by **Jürgen Schoenherr**, CEO of the **Zittau Institute for Technology Development, Peat and Natural Material Processing Research (ITN)** in Germany, who focuses on developments in "thermo-sensitive sorting" of mixed plastics.

To round off the first day, a networking drinks reception will be held in the exhibition room.

Value propositions

Day two of *Plastics Recycling Technology* 2019 is opened by **Kim Ragaert** from **Ghent University** in Belgium and **Mark-Olof Dirksen**, Project Leader Technology & Function Creation at **Philips** in the Netherlands, who give a joint presentation on their work in turning WEEE plastics into high-quality EEE products. A paper on a new innovative process for recycling end-of-life PMMA wastes is then given by **Jean-Luc Dubois**, Scientific Director, Catalysis,



Speakers at the conference include (from left to right) Gian De Belder from P&G, Mike Baxter from RPC-BPI, Mark-Olof Dirksen from Philips and Lizzy Carroll from AMI

Processes, Renewables and Recycling at **Arkema** in France. **Henning Albers**, Director of Institute for the **Hochschule Bremen (HSB) - City University of Applied Sciences** in Germany, discusses a new conceptual approach to implement recycling options for reinforced plastics in rotor blade systems.

Tarquin Crouch, Technical Services and Market Development Manager at **Imerplast** in the UK, begins the second session of the day with a look at creating a value proposition through compatibilisation of mixed polyolefins. This is followed by **Rudolf Pfaendner**, Division Director, Plastics at **Fraunhofer Institute for Structural Durability and System Reliability LBF** in Germany, investigating a new generation of stabilisers for high quality recyclates. Enabling polymer modification with polar and no polar polyolefin chemistry is then explored by **Isabel Arroyo**, Senior Research Scientist at **Dow Chemical** in Spain.

After the lunch break, the session is continued by **Stefan Viering**, R&D Engineer, Project Leader UFGM / Metal Tracer at **LKAB Minerals** in Germany, who discusses how ultra-fine ground magnetite is the natural dopant for plastics recycling.

The final session of the conference looks at advances in chemical recycling and starts with **Outi Teräs**, R&D Program Manager, Recycled Feeds at **Neste Corporation** in Finland, discussing ideas in building a circular value chain for chemical recycling of plastics. Closing the conference is **Isabelle Ydens**, Technical & Marketing Manager, Business Development Renewable Feedstock Polymers Europe at **Total Refining & Chemicals** in Belgium, presenting a new path for polystyrene recycling.

Plastics Recycling Technology 2019

Don't miss this opportunity to learn from the experts. *Plastics Recycling Technology* on 18-19 June provides the perfect forum to discover new ways to create a circular economy for plastics. This is your chance to join leading players from across the plastics recycling industry in Düsseldorf to discover the future of plastics recycling. For more information please visit the [conference website](#)

SPECIAL OFFER FOR MAGAZINE READERS: QUOTE PRTFSE TO RECEIVE €200 OFF YOUR REGISTRATION



Polymer Foam

Pittsburgh / 2019

Exploring advances in polymer foam materials, processes, and applications

June 18-19, 2019

Pittsburgh Marriott City Center, Pittsburgh, PA, USA

SPECIAL OFFER

Save **\$300** if you
register before
April 26, 2019

Sponsored by:



BOREALIS

بروج

Borouge



Media supporter:

**Compounding
WORLD**

AMI

Bringing the plastics industry together.



@Contact_AMI #AMIFoamUS

POLYESTERS

Polyester film seals the deal

Polyester films specialist Terphane showcased its latest products – including Sealphane films – at the recent Packaging Innovations 2019 Show in Birmingham, UK.

“Sealphane films are highly transparent and have anti-mist functionality, allowing the consumer to view the product and enjoy high quality printed images – even when the product is exhibited in refrigerated shelves,” said André Gani, sales and marketing director for export markets.

The films, can increase shelf life for fresh fruits and vegetables, protect their integrity during transportation and storage and avoid waste. Packages can also be stacked, so that they occupy less space. Films can be exposed to temperatures of -40 to 210°C – meaning they can go from freezer to oven, said the company.

“Terphane polyester films are ideal as covers of punnets with an easy open feature,” added Gani.

