

04/2020

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# EXTRUSION

## INTERNATIONAL

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Dual Vision

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lump detector!



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100% surface inspection  
360° dimension measurement

*P. 30*

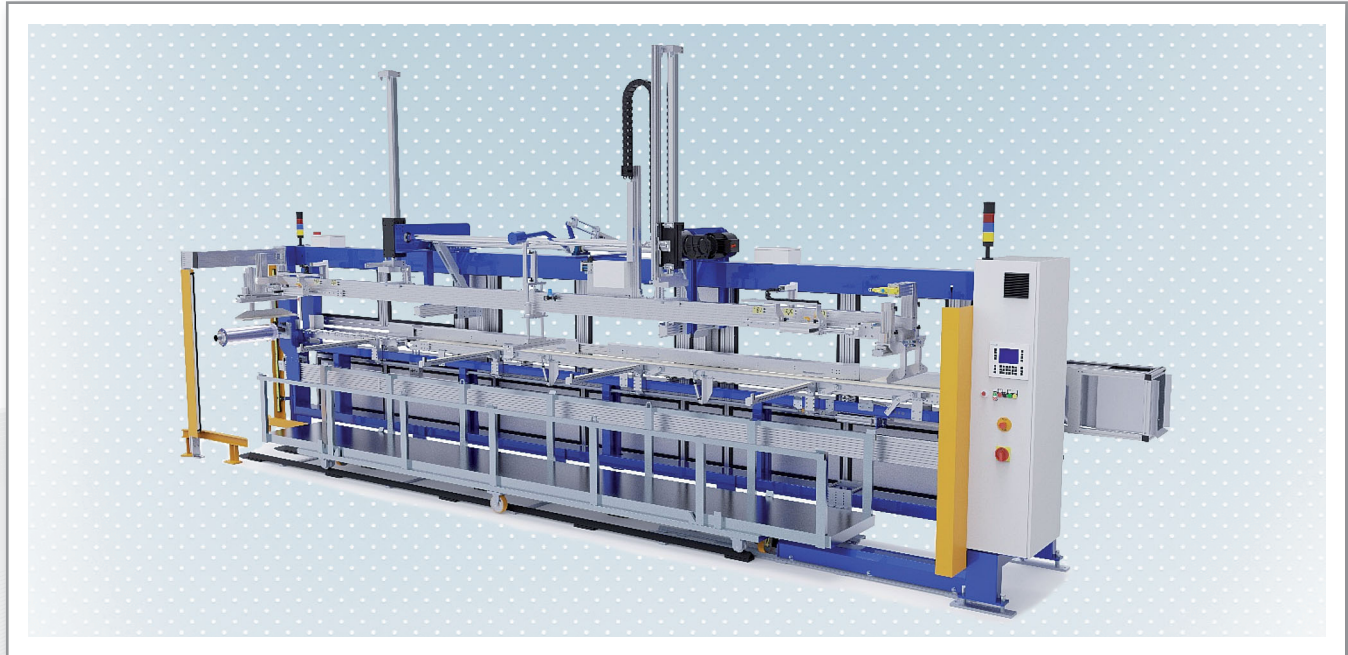


Product presentation  
at the Tube 2020!



7. - 11.12.2020  
Hall 6 - J09

## Profile stacking machine PRO



### Profile length measurement during extrusion

Using special sensors the length of individual profiles can be detected before the formation of a profile layer to stack. The measured length can be used for checking and correcting the cutting unit of the extrusion line or for documentation (quality assurance) of the produced profile lengths.

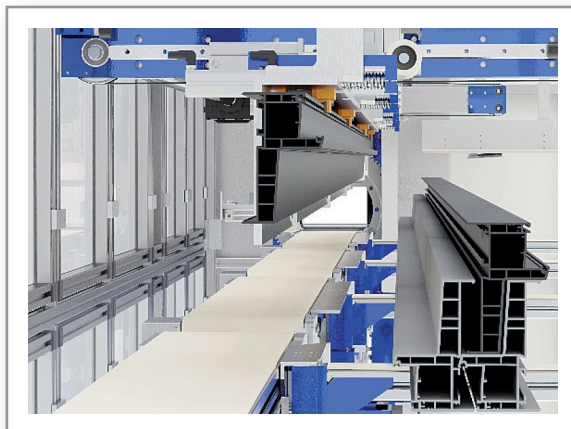
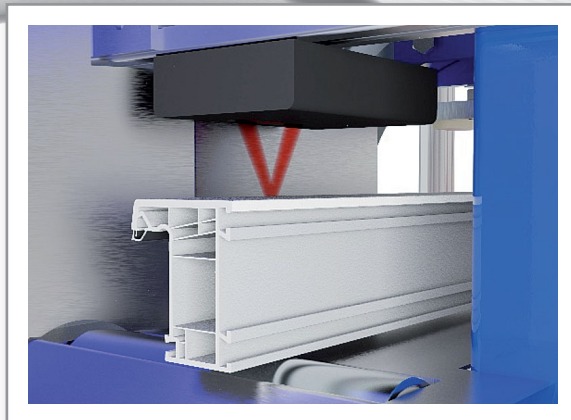
### Weight determination during extrusion

Special weighing units can be used to weigh individual profiles before forming a profile layer. The determined weight can be used to optimize the extrusion process.

### Stacking special profiles

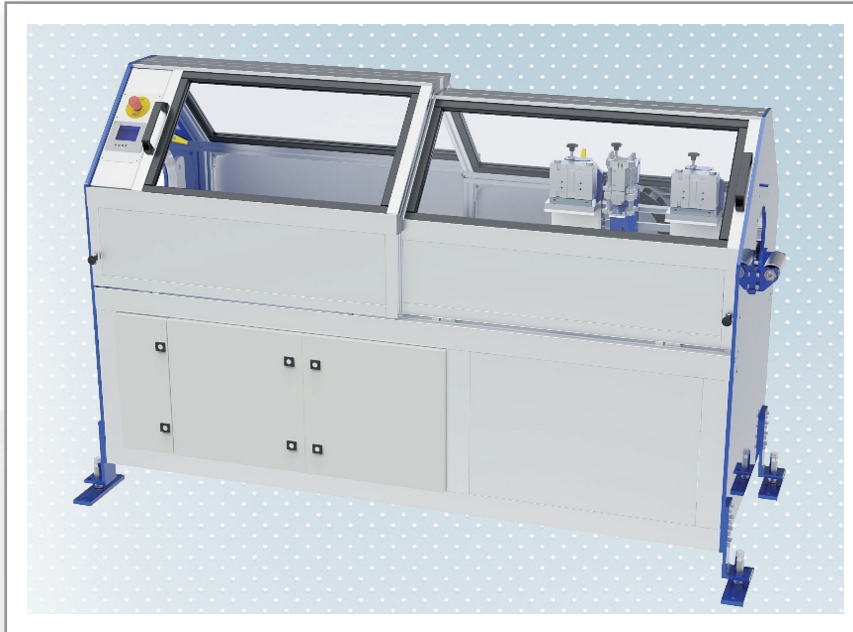
STEIN Maschinenbau offers technical solutions for stacking heavy and large monoblock profiles.

Based on decades of experience, unusual profile geometries or special layer patterns can be evaluated by STEIN for their automated stacking.





## Laminating foil cutting unit - turnable

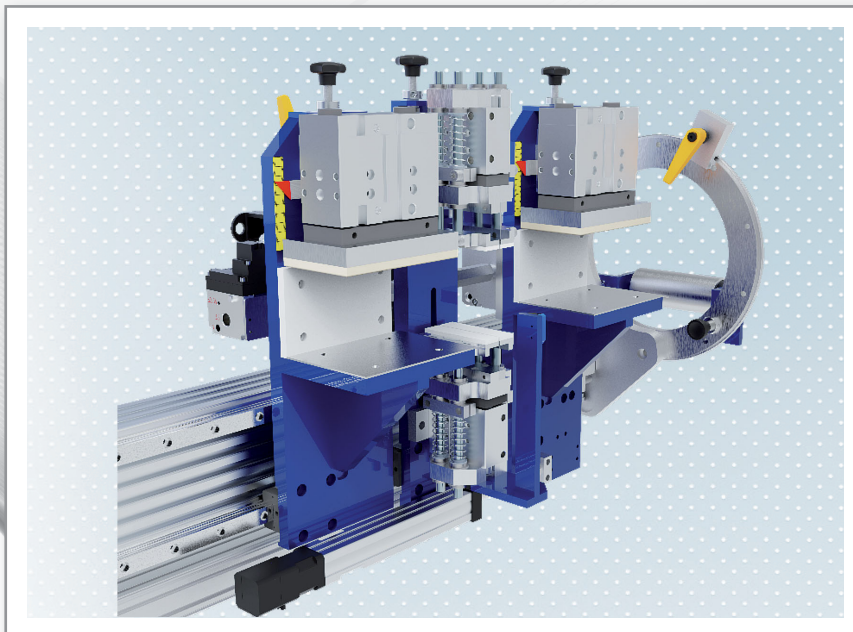


### Foil cutting for laminating lines

For the offline lamination of profiles single profile sections are provided to the laminating line **end to end** and are laminated with foil continuously.

After the lamination process the laminating foil has to be cut to separate the profiles again.

The **laminating foil cutting unit** detects the profile ends, makes a gap in between the ends and cuts the laminating foil automatically.



### Advantages of the laminating foil cutting unit

- No damage of the profiles when cutting the laminating foil.
- No interference of the cutting process into the laminating process.
- Turnable cutting unit for different film orientations.
- No danger to employees due to manual cutting.

**„STEIN BLUE-LINE – for a sustainable future“** stands for sustainable and energy-efficient equipment. Almost 100% domestic production and the high degree of manufacturing penetration guarantee compliance with even the most stringent of demands.



**STEIN Maschinenbau  
GmbH & Co. KG**

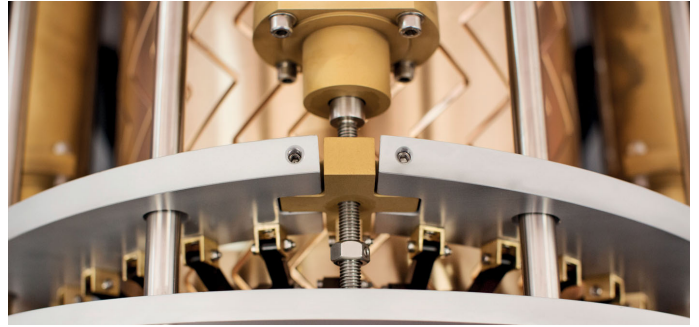
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**32** In the past several months, GMA Machinery has received a tremendous number of queries asking for the melt-down nonwoven fabric molds, melt pumps, and filters. One of the most common demands is for meltdown nonwoven fabric molds, which are a key material for making surgical masks and medical isolation gowns



The German-based **39** CCA GmbH develops efficient and high-performance solutions for plastic pipe extrusion. Their calibration sleeves precisely match the customers' production requirements and optimize complex production processes



Thanks to years of experience in the processing of metal-bearing waste materials, the experts from BHS-Sonthofen found the optimal machine for processing abrasive materials **44**

With Gamma Meccanica's classic Tandem technology it is possible to recycle heavily printed, high humidity and contaminated materials **34**



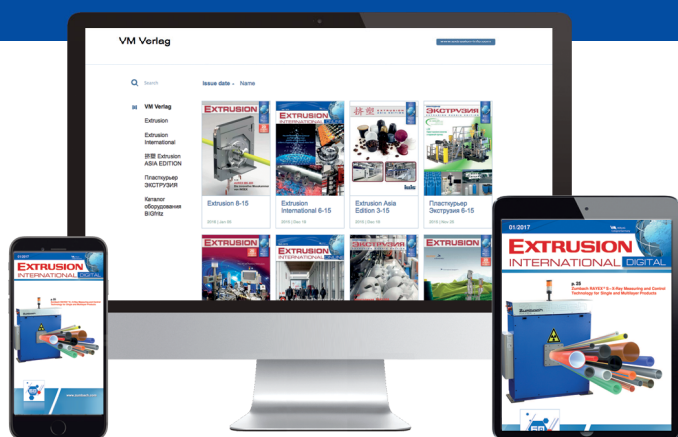
Gneuss has already proven to many customers worldwide that retrofitting is a good alternative for processing recycled materials. For example, a company from Southamerica has been using Rotary Filtration Systems from Gneuss for several years now to produce PET thermoformed trays with a 70% recycled content **40**

GINDUMAC sees that the market value and marketing potential of used machines is becoming a much more important refinancing instrument in investment planning **52**



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### 12th European Thermoforming Conference

30. 09. - 02. 10. 2020

Genf, Switzerland

[www.thermoforming-europe.org](http://www.thermoforming-europe.org)

### PLASTPOL

06. - 09. 10. 2020

Kielce, Poland

[www.plastpol.com](http://www.plastpol.com)

### Plastics Extrusion World Expo Europe

07. - 08. 10. 2020

Essen, Germany

<https://eu.extrusion-expo.com/>

### 6th PLA World Congress

07. - 08. 10. 2020

Munich, Germany

[www.bioplasticsmagazine.com](http://www.bioplasticsmagazine.com)

### 2020 PET Monomer Recycling Forum

07. 10. 2020

Brussels, Belgium

[www.eventbrite.com/e/2020-pet-monomer-recycling-forum-tickets-89570715421](http://www.eventbrite.com/e/2020-pet-monomer-recycling-forum-tickets-89570715421)

### Plastics Recycling Show Europe (PRSE)

27. - 28. 10. 2020

Amsterdam, The Netherlands

<https://prseventurope.com/>

### Plastimagen

10. - 13. 11. 2020

Mexico City, Mexico

[plastimagen.com.mx/2020/en](http://plastimagen.com.mx/2020/en)

### Central Asia Plast World

12 International Exhibition for Plastics and Polymer Industries

12. - 20. 11. 2020

Almaty, Kazakhstan

<http://www.plastworld.kz/?lang=en>

## Fakuma-Virtual

■ The Fakuma has been officially launched on its new digital trade fair platform, namely Fakuma-Virtual. Immediately after postponing the scheduled trade fair dates in 2020 to next year, trade fair promoters P. E. Schall GmbH & Co. KG acted quickly and officially opened the new digital meeting place for suppliers and users of industrial plastics processing. Exhibitors are showcasing their trade fair highlights, product innovations and sustainability features in a compact format in attractive virtual showrooms, along with web-based presentations with the help of a webcast function. Valuable leads and perfectly matched business contacts are generated for the international expert audience by the integrated RFQ for individualised problem-solving on the landing page of Fakuma-Virtual.

"In particular during the course of this extraordinary year, Fakuma-Virtual provides exhibitors with strong benefits at comparatively low costs. In order to kick off his virtual presentation, all the exhibitor has to do is upload information which is already available for the trade fair anyway in the usual data formats. This is automatically networked via the content management system. With our additional new focused trade fair offerings, we're moving up quickly to the required level of practical solutions for technological change in an uncomplicated manner. And we continue to promote sustainable success in the plastics industry," explains Bettina Schall, managing director of the trade fair promoters.

More and more attention is being focused on the issues of environmental protection, sustainability, efficient use of resources, circular economy and bioplastics. With the help of the integrated, thematically focused search engine, expert visitors at Fakuma-Virtual can select any desired information concerning the trade fair nomenclature in an optimum fashion, or collect relevant, targeted matches for their business by entering keywords. What's especially clever is the fact that in the end, a functional hit list is generated. Visitors are thus provided with the opportunity of sending individualised RFQs to the exhibitors included in the highly qualified search results, in order to mutually work out special solutions – like they would at an on-site event. Suppliers and users are thus provided with ideal conditions for setting out on their mutual path towards best possible attainment of their goals for everyday industrial practice. And thus Fakuma's portfolio of products and services is continuously available to all interested parties at the new virtual technology venue.

"We're convinced that Fakuma-Virtual offers a promising alternative for gathering information concerning industry trends in an uncomplicated manner in our current situation. Visitors are able to familiarise themselves with numerous innovations very quickly. At igus, this falls under the mission statement 'Tech up, costs down. That's our job.' – with over 100 motion plastics innovations this year which verifiably and sustainably improve technology and reduce costs," says Oliver Cyrus, head of public relations and advertising at Igus GmbH concerning the new opportunities provided by Fakuma.

However, Fakuma-Virtual will definitely not replace personal, face-to-face dialogue. The plastics industry is looking to next year optimistically, when it will once again be possible to invite customers directly and explore and develop complex applications in close, individual contact. The next Fakuma will take place in Friedrichshafen, Germany from the 12th through the 16th of October, 2021 – accompanied by the extended range provided by Fakuma-Virtual.

► P. E. Schall GmbH & Co. KG  
[www.fakuma-messe.de/fakuma-virtuell](http://www.fakuma-messe.de/fakuma-virtuell)





## wire and Tube 2020

■ From 7 to 11 December 2020 the two international No. 1 trade fairs for the wire, cable and tube and pipe industries, wire and Tube, will open their doors at Düsseldorf Fairgrounds.

The two leading international trade fairs for these industries will now be held in compliance with strict new hygiene and social distancing rules at a perfectly prepared Düsseldorf Fairground.

2018 saw 71,500 trade visitors (69,000 in 2016) from 134 countries visit the exhibition halls on the Rhine river over five days to learn about innovations in their sectors. For December the organisers expect stable numbers of visitors from Europe despite the tight situation in the global economy. So far, one third of visitors at both trade fairs came from Germany while two thirds were international visitors. This means that wire and Tube are among the most internationally attended trade fairs care of Messe Düsseldorf.

80% of international visitors in December are expected to hail from Europe. Although strong producer and visitor countries such as Italy, France and Spain are seriously impacted by the consequences of the Corona crisis, these are



*With more than 118.000 square metres net and 2,686 exhibitors, wire 2018 and Tube 2018 are bigger than ever before (Photo: Messe Düsseldorf / ctilmann)*

the European countries – alongside the Netherlands, Spain, Poland, Russia, Great Britain and Turkey – where most European trade visitors will come from to visit the two trade fairs. If the EU and national stimulus packages take effect in the European countries, then an economic recovery and increase in investment can be expected by the end of the year.

► Messe Düsseldorf GmbH  
[www.wire.de](http://www.wire.de), [www.tube.de](http://www.tube.de)

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## PLAST 2021: The Organization Process Restarts

■ After the suspension of all non-essential activities due to the Covid-19 pandemic, organization commences for PLAST 2021-international exhibition for the plastics and rubber industries, taking place in Milan from the 4th to the 7th of May of next year.

Roughly 450 direct exhibitors (excluding the represented companies) have already confirmed their participation in the fair, reserving an area of 35,000 m<sup>2</sup>. One fifth of subscribers are foreigners, in addition to Italian branches of foreign machinery manufacturers.

The effects of the epidemic greatly conditioned worldwide fairs, causing the cancellation of all events in spring-summer 2020 and moving the ones planned for this autumn to 2021.

This was the case for various international plastics and rubber industry fairs and also for important events regarding the packaging and converting sector, such as Interpack and Drupe, originally planned for May and June 2020 but postponed to the period between early March and late April 2021.



Such changes led to the decision to confirm the next edition of PLAST to 4-7 May 2021 and to reschedule the other four fairs of The Innovation Alliance (IPACK-IMA, MEAT-TECH, PRINT4ALL, and INTRALOGISTICA ITALIA), also due to the congestion at the Rho-Pero exhibition district.

This decision originates in the extraordinary situation of recent months with the objective of preventing overlaps, which would have caused difficulty for both companies and operators.

The Innovation Alliance project, favouring synergies among complementary sectors, is still a definite go. Although the five exhibitions are scheduled for different times, the organizers have already begun to plan unifying initiatives to assist operators in the planning phase.

The PLAST Office is again fully operational and, to facilitate potential exhibitors in the decision process (taking into consideration the obligatory shutdown in March and April), has extended the deadline to 31 July 2020 for benefiting from a 10% discount on the participation fee and priority stand assignments, which will be made starting in September.

The upcoming edition of PLAST will once again feature the three satellite fairs, each dedicated to a sub-sector of excellence and its associated start-ups: RUBBER (in its fourth edition, dedicated to the world of elastomers, in collaboration with ASSOGOMMA), 3D PLAST (in its third edition, focusing on additive manufacturing and related technologies), and PLAST-MAT (second edition, exploring innovative plastics).

■ PROMAPLAST srl  
www.plastonline.org

## 16th China International Recycled Polyester Conference & Exhibition

09. – 11. Sept. 2020, Shanghai, P.R. China

■ The forum is jointly organized by China Chemical & Fiber Economic Information Network (CCFEI) and Dr. Thiele Polyester Technology and supported by Recycled Fiber Commission of China Chemical Fiber Association and China National Chemical Fiber Corp.

Having achieved successes during the past 15 years, the China International Recycled Polyester Conference has developed to be the largest international conference of recycled polyester industry in Asian-Pacific region. The upcoming 16th China International Recycled Polyester Conference & Exhibition will again gather domestic and overseas raw material suppliers, recycled fiber (regular, hollow and filament) makers, ma-

chinery suppliers, downstream consumers, as well as related medium, industry associations and traders, to share valuable opinions of market status quo and perspective.

Due to the world wide CORONA pandemic a large number of potential speakers and participants from Americas, Europe, ME and Asia are foreseeable not able to travel during September 2020 to China.

Therefore it is planned to organize in parallel to the conference in Shanghai the possibility to participate online, following the conference contributions, seeing the exhibition and chat with speakers and visitors.

■ CCFEI, Tracy Liu Tracy Liu, liuwenwen@cnfiber.com  
Dr. Thiele, drthiele@polyester-technology.com



## New Start in September

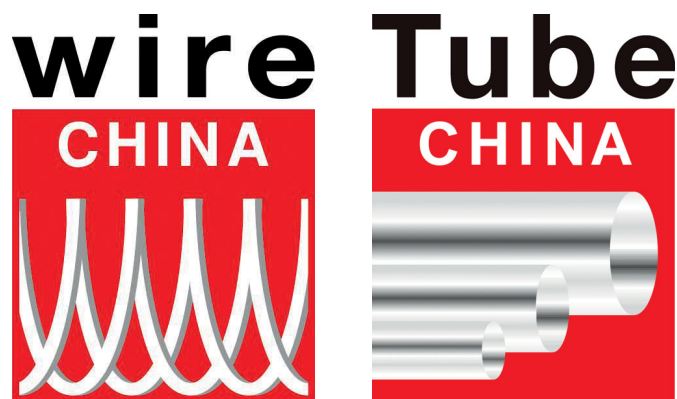
### wire and Tube China open Doors in Shanghai

■ The leading regional Asian trade fairs wire and Tube China will take place from 23 to 26 September 2020 in the Shanghai under strict hygiene and distance regulations, prescribed by the Chinese health and safety authorities. The organizers expect a rapid recovery of the global economy and the absolute willingness to invest within the wire and cable industries. Together with many international wire and cable companies and the relevant associations, it was therefore decided to hold wire and Tube China against the background of declining infection figures with the COVID-19 virus.

In addition, interactive online showrooms provide a digital supplement to the analogue trade fair events in the exhibition halls. This means that companies can also take part in the trade fair, even if the current economic situation in their countries makes it impossible for them to travel to Shanghai.

560 Chinese and international exhibitors are expected at wire China, who will be showing innovative machines, equipment, products and services from the wire and cable industry on four days of the fair.

So far, 340 international companies have registered for Tube China.



In compliance with all applicable hygiene and safety standards, there will be two theme pavilions parallel to the tube trade fair. The Saw EXPO China pavilion is a special exhibition for the sawing and industrial cutting sectors and thus represents an ideal extension of the tube processing sector. The THERMPROCESS China special pavilion complements the Tube China as a trade fair for thermal process technology.

A digital trade fair offer supplements the range of products and services before, during and after the analogue events in the exhibition halls.

■ Messe Düsseldorf GmbH  
[www.wirechina.net](http://www.wirechina.net), [www.tubechina.net](http://www.tubechina.net)

## 2020 Global Plastics Summit Highlights Moves to Virtual Conference

■ The Plastics Industry Association (PLASTICS) and IHS Markit will host the eighth annual Global Plastics Summit (GPS) virtually on October 21–23, 2020, the organizations announced.

The event connects plastic industry decision-makers to address leading topics like global competition, plastics material, sustainability, policy and innovation. Attendees walk away with insights and ways to navigate the ever-changing global plastics industry. This year PLASTICS' Flexible Film and Bag Division and Rigid Plastics Packaging Group will offer two exciting tracks for the entire supply chain, from equipment manufacturers to brand owners, to connect.

"There are so many important issues that our industry currently faces, and the Summit is a great opportunity to collaborate and network with the world's top-tier thought leaders in the plastics industry," said Tony Radoszewski, President and CEO of PLASTICS. "The new tracks, which include the Flexible Film and Bag Division and Rigid Plas-

tics Packaging Group, give plastics executives insight into how to navigate the new challenges gripping the global market."

"Covid-19, the global economic, and extreme energy price volatility are combining to reshape the plastics industry in ways unimagined just a few months ago. The 2020 Global Plastics Summit Online will be the premiere venue for industry leaders to analyze and discuss how these critical issues will impact your business. Join us in this first ever "virtual" Summit," said Nick Vafiadis, Vice President Plastics, IHS Markit.

For more information on the event and to register:

■ <https://globalplasticssummit.com/registration.html>

The Plastics Industry Association (PLASTICS)  
 Elleni Almandrez, [ealmandrez@plasticsindustry.org](mailto:ealmandrez@plasticsindustry.org)  
 Rebecca Lopez, [Rebecca.Lopez@ihsmarkit.com](mailto:Rebecca.Lopez@ihsmarkit.com)

## CHINAPLAS Moves to Shenzhen for April 2021 Debut

■ The 34th edition of CHINAPLAS has been rescheduled to April 13-16, 2021, at a new venue – Shenzhen World Exhibition & Convention Center. This will be the first time for CHINAPLAS to be held in Shenzhen. The trade fair will alternate between Shenzhen (odd years) and Shanghai (even years) in the future.

Adsale Exhibition Services Ltd., organizer of CHINAPLAS 2021, held a press conference on June 23, leveraging online video conferencing tools for the first time to virtually communicate and interact with more than 100 Chinese and international media. During the press conference, Stanley Chu, Chairman of Adsale, Ada Leung, General Manager of Adsale, and Norris Chu, Project Director of Adsale, announced the latest updates about the trade show, shared word of emerging developments from a new starting point, and discussed post-pandemic opportunities in the plastics and rubber industries.

“Shenzhen combines China’s enormous market potential and its unique geographic advantages, and the upcoming CHINAPLAS will help to position the plastics and rubber industries to seize new growth opportunities,” Ada Leung said.

The Shenzhen World Exhibition & Convention Center is situated at the heart of the Greater Bay Area. It is located in the center of the city cluster and close to the Shenzhen Bao’an International Airport, well-connected to the Hong Kong International Airport. Sea, land and air transportation are readily available in all directions and routes, and the industrial cities in the Pearl River Delta are closely linked. It is particularly worth noting that this is the world’s first exhibition center with full 5G coverage.

In addition to a new fairground experience, CHINAPLAS 2021 will also leverage an “online + offline” strategy to unlock new trade services experience. As advanced deployment



*The fairground in Shenzhen is situated at the heart of the Greater Bay Area*

of digital technology is a trend embraced by all industries, CHINAPLAS is also accelerating the integration of online and offline show experiences. The organizer is pleased to be launching “CHINAPLAS+”. For online experiences, CHINAPLAS has successfully held nine webinars on hot topics during the pandemic, building a cloud communication bridge for industry players. The organizer soon will be introducing an online business matching service, extending the value of matching demand and supply online; during the show, the organizer will partner with Chinese and international media to provide live streaming of the trade show and facilitate online interaction. For offline experiences, the organizer will host new technical seminars and publish materials such as “FEATURE: RESUMING PRODUCTION” prior to the show, whereas international forums on industry trends, Tech Talk, thematic events on hot topics will be organized during the show to create a seamless integration between online and offline activities and transform a four-day exhibition to a 365-day, non-stop communication platform.

■ Adsale Exhibition Services Ltd.  
[www.ChinaplasOnline.com](http://www.ChinaplasOnline.com)

## Equiplast will take place in September 2021

■ The Equiplast trade show, one of the leading plastic sector events, will be held in September 2021, from 14th to 18th. This new schedule has been agreed by Fira de Barcelona with

the aim of organising the best possible event on the dates which are considered to be ideal, instead of December 2020, as previously planned.

The decision has been made taking into ac-



count the current scenario and to ensure greater national and international participation in an economic and social context that is expected to be more favourable for the sector. In this regard, holding these leading fairs for sectors such as the chemical, plastic and industrial sectors, which have proved essential during the pandemic, also aims to contribute to their economic recovery.

In 2021 the Equiplast fair will combine the traditional face-to-face exhibition with virtual contents in a hybrid model.

■ [www.equiplast.com](http://www.equiplast.com)



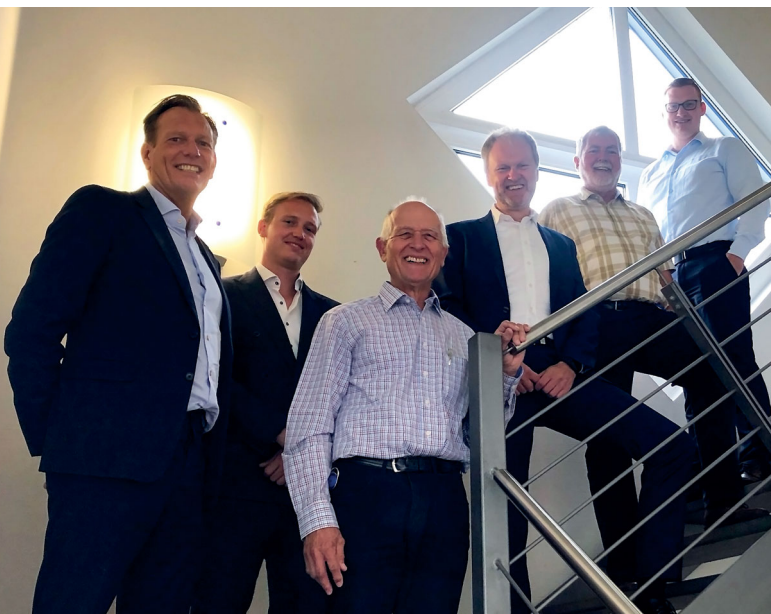
## New Sales Partners

■ The Upper Franconian Hans Weber Maschinenfabrik GmbH, world-renowned for the production of extruders, grinding machines and its divisions "Robotics & Automation" and "WEBER Additives", introduces Plastima Breda BV and Plastima Deutschland GmbH as its new sales partners in the extrusion division for the regions Benelux and Germany. Plastima Breda BV is strategically strongly positioned in the plastics processing industry in Benelux. Since 1954 it has been successfully serving this important and demanding market as an exclusive partner for renowned machine builders with a professional and dynamic team.

Plastima Deutschland GmbH, based in Kleve, North Rhine-Westphalia, and specialised in the sale of equipment and machinery for extrusion lines was founded as the German subsidiary of the Dutch Plastima Breda BV in April 2015 and has been successfully active in the extrusion market since then.

With great confidence, Dr. Markus Weber, one of the managing directors of Hans Weber Maschinenfabrik, and Robert Frizler, sales manager for extruders, look forward to the new partnership with the Plastima Group. "With the Plastima Group we have been able to win a renowned and strong sales partner whose experience and philosophy are an excellent fit with Hans Weber Maschinenfabrik GmbH. Together we want to grow internationally", says Dr. Markus Weber. Since 1 July 2020 the Plastima Group represents Hans Weber Maschinenfabrik in Benelux and Northern Germany in order to strengthen and expand its market presence there.

*From left to right: Rob an den Bosch; Tim van den Bosch; Siegbert Bartuschat; Josef Wegmann; Heiner von Nethen; Robert Frizler*



 Hans Weber Maschinenfabrik GmbH  
[www.hansweber.de](http://www.hansweber.de)

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## Distribution Partnerships

■ To strengthen its global presence and to provide local customers with a further improved sales and after-sales service, the Swiss Buss AG, for 75 years manufacturer of the BUSS Kneader for demanding compounding applications, has entered into distribution partnerships in the Middle East and India as of June 1, 2020. Reifenhäuser Middle East & Africa (MEA) represents BUSS in the United Arab Emirates (UAE) and surrounding countries. Reifenhäuser India Marketing PVT Ltd. represents BUSS on the Indian subcontinent. Both companies will support BUSS in developing the compounding market in their respective regions.

Reifenhäuser (MEA) is a joint venture between the German Reifenhäuser GmbH & Co. KG Maschinenfabrik, Manish Mehta, founder and managing director of Reifenhäuser India Marketing Private Ltd., and Bharath Yalla, managing director of Reifenhäuser (MEA) founded in 2018. Besides the Reifenhäuser

*Bharath Yalla,  
managing director  
of Reifenhäuser  
(MEA)*



*Manish Mehta,  
managing director  
of Reifenhäuser  
India*



*Dr. Philip Nising,  
President  
and CEO  
of BUSS AG*



Group, Reifenhäuser MEA represents a number of renowned plastics processing technology brands and has now taken over the marketing of BUSS' cutting-edge compounding technology in UAE, Bahrain, Kuwait, Oman and Qatar.

Dr. Philip Nising, President and CEO of BUSS AG, says: "BUSS historically has a strong and loyal customer basis in the Middle East. With the newly formed entity located centrally in Sharjah (UAE), Reifenhäuser MEA offers the ideal platform for future business support. We are proud to be part of this step from the very first moment and bring to our customers the added value of a local partner with field service capabilities and the technical expertise they rightly expect from BUSS."

Reifenhäuser India Marketing PVT Ltd. was founded in 1994 by Mr. Manish Mehta, managing director, and family in a joint venture with Reifenhäuser GmbH & Co. KG Maschinenfabrik, Germany. Not limited to just providing technology, Reifenhäuser India has a fully equipped service team for installations, preventive maintenance and repair services. Besides the Reifenhäuser Group, Reifenhäuser India represents an impressive portfolio of renowned Plastics Processing, Converting (Printing) & Labels technology brands and is now supporting BUSS in the marketing of cutting-edge compounding technology in India, Sri Lanka and Bangladesh. Furthermore, Reifenhäuser India will use its vast service organization to support BUSS customers across the Indian subcontinent.

"With Reifenhäuser India, we have found a great partner to support our business on the Indian Subcontinent and provide our many customers the ideal combination of localized service products and technical expertise with Swiss quality culture", BUSS' President and CEO Dr. Philip Nising says.

**Buss AG**  
[www.BUSScorp.com](http://www.BUSScorp.com)

## New Webshop for Spare Parts and Components

■ From now on Erhardt+Leimer offers its customers worldwide the possibility to order spare parts for E+L equipment online in its own shop. More than 20,000 products are available through this new sales channel. In addition to the classic spare parts, other products such as actuating drives and all E+L sensors are available, which can also be parameterized according to customer specifications prior to delivery. "We are very pleased to now be able to offer our customers all over the world this new possibility to place orders quickly and easily around the clock, seven days a week", explains Dr. Michael Proeller, CEO of the group of companies specializing in automation and inspection technology. "The online shop is a key component of our digital strategy, in which we have invested a great deal to provide our customers with the best possible support, especially in these difficult times".

*CEO Dr. Michael  
Proeller presenting  
the new E+L  
webshop*



To help customers find the products they need quickly, the web shop offers extensive search options: material numbers, order numbers and digital spare parts lists can be used for finding products. Any number of employees of a company can use a shared company account for their orders. There is an English and a Chinese version.

**Erhardt+Leimer GmbH**  
[www.erhardt-leimer.com](http://www.erhardt-leimer.com), [www.e-l.shop](http://www.e-l.shop)



## New Sales Manager for Asia Pacific appointed

■ Leading manufacturer of Corona and Plasma surface treatment technology, Vetaphone, has appointed Holger Selenka as Area Sales Manager for the Asia Pacific region, with a view to developing its business in this high-potential growth market.

Selenka, who brings more than 30 years of surface treatment experience to the job, has a background steeped in engineering and technical sales. For the past 15 years he has held senior sales management positions in Europe, the Middle East and South East Asia, as well as being a Key Account Manager for several leading international OEMs.

"I'm delighted to be working for a real family business again where the customer is always the main focus and look forward to using my flexible packaging industry experience to grow Vetaphone's business in the region," he commented.

*Holger Selenka brings more than 30 years of surface treatment expertise to his new role as ASM for Asia Pacific*



Speaking for Vetaphone, VP Technical Sales Kevin McKell commented: "Holger is the perfect appointment to help us grow our sales and support network in Asia, with a great track record in surface treatment and extensive market knowledge."

■ Vetaphone A/S  
[www.vetaphone.com](http://www.vetaphone.com)

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## Look Back on a Successful Financial Year

■ The financial year 2019/20, which ended on 31 March, marks a special milestone in EREMA's corporate history. For the first time the group of companies generated a consolidated total turnover of more than EUR 200 million and, with its recycling technologies and professional services, impressively underlined its position as a technology leader and driving force in the implementation of a circular economy for plastics. Then along came the Corona pandemic and the impact it made on our private lives and the economy. Within a very short period of time, EREMA implemented numerous measures to protect the health of employees, to continue business operations and to continue to meet the needs of customers as best they could. As Manfred Hackl, CEO EREMA Group GmbH says, "We are proud of our achievements in the past financial year and how we have handled the special challenges presented by the corona pandemic so far."

"Corona is likely to remain with us for some time, but that will not diminish the significance of our mission: Another Life for Plastic. Because we care," says CEO Manfred Hackl. On the contrary. The group of companies is looking to the future with confidence over the long term, even though recent developments have led to a very tense situation for plastics recyclers. The unanimous opinion is that sustainability and consequently

*The EREMA mask force: Even though recent developments have led to a very tense situation for plastics recyclers, the EREMA Group is looking to the future with confidence over the long term. The photo shows Maximilian Wögerbauer, Mechanical Engineer at EREMA (Photo: EREMA)*



plastics recycling will continue to be important issues for society and industry, possibly even gaining in significance as a result of the lessons learned from this crisis. At the moment, the economic impact of the Corona crisis on the recycling industry requires that decision-makers at national and international level ensure that recycling know-how and the requisite recycling systems acquired over the years are maintained and further developed to meet EU recycling targets.

■ EREMA Group  
www.erema.com

## Aseptic Coating and Laminating Line introduced

■ In response to increased demand for aseptic packaging technology for emerging markets, Davis-Standard has introduced the dsX™ Aseptic 400 triplex extrusion coating and laminating line. This best-in-class solution offers quick changes, waste reduction and precision web handling for maximum widths of 1,350mm (53 inches) and speeds from 250 to 400 mpm (820 to 1,312 fpm). It is designed for paper, aluminum foils and/or films used in aseptic and liquid carton board packaging products.