The range includes sealable films for different types of punnets, including PP, PE, APET, rPET and CPET-APET. Sealphane films are approved for direct food contact, and any coatings used are water-based.

➤ www.terphane.com

LOGISTICS

Reusable delivery box brings benefits to snack food firm

Primex Design & Fabrication (PD&F), a manufacturer of reusable and recyclable plastic shipping containers, has created a new delivery container for the snack food industry.

The retail distribution box – an easy-open container made from PD&F's Bubble-X three-layer plastic board – was custom-designed for US snack food company Mikesell's.

It replaces corrugated cardboard boxes that had been used for years to deliver products such as potato chips, popcorn and pretzels. While the cardboard box lasted about five round trips, the new product is expected to last at least 150.

Once PD&F understood how Mikesell's would use the box – after a visit to its plant – the company's designers went about



creating prototypes for approval.

“Our rapid prototyping operation allows us to create samples in as little as two days,”

said Cleve Campbell, territory business manager for Primex.

Bubble-X comes in six

standard thicknesses and can be custom-manufactured to meet specific requirements. The Mikesell's box is made from 2.66mm Bubble-X board. It is weather resistant, allows for greater branding opportunities, is stackable and will not tear or puncture.

“We've ordered a total of 60,000 pieces from PD&F and are currently on track to replace all of our cardboard boxes by the middle of this year,” said Luke Mapp, executive vice president at Mikesell's.

➤ www.primexfabrication.com

BIOPLASTICS

Tie-up creates bio-based and compostable multilayer film

Biome Bioplastics and Futamura have teamed up in the UK to show a range of bio-based and compostable multilayer films.

The films are manufactured by combining Biome's range of biodegradable sealant resins with Futamura's compostable NatureFlex cellulose films to make a range of laminated flexible structures. The films are compliant with the European indus-

trial composting standard EN13432, meaning that they disintegrate by 90% within 12 weeks and biodegrade by 90% to water, CO₂ and biomass within 180 days.

The materials have also been tested, and found to be non-toxic to both soil and plant life.

“This range of multilayer films allows brand owners to move away from non-recyclable packaging and show that they are at the forefront

of the drive to create a circular economy for plastics,” said Myriam Moeyersons, sales manager at Biome Bioplastics.

The materials, which will be applied to packaging formats such as multilayer pouches, will help towards meeting the UK Plastics Pact target – that 70% of plastic packaging must be effectively recycled or composted by 2025.

➤ www.biomebioplastics.com

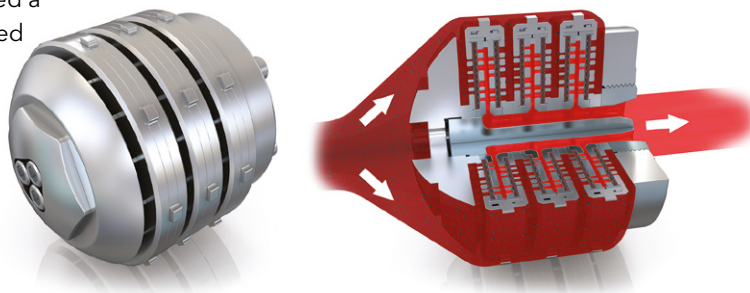
MELT FILTRATION

Efficient filter for piston-activated screen changers

Nordson has developed a filter for piston-activated screen changers that enlarges the available filtration area without having to increase machine size.

FlexDisc enables processors and recyclers to achieve finer filtration, higher throughputs, longer filter service life, and reduced specific backflush volume. Nordson recommends it for increasing productivity and enhancing quality in applications such as battery separator film.

The function of the hydraulic pistons is to insert screen cavities into the melt stream for filtration and to remove them for cleaning or replacement. In systems where FlexDiscs are used, each cavity contains a filter



stack comprised of two to four FlexDiscs, depending on machine size. Each is equipped with two Nordson screen packs.

As a result, there is at least twice the filtration area available for each cavity than with conventional standard round screens, and around 25% more compared to the former FlexDisc version.

Screen changers that use Nordson's backflush technology include the BKG V-Type 3G and BKG HiCon™ K-SWE-4K-75/RS. Backflushing diverts contaminant

from the melt stream. The higher efficiency of the new FlexDisc reduces the frequency of backflushing, says Nordson.