"We have sold aseptic lines with similar outputs in the past, but based on market analysis, there was a need for a dedi-

*The dsX™ Aseptic 400 triplex extrusion coating and laminating line is engineered for emerging markets*



cated product line for emerging markets," said, Michael Schröder, Head of Sales EMEA and Product Management at Davis-Standard's German subsidiary ER-WE-PA GmbH. "The dsX Aseptic 400 is pre-engineered to provide optimum specifications for emerging market customers in terms of output and technology for process efficiency."

Davis-Standard is the global market leader in extrusion lamination lines for aseptic packaging products. This line configuration reflects that leadership with customization options to address diverse structures, including those used for aseptic and fresh milk/beverage filling machines. According to Michael Schröder, another advantage is Davis-Standard's regional after-sale service and support, and more than 100 global references for similar applications.

"One of the most significant benefits to customers in emerging markets is knowing they are getting value for first-rate technology and service, which is based on experience," he said. "Each component on this line is designed for performance and efficiency, and we have the global resources to support them."

■ Davis-Standard, LLC  
www.davis-standard.com  
<https://davis-standard.com/flex-packaging-films>

## Market Position in Asia strengthened

■ Collin used the worldwide pandemic slow down to form new strategic partnerships with strong agencies in China and Vietnam. "In China, we were able to gain a new agency for the growing petrochemical & chemical industry and for the first time also a sales partner concentrating on the dynamic medical & pharmaceutical market," says Corné Verstraten, CSO / Joint Partner Collin Lab & Pilot Solutions GmbH.

Since June 01, 2020 Team Testing Equipment (Short TTE) represents Collin Lab & Pilot Lines in the petrochemical and plastics industry. TTE has more than 70 employees in Guangzhou (headquarter), Shanghai, Beijing and Chengdu.

Barry Li, GM of TTE: "I am resp. our team is excited to be able to offer Collin products in the Chinese market. With our well-trained and highly customer-oriented sales team, we will strengthen the market position of Collin in China." With a strong technical team of 35 employees, TTE provides technical service and after sales for new and already installed Collin lines.

*New COLLIN Agencies: Song Song Vietnam, TECHWIN and TTE China (© COLLIN Lab & Pilot Solutions GmbH)*



For the rapidly growing medical & pharmaceutical market in China, Collin Lab & Pilot Solutions has been able to attract Shanghai TECHWIN Medical Science (Short TECHWIN), another strong sales partner.

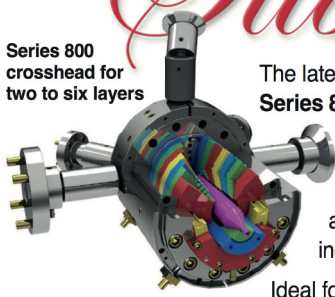
Also on June 01, 2020 TECHWIN started to represent COLLIN Medical Lines – presses, extruders, blown film lines, roll mills etc. - providing R&D-, pilot- and production solutions for various applications. TECHWIN is located in Shanghai (headquarter), Beijing and Wuhan. Jaime Gong, CEO of TECHWIN and his team have more than 12 years' experience in the market for medical products. TECHWIN is a member of the China Association for Medical Devices Industry and has a broad customer network.

Collin intensifies also the presence in the emerging Vietnamese market. On July 01, 2020, the mechanical engineering specialist started the cooperation with Song Song Co, Ltd., With 40 employees in sales and technical support, Song Song perfectly covers the flourishing Vietnamese plastic industry. Tuan Nguyen, Sales Director of Song Song is very confident that the raising presence of international groups will boost the demand for high quality Lab & Pilot Lines from Collin.

■ COLLIN Lab & Pilot Solutions  
www.collin-solutions.com

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## Elastomer Solutions at RubberTech China

■ Davis-Standard will market elastomer solutions encompassing product capabilities and support services at booth #1A113 during RubberTech China, September 16-18, in Shanghai. This will include the new model 3000A (automatic) crosshead as well as the company's expanded manufacturing space at Davis-Standard (Suzhou) Plastic Packaging Machinery Co., Ltd. As the global extrusion community continues to address the COVID-19 pandemic, Davis-Standard remains steadfast in fulfilling customer needs while keeping the health and safety of employees a priority.

"After several months of adapting to the pandemic, we look forward to reconnecting with our customer base in Asia," said Joe Wnuk, Vice President of Davis-Standard Elastomer and Profile Systems. "Now more than ever, it's important to look at best practices in terms of equipment performance, employee safety, innovative products and supply chain efficiencies. We are eager to work collaboratively with customers to develop and support solutions specific to the Asian marketplace."

Davis-Standard engineers elastomer equipment for the production of tires, automotive hoses, adhesives and sealants, recreational equipment, construction and medical applications. Elastomer-specific technology is designed for efficiency and performance, including the DSREV extruder and the company's latest crosshead design, the Model 3000A crosshead for rubber hose applications. This crosshead helps reduce scrap and accelerate start-up times for smaller lots. The results in material savings, quick product changes, simplified maintenance and improved quality are significant. In addition, a hydraulic pump system is not needed and the compact design does not require hoses.

According to Wnuk, "One of the best features of this automatic design is the precision adjustment, which contributes to material savings due to tighter tolerances within specifications. This is especially valuable with frequent product and dimension changes, which are becoming more and more common."

*Model 3000A crosshead  
for rubber hose applications*



The DSREV extruder has a patented pneumatic roll feed system for a uniform and consistent feed rate, electric heating and water-cooling for quicker response times, and feed-screws that maximize output and minimize scorch. Using a gear pump, processors are able to isolate high pressure and achieve pressure stabilization. Davis-Standard's gear pump is equipped with a two-roll feeder (TRF) for cold feeding or to be used as a stand-alone device for fine mesh straining. Other advantages include improved filtration, reduced material retention time and a smaller footprint to integrate into existing lines. This is all supported by Davis-Standard (Suzhou) Plastics Packaging Machinery, Co., Ltd., which is central to the company's customer focus in Asia. Developments in the areas of machine building and assembly, inventory and aftermarket services, field service engineering, and installation at customer sites have been essential to supporting customers. Last year, Davis-Standard added a 35,000 square-foot (3,251 square-meter) facility near the existing Suzhou shop to house control panel assembly and provide warehousing. In an ongoing effort to strengthen efficiencies and customer satisfaction, Davis-Standard's Suzhou facility achieved ISO 9001:2015 certification.

■ **Davis-Standard, LLC**  
[www.davis-standard.com](http://www.davis-standard.com)  
[https://davis-standard.com/extrusion\\_system/elastomer/](https://davis-standard.com/extrusion_system/elastomer/)

## Distribution taken over

■ Gavo Meccanica is a leading brand for plastic core cutters. With over 30 years' experience and its production center located in Italy, its equipment is synonymous with "made in Italy" quality and innovation. More than 600 Gavo cutters have been installed worldwide and they have revolutionized the cutting cores concept with their core saving and cutting machines, allowing no waste, reorganization and improvement of the warehouse and the optimization of labor costs, ensuring a fast pay-back time. MachinePoint has been selling and buying used machinery in the Balkans for years, and currently has a dedicated team specialized in these markets and a strong customer base. Gavo cut-

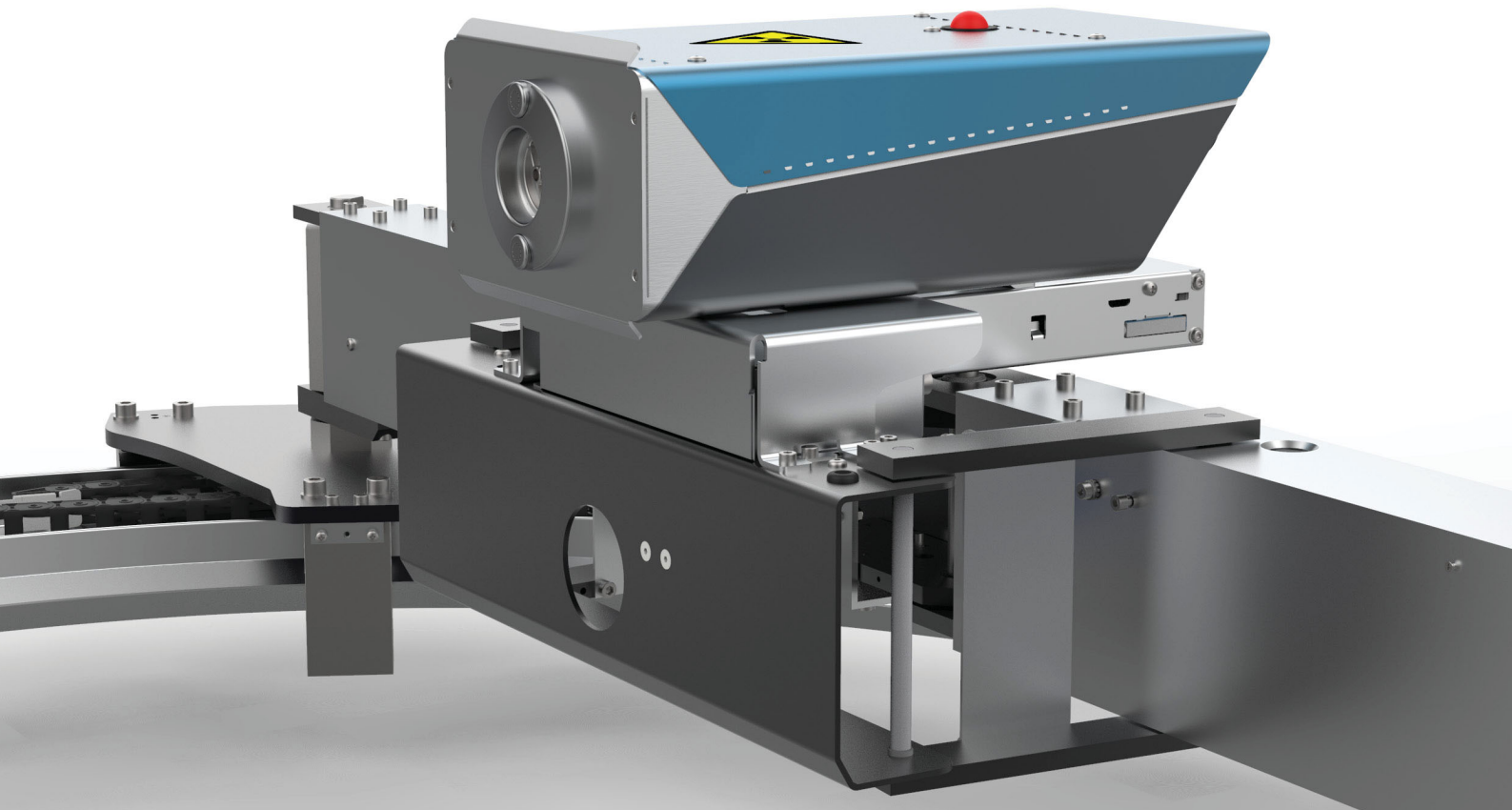
ters complement MachinePoint's offering very well, because cutters are very hard to find in the used machinery market. Gavo price/performance cutters ratio is very good, which is in line with MachinePoint's philosophy of offering solutions to its customers at an optimum price quality relationship. Gavo's innovation reduces the cost for its users and also helps the circular plastics economy. Gavo cutters create new high quality cores from plastic remains. Gavo has revolutionized the market of cutting machines for plastic cores and has made a great technological leap with its new cutting machines. Its automatic cutting machines allow a return on investment of between 8 and 36 months, a better reorganization of the warehouse and optimization in the purchase of plastic cores. These machines are considered unrivalled, thanks to their millimetric precision, perfect cutting and ability to reduce central costs.

■ **MachinePoint**  
[www.machinepoint.com](http://www.machinepoint.com)





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## Global and Regional Expertise at MedTec China

■ Davis-Standard will market its extensive line of medical tubing solutions at booth 2R201 during MedTec China, September 14-16, in Shanghai. This includes complete systems manufactured in the United States, as well as extruders designed in the U.S. and fabricated locally at Davis-Standard's subsidiary Davis-Standard (Suzhou) Plastic Packaging Machinery Co., Ltd.

Davis-Standard supplies complete systems for a variety of tubing applications such as single lumen, multi-lumen, coextruded and Alternate Polymer® products. This technology supports applications for catheter tubing, endotracheal and tracheostomy tubing, radio opaque tubing, bump and taper tubing, pipette tubing and more. Complete tubing systems are available directly from Davis-Standard's headquarters in Pawcatuck, Conn., or supplied locally from Davis-Standard's Suzhou facility.

For extruders and extruder upgrades on existing lines, Davis-Standard has expanded its manufacturing capabilities in Suzhou. All extruders sold in China are engineered and assembled to the same specifications as U.S.-based machines while providing localized support and timely delivery. Extruders can be purchased individually or retrofitted to existing lines to improve outputs, stabilize pressure and melt, and optimize mixing of thermoplastic resins. Davis-Standard's engineers



*HPE Medical Series  
38mm & 25mm extruders  
for multi-layer tubing  
applications*

work directly with customers to determine the best strategy for achieving high line speeds and product tolerance based on application. This regional approach also permits Chinese customers to take advantage of RMB transactions for Davis-Standard equipment without import fees, long transit times, and international shipment costs.

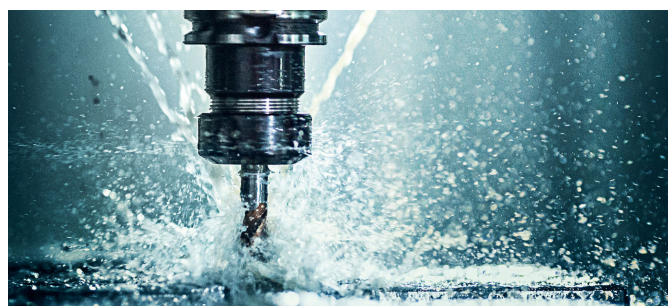
In an ongoing effort to strengthen efficiencies and customer satisfaction, Davis-Standard's Suzhou facility achieved ISO 9001:2015 certification. This validates processes across the board, internally and externally, and serves as a benchmark for the company's commitment to operational quality and process improvement.

■ Davis-Standard, LLC  
[www.davis-standard.com/medical-tubing](http://www.davis-standard.com/medical-tubing)

## Medical Machining and Fabricating Manufacturing Services offered

■ For over 55 years, Guill Tool has been providing tooling for the aerospace, extrusion, medical, consumer and commercial, defense, wind, oil and energy industries. Due to its years of experience, the company has a highly skilled team of expert machinists engineers trained in the latest CAD, CAM, CFD and FEA programs. Besides being experts in extrusion tooling, Guill is a major industrial manufacturer who can provide customers with one-stop shopping for their tooling and other select machine shop needs.

The Guill high quality standards are evidenced by the company's many certifications, including ISO 9001:2015. Defense certifications include AS9100:2016 (aerospace manufacturing), MIL-I-45208A (inspection system), MIL-STD-45662A (calibration system), JCP Certified (government contracting), ITAR Registered (export compliant), NIST SP800-171 (cyber security) and others.



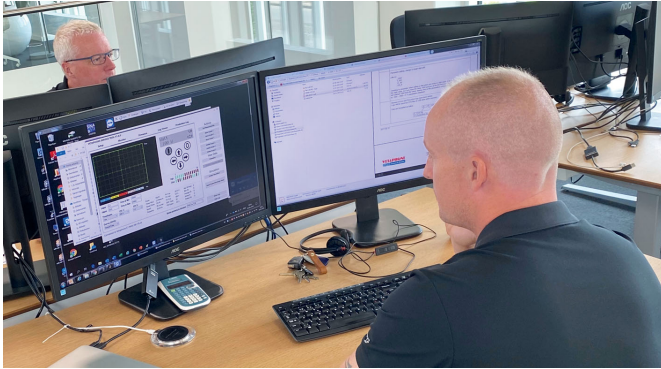
As part of this new medical machining program, Guill offers 5-axis machining centers, high precision machining, and full wire EDM capabilities with a .008" hole popper. Guill machines super alloys and exotic metals to close tolerances.

Guill CNC milling machines offer resources needed to successfully fulfill the most challenging parts and tooling to keep equipment running efficiently and precisely. The precision of CNC turning is offered for quicker production that meets rigorous standards, regardless of the complexity of the parts. Guill multi-axis machines can produce a variety of sizes, complex engineering and geometric intricacies. Prototype machining and rapid manufacturing enable engineering to develop and innovate solutions with the ability to respond and modify parts. Super alloys and other materials are offered to benefit customers who need new solutions to remain competitive. Finally, wire EDM eliminates the force put on part surfaces. This protects intricate and fragile tooling, as well as providing higher tolerances and accuracy.

Machining capabilities range from small hole machining to .008" in diameter and machining material measuring up to 15 inches in all axes.

■ Guill Tool & Engineering  
[www.guill.com/industries/medical/](http://www.guill.com/industries/medical/)

## All Done by Remote Control



*Bo Eriksen and Steen Clausen are part of the on-call team that now offers remote customer support to Vetaphone users anywhere in the world*

### Vetaphone supporting its customers throughout the pandemic

■ The current global pandemic has had a major impact on everyone and every business. Few industrial sectors have come under greater pressure than that involved with producing packaging for the food and pharmaceutical markets, where demand has surged and placed extraordinary pressure on a supply chain that is working under very difficult conditions. With both personnel and technology suffering under the strain, it has been the job of suppliers to come up with solutions to ensure that production lines keep running – and with travel limitations preventing onsite calls, Vetaphone has found a ingenious way of providing remote support for users of its Corona and Plasma surface treatment systems. Søren Kusk Pedersen, one of the Vetaphone on-call Support Team explained how the remote Service Tool has been set up: “We created the software in-house as a diagnostic tool for our generators. It allows us to see and change the state of the in-

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

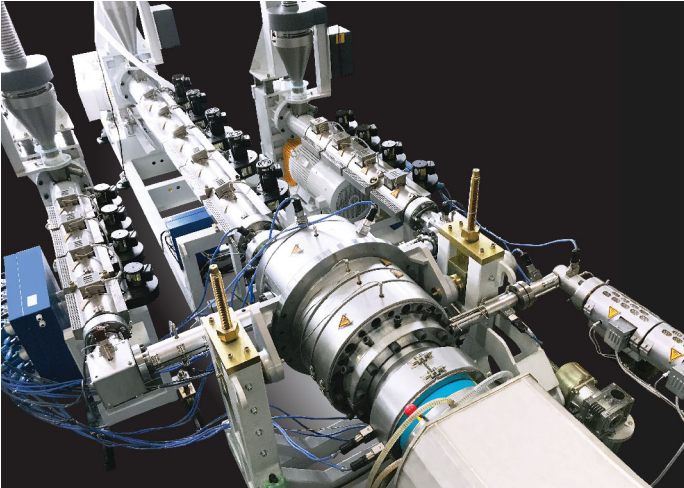
The proof of the concept in action came recently with a customer 10,000 km away in Durban, South Africa, where Advanced Labels was having issues with one of its Nilpeter narrow web presses. P J Prinsloo, one of the Service Engineers at IPEX Services KZN, Vetaphone’s representative for southern Africa, outlined what happened: “Advanced Labels has a Vetaphone 2 kW Corona Treater fitted to a Nilpeter and it was failing to start up, although the display on the press was not showing an error. By having the Vetaphone Service Tool on my laptop I could login and see what the issue was with the generator.”


Having found the source of the problem, IPEX was able to order a new generator from the Vetaphone factory in Denmark and it was shipped and delivered in days ready for installation. After commissioning, the new generator was tested using the Service Tool and all readings confirmed as normal. “It’s so good to have this facility on our laptops – it really has given us a new way to support our customers wherever they are located,” said Prinsloo.

Speaking for Advanced Labels, Managing Director Richard Jones added: “We were delighted with the speed of response from IPEX and the way in which the problem was diagnosed and resolved. It was a fine example of customer support from the brand leader and highlights the advantages of today’s communication technology.”

With Vetaphone surface treatment systems working around the world, and supported by more than 70 agents, the addition of this remote Service Tool not only shows its commitment to providing a first class service, but empowers its remotely located service personnel by allowing them employ all of the skills available at the company’s HQ in Denmark.

**Vetaphone A/S**  
[www.vetaphone.com](http://www.vetaphone.com)





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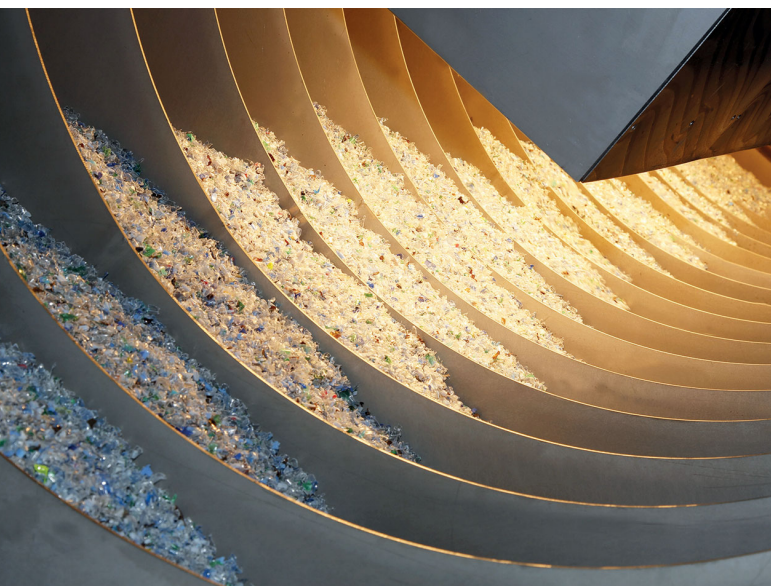
## Achieving Suitability for Foodstuff without Retrofitting the Line

■ A PET film or sheet line can be retrofitted with an IR-CLEAN® system made by Kreyenborg from Senden, Germany, without any problems and, above all, without any time and efforts for reconstruction. Suitability for food production of the semi-finished products and optimization of the production line's performance are both guaranteed. Recently, these advantageous features have convinced two manufacturers of PET thermoformed trays for foodstuff in South America, who have opted for these 'Add-on' modules from Germany for a total of three production lines of a throughput of more than 1,000 kg/h respectively. Now, these plastics processing companies are able to process up to 100% of recycling PET ware and operate on the packaging market with high-quality solutions suitable for food production applications.

A high decontamination output, FDA and EFSA approvals, a simple and a both energy-efficient and performing process control as well as reduced assembly space make the IR-CLEAN® an attractive additional component for every PET line. Having accomplished a reiterated process optimization and an additional challenge test, Kreyenborg has now even succeeded in increasing the decontamination performance. Recycling material that has been treated in the IR-CLEAN® may be used at 100% for the production of any kind of food packaging (storage for 365 days at room temperature). This is due to the IR-CLEAN's process concept that handles PET recycling material quickly and effectively.

Both sheet manufacturers located in South America use their own, shredded in-house edge-trim produced in the thermoforming process on the one hand and addition-

*Infrared Drum Dryer*



*IR-CLEAN®*

ally bought post-consumer recycling material on the other hand. The material is conveyed into the metering hopper of the IR-CLEAN® unit and flows into the rotary drum through a volumetric metering system. At this point, the welded continuous screw spiral guarantees a homogeneous flow of the material with a pre-defined residence time (first-in / first-out principle). Due to the constant rotation of the rotary drum and the mixing elements incorporated in the screw flights, the material is stirred continuously and its surface is at the same time revolved on a permanent basis. This is an ideal method for an efficient decontamination process. The Infra-red module installed above the material bed heats the material up to a high temperature level quickly and immediately, while a constant air flow extracts the air loaded with humidity and other contamination particles. This entire process is completed within a few minutes only. The recycling material then prepared is directly conveyed into the existing extrusion line. Neither any other kind of machine component nor any other kind of material treatment is required to process the recycling material for PET sheet to be used in food packaging. Owing to the perfect pre-treatment of the material, the South American film manufacturers are now in a position to run their extrusion lines with a higher throughput. Consequently, the IR-CLEAN® combines ecological with economic benefits in processing recycling material, while increasing the performance of sheet extrusion lines.

## Quality Assurance of Medical Tubes

■ The production of medical tubes places considerable demands on manufacturers. Because of the high safety standards, medical tubes are subject to strict approvals as patient safety depends on them. A continuous quality control during the ongoing manufacturing process is essential to ensure reliable, durable and precisely processed tubes. Besides, the manufacturing processes has to be reproducible in order to ensure consistent product quality and to save costs, making production more efficient and economical. SIKORA supplies innovative measuring and control devices for quality control during the extrusion of medical tubes.

Two typical aspects that manufacturers pay particular attention to regarding quality assurance of their products are the dimension and surface of medical tubes. Single or multi-lumen colored tubes, for which an outer diameter and ovality measurement is relevant, are measured with a device of the LASER Series 2000 XY. Furthermore, the 3-axis 2000 T models, such as the LASER

2010 T, offer the highest precision for transparent medical tubes. As an alternative to the LASER Series 2000, the LASER Series 6000 is available. Due to a significantly higher measuring rate, it additionally detects lumps on the surface of the medical tube.

Single-lumen medical tubes, whose wall thickness has to be controlled during production, are reliably measured by the X-RAY 6020 PRO directly at the manufacturing process. The X-ray measuring system has been specifically designed for smallest medical tubes with a diameter of 0.65 up to 15 mm and a minimum wall thickness of 0.1 mm. The system records continuously measuring data about wall thickness, eccentricity, inner and outer diameter as well as the ovality of medical tubes. The X-RAY 6020 PRO can be combined with a 3-axis lump detector. The LUMP 2000 T gauge heads detect even smallest irregularities on the product surface after the cooling.

SIKORA measuring devices can be integrated into horizontal as well as vertical extrusion lines depending on the required application. Due to the precise and continuous measuring values, they guarantee that manufacturers receive an immaculate and save product which specifications are met to 100 %. Thus, the life-sustaining functions of the medical tube can be ensured, the importance of which cannot be overestimated also against the background of the current situation with the corona virus.

■ SIKORA AG  
www.sikora.net



The X-RAY 6020 PRO has been specially designed for the measurement of medical tubes

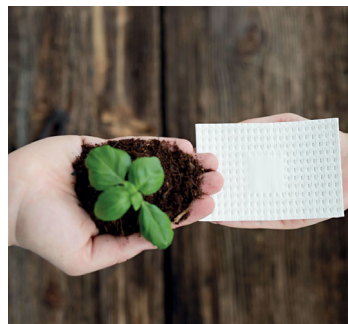
## Compostable Packaging Materials in the Fresh Food Counter

■ Fresh food on self-service shelves must be well packaged so that it reaches the consumer's table clean and germ-free. With its organic and compostable PADECO® moisture absorption pads, Pomona Company Ltd. Sp. z o.o. from the Polish Żyrardów ensures that liquids are trapped in the packaging and do not get into fresh food.

Pomona supplies the food processing industry with a range of absorption pads for fresh foods such as fruit, fish, and meat. At the same time the company researched for an ecological alternative to traditional pads and packaging that would eliminate harmful chemicals and plastics from fresh food packaging – a completely organic and compostable solution.

The company was looking for a material that was compostable, valuable ecologically and which would be easier to process in the production. The absorber consists of cellulose nonwoven fabric, which is combined with the compostable film. A film is produced in a film blowing process, which is then applied to the surface of the absorber.

The Cologne based company BIO-FED knew a solution and solved the problem. As a branch of AKRO-PLASTIC GmbH, BIO-FED is the specialist for innovative and application-oriented biocompounds. Depending on the requirement profile, their compounds are biodegradable in different environments or suitable



The biodegradable PADECO® moisture absorption pads absorb fluids secreted by fresh foods. It has the advantage that their recycling process produces compost – unlike traditional pads, which are destroyed in the combustion process. In accordance with the zero-waste philosophy, the raw materials used to produce PADECO® are returned to nature

for permanent application – completely or partly made of renewable raw materials. A compostable film grade from the M-VERA® range, which is particularly suitable for this food contact application and certified according to EN 13432 with OK compost INDUSTRIAL from TÜV AUSTRIA Belgium was recommended for the compostable film applied on the PADECO® absorbers.

■ BIO-FED  
Zweigniederlassung der AKRO-PLASTIC GmbH  
www.bio-fed.com

Pomona Company Ltd Sp. z o.o.  
www.pomona.pl, www.padeco.pl

## Maintenance of Corona Treaters

■ With production equipment under increased pressure to meet the higher demand for printed packaging caused by the COVID-19 pandemic, it is more vital than ever that it is kept in top condition to ensure maximum output. This includes every link in the chain, including surface treatment, as Vetaphone's Steen Clausen explains.

Corona treaters work best if they are correctly and regularly maintained – but it's not quite as simple as that. The level, type, and frequency of maintenance can vary significantly from one customer to another depending on a variety of factors, including the substrate being treated, the degree of usage, and the production environment.

Vetaphone believes that there are five main points that all Corona users need to factor into their production maintenance schedules:

- Regular inspection at intervals of no more than two weeks – this will head-off potential problems down the line and save the time and money wasted on unexpected stoppages and downtime.
- The electrodes need cleaning on a regular basis to continue to perform at maximum output so any deposit build-up should be carefully removed.
- Check the inside of the unit for carbon build-up. This is a fire risk that can be easily prevented – look for burn or scorch marks on the side.
- Check the air gap between the electrodes and the substrate. This will have been set at installation to achieve an even spread of



*A visual reminder of the importance of keeping electrodes clean if they are to function correctly*

power for optimal performance, but the gap can begin to open or close through usage and the result will be inconsistent performance and poor-quality treatment that can cause issues downstream leading to a costly reprint.

- Make sure the ozone exhaust system is operating as it should. Assuming it was specified and installed correctly, you need to ensure that it is kept free from any blockage. If you are experiencing problems with back pressure and are using 100 mm diameter ducting, then consider upgrading to 200 mm tubes. If there is a problem that cannot be solved from the client, the Vetaphone Support Team should be contacted – they are set up to do remote diagnosis and offer online assistance with all Vetaphone equipment, wherever the client is located.

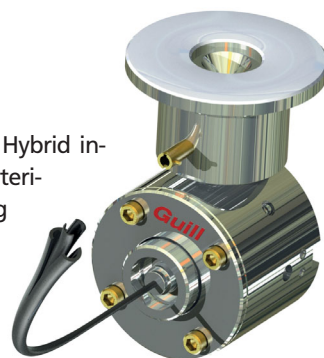
■ Vetaphone  
www.vetaphone.com

## New 800 Series Hybrid Extrusion Tooling

■ Guill announced the introduction of a new version of its popular 800 series, known as 800 Series Hybrid. In some extrusion applications that utilize crossheads and inlines, layers of the exact same material are applied multiple times, using a single die. This method is used to reduce the propensity for errors caused by gels breaking through a thin wall, weld lines, inconsistent wall thickness, plus material and process variations. Additional errors include difficult-to-process materials and demanding applications where there is zero fault tolerance.

Seeking to design the next generation multi-layer die to overcome these challenges, the engineers at Guill looked for a way to incorporate this technology into an updated version of the 800 Series. This led to the creation of the 800 Series Hybrid. The inherent benefits of the 800 Series are retained, including compact design, low residence time and a common deflector bore that eliminates tolerance stack up. The challenge was to create a hybrid design that incorporates the benefits of layer overlapping, while reducing unnecessary complexity and making the technology more cost-affordable for customers. This was achieved by overlapping layers in each semi-deflector, using a single cone. The highly efficient design of the 800 Series Hybrid reduces cost and size, as opposed to other methods of overlapping layers.

Essential benefits of the 800 Series Hybrid include eliminating weld lines in materials through patented overlapping technology, producing a more consistent finished product; reduced sensitivity to changes in viscosity; reduced sensitivity to changes in line speed; myriad material and multi-layer application possibilities; works in all tubing and jacketing applications with a wide range of materials; low residence time; compact design and a low tolerance stack-up error factor, all resulting in improved concentricity. The 800 Series Hybrid extrusion tool greatly reduces stagnation, because overlapping layers are more inherently balanced than single layers and also because each semi-deflector is “tuned to flush.” Conventional deflectors must simultaneously achieve a balance between flushing, balancing and eliminating the weld line. There is less difference between the slowest moving material and the fastest moving material in the deflector channels, thus making the viscosity more consistent in the deflector.



■ Guill Tool & Engineering Co., Inc.  
www.guill.com



## Next Generation 510A Automatic Die

■ Davis-Standard introduced the next generation 510A die for extrusion coating applications. Engineered with an innovative short lip design and edge bead functionality, it builds on earlier generation Davis-Standard die offerings. Improvements include simplification of the die's pre-land channel and internal decking blade for easier cleaning and maintenance. "Essential to this design is a motorized internal and external decking system for safe and easy operation where internal die channel is optimized for melt flow and decking adjustment for precision edge bead control," said Michael Schröder, Head of Sales EMEA and Product Management at Davis-Standard's German subsidiary ER-WE-PA GmbH. "This die has shown minimal or no edge trim, and the elimination of high edges during testing. The 510A die is ideal for acid co-polymers, LDPE, LLPE, HDPE and PP resins among others for extrusion coating and lamination onto board, aluminum foil and for flexible packing applications."



*Davis-Standard's 510A automatic die features a short lip design and edge bead functionality to improve extrusion coating processes*

For more information about the 510A die and Davis-Standard's extrusion coating capabilities:

■ Davis-Standard, LLC  
[www.davis-standard.com/converting\\_system/extrusion-coating](http://www.davis-standard.com/converting_system/extrusion-coating)



## Complete solutions for the conveyance of water under pressure

Unbeatable physical  
and mechanical properties

Constant and sustainable innovation  
Uniform and continuous systems  
in PVC-O

Full watertight  
100% recyclable  
material  
Maximum quality

11.25°,  
22.5°, 45°  
and 90°  
bends

From DN110  
to DN400 mm  
PN16 bar

From DN90 to  
DN1000 mm  
PN12.5, 16, 20  
and 25 bar

Reducer

Sliding  
coupler

Coupler

TCM

## Covid-19 Impacts on the European Plastics Industry

■ Covid-19 is impacting the European plastics industry in various ways. More than three quarters of plastics companies reported lower sales this spring compared to April 2019, with around half facing a sales decrease of at least 20%. While the public backlash against plastics has been a worry for most of the plastics sector over the past several years, a majority of European businesses stated that the pandemic is positively impacting the public image of plastics.

In May 2020, PIE – Plastics Information Europe conducted a flash survey on business performance to gain insight into business trends in the European plastics industry during the coronavirus pandemic. The current results are based on data from 155 participants from 29 countries.

Among the plastics companies reporting lower sales compared to April 2019, the smallest enterprises appear harder hit, with almost 60% saying sales fell at least 20%, compared to around 45% of mid- to large-sized firms. By region, respondents in the Nordic countries were notable since almost half reported higher sales compared to April last year. A 72%

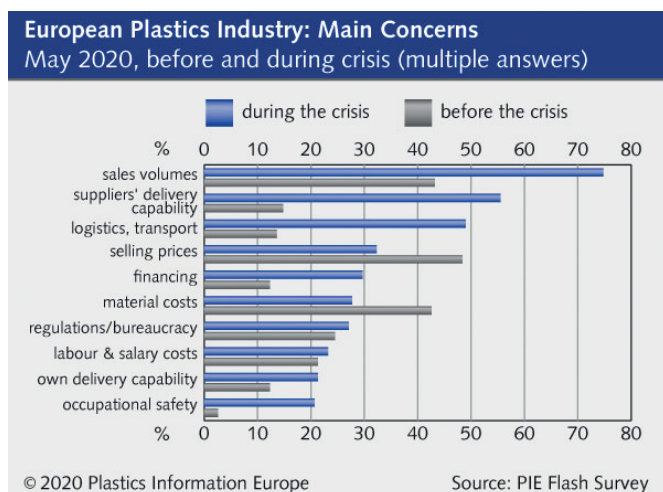
share of plastics processors are dealing with falling sales. Processors with business in the packaging sector fared better, with around 40% reporting increased sales.

Looking ahead, order activity for this summer is reflecting the general state of the European economy and does not seem promising across sectors and regions. Only 16% of respondents are expecting an increase in customer orders in the second quarter of 2020 compared to the same period in 2019. Around 40% of companies expect order volume in the next quarter to be at least 20% down year on year. Plastics converters involved with packaging appear most optimistic, with nearly 40% predicting higher ordering in Q2 2020, while plastics producers seem much more pessimistic with the ordering outlook.

Before the coronavirus crisis, the top three concerns were selling prices, sales volume and material costs. However, only sales volume has survived in this tier during the crisis, moving to the top position (75%). The second and third main concerns are now suppliers' delivery capability (55%) and logistics (49%) – highlighting the effects that the shutdowns, border controls and other problems have had on plastics companies.

Single-use plastic items like medical masks and some food packaging are now being used in the same sentence with "essential" and valued for their roles in preventing the spread of the coronavirus. The public is now viewing plastics with regard to the properties that were always present – materials for protection, hygiene and medical supplies – but which were overshadowed by pollution in the past several years. More than half of survey participants report that the Covid-19 pandemic is positively affecting the public image of plastics, while nearly 40% say there is no impact. Only 6% see the image of plastics getting worse as a result of the pandemic.

*Main concerns before and during the Covid-19 crisis, May 2020*



PIE – Plastics Information Europe  
[www.pieweb.com](http://www.pieweb.com)

## High-Temperature Resistant Polyphthalamide for Extrusion of Stock Shapes

■ BASF has now developed Ultramid® Advanced N5H UN, a polyphthalamide (PPA) that can be manufactured into semi-finished parts by extrusion. The plastics company GEHR, Mannheim, Germany is using the new PPA to produce extruded stock shapes with a diameter of 50 mm. Ultramid® Advanced N offers excellent mechanics at elevated tempera-

tures due to its semi-aromatic chemical structure. It shows excellent resistance to chemicals and hydrolysis, even in aggressive environments, as well as good sliding friction properties – and all this at temperatures above 100 °C. Due to its low water uptake its mechanical properties remain stable over a wide temperature range. Even in humid environments, the

long-chain high-performance material shows a dimensional stability that belongs to the highest of all polyamides.

This property profile makes Ultramid® Advanced N the perfect material for extruding pre-fabricated components and small assemblies but also for many applications in the automotive industry, in mechanical engineering and in kitchen appliances. During machining, the behavior of the semi-finished products lies between a polyamide and a polyoxymethylene copolymer, with steady and consistent chip formation and removal.