"The increased efficiency of the FlexDisc can enable the processor or recycler to save on investment cost by purchasing a smaller machine without sacrificing throughput," said Christian Schröder, global product manager at Nordson. "There are also significant operational savings possible with the reduction of specific backflush volume."

➤ www.nordson.com

MATERIALS HANDLING

Powerful conveying of material

Exair says that its new 2.5in (64mm) and 3in (76mm) 316 stainless steel Line Vacs are powerful in-line conveyors that transport high volumes of material – from coffee beans to plastic granules – through ordinary hose or tube.

Commonly used to fill hoppers, move trim and waste or transfer parts, the 316SS Line Vac conveyors eject a small amount of compressed air through directed nozzles into the throat to produce a vacuum on one end and high output flows on the other.

Nine sizes are available that fit popular hose and tube diameters. The two new sizes make it possible to convey more material over long vertical and horizontal lengths, says the company.

➤ www.exair.com

THERMOFORMING

Thermoformer benefits from tool flexibility

Finnish thermoformed packaging manufacturer Satatuote has taken delivery of a Speedformer KMD 78 Power thermoforming machine from Kiefel.

A key requirement for Satatuote was the ability to use existing production tools – and in this respect, the forming, punching and stacking

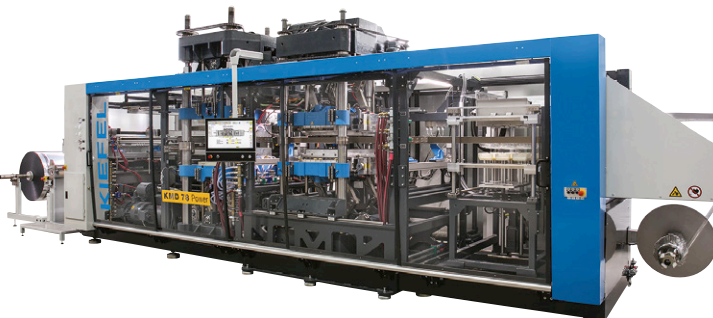
stations of the KMD 78 Power are designed to use existing RDK tools without any modifications.

As well as tool flexibility, the KMD 78 Power proven technology – and cooperation with Kiefel's sales

partner, tool specialist Techno Tool – were critical in Satatuote's choice.

Satatuote specialises in PET, PS and PP packaging for the food and medical sectors. Sustainability in packaging design, processing of recycled materials as well as energy efficiency in production are important factors.

➤ www.kiefel.com



Polymers in Photovoltaics

2019

*Harnessing developments in polymer materials and production
technology for solar module manufacturing*

19 - 20 June 2019

Hamburg Marriott Hotel, Hamburg, Germany



SPECIAL OFFER

Save **€200** if you
register before
3rd May
2019

Media supporter:

Film and Sheet
EXTRUSION

Download these new product brochures

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

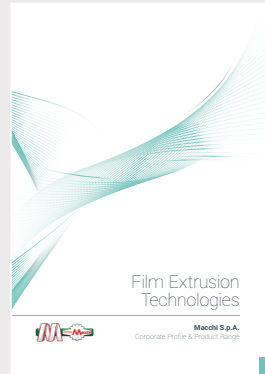
SCANFILL: GREENER PACKAGING



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](#)

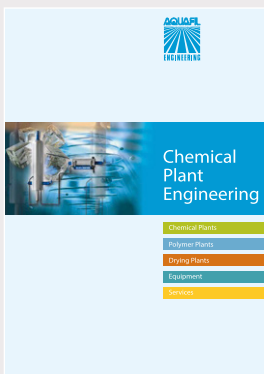
W&H: VAREX II FILM SYSTEMS



Varex II is Windmüller & Hölscher's latest universal system for high output blown film production. This publication details the critical Varex II system features that ensure production of the highest quality films with minimal scrap and highest plant efficiency.

[CLICK HERE TO DOWNLOAD](#)

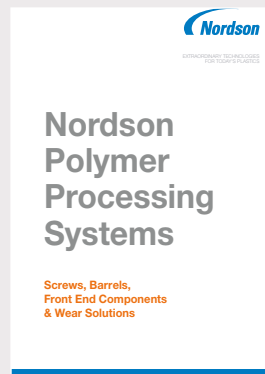
AQUAFIL: PLANT ENGINEERING



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](#)

NORDSON: SCREWS & BARRELS



In this Nordson Polymer Processing Systems brochure, find out about Xaloy bimetallic extrusion screws and barrels, designed to meet process requirements, help optimisation, combat wear, boost output, and improve and maintain quality.

[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

Learn more about AMI's upcoming conferences

Click on the relevant brochure cover or link to download a PDF of the full conference programme

POLYMER SOURCING & DISTRIBUTION



The 14th edition of AMI's Polymer Sourcing & Distribution conference will be held on 13-15 May 2019 in Barcelona, Spain. The event attracts attendees from across the plastics supply chain, from polymer producers and traders to processors and brand owners.

[CLICK HERE TO DOWNLOAD](#)

COMPOUNDING WORLD CONGRESS



The fourth Compounding World Congress takes place on 4-5 June 2019 in Cologne, Germany. This high level event covers the market trends, business developments, and technical innovations impacting on producers of technical compounds.

[CLICK HERE TO DOWNLOAD](#)

PLASTICS EXTRUSION WORLD EXPO



The first Plastics Extrusion World Expo in Cleveland, Ohio, on 8-9 May, includes a free-to-attend conference stream in a dedicated film and sheet theatre, covering new technologies, market opportunities and the challenges facing the industry.

[CLICK HERE TO DOWNLOAD](#)

POLYMER FOAM USA 2019



The seventh edition of AMI's Polymer Foam USA conference takes place on 18-19 June 2019 in Pittsburgh in the US. This international event examines the latest foaming technologies and applications in thermoplastics and elastomers.

[CLICK HERE TO DOWNLOAD](#)

THIN WALL PACKAGING



Taking place on 18-19 June in Chicago, the 8th edition of AMI's Thin Wall Packaging conference will discuss new applications, technology developments, improved decoration and automation.

[CLICK HERE TO DOWNLOAD](#)

MULTILAYER FLEXIBLE PACKAGING



The 10th anniversary edition of the Multilayer Flexible Packaging conference to be held in North America takes place on 25-26 June in Chicago. The program covers the latest material and technological advances in films, raw materials and production techniques.

[CLICK HERE TO DOWNLOAD](#)

To see our full line-up of more than 50 plastics industry events over the next 12 months, please visit www.ami.international/events

Buergofol

Head office:	Siegenburg, Germany
Managing director:	Gregor Schleicher
Founded:	1971
Ownership:	Private
Employees:	Around 300
Profile:	Buergofol, founded in 1971, specialises in the manufacture of rigid and flexible films – including shrink-wrap films, skin films and reclosable films for industries including food, medical products, pet food and chemicals industry. It also makes special customised films. Products range from standard films through to heavy-duty, high-barrier applications for MAP, vacuum packaging and flow packs.
Product lines:	The company processes a range of materials, including PE and oriented PP, PA and PET. For top films, it produces up to seven-layer structures incorporating layers of PE, PA and EVOH – to enhance barrier properties. It also makes flowpack film up to seven layers, in thicknesses of 35-100 microns – and with options including easy peel, anti-fog and with UV protection. Its reclosable range can be opened and securely closed again up to 10 times – and includes high barrier options. Buergofol also offers its Duo Hard range, which combines rigid and flexible elements – such as a thermoformed bottom film and flexible top film. The company also offers foamed APET – for thermoforming – and stand-up pouches, supplied with or without a zipper closing system.
Factory locations:	The company has three production facilities in Germany: at its Siegenburg headquarters in Bavaria, it makes flexible films; Ingolstadt is the base for its rigid foils factory; and in Neutraubling it focuses on printing and laminating.