"GEHR is the first company to successfully use a PPA for extrusion. With its expertise in extrusion, GEHR has developed stock shapes that can be produced without any voids", says Philipp Wenz, group head in sales of BASF's Performance Materials division. "We can't say for certain whether it's the world's first

semi-finished part made from polyphthalamide. The high-performance material has definitely not yet played an important role in the market for semi-finished parts. One reason for this might be that usual polyphthalamides cannot be extruded very well." Thus Ultramid® Advanced N5H closes a gap in the market between semi-finished parts made of polyetheretherketones and polyarylsulfones on the one hand and semi-finished products made from engineering plastics on the other hand. In comparison to the latter it can be used at continuous operating temperatures well above 120 °C. The BASF material is also suitable for profiles other than rods.

Bernhard Grosskinsky, Head of Application Technology at GEHR, explains: "BASF's polyphthalamide is far easier to process compared to other PPAs on the market. It gives us a wide processing window with at the same time a high melt stability. The quality of the material always remains the same so that we can maintain a stable production of our semi-finished parts. Last but not least, another advantage of BASF's PPA: It is easy to produce finished components from the semi-finished products by post-processing."

**BASF SE, Bereich Performance Materials**  
[www.ultramid-advanced-n.basf.com](http://www.ultramid-advanced-n.basf.com)

## New Study Reveals Collection, Design for Recycling and Uptake of Recyclates as the Main Drivers

■ Flexible plastic packaging has the highest potential of contributing towards the achievement of the EU recycling targets for plastics, with a prospect of more than tripling in size during the next decade. To make that happen, however, now is the high time to address the challenges that must be overcome.

The study done by Eunomia[1] demonstrates that every year, a total of 15 Mt of flexible films are put on the EU market of which 9 Mt are polyethylene (PE). With a 23% recycling rate for PE films in Europe there is much room for improvement. Specifically, advantage shall be taken of the household stream which accounts today for roughly 40% of all polyethylene film waste generated in the EU.

Major investments in recycling capacity and technology are needed to advance recycling of this stream. Increased separate collection, advancing quality of sorted waste and recyclability must be worked on in parallel. Multilayers, for example, are just one of design for recycling issues that impact the process and quality of recyclates.

End-markets are just as important. "The high-end applications for rPE remain largely underexploited, commented Ton

Emans, PRE President, he added: Today roughly 13% of PE flexible packaging is used in film to film applications and therefore, is in practice circular." This trend is further confirmed in the study which demonstrates that there is a potential to substantially increase the use of recycled content within most of the major film market sectors.

Polypropylene (PP) flexible packaging with a market of around 2.5 Mt, was identified in the study as the recycling stream that is equally underrepresented. The report points out that today PP flexible films are often not sorted in a separate waste stream, and thus viable sorting and recycling routes need to be developed.

With the growing consumption and therefore demand for flexible packaging in Europe, policy makers and the industry must continue to work hand in hand on advancing its circularity.

[1] Flexible Films Market in Europe State of Play.  
 Production, Collection and Recycling Data. Eunomia 2020

**Plastics Recyclers Europe**  
[plasticsrecyclers.eu](http://plasticsrecyclers.eu)



## New Fully Recyclable Plastic Packaging

■ Leading global packaging and paper group Mondi, has partnered with Austrian meat producer Hütthaler to produce a fully recyclable thermoforming film made from a mono-material for their meat and sausage products. The film is made of a mono-material solution that can be fully recycled and provides a barrier to protect the food and extend its shelf life. The independent cyclo-HTP Institute for Recyclability and Product Responsibility has awarded this film the highest classification "AAA" for recyclability.

Hütthaler's requirement was to replace the previously used film with a recyclable solution. The company was looking for a more sustainable approach that would not compromise on quality or the attractive presentation of the food.

Hütthaler approached Mondi to provide an alternative. Using its customer-centric EcoSolutions approach, Mondi was able to re-invent the packaging for Hütthaler by maintaining optimum functionality while replacing less sustainable packaging, reducing raw material usage, and designing packaging that was ready for recycling. Mondi completely manufactured the new packaging. In particular, the bottom film is supplied by Mondi's Styria plant in Austria, which has also been awarded AA+ for food safety by the British Retail Consortium (BRCGS).

"We worked with Hütthaler to find a more sustainable approach that still meets the high food standards, preserves shelf life and guarantees runnability on the machines. The



*Mondi partners with meat producer Hütthaler to create new fully recyclable plastic packaging (Photo: Mondi)*

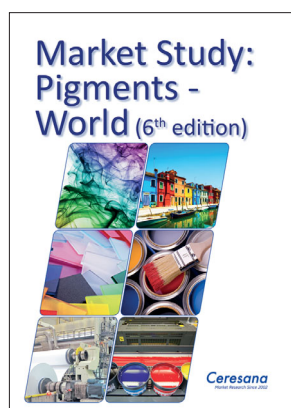
new film meets all these requirements and also helps to save disposal fees due to its recyclability. At Mondi we have an ambition to be sustainable by design and meet our customers sustainability requirements by providing innovative solutions," says Thomas Kahl, project manager for EcoSolutions at Mondi Consumer Flexibles.

■ **Mondi Group**  
www.mondigroup.com

## Market Study: Pigments – World

■ Small particles provide orientation and signal effect as well as camouflage and sun protection, if necessary: pigments are coloring substances that are essentially insoluble in water or other application media. They are mainly added to paints and coatings, plastics, and building materials (soluble dyes,

on the other hand, are mainly used for dyeing liquids). Ceresana has now analyzed the entire market for pigments for the sixth time. The region Asia-Pacific accounted for the largest share of global demand in 2019. The market researchers at Ceresana also expect the highest growth over the coming years for this region of the world, together with Africa. Global demand for pigments is forecast to increase to around 11.14 million tonnes by 2027.



The Study in Brief: Chapter 1 provides an overview and analysis of the global pigment market – including forecasts up to 2027: the development of revenues, demand and production is discussed for each region of the world. The demand figures are divided into the pigment types: Titanium dioxide, Carbon black, Iron oxides, Other inorganic pigments, Organic pigments. The various application areas of pigments are also being examined.

Chapter 2 analyzes 31 countries in detail: demand, export, import, production, and revenues. The market data on consumption volumes per country are divided by the individual pigment types and areas of application.

Chapter 3 provides useful company profiles of the 103 most important pigment manufacturers. It is clearly structured according to contact details, revenues, profit, product portfolio, production facilities, and profile summary.

■ **Ceresana**  
www.ceresana.com/en/market-studies/chemicals/pigments/

## Innovative Solutions for Fine Mesh Straining and Processing Particularly Abrasive Rubber Compounds

■ UTH GmbH will present their latest cost-cutting and resource-saving solutions for the processing of rubber materials at booth #2C577, during RubberTech China 2020 in Shanghai from 16-18 September.

"After challenging times we are eagerly looking forward to this most important meeting place for the rubber industry in China and especially the personal contact with our customers", says Paul Tan, General Manager of UTH Shanghai. At the New International Expo Centre the company will be presenting its latest range of products. This will include their further developed roll-ex® fine mesh straining system, the brand-new Dual Drive concept as well as the TRP Reworker, an innovative technology for the economical reworking of material in rubber processing.

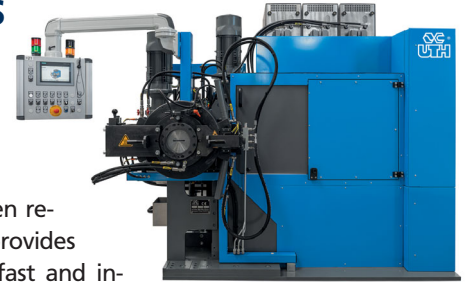
Cost-cutting innovation and digital services: The company's driving force has always been the demand for products of the highest quality as well as for greater cost-effectiveness. The innovation of this new Dual Drive development is the significantly reduced wear and tear of the rotors of the gear pump when handling abrasive compounds. This increases the long-term productivity of the machines by prolonging lifetime and also cuts maintenance and servicing costs.

Another important focus of UTH's presentation is their extended digital services. In an ongoing effort to optimize their worldwide

customer support, the UTH team will demonstrate the impact of their proven remote service which provides the customers with fast and individual technical support – for a high degree of production reliability.

Customer-focused solutions:

For more than 35 years UTH has successfully established itself on the international market specializing in the development of customer-specific solutions for the rubber and tire industry. These are used in the different areas of manufacturing, for example, in the mixing line, complete offline straining cells, in the extrusion line and rework area. The range of intelligent upstream and downstream equipment, which enables seamless integration in mixing lines of all sizes, is just as much a part of the scope of supply as the essential after sales service.



*Roll-ex® 120 TRF Dual Drive:  
Cut maintenance and service  
costs due to reduced wear  
by particularly abrasive  
compounds*

■ UTH GmbH  
[www.UTH-gmbh.com](http://www.UTH-gmbh.com)

## Quality Label Awarded for Technical Plastic Products

**Four manufacturers of PP-R pipes from the Middle East receive SKZ label**

■ As published before by the "KWD globalpipe" international information service, plastic pipe manufacturers AIMunif Pipes from Saudi Arabia, Bin Brook Plastic Industries (BROOKPLAST) and Modern Plastic Industry LLC (MPI) from the United Arab Emirates, and Techno Plastic Industry LLC from Oman received an SKZ certification for their PP-R pipes for the first time. The four companies thus point out that they are keen to strive for and meet high quality requirements.

The SKZ quality label is awarded for products that have undergone an initial inspection. As part of a certification contract, the

products are then assessed at regular intervals by the factory production control as well as by external monitoring conducted by the SKZ. Together with specific testing and monitoring regulations, the documented results make sure that the products permanently maintain the specified quality properties.

The benefits of product quality certification by the SKZ label are evident on both, an internal and an external level. Internally, the label helps companies to maintain and document the high quality of their products. Externally, the SKZ label can be excellently used in communications with customers; confirmation of product quality by a neutral third party will create an advantage in trust, which also reflects positively in terms of market success. The SKZ can thus make a significant contribution to the success of plastic products.

The SKZ product certification body is accredited in accordance with the DIN EN ISO/IEC 17065:2013 standard and has thereby demonstrated its extensive expertise as a conformity assessment body. SKZ testing and monitoring regulations for the awarding of the SKZ label have been developed since about 1979. An important emphasis is put on the plastic pipes sector.

■ SKZ  
Dr. Jürgen Wüst, [j.wuest@skz.de](mailto:j.wuest@skz.de)  
[www.skz.de](http://www.skz.de)

The SKZ Quality Label (Image: SKZ)



# Replacing the Lump Detector –

## AllRoundDia DualVision – the First Single-Unit System

### Performing Complete Contour Measurement and Surface Inspection at the Same Time

*The market launch of AllRoundDia DualVision is PIXARGUS' answer to the market's demand for cost-efficient 360° inspection of round product. This two-in-one system of extremely compact design measures and inspects tubes, hoses or cables with a 100% defect detection rate. Also regarding the price, this smart defect detector can score points*

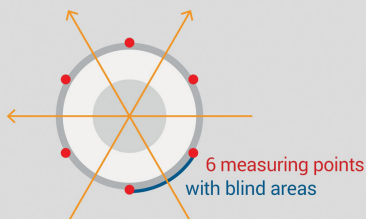
*AllRoundDia DualVision – the first single system performing complete 360° contour measurement and surface inspection of round product at the same time*



AllRoundDia DualVision (DV) combines PIXARGUS' vast know-how and expertise in an ideal way: the hardware and software of PIXARGUS' highly successful ProfilControl 7 technology have been optimized and adapted to the measurement of products of simple, round contours. The result is a small-budget system that measures both the surfaces and contours of tubes, hoses and cables gap-

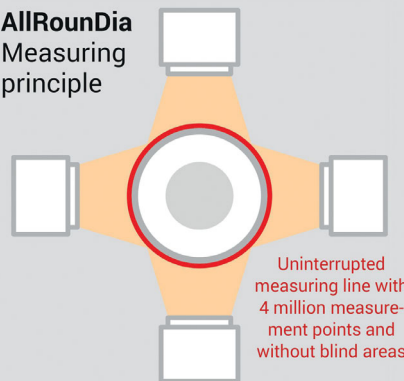
lessly, continuously and around the complete circumference of the products – with one single sensor head. A real novelty! An additional advantage of the new two-in-one gauge is its extremely compact design, which makes it very easy for operators to integrate the system into their production lines. "Reduced to the max": this is how the PIXARGUS experts call this design approach. They are

#### Conventional axis measurement



Single-point measurement based on shadowing technology with lasers as light source

#### AllRoundDia Measuring principle



All-round laser-line shape measurement by 4 multi-camera sensors

*In contrast to conventional (6-point) axis-based measurements, the optical sensors in an AllRoundDia DualVision gauge capture 4 million measuring points, guaranteeing gapless inspection around the complete circumference without any dead zone effects*



convinced that the new system will make a lasting contribution to the quality of round products.

#### Measurement of dimensions: All-round instead of 6-point measurements

AllRoundDia DV is the first gauge to deliver gapless 360° measurement of round and oval contours. PIXARGUS achieves this by employing a camera-based, laser-triangulation method. While conventional axis-based measurements using the shadowing method (see illustration) cover only six single points, the optical sensors of AllRoundDia DV capture 4 million measuring points. PIXARGUS Managing Director, Jürgen Philipps, knows: "Each individual point can be decisive for the quality of the product." Although the single-point method measures each single point very accurately, it does not capture the area between the points and detects only defects of relatively large topographic extension (nodes). "This can be illustrated quite simply by the following example: Let's take a defect of 1 mm size on a product of 10 mm size. Inspecting the product at only six spots would leave 90% of the surface uninspected. AllRoundDia DV, on the other hand, guarantees that each and every point is inspected with the same high reliability and repeatability," explains Philipps. "This is gapless inspection in the true sense of the word," he adds."

#### Surface inspection: More than a lump detector

AllRoundDia DV continuously checks not only the contour for any deviations from the target, but the entire surface area. The PIXARGUS system employs LED lighting, not laser light as conventional systems do. The specially developed lighting concept ensures that the field of vision and the measuring field are perfectly homogeneously lit. Precisely for this reason, even difficult to detect irregularities and flaws in the material such as fissures, inclusions, flecks and other high-contrast defects from a size of only 0.1 mm are reliably captured. Cable manufacturers em-



*Thanks to its compact design and user-friendly hardware AllRoundDia DualVision fits everywhere and is ready to go in virtually no time. It can be operated via the integrated 15-cm multi-touch screen or mobile via tablet*

ploy spark tests as final quality control of the cable insulation. Here AllRoundDia DV has set a new benchmark: it detects porosity or spots of insufficient material thickness at a much earlier stage in production – making 90% of the spark tests superfluous.

#### 1+1 at an extremely small footprint

AllRoundDia DV's extremely compact design enables it to be ready to run in the production line with virtually no effort at all. The system comes with a straightforward and intuitive HMI. It can be operated either directly via its display or remotely via a tablet. This highly compact "all-rounder" handles round products with diameters of up to 40 mm. It is available as a stand-alone unit or mounted on a stand base.

#### With all common interface ports and ready for Industry 4.0

As a Windows-based system, AllRoundDia DV comes with all common interface ports and is easily integrated into corporate network structures. But AllRoundDia DV has even more to offer: The two-in-one system can be networked with additional sensors and measuring systems and integrated – horizontally and vertically – via an OPC UA interface, for example, into innovative Industry 4.0 applications.

**Tube 2020: Hall 6, booth J09**

**PIXARGUS GmbH**  
Industriepark Aachener Kreuz, Monnetstr. 2, 52146 Würselen/Germany  
[www.pixargus.de](http://www.pixargus.de)

*Replacing the lump detector: The small-budget system of extremely compact design inspects tubes, hoses or cables with a 100% defect detection rate*



# Taiwan Orders Packed with Urgent Medical Demand See Transformation in Global Manufacturing Chain

*Meltdown nonwoven fabrics, just like many other medical products made of plastics or rubber, are gaining huge attention and increased demand, leading one-time use plastics products back into the global supply chain*



A mask weighing only 2 grams has been one of the most valuable global products in 2020, and one that has also helped Taiwan withstand the strike from COVID-19 over the past six months. A qualified medical mask is composed with multiple layers made of different materials, including the most critical one – the melt blown nonwoven fabric. And not only just the melt blown nonwoven fabric, but also many other plastic products, such as sanitizing

alcohol bottles, or the connecting parts in ventilators, have brought Taiwan back into the game with obvious growth over the first part of this year.

In the past several months, GMA Machinery in Taiwan has received a tremendous number of queries asking for the melt-down nonwoven fabric molds, melt pumps, and filters. One of the most common demands is for meltdown nonwoven fabric molds, which are a key material for making

surgical masks and medical isolation gowns. Also, HUARONG has been speeding to supply machinery for making ventilators' connection joints to meet the huge amount of urgent incoming orders.

## **The role of Taiwan machinery in defining a good quality mask**

"The mold is the most critical component of a meltdown nonwoven mask production line" according to GMA, one of the leading suppliers for ex-



trusion molds in Taiwan. The preciseness of this meltdown nonwoven fabric is can further determine the quality of a surgical mask's capability to effectively block COVID-19 and other small bacteria. GMA not only manufactures high precision molds, but also incorporates fluid dynamics into their self-developed meltdown nonwoven extrusion mold, further optimizing the hole size on the spinneret, the nozzle's angle, and flow speed, and balancing the air pressure. From R & D design, mold manufacture, to in-house electroplating, GMA has gradually built a streamlined process in their mold manufacturing.

#### Smart manufacture trending in plastics production

The fear of close human interaction has aided much to the development of remote control and industry 4.0 manufacturing in factories around the world. HUARONG's online management platform – HFM, offers a cross-platform and full manufacture management control, enabling the importing of production data, system self-maintenance checks for even minor abnormality, video conferencing for troubleshooting, and



system management authorization clearance control. This matches the developing trends and helps factories integrate all steps, from order confirmation, production quality and live updates, to final product quality check. All data is automatically stored and management surveillance can be checked at all times.

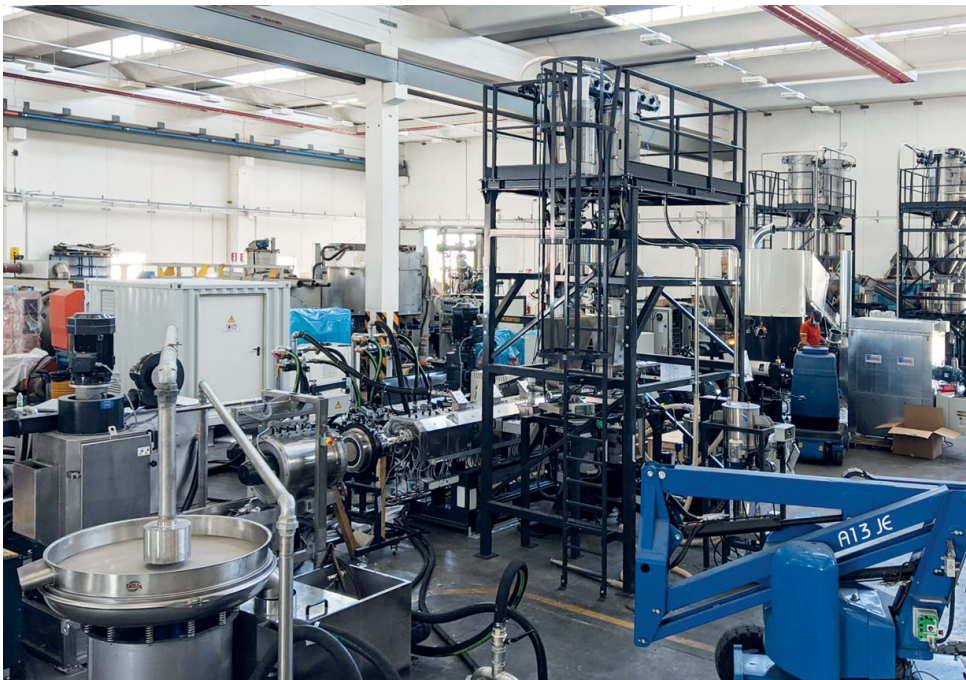
The COVID-19 has challenged the global supply chain and put a pause in many countries manufacturing. GMA, though feeling privileged to escape the devastating situations seen around the world, still takes on the responsibility to extend their help to global friends. As all orders now for the melt-down nonwoven fabric are very urgent, GMA has called up its teams to take on extra shifts, and all machines in GMA are currently running 24 hours a day, in order to make sure that the finest quality molds can be delivered within the shortest time. "No country is alone." Is the main thought shared by both GMA and HUARONG companies. Within this fight against COVID-19, while every nation is still seeking medical supplies as the highest priority, the global supply chain and manufacturing industries are also quietly finding and shifting to new patterns for survival.