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

Film and Sheet FORTHCOMING FEATURES EXTRUSION

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

May 2019

Waterproof membranes
Materials handling
Barrier film ● Photovoltaics
Chinaplas 2019 preview

June 2019

Printing equipment
Blown film dies ● Plastic pouches
Thermoforming technology
Plastics Extrusion World Expo review

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

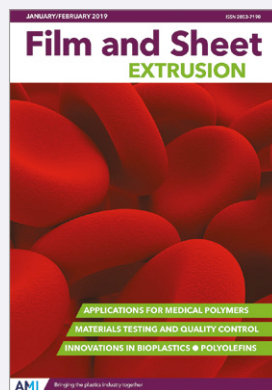
AMI publishes five process-specific FREE plastics industry magazines. Simply click on the cover below to read each magazine. Or download the issue in the relevant Apple or Android app



Film and Sheet March 2019

The March issue of Film and Sheet Extrusion magazine takes a look at the latest in thermoforming, additives for films and innovations in film extrusion technology. Plus regular updates on machinery and materials.

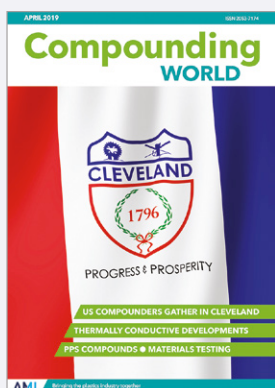
[▶ CLICK HERE TO VIEW](#)



Film and Sheet January/February 2019

The January/February 2019 edition of Film and Sheet Extrusion magazine looks at some of the latest innovations in medical plastics. Plus an update on bioplastics and the latest innovations in polymer analysis and polyolefin resins.

[▶ CLICK HERE TO VIEW](#)



Compounding World April 2019

Compounding World's April issue contains an extensive preview of AMI's Compounding World Expo in Cleveland in May, covering all the exhibitors at this key event. Plus features on thermally conductive compounds, PPS materials, processing aids and materials testing equipment.

[▶ CLICK HERE TO VIEW](#)



Plastics Recycling World January/February 2019

The January/February 2019 edition of Plastics Recycling World looks at barriers to recycling flexible packaging and how they can be overcome. Plus, this edition reviews IV enhancement options for PET and the latest pelletising developments.

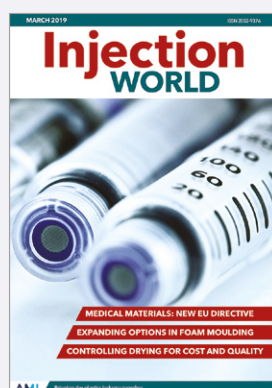
[▶ CLICK HERE TO VIEW](#)



Pipe and Profile April 2019

The April edition of Pipe and Profile Extrusion magazine looks at developments in pipe testing and regulation. It also explores the latest innovations in process control and material recycling and highlights some new PE100 resin applications.

[▶ CLICK HERE TO VIEW](#)



Injection World March 2019

The March edition of Injection World takes a close-up look at the latest medical materials and the new EU Medical Device Regulation. It also reviews developments in bioplastics, foam moulding and drying technology.

[▶ 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

2019	8-9 May	Compounding World Expo, Cleveland, USA	www.compoundingworldexpo.com
	8-9 May	Extrusion Expo, Cleveland, USA	www.extrusion-expo.com
	8-9 May	Plastics Recycling World Expo, Cleveland, US	www.plasticsrecyclingworldexpo.com
	21-24 May	Chinaplas, Guangzhou, China	www.chinaplasonline.com
	21-24 May	Moulding Expo, Stuttgart, Germany	www.moulding-expo.com
	28-31 May	Plastpol, Kielce, Poland	www.targikielce.pl
	19-22 June	Interplas Thailand, Bangkok	www.interplasthailand.com
	18-21 September	T-Plas/Tiprex, Bangkok, Thailand	www.tplas.com
	16-23 October	K2019, Dusseldorf, Germany	www.k-online.com
	25-28 November	Plastivision Arabia, Sharjah	www.plastivision.ae
2020	27-29 November	Plastics & Rubber Vietnam	www.plasticsvietnam.com
	16-20 January	Plastivision India, Mumbai, India	www.plastivision.org
	21-23 January	Swiss Plastics, Lucerne, Switzerland	www.swissplastics-expo.ch
	7-13 May	Interpack, Dusseldorf, Germany	www.interpack.com
	13-17 October	Fakuma, Friedrichshafen, Germany	www.fakuma-messe.de


AMI CONFERENCES

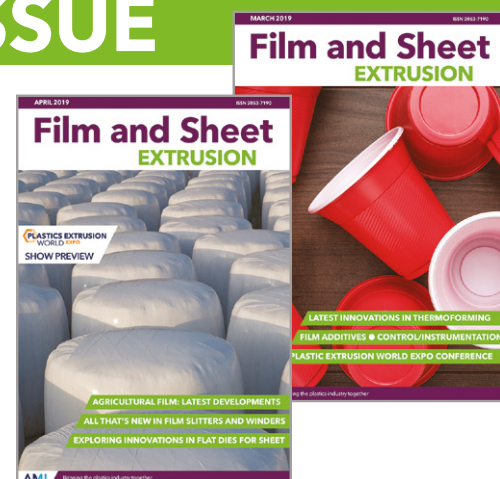
18-19 June 2019	Thin Wall Packaging, Chicago, USA
25-26 June 2019	Multilayer Flexible Packaging, Chicago, USA
17-18 September 2019	Housewrap, Coral Springs, USA
12-14 November 2019	Polyolefin Additives, Vienna, Austria
18-20 November 2019	Agricultural Film, Barcelona, Spain
18-20 November 2019	Waterproof Membranes, Cologne, Germany
18-20 November 2019	Multilayer Flexible Packaging, Vienna, Austria
2-4 December 2019	Thin Wall Packaging, Dusseldorf, Germany
3-4 December 2019	Stretch & Shrink Film, New Orleans, USA
4-6 February 2020	Polyethylene Films, Coral Springs, USA

For information on all these events and other conferences on film, sheet, pipe and packaging applications, see www.ami.international

DON'T MISS A SINGLE ISSUE

Register now for your free subscription at:
www.filmandsheet.com

And don't forget to tell your colleagues, customers and suppliers about the magazine. You can use the share button above (the  symbol in the browser) to help spread the word.



PLASTICS EXTRUSION WORLD EXPO

MAY 8 - 9, 2019
HUNTINGTON
CONVENTION CENTER,
CLEVELAND, OHIO, USA



Focused conference programs on film,
sheet, pipe, profile and tubing extrusion

► **REGISTER NOW FOR FREE!**

Co-located with:

COMPOUNDING
WORLD EXPO

PLASTICS RECYCLING
WORLD EXPO

Brought to you by:

Pipe and Profile
EXTRUSION

Film and Sheet
EXTRUSION

AMI

Bringing the global plastics industry together



FILM AND SHEET EXTRUSION: THEATER 1 - DAY 1

- 9:30 - 10:00 KEYNOTE: Exploring opportunities in high barrier packaging**
Charmaine Russell, Business Manager - Conferences, AMI
-
- 10:15 - 11:00 INDUSTRY DEBATE:
The future for plastics packaging**
Salvatore Pellingra, Vice President Global Application and Innovation Development, PROAMPAC
• Rodney Weaver, Market Development Manager, SEALED AIR •
Steve Sargeant, General Manager of Technology, FLEX FILMS
-
- 11:10 - 11:30 Coextrusion technology: A critical tool for product development**
Olivier Catherine, Technical Director, CLOEREN
-
- 11:40 - 12:00 Adding value in extrusion - continuous production of thermoplastic honeycomb panels**
Tomasz Czarnecki, Chief Operating Officer, ECONCORE
-
- 12:10 - 12:30 Title to be confirmed**
Peter Greenlimb, Owner, CHEMAGINEERING
-
- 1:15 - 2:00 INDUSTRY DEBATE:
The future for agricultural films**
Ralf Dujardin, Vice President Marketing & Innovation, IMAFLEX • Roger Tambay, Director, FILMORGANIC • Ramon Parellada, Director, GRUPO POLYTEC
-
- 2:10 - 2:30 Global megatrends affecting flexible packaging and how to adapt**
Steve DeSpain, Vice President, REIFENHAUSER
-
- 2:40 - 3:00 Contaminant migration considerations for recycled PET in food contact applications**
Sushant Jain, Senior Scientist - Applications & Technology, PROCESSING TECHNOLOGIES INTERNATIONAL (PTI)
-
- 3:15 - 4:00 TRAINING SEMINAR:
Food contact material compliance**
Kevin C. Kenny, Chief Operating Officer, DECERNIS
-
- 4:10 - 4:30 Cost justification of a blown film extrusion line retrofit**
Carl Gillig, President, SYNCRO