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*Can a recycled packet of chips or snacks become a high technical performance component? It may be possible with the latest recycling technology of Gamma Meccanica SpA, an Italian company specialized in the design and construction of lines for the regeneration of plastic materials. The new series of GM Tandem lines born to give more "added" value to waste materials is the result of constant evolution of technology characterized by higher level of automation, maximum quality of the recycled product (granules) and improved energy savings*



Tandem Plus line with dosing stations

# How to give an Added Value to Recycled Materials with Tandem Plus Technology

With Gamma Meccanica's classic Tandem technology it is possible to recycle heavily printed, high humidity and contaminated materials. The ultimate Tandem Plus line

improves characteristics during the upcycling process, so it is ideal for the production of compounds from recycled materials for special applications. There are numerous advantages for customers with the possibility to obtain maximum quality of the recycled product (granules). The recent case of the Tandem Plus line is a GM180 delivered to a North American customer. The customer's

HDPE



HDPE







Tandem Plus line

need is to recycle heavily printed and contaminated post-consumer PE waste obtaining granules with specific technical characteristics to be used in the pipe production. This GM180 Tandem Plus is the result of increasingly advanced research by technical staff of Gamma Meccanica and the collaboration of selected partners in the industry.

The first part of the line consists of COMPAC® feeding system and a single-screw extruder with a diameter of 180 Ø. Connected to the first extruder is a self-cleaning screen changer installed to remove the contaminants present in the melted polymer. The patented Gamma Meccanica high performance vacuum system is installed at the exit of the screen changer and allows for removal of up to 10 times more gas and humidity in the melted material compared to other systems. The high performance vacuum chamber is connected to a second co-rotating twin-screw extruder, with 90 mm screw diameter, 44:1 L/D ratio, two standard degassing sections, two lateral inlets for mineral fillers and additives and a dosing section for liquids. The fillers and additives are fed into a gravimetric dosing system. At the end of the twin-screw extruder is installed our TDA water ring pelletizer developed and produced by Gamma Meccanica which, in addition to guaranteeing high production performance, makes cleaning operations simple and quick during the changes of production and startup of the system.

The regeneration and "upcycling" process begins with 9 gravimetric dosing stations to feed the materials in a more precise and accurate way to the COMPAC® system which has the function of shredding and densifying the waste material to be recycled. From the COMPAC® unit,

the material is pushed with constant flow from the feeding screw into the extruder.

The melt obtained during the extrusion phase is filtered by the automatic screen changer which removes even the smallest particles of contaminants (down to 80 micron). At the exit of the screen changer, the melt is "degassed" by the high performance vacuum chamber to avoid defects in the granules such as "air bubbles". At this point, the polymer is "enriched" with master, carbonate and various additives inside the twin-screw extruder. The fillers and additives are introduced by the dosing system which guarantees maximum precision. The upcycling process ends with the cutting of the melted material inside the TDA pelletizing system. Installed on the system is an inline measurement of the viscosity and the Gamma UPC digital scale control for the real-time measurement of the productivity and energy consumption of the unit. This complete system has an average production capacity of 1300 kg/hr of enriched PE compound.

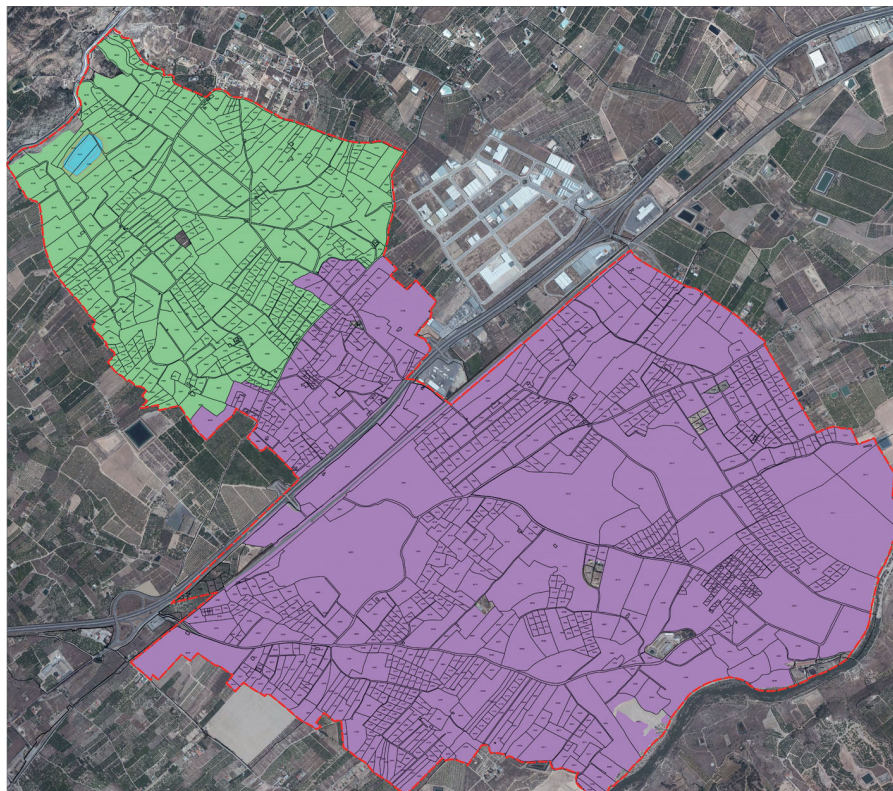
This technological solution gives a much higher value to the product from waste with the upcycling process. Much like other solutions developed by Gamma Meccanica the Tandem Plus allows for contributions to the protection of the environment, both for the type of application and for better energy savings and minimum environmental impact.

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*Project for the Modernization of the Regable Area of the Irrigation Community of the Tajo – Segura Transfer – Librilla. Sector 2*

*Irrigation area of the irrigation community of the Tajo-Segura de Librilla transfer. Sector 2*



# Modernization Project

	Area
Impulsion	219,4 has
Gravity	660,2 has
Total sector 2	879,6 has

The scarcity of water that the Spanish southeast suffers persistently and the insufficient efficiency of the current irrigation system has determined that the Irrigation Community has approved the substitution of the

irrigation canal network, for another one under pressure, buried, formed by pipes of different materials, diameters and pressures, that is capable of serving the flow of filtered and measured water in each farm, neces-

sary for the proper functioning of the drip irrigation that will be installed in each of them.

The installation will start in each Sector from a regulation reservoir, which in Sector 2 has been the subject of a separate project and was carried out and financed by the aforementioned Ministry, which will be supplied from the corresponding automated intakes of the TTS Channel.

Its scope is located entirely in the municipality of Librilla (Murcia).

The irrigation before the execution of the works was by flooding in 45% of the irrigable area and was organized from five intakes on the TTS Canal. The water poured into channels that, varying in section, constituted a network of ditches that carried the water to each of the plots. The other 55% have high-frequency irrigation installed, with a starting point in a particular reservoir, where

*Installation of PVC-O pipes in the modernization project of the irrigation area of the irrigation community of the Tajo-Segura transfer of Librilla*





they collected the water corresponding to each irrigation shift.

### Object of the work

The purpose of the work is to optimize the use of currently available resources, increase the capacity for seasonal regulation, optimize water and energy supply infrastructures, in order to reduce delivery costs, ensure the supply of water on the plot and automate and computerize hydraulic infrastructures, facilitating consumption control and administrative water management.

### Network design and description of works

For the calculation of the water needs, an adult lemon grove, 60/40 formed by the Verna and Fino varieties, is considered representative of the irrigable area. The probable diameter of the bulb, given the texture of the ground, has been estimated at 1.37 m, which supposes a wet area per emitter of 1.47 m<sup>2</sup>. With an arrangement of 8 emitters of 4 l/h per tree, considering a planting frame of 5.5x5.5, a percentage of wet soil of 35% is obtained. In this way, an irrigation module of 1,057 l/m<sup>2</sup>h was deduced and thus it follows that it is convenient to do 3 daily irrigation shifts for each zone of each sector, and if



*Installation of PVC-O pipes in the modernization project of the irrigable area of the irrigation community of the Tajo-Segura de Librilla transfer*

the JER is 18 hours, there will be 6 hours per shift.

In total, 8,802,300 m<sup>3</sup>/year are available. This figure is made up of the endowment that the Irrigation Community of the Tajo-Segura Transfer has, the runoff that is collected in the Rambla Dam, those corresponding to the concession of regenerated wastewater from the WWTP of Librilla and groundwater from some wells.

The plots located in a strip of approximately 50 m below the average level of each reservoir need energy

to contribute to the irrigation system for its proper functioning. Therefore, the sector has been divided into two zones, one that will operate by impulse and the other by gravity.

For each irrigation sector, there has been a regulating reservoir that will be supplied independently from the Canal through the corresponding intake. In this sector the reservoir is the subject of another project and has been carried out directly by the Ministry of Water, Agriculture, Livestock and Fisheries of the Region of Murcia.

#### **PUMPING:** two delivery units:

- Shift 1 flow of 743,719 m<sup>3</sup>/h at a manometric height of 69.65 mca, for which a minimum efficiency of 79.5% is achieved with a team consisting of three groups of horizontal centrifugal motorized pumps placed in parallel, with an electric motor of one nominal power 92.5 kW at 1,450 rpm and 400 V voltage.
- Shifts 2 and 3 will install a team consisting of three parallel motor-pump groups of a nominal power of 55 kW at 1,450 rpm and 400 V, which covers the requirements for flow rates and gauge heights with a minimum efficiency of 82%.

Two of the motorized pump groups of each team will be provided with

*Installation of PVC-O pipes and special pieces in the modernization project of the irrigation area of the irrigation community of the Tajo-Segura transfer of Librilla*



PVC-O pipes main network															Total measurement PVC-O (m)
Network	Pres- sure	Ø													
		140	160	200	225	250	315	355	400	450	500	630	710	800	25,283
Impulsion	PN12,5	209	102	958		837	36	657	576						
	PN16	413	448	365	227	451	153	621							
Gravity	PN12,5	1,498	1,048	276	1,089	691	3,154	1,003	913	654	1,320	2,338	1,378	441	
	PN16	143	617	1,081	213	419		710	244						
Total (m)		2,263	2,215	2,680	1,529	2,398	3,343	2,991	1,733	654	1,320	2,338	1,378	441	

a frequency variator and the other will be equipped with a variable frequency modulator capable of doing the same from the direct current of photovoltaic solar energy.

**Filtering equipment:** Consisting of 2 batteries of 24 units each of self-cleaning 3 "ring filters with a 100 micron pitch, or equivalent system that must maintain a filter surface of 24.24 m<sup>2</sup>, all on polypropylene collectors of PN10 and 300 mm diameter or of material of equal or better reliability.

**E. Bombeo Building:** The pumps and the filtering equipment will be housed in a building with a 25x10-meter metal structure on the ground floor, vertical enclosure using a pre-cast reinforced concrete panel and a metal sandwich-type roof.

**Power supply:** The grid power supply to the EB will be made with a 312.2-meter medium-voltage overhead line, a medium-voltage underground input line to the 400 KVA compact outdoor type transformation center (CTIC). of power, and low voltage installation. The photovoltaic solar energy supply will be made from an isolated ground-based plant of 594 panels of 300 Wp, with a power of 178.2 kWp, which will be able

to provide 257,570.2 kWh/year annually, with a use of 54,7% of the total annual production, on the energy to pay if all of it came from the grid. The plant will also have a system to store energy with stationary batteries, with the capacity to deliver 450 kWh/day.

#### Hydraulic networks:

- **Branched distribution network of the Impulsion Zone** of 8,190.2 m in length and diameters between 400 mm and 90 mm, in PVC-O series 500 and HDPE (PE-100).

- **Distribution network of the Gravity Zone** of 21,778.35 m in length and diameters from 800 mm to 90 mm, with the following materials: PVC-O series 500 and HDPE (PE-100).

- **Connections:** They are projected in high-density polyethylene (HDPE or PE100).

- **Collective and individual hydrants:** 41 will be installed in the delivery area and 98 in the gravity area. There are a total of 371 in the delivery area and 868 in the gravity area.

- **Tertiary pipes:** will be in charge of carrying the water from each individual hydrant to each parcel or farm. They are projected in HDPE with diameters between 32 mm and 250 mm with an approximate length of 179 km.

Filtering station. The filter station will consist of 4 batteries of 32 units of 3 "self-cleaning ring filters with a 100 micron pitch, which must maintain the filter surface of 64.64 m<sup>2</sup> and will be equipped with a wash water recovery tank to its subsequent injection at the inlet of the filtrate, by means of an impulsion electric pump. The electrical supply for this filtering station will be made through an isolated roof photovoltaic solar plant, made up of 40 panels of 300 Wp and a power of 12 kWp.

**Transfer pipeline between the regulating reservoir of the sector of the present project and that of sector 1,** 1,924.50 m long, made up of PVC-O pipes of PN12.5 diameter 400 mm.

**Automation:** remote units will be used to control hydrants and valves, which will communicate with concentrator units (one in the delivery area and the other in the gravity area) via radio.

#### Conclusions

Molecor manufactures Oriented PVC (PVC-O) pipes and fittings applying ecodesign, achieving pipes with a very high useful life, reducing the consumption of natural resources, both raw materials and energy during its manufacture, thanks to the development of a new very energy efficient manufacturing technology.

Main network pipes HDPE					Total measurement HDPE (m)
Network	Pressure	Ø			4,673
		90	110	125	
Impulsion	PN10		286	668	
	PN16	112	519	547	
Gravity	PN10	41	981	1,208	
	PN16	311			
Total (m)		464	1,786	2,423	



# Quality has Priority

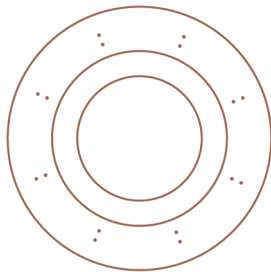
*The German-based CCA GmbH develops efficient and high-performance solutions for plastic pipe extrusion. Their calibration sleeves precisely match the customers' production requirements and optimize complex production processes. Backed by more than 30 years of experience, the company focuses on long-term cooperative partnerships with their customers worldwide. With reliable state-of-the-art technology they create individual solutions*

## Innovation is their Passion

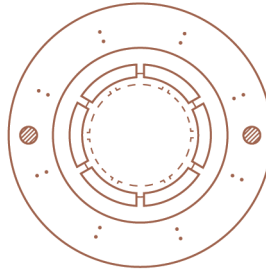
CCA puts their customers' requirements into practice – dimensionally precise, for pipe diameters from 14 to 2600 mm (also available in inch sizes). Here are the five different sleeve types which have one thing in common: an adjustment without maintenance-intensive adjustable gear.

### Overview of the types:

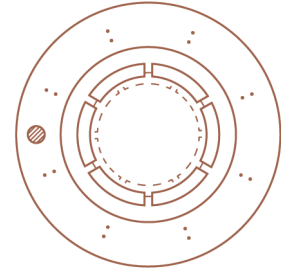
Conventional Calibration Sleeve



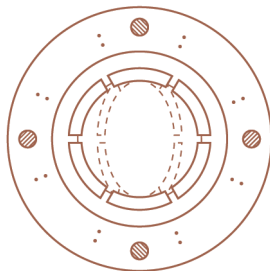
Diameter and Two-Point Adjustment



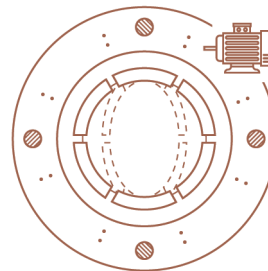
Adjustable Calibration Sleeve One-Point Adjustment



Diameter and Ovality Adjustment



Motor-controlled Calibration Sleeve One-, Two- or Four-Point-Adjustment



CCA's latest innovation: The motor-controlled calibration sleeve for controlling the diameter and the ovality of the pipe (inline). Designed for plastic pipes from 280 up to 2600 mm (also available in inch sizes)



CCA GmbH  
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*"The demand for PET packaging sheet, which contains a high proportion of recycled material or is even made of 100% of it, has recently increased enormously due to public discussion and legal requirements."*

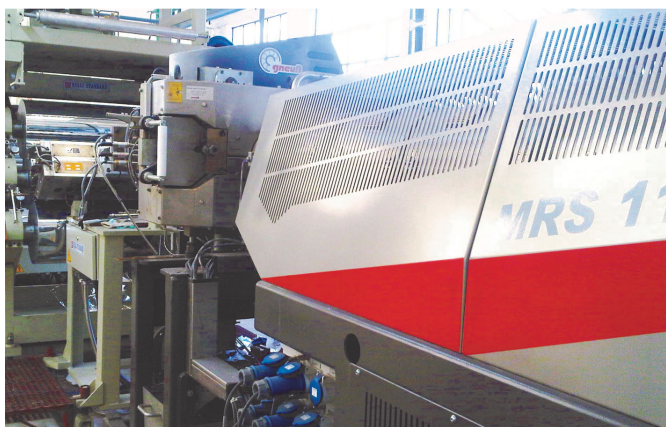


# PET Sheet Lines – Fit for Recycled Material Thanks to Retrofitted Line Components

## Key components and know-how for plant optimisation in sheet extrusion

In order to be able to meet these requirements, many processors are confronted with high investment costs for equipment that can process recycled materials. After all, the quality of the end product must be good.

*Gneuss Processing Unit with MRS Extruder and RSFgenius Filtration System at Cotnyl S.A. in Argentina*

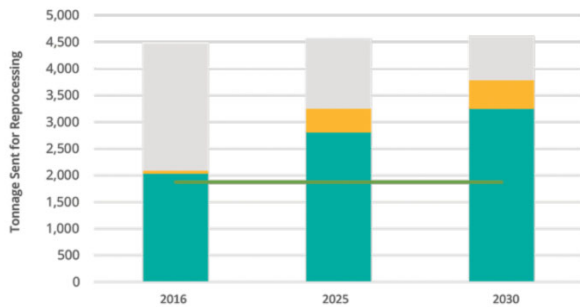


An ideal possibility to combine low investment costs with an extended processing window for recycled material is offered by Gneuss Kunststofftechnik GmbH from Bad Oeynhausen, Germany with a special retrofit service.

One of the companies that has used this service is Cotnyl S.A. from San Martín, thus being the first company in Argentina to obtain local approval to produce packaging made of 100% r-PET.