FILM AND SHEET EXTRUSION: THEATER 1 - DAY 2

- 9:30 - 10:00 KEYNOTE: Analysing global trends in film**
Andrew Reynolds, Director, ADVANCE BIDCO (owner of AMI)
-
- 10:15 - 11:00 INDUSTRY DEBATE:
Women in plastics: empowering industry change**
Lauren Hickey, Director of Marketing and Product Management, AMERICHEM • Meli Laurance, Regional Commercial Industry Manager Plastics, BASF COLORS AND EFFECTS • Candace Sanders, Assistant Plant Manager, GENOVA PRODUCTS • Molly Bridger, Group Director of Marketing, SIMONA AMERICA GROUP • Jennifer Proffitt, Plant Manager, ASSOCIATED MATERIALS
-
- 11:10 - 11:30 Adiabatic fluid coolers: replacing traditional cooling towers**
Tom Stone, Aquatech USA - National Sales Manager, UNIVERSAL DYNAMICS
-
- 11:40 - 12:00 Machinery solutions for sustainability in flexible packaging films**
Maurilio Millefanti, Technical Sales Manager, MACCHI
-
- 1:15 - 2:00 INDUSTRY DEBATE:
The future for stretch & shrink films**
Sunil Daga, President, WRAPTITE • Luke Venechuk, Senior Packaging Engineer, HIGHLIGHT INDUSTRIES • John Cook, Technical Director, ATLANTIC PACKAGING • Ludovic Capt, Director Innovation, Business Development BALKAN PLASTICS
-
- 2:10 - 2:30 Instrumenting your extruder for the industrial internet of things, IIoT, with a focus on predictive and preventative maintenance**
John Christiano, Vice President - Technology, DAVIS STANDARD
-
- 2:40 - 3:00 Title to be confirmed**
Miriam Olivi, International Sales Director, FRIGOSYSTEM
-
- 3:15 - 4:00 Finally, the truth: Learn the facts about plastics & the environment**
Chris DeArmitt, President, PHANTOM PLASTICS
-
- 4:10 - 4:30 Exploring blown film technology for packaging applications and agricultural industries**
Carlo Pattini, Product Manager Blown Film Lines, LUIGI BANDERA

**REGISTER
FOR FREE
▶ NOW!**

Sealed Air
Re-imagine™

WRAP TITE

"Your Source For Packaging, Shipping & Safety Supplies"

FILMORGANIC
We Deliver on Performance and Precision

IMAFLEX inc. ISO 9001
Committed to Excellence

ProAmpac

FLEX

Speakers over the two days include representatives from:

Information correct at time of publishing. Speaker line up and titles subject to change.

PIPE AND PROFILE EXTRUSION: THEATER 2 - DAY 1

- 9:30 - 10:00 KEYNOTE: Update on US vinyl industry**
Richard Krock, Vice President Regulatory and Technical Affairs,
THE VINYL INSTITUTE
-
- 10:15 - 11:00 INDUSTRY DEBATE:
The future for plastic profiles**
Paul Adams, Director of Materials R&D, DECEUNINCK • George Walrath, Senior Scientist, CERTAINTED • Keith Scutter, Owner, RESOURCE PLASTICS
-
- 11:10 - 11:30 Intelligent industrial automation: Using your process data to solve quality, downtime, and production problems**
Willem Sundblad, Founder & CEO, ODEN TECHNOLOGIES
-
- 11:40 - 12:00 Solutions in dark color outdoor architectural applications**
Kristin Meyers, Sr. Industry Manager - Extrusion, POLYONE
-
- 1:15 - 2:00 INDUSTRY DEBATE:
The future for medical tubing**
William Coulson, Vice President, ELDON JAMES • Pradnya Parulekar, Global Business Development, RAUMEDIC • Steve Maxson, Vice President of Sales - Vascular Technologies, SPECTRUM PLASTICS GROUP
-
- 2:10 - 2:30 Understanding C-PVC processing**
Gianmarco Palladino, Sales and Technical Manager in Plastic Extrusion Process, BAUSANO
-
- 3:15 - 4:00 TRAINING SEMINAR: Modernizing product stewardship for extruded, compounded, or recycled plastics**
Bernie Henn, Supplier Development Manager, VERISK 3E
-
- 4:10 - 4:30 Exploring planetary roller extruders and their application areas in PVC direct extrusion**
Michael Batton, Overseas Sales Director, ENTEX