On the one hand, the demand for plastic packaging is constantly increasing worldwide due to changing consumption and consumption habits, especially in the food and beverage sector. On the other hand, plastic packaging in particular has fallen into disrepute and has received new, often negative attention from the public.

The call for waste reduction and reasonable recycling of plastic packaging is becoming ever louder. The European Union has drawn up legal directives which stipulate that by December 31, 2025 50% of plastic packaging placed on the market in an EU member state must be recycled.



Possible increase in PET sent for reprocessing by 2030, Eunomia, PET Market in Europe 2020

By the end of 2030 it should be 55 % and from 2040 onwards all plastic packaging should be 100 % reused or recycled so that a closed cycle is achieved.

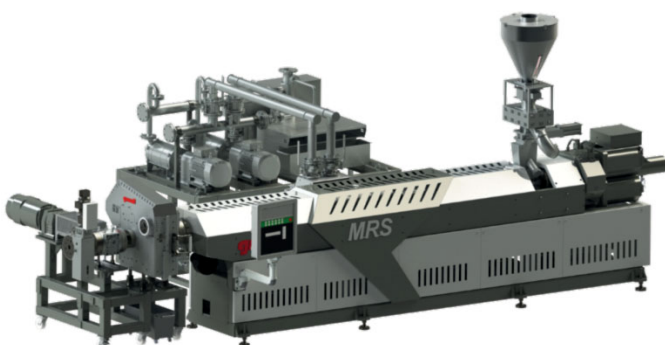
The market is already responding: according to a recent report by the British consultancy firm Eunomia, consumption of r-PET in the EU in 2018 was around 1.4 million tonnes, accounting for 26% of the total demand for PET of 5.3 million tonnes. By 2030, experts expect an increase in demand for r-PET of up to 55%. Approximately 20 % of the existing r-PET is used for PET trays throughout Europe, with the average proportion of recycled material already at 50 % - and the trend is rising.

#### Retrofit as an economic alternative to new investment

This increased use of recycled materials poses problems for many packaging manufacturers. A recycling rate of up to 100% and the required recyclable design do not always meet the requirements for packaging, especially for food packaging.

Food authorities and consumers expect the highest quality in terms of colour, purity, odour and mechanical properties. The desired properties often cannot be achieved with existing equipment designed for processing virgin materials. Investments in completely new lines, with which the processing of recycled materials is successful, are not always possible for economic or space reasons. An interesting alternative is the Gneuss retrofit.

Gneuss extrusion unit for retrofitting recycling lines



#### Filtration system indispensable for high contamination levels

Gneuss has already proven to many customers worldwide that retrofitting is a good alternative for processing recycled materials. For example, a company from South America has been using Rotary Filtration Systems from Bad Oeynhausen for several years now to produce PET thermoformed trays with a 70% recycled content. Thanks to the patented filter disc technology, Rotary Filtration Systems operate continuously, with constant pressure and fully automatically.

The high and fluctuating levels of contamination of the input material are a major problem in recycling processing. Especially due to the increasing demand for packaging with a high recycled content, the high-quality recycled material, which mostly come from sorted bottle fractions, have become scarce and processors have to fall back on inferior recycled materials with higher degrees of contamination.

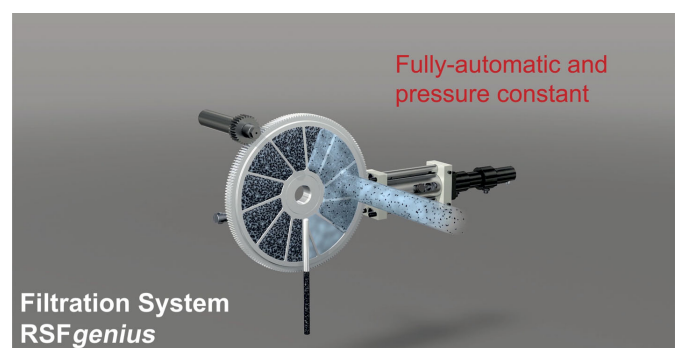
This has enormous effects on the filtration process. Screens get dirty faster and as screen contamination increases, the pressure upstream of the filter increases, which in turn can lead to temperature and viscosity fluctuations, and finally the available area for the melt to pass through is reduced.

This is where the RSFgenius Filtration Systems with back-flushing technology fully show their advantages. The screen cleaning is carried out fully automatically during the running production process via an integrated back-flushing piston system, in which only a small portion of filtered melt is regularly shot through the dirty screen via a narrow gap by means of high-pressure pulses.

The quantity required for this is freely adjustable and in practice corresponds to about 0.01 to 1 % of the throughput. This means that the loss is significantly lower than with other systems available on the market, which operate with losses of up to 5%, which on the one hand reduces the margin and on the other hand leads again to scrap production that has to be recycled or disposed of.

Even with high degrees of contamination, the screens of the RSFgenius can be reused up to 400 times, depending

Filter disc cleaning with the RSFgenius Filtration System





on the filter fineness, and allow fully automatic production without the need for personnel for several weeks.

#### Retrofit extruder allows food contact

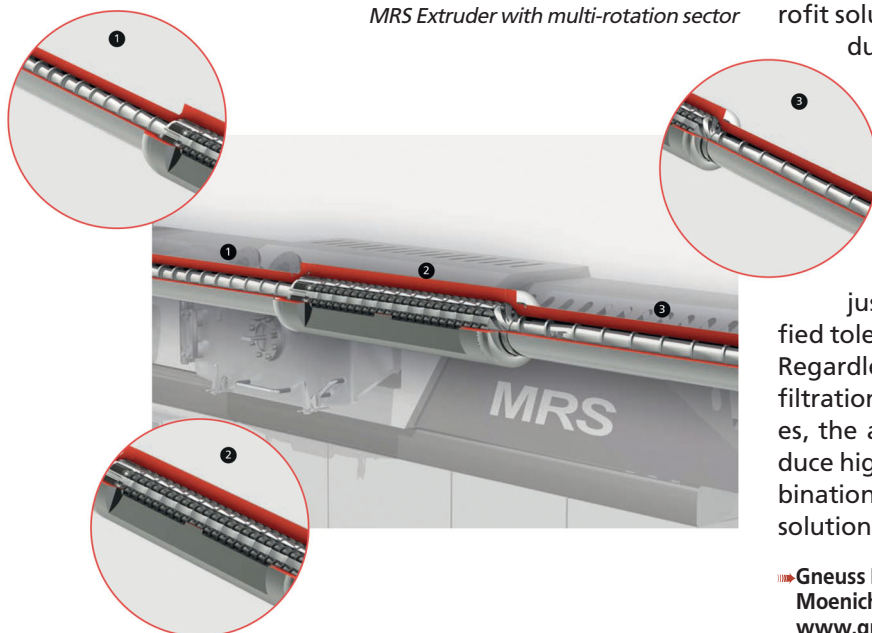
There are many factors involved in the processing of PET in general, and of recycled material in particular. In addition to the mechanical cleaning of the melt by the filtration system, the extruder has the task of thermal cleaning. Here, the processing unit should work gently in order to exert as little mechanical stress as possible on the sensitive polymer.

Through simultaneous vacuum degassing, low-molecular components such as monomers, oligomers or decomposition products can be removed from the plastic melt on the one hand, while on the other hand moisture escapes here, which would initiate chain degradation and thus viscosity reduction.

Finally, even more happens in the vacuum zone: contaminants that can never be ruled out in recycled goods, such as solvents, stabilizers, acetaldehyde scavengers or oils, must escape.

All these functions are combined in the Gneuss Multi-Rotation System (MRS) extruder based on a single screw extruder. This extruder processes PET melt gently and provides a particularly large melt surface in the multi-screw section with degassing zone. In this way, even with a simple vacuum of 25 to 30 mbar an enormous degassing and decontamination performance is ensured. Reason enough for the American FDA authority to grant Gneuss MRS Extrusion Technology a Letter of Non-Objection. As well as in Europe, where the Gneuss recycling process received EFSA approval for the processing of 100 % post-consumer PET on thermoforming sheet processing line.

MRS Extruder with multi-rotation sector



Retrofit solution in Southamerica

#### Convincing arguments for many customers

The above-mentioned advantages of the MRS extruder not only convinced the Argentinian customer Cotnyl, the first company in the country to produce packaging made of 100% recycled material, but also many other processors. One of them is Integrity from Chile, which, after purchasing the filtration systems from Germany, has now also opted for an extruder from Bad Oeynhausen. Integrity was thus able to increase the proportion of recycled material in the PET thermoformed trays to up to 100 %. A perfect retrofit solution.

#### Online Viscometer completes retrofit solutions

A manufacturer in South America has decided, in addition to the MRS 130 with a capacity of around 1,000 kg/h, to purchase a complete Gneuss Processing Unit which includes an RSFgenius 150 as well as an Online Viscometer. The latter is also available separately and is ideal as a retrofit solution. It measures a small partial flow of the melt during ongoing production and determines melt temperature and pressure via a precisely manufactured slit capillary.

Based on internal calculations, the online viscometer constantly provides the representative shear rate and dynamic viscosity. Depending on the values determined, the vacuum in the degassing zone of the MRS extruder is readjusted to keep the melt viscosity within the specified tolerances.

Regardless of which key component, MRS extruder, melt filtration system or online viscometer, a processor chooses, the ability to process recycled material and still produce high-quality PET sheet is therefore possible. In combination with Gneuss' consulting services, an optimum solution can be found for almost any application.

**Gneuss Kunststofftechnik GmbH**  
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[www.gneuss.com](http://www.gneuss.com)



*Surface treatment has come a long way in the 70 years since Verner Eisby, the founder of Vetaphone, invented and developed the technique that is now known worldwide as Corona. As market demand has led to the evolution of new inks, lacquers, and substrates, so surface treatment has been refined and become more highly tuned to today's complex market requirements in which the demand for film and foil based printed packaging continues to rise*

*The new high-tech lab facility in Denmark offers Corona and Plasma roll to roll testing of substrates to closely simulate commercial production*



## Test Lab Opened – to Refine Productivity and Develop New Products

To cater for this growth in demand and improve market appreciation of the latest technology, Vetaphone has invested its unmatched experience and know-how in a state-of-the-art Test Lab facility at its headquarters in Kolding, Denmark. To appreciate the importance of the launch, it is important to understand the basics of surface treatment. We have all experienced the problem of trying to get a liquid to adhere to a non-absorbent material – try writing on a plastic bag and rubbing it with the thumb.

Now enlarge that problem to an industrial scale that sees plastic film as the most widely used packaging medium in the world today and you appreciate the importance of surface treatment. In simple terms, it is a modification of the surface layer of the substrate by applying an electrical discharge at close range. This changes the chemical make-up of the surface layer and allows the liquid ink or lacquer to adhere without smudging. Today, with ever increasing pressure on brand owners to be responsible for the effect their packaging has on the environment, the whole issue of surface treatment has necessarily become more complex. And, it's with this in mind that Vetaphone took the

decision to invest in this high-tech facility that will allow it to work closely with its customers on product development.

The Test Lab, which is located onsite in Kolding, offers printers, converters, laminators and extruders the opportunity to run tests under controlled laboratory conditions prior to committing to the expense of commercial production. The same facilities are available to ink, lacquer, and substrate manufacturers too, each of which is under close market scrutiny to ensure that their new products meet or exceed the current international standards.

Explaining the considerable planning and investment that has gone in to making the Test Lab a reality, Vetaphone CEO Frank Eisby commented: "With our unrivalled experience in surface treatment technology, we have become the 'go to' supplier for many printing, converting and laminating machinery manufacturers, who realise the importance of detailed R&D on every component in the production line. By working in close cooperation with them as they develop their new technology, we can advise how best to ensure maximum productivity and lowest energy con-



*Frank and brother Jan now run the company established by their father Verner, who invented Corona treatment in 1951*

sumption across a range of what are becoming increasingly complex and difficult substrates to process."

Vetaphone expects that its Test Lab will attract visits from technical personnel whose skill and recommendation are key to ensuring successful commercial production. As such, it may be seen as a sales tool, but far more than that, it offers the company's existing and potential customers the opportunity to engage in the science behind surface treatment and the benefits that come from a clear understanding of what it can offer. It might be a small part of the overall production process, but the part that surface treatment plays is crucial to commercial success.

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# Less Wear for Economically Efficient Processing of ASR

*The rotor impact mill (type RPMX) from BHS can handle heavily abrasive materials*



*A BHS-Sonthofen rotor impact mill (type RPMX) has been in operation at Jansen Shredder Recycling BV in Moerdijk, the Netherlands, for the fine processing of automotive shredder residues (ASR) for almost a year. Thanks to years of experience in the processing of metal-bearing waste materials, the experts from Sonthofen found the optimal machine for processing abrasive materials. Wear costs at Jansen have significantly decreased since*

Residual materials from shredders from automobile recycling is made up of a wide variety of different materials. In addition to plastic, rubber, and textile fibers, ASR contains valuable non-ferrous metals such as aluminum, brass, and copper, as well as mineral components and glass. The latter makes efficient processing difficult, which

Jansen Shredder Recycling learned the hard way.

## **Where it all started: a sophisticated process with a weakness**

A sophisticated process should have ensured that Jansen obtains the highest possible yield of recyclable materials – especially metals. First, the heavy particles were sepa-

rated at the Jansen site by means of a cross-flow separator. The remaining fraction was pre-crushed in the existing granulator. A non-ferrous fraction could then be extracted from the material using eddy current separation. The non-inductive fraction, however, always contained valuable non-ferrous metals in addition to plastics and minerals. These non-ferrous metals were copper cables and other metal composites. Up until this point, Jansen used fine-grinding mills directly after eddy current separation to recover this fraction of the remaining metals. However, this is exactly where the weakness in the otherwise sophisticated procedure stemmed from: the wear costs of the fine-grinding mills used were



unexpectedly high. These machines were designed for use with abrasive components. Glass and mineral components resulted in wear costs of EUR 35 per ton of input material. The profits from the recovered metals could not make up for these losses. This meant a new solution was required.

#### Implementing expertise from rock crushing in the ASR recycling process

Jansen Shredder Recycling turned to BHS-Sonthofen. The Dutch company was already familiar with the rotor impact mill (type RPMX) from BHS. In order to ensure that the mill from BHS was capable of pulverizing abrasive materials and dissolving and pelletizing non-ferrous materials, Jansen traveled to Sonthofen with the original input material and performed the corresponding tests with the recycling experts onsite.

Originally, the rotor impact mill comes from the stone and earth sector: The models RPM und RPMF were used for the targeted shredding of abrasive materials, such as river gravel. The RPMX was especially optimized for the recycling industry. Due to its solid construction and



*Optimal pelletizing is being carried out on valuable copper components in the rotor impact mill*

chilled cast chrome wear parts, it is extremely resistant, and, therefore, ideal for processing ASR fractions, as is done at Jansen Shredder Recycling.

As it turned out, results were convincing. The mill reliably destroyed glass and minerals. "In many cases, the material only needs to be run through our RPMX once to achieve the desired shaping and be able to separate the material on air separation tables," explains Nikolas

Kaufeisen, Area Sales Manager in the Recycling & Environment division at BHS-Sonthofen. "If pelletizing requirements are not met after the first run through, the material can be run through the rotor impact mill a second time." At Jansen Shredder Recycling, the decision was made not to recycle the material and to carry out the last pelletizing step in the existing fine-grinding mill. "Adding the rotor impact mill from BHS to the process as an intermediate step resulted in a significant increase in profits," reports Hans Brekelmanns, Managing Director at Jansen Shredder Recycling. "We were able to lower wear costs by approximately 75 percent overall."

The rotor impact mill was integrated in ASR processing at Jansen Shredder Recycling BV in March 2019. This has increased the efficiency of the entire process. They were also very happy with the consultation provided by the experts from BHS and more joint projects have already been planned.

*The input material contains valuable metals but also glass and minerals*



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*KraussMaffei's unique EdelweissCompounding technology stands out for excellent recompound quality at high throughput rates of several tonnes per hour. This technology is based on an established process that has been further optimized and extended by the machine engineering company. Highlights of the compounding line are the new proprietary cutter-compactor unit for pre-treating post-consumer waste of any type and the two-stage extrusion system composed of two twin-screw-extruders arranged in series for melt processing and compounding*



*KraussMaffei has invested in a new Edelweiss compounding, recompounding line, which is now ready for customer trials*

## Most Modern Recompounding Line now Available at R&D Centre

"The Edelweiss compounding line is now available for customer trials in our R&D centre and convinces not only by its innovative technical features, but also by the turn-

*The new EdelweissCompounding line is composed of two ZE 65 BluePower twin-screw extruders and designed for a maximum output rate of 2,000 kg/h*



key concept," says Carl-Philip Poepel, Director of Product Management Extrusion Technology at KraussMaffei.

KraussMaffei is currently investing to substantially extend its capacities for customer trials and its own testing activities associated with recycling and recompounding processes. For some months now, the R&D centre at the Hanover site has been equipped with the most advanced industrial-scale recompounding system worldwide. The new EdelweissCompounding line is composed of two ZE 65 BluePower twin-screw extruders and designed for a maximum output rate of 2,000 kg/h. While it was common practice in the past to combine a single-screw and a twin-screw extruder for this purpose, the use of two twin-screw extruders is a real novelty. The benefits of this solution speak for themselves: high degassing capacities, efficient odour removal, ideal dispersive and dispersing mixing effect, gentle melt treatment – and all this with almost no limits in terms of throughput rate.

In the first stage, the ZE65 BluePower twin-screw extruder degasses the starting material and removes any adhering odorous substances. This is particularly important when recycling post-consumer waste. Odour minimization can be intensified by using water, nitrogen or even carbon dioxide as entrainer for degassing, which is

easily possible thanks to the wide range of metering and degassing options offered by KraussMaffei's twin-screw extruders. "In addition, the first twin-screw extruder ensures optimum homogenization of the input material that is often characterized by rather inhomogeneous quality," says Carl-Philip Poepel highlighting a decisive benefit of the new machine combination. Via a melt pipe, the melt is conveyed into the second twin-screw extruder where the actual compounding process takes place. "Filling, reinforcing, pigmenting and incorporation of additives – the twin-screw extruder is designed for any given process task. This is why our extruders are equipped with all auxiliary units for metering pellets, powder, fibres and liquids," adds Poepel. It goes without saying that KraussMaffei's twin-screw extruders are provided with gravimetric metering systems for various media as well as with the appropriate downstream equipment such as fine filters, pumps and pelletizing unit from BKG®-Systems from the Nordson Corporation.

#### Proprietary cutter-compactor unit

Another new feature of the Edelweiss line is the cutter-compactor unit, which KraussMaffei has recently integrated into its portfolio. While rigid fractions with an apparent density of over 0.3 kg/l can be easily fed directly into the first twin-screw extruder, particularly light and fluffy material fractions need to be prepared for further processing. The new cutter-compactor unit is the ideal solution for these light fractions, such as fibre and film scrap with high input moisture contents of up to 10%. In the cutter-compactor, the material fraction is first dehumidified, compacted and homogenized before it is transferred into the ZE 65 BluePower extruder.

*Carl-Philip Poepel, Director Product Management Extrusion Technology, KraussMaffei*  
 Photos: KraussMaffei



In contrast to known concepts that have been available on the market so far, the new cutter-compactor unit is operated offline and the agglomerate material produced is discharged onto a belt weigher. "This enables gravimetric metering with an accuracy of 99.8 %," says Poepel to emphasize the decisive difference to volumetric metering used up to now. Metering variations that tend to occur with light fractions are thus excluded. With this solution, all post-consumer LDPE, HDPE, PP or PS fractions can now be easily processed into high-quality recompounds and used as a substitute for new material in both injection moulding and extrusion applications.