PIPE AND PROFILE EXTRUSION: THEATER 2 - DAY 2

- 9:30 - 10:00 KEYNOTE: Technologies expanding the use of plastics in pipe systems**
Sarah Patterson, Technical Director, PLASTICS PIPE INSTITUTE
-
- 10:15 - 11:00 INDUSTRY DEBATE:
The future for plastic pipes**
David Fink, Senior Vice President, WL PLASTICS • Tony Radoszewski, President, PLASTICS PIPE INSTITUTE • Arturo Valencia, Director of Research & Development/Engineering, DURA-LINE
-
- 11:10 - 11:30 A guide to extruder upgrades: best practices and methods for achieving a successful upgrade**
Dan Barlow, President, INTEGRATED CONTROL TECH
-
- 1:15 - 2:00 INDUSTRY DEBATE:
The future for wood-plastic composites**
Paul Schmitt, Founder, ENVIROLASTECH • Matt Breyer, President, NORTH AMERICAN DECKING ASSOCIATION
-
- 2:10 - 2:30 How transparent C-PVC fittings can clear up installation issues before they occur**
Senior Representative, SEKISUI
-
- 2:40 - 3:00 High performance glass flake additives: no more performance trade-offs between strength and dimensional stability**
Liz Gershon, N.A. Business Manager, DREYTEK
-
- 4:10 - 4:30 Optimizing mixing technology for high quality formulations in extrusion**
Jeremy O'Brien, Sales Manager, GREINER EXTRUSION US

**REGISTER
FOR FREE**
▶ **NOW!**



Speakers over the two days include representatives from:

Information correct at time of publishing. Speaker line up and titles subject to change.



LOCATION AND VENUE

The Plastics Extrusion World Expo, will be held at the Huntington Convention Center in Cleveland, Ohio, USA. This state-of-the-art exhibition facility is located right in the heart of Cleveland's revitalized downtown boasting plentiful parking, free public transport and surrounded by an excellent selection of hotels.

BOOK YOUR BOOTH TODAY!

Contact our exhibitions sales team
exhibition_sales@ami.international +1 610 478 0800

TYPES OF PRESENTATIONS

Business Debates

Business debates will run for 45 minutes and feature influential industry leaders discussing strategic issues facing the global extrusion market. They will be focused on specific sectors of the industry including: plastics packaging; profiles; agricultural films; medical tubing; stretch and shrink films; wood-plastic composites; and plastic pipes.

Training Seminars

Practical training seminars will be delivered by experts on topics including food contact legislation and regulatory compliance.

Industry Presentations

There will also be more than 20 presentations covering the latest technology developments and industry trends. Topics being covered include market outlooks; barrier packaging; co-extrusion technologies; flexible packaging; control and instrumentation; advances in blown film extrusion; retrofit economics; PVC trends; opportunities for plastics pipes; internet of things; mixing technologies; direct extrusion; and many more.

LAST EXHIBITION STANDS AVAILABLE

The two-day event will provide a cost-effective and time-efficient way to promote your company, and its products and services to a large international audience focused on your core markets.

A range of shell-scheme and space-only stands are on offer from 100 to 400 sqft, along with a special exhibition package including furniture to make exhibiting at the Plastics Extrusion World Expo 2019 as simple and as cost-effective as possible.

Networking Party Rock & Roll Hall of Fame

► **REGISTER HERE**
TO GET YOUR TICKETS NOW!*



From the ground up, the Rock Hall delivers a legendary music experience like no other. Feel like a rock and roll music inductee and be one of the first to see the Class of 2019 exhibit, showcasing iconic items representing this years' inductees; The Cure, Def Leppard, Janet Jackson, Stevie Nicks, Radiohead, Roxy Music and The Zombies.

The party ticket is \$20 per person and will give you full access to this iconic venue with drinks and nibbles. Doors open at 7pm.

Click here to find out more

*Tickets are available to registered attendees of the exhibitions only.