#### Turnkey module for recycling post-consumer waste

Last but not least, the EdelweissCompounding line installed in the R&D centre is completely integrated into a turnkey module. The essential benefits for the owner are easy installation without any preparation, rapid set-up and start-up and well as flexible use. The new turnkey module can be installed in any hall. Neither different levels of installation nor a special hall construction are required, as the module of well-conceived design contains all elements required for recompounding. When delivered, the line only needs to be connected to the local power, water and compressed air supply and production can be started immediately. In the event of relocation, the module can be transported as a whole and is immediately ready for production without any changes being required.

#### In-depth plant engineering competence meets extensive formulation know-how

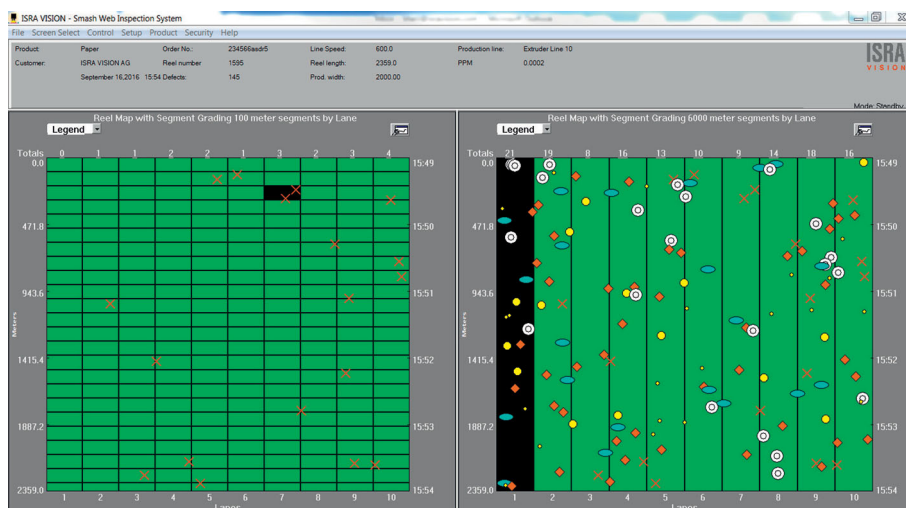
"Interested customers can carry out industrial-scale trials on the new state-of-the-art EdelweissCompounding line in our R&D centre and convince themselves of the benefits offered by the overall modular-design plant concept," KraussMaffei's Director of Product Management invites customers to get in touch for joint development projects. Thanks to the unique combination of unparalleled mechanical engineering expertise with an enormous wealth of experience in the creation of specific formulations for the production of high-quality compounds and recompounds from post-consumer and post-industrial waste, the Hannover-based company is an ideal partner for up-cycling projects of any type. A well-equipped analytical laboratory and an injection moulding machine for the production of first product samples from the compounds produced on the EdelweissCompounding line perfectly round off the package solution.

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# Tap into Previously Unknown Potential – Maximize Yield Even After Production

*The Visualization of classified defects in real-time enables the operator to make the right decision during production*



*Automated optical inspection assures film quality directly at the production line and during further processing. And the technology can do even more: Beyond Inspection tools multiply your efficiency many times over. Users gain a proficient system to increase yield in their production retrospectively and make the use of automatic inspection technology even more profitable. ISRA VISION offers a comprehensive portfolio of features for its proven SMASH inspection system that reduces waste and increases process reliability and yield. The range of tools is being constantly expanded*

The latest tool to be unveiled by ISRA is the Live Web Viewer software add-on, which is already being used by a Japanese customer with great success. Previously, when starting up production, the customer had to make do with the very complex manual inspection of film

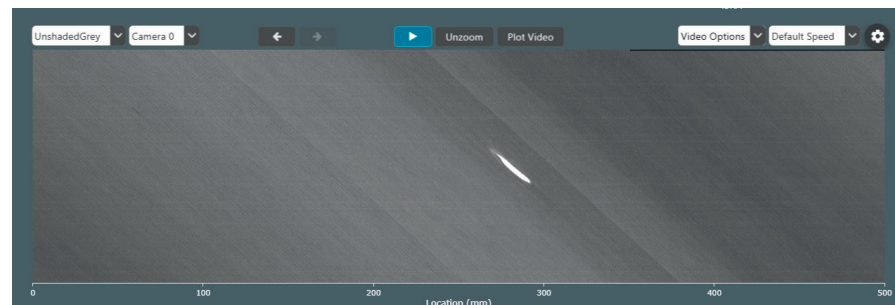
surfaces through the evaluation of samples. Visual inspection by people is necessary, as it is the only way to ensure the final quality before production is approved. The Live Web Viewer offers significant progress in this area. Production is recorded in real-time and with maximum reso-

lution via a video stream. With the help of images, quality control staff can check the surface quality easily and precisely and identify the causes of defects without having to take material samples, therefore saving a great deal of time. The video stream can be wound forward or back to

any point in order to perform more detailed checks in slow motion. It is also no longer necessary to have personnel at the line itself, as the software can be accessed from external locations. This significantly improves process stability and reduces the amount of time needed to adjust the line correctly. The Live Web Viewer enables the causes of defects to be identified and remedied more quickly, which ultimately optimizes processes.

### More control – directly at the line

ISRA offers a broad range of Beyond Inspection solutions and a variety of software tools for simplified automatic inspection, effective use of the acquired production data and an increased quantity of deliverable products even after production. Right from the production stage, the Beyond Inspection tools offer numerous benefits for the manufacturer. The inspection function can be managed centrally – recipes can be created and updated offline, with no need to halt production. Production parameters, alarm conditions, and many more indicators can be reorganized efficiently and new quality and customer requirements implemented right away. Lines with frequently changing requirements, new products or low quantities stand to benefit in particular from this software solution. In addition,



*Live web viewer helps to reduce start-up period and downtime*

the inspection performance of the systems can be tested at any time, online and offline to ensure outstanding performance and a reliably high level of quality.

### Post-processing: Added value with optimized data use

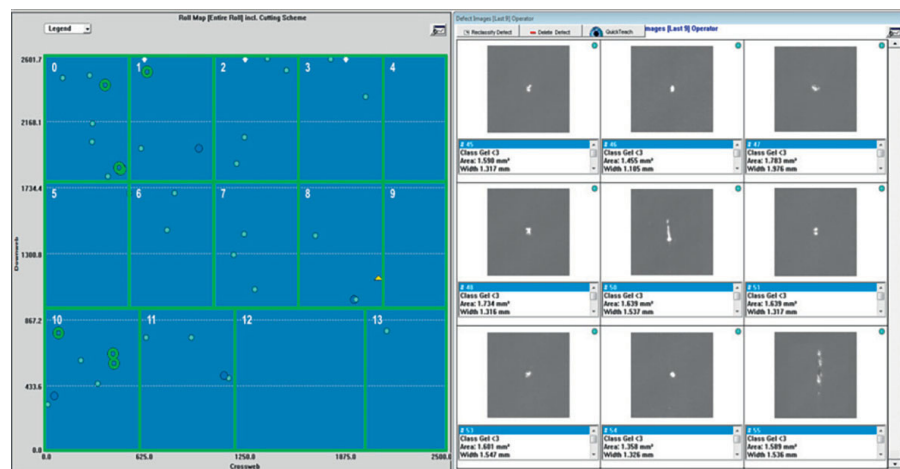
After production, manufacturers have to decide what to do with products of impaired quality. During inspection, ISRA's SMASH system generates all the data required to reduce waste through an optimized film cut. For this "SlitOptimizing" process, the system communicates all relevant data directly to the slitter. Another application uses the data on defect positions to repair them: The Rewind Manager allows users to inspect and immediately process defects in the film during the winding process. Using the production data collected, the Rewind Manager finds the relevant position

and automatically stops the winding process in order to allow manual interventions. Dirt and insects, for example, can easily be removed and smaller defects can be repaired. This turns a roll that might have been thrown away into a roll that can be delivered to the customer or to the next process step.

ISRA's efficient Quality Viewer also offers the option of comparing individual customer requirements with the quality status of each produced roll, so that customers receive products precisely to their specification. This improves total yield and enables resources to be used sustainably in the value chain. Additionally, ISRA's comprehensive portfolio provides specific solutions for more detailed inspection of quality information or web monitoring from multiple workplaces, for example.

With the Beyond Inspection tools, production data delivers a maximum off added value: All that is needed is a SMASH system with up-to-date software and network access. The staff can be trained while the additions are being installed. The ISRA Beyond Inspection solution enables users to enhance the production workflow, filter relevant data, and ultimately improve the final outcome. The result is a high level of customer satisfaction.

*Roll maps and grading ensures to do the best decision in time*





*ALEKO Machinery is the largest manufacturer of polymer processing equipment in Russia, which has been holding leading market positions in Russia and CIS countries over the past 10 years actively continues to conquer foreign markets. Blown film extrusion lines of this manufacturer have been successfully operating in Germany, Bulgaria, and Vietnam*



The Aleko booth at K 2019

# High Speed Blown Film Extrusion Lines Made in Russia

Being an engineering company, ALEKO is engaged in a full cycle of equipment production such as: design engineering, software development and selection of electronic components, assembly of final products including the whole metalworking process. The own engineering bureau and the company's focus on the customer needs, allow promptly design the new models of equipment as well as to edit the existing ones to solve specific customer's tasks. Aleko's own service team ALEKO is always ready to implement assembly and commissioning works. The owner of the company, Alexey Dokukin: "ALEKO Machinery specializes in individual solutions, but not in the mass production of machines – such things as selection of screw and barrel, cooling system, automatic thickness control system, dimensions of the extrusion line. Further, the software adjustment is possible (e.g. supplementary menu features, additional languages, display color etc.)

*taking into account the customers expectations. Such approach makes it possible to solve effectively customer's tasks and provide upcoming high quality service maintenance at every stage of ALEKO equipment operation."*

Beside the product's quality the increasing attention is paid to equipment's production capacity. This means that the task of a scaled up product's output per time unit is getting urgent. The existing model range of ALEKO blown film machines (more than 30 models) is popular at the market due in no small part to its high productive capacity even in standard configuration.

## High speed blown film line ALEKO BIO

Extrusion blown film line "Aleko Bio" is able to process modern biodegradable polymers based on PLA as well as bio-polymers obtained from corn or potato starch. For the first time this model of extrusion line was presented at K 2019 Fair generating public interest and has already found its customer from Germany.

Especially for this machine a new screw was designed which can gently process bio-material without overheating it ensuring increased elasticity and strength of film. Keeping the quality of film, "Aleko BIO" provides the productive capacity of up to 220 kg/h with screw 65 mm and 200 mm die head, which is a unique result at the market of biodegradable films.

Along with that, the versatility of this machine is also worth noting. In spite of the fact that the screw was designed for biodegradable material, it can be successfully used for LDPE processing as well.



### High speed HDPE blown film extrusion line Aleko Turbo

Aleko Turbo is designed for the production of thin films at high speed. This machine was presented at K 2019 Show and even under the conditions of exhibition it managed to work at 200 m/min producing 5 micron film. It should be mentioned that machines working at such speed can be produced by just a few companies in the world. Here-with, unlike the analogues, "Aleko Turbo" shows sustainable high speed even with inexpensive HDPE grades (Stavrolene, Tricolene).

### Multilayer Coex blown film lines ALEKO

The company also manufactures multilayer co-extrusion blown film lines that are in high demand at the world market: 5-layer, 3-layer, including ABA and ABC types. The machines are equipped with self-engineered Inner Bubble Cooling system, automatic thickness control system and film positioning system. The productive capacity of such machines varies from 200 to 500 kg/h. At the same time the energy consumption rate of Aleko blown film lines is quite low with respect to the working speed and output parameters.

Besides the extrusion blown film lines, Aleko manufactures auxiliary equipment for them such as dosing systems (gravimetric and volumetric type), extrusion control sys-



Film thickness control system

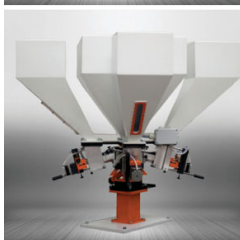
tems and a thickness control system with an unrivalled efficiency, which provides decrease of thickness variations of up to 70%. This way, Aleko's customers are able to solve all issues in a "one window" mode, getting "turnkey" solutions without expending their efforts to search and select optional equipment and avoid problems of its integration in the extrusion line.

Aleko Machinery  
[www.polimerexpert.ru](http://www.polimerexpert.ru)



# ALEKO

[www.en.polimerexpert.ru](http://www.en.polimerexpert.ru)

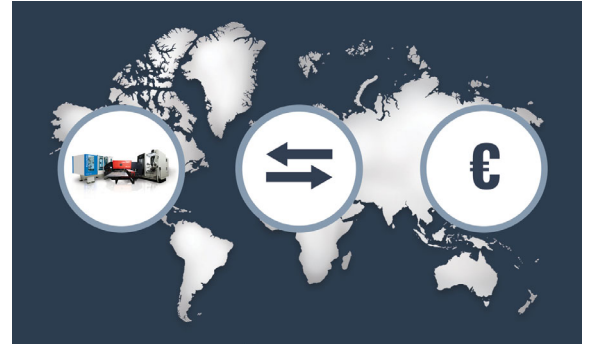


### RUSSIAN MANUFACTURER OF POLYMER PROCESSING EQUIPMENT

- ✓ High Speed blown film line working with Biodegradable raw material «ALEKO BIO» (film thickness from 8 mcm, 220 kg/h)
- ✓ High Speed HDPE blown film line ALEKO TURBO (HPDE, 200 m/min, film thickness from 5 mcm)
- ✓ Multilayer Coex blown film lines ALEKO (3-layer, 5-layer, ABC, ABA)
- ✓ Automatic film thickness control systems
- ✓ Gravimetric and volumetric dosing systems
- ✓ Extrusion control systems



*In times of dynamic market developments and changing project requirements, the management of machine parks becomes a challenge for manufacturers. "We are currently seeing that manufacturing companies are increasingly contacting us to obtain a current market value assessment of their machines and their machine parks," says Benedikt Ruf, co-founder and Managing Director of GINDUMAC, explaining the change in perspective in the market*



*"Asset Management as a Service" a new holistic service concept for the utilization management of machine parks*

# Market Value Estimation and Asset Management for Machine Parks

GINDUMAC sees that the market value and marketing potential of used machines is becoming a much more important refinancing instrument in investment planning. This is mainly due to the increasing market dynamics and the resulting need for flexibility in production capacity and application diversity.

"Smart old-for-new investments will probably develop into the new standard. In this context, the marketing of used machines will become a strategic value driver. We are currently experiencing a kind of renaissance of used machinery trading," says Benedikt Ruf. The machinery market is currently characterized by very dynamic supply

and demand cycles. Market stagnation is leading to high discounts on new machinery purchase offers and a higher quantity of available used machines in the market. When making purchasing decisions, it becomes increasingly difficult to realistically determine what value manufacturers can still achieve on the market for their used machines. GINDUMAC offers a market-related valuation concept to support manufacturers in their investment planning.

To determine the current market value, GINDUMAC considers three value dimensions: Machine quality, market situation and depreciation value. To capture the market situation, GINDUMAC uses data technology developed in-house. "With our Market Intel-

ligence System, MIS, we map supply, demand and price developments to machine models. In this way we ensure that we can estimate and evaluate the market values of used machines on a real market level. This is a decisive factor in knowing what our customers' machines are really still worth," says Janek Andre, co-founder and CEO, describing the special feature of value assessment.

With "Asset Management as a Service", GINDUMAC presents a new holistic service concept for the asset management of machine parks. The claim is to support metal and plastics processing companies in market value estimation, global marketing, professional payment, and logistics processing as an overall concept for their machine park management.

"Whether valuation, marketing, relocation, or new investment, we give our customers the necessary support both in decision-making and in implementation. We create knowledge about marketing potentials so that investment decisions about direct investments, selling options, sales & lease back programs or finance support can be better weighed up. At the same time, we do the implementation. With "Asset Management as a Service", we thus offer a modular and flexible solution for machine park management, especially for the coming post-corona periods, says Janek Andre about the added value of the new service concept.

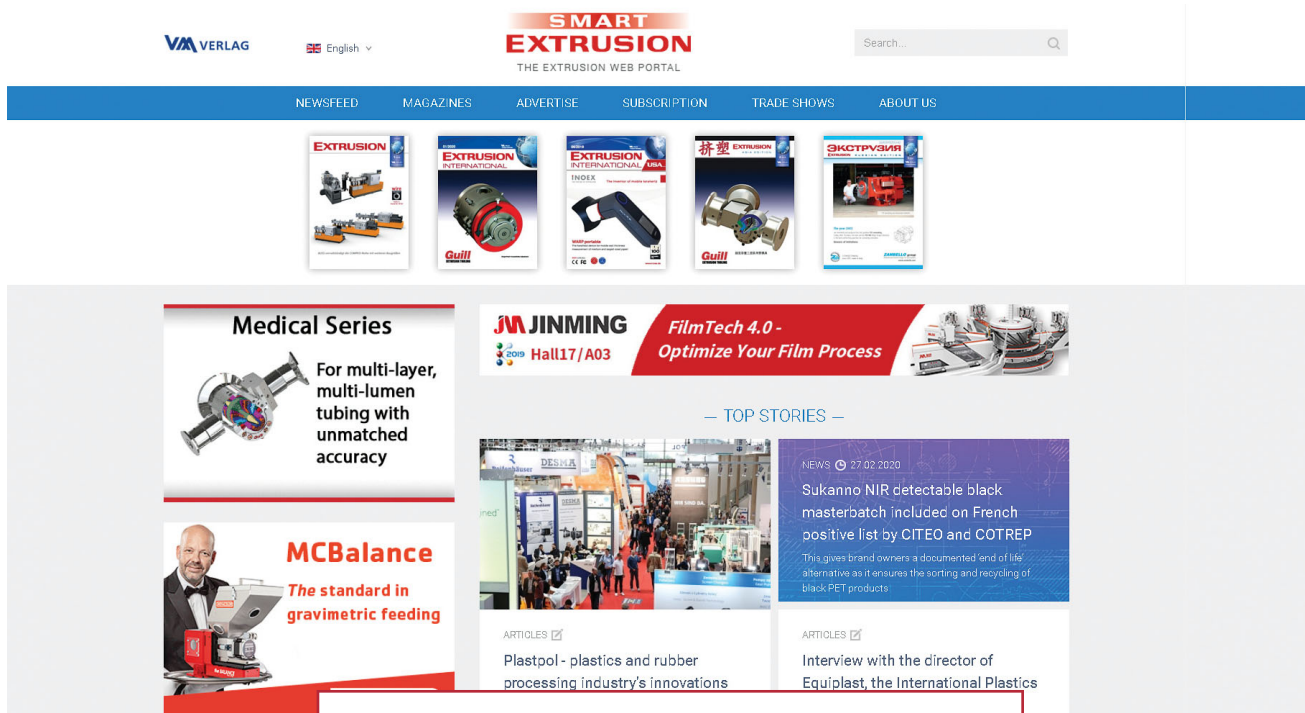
*The GINDUMAC founders and directors: Janek Andre (left) and Benedikt Ruf (right)*



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# SMART EXTRUSION

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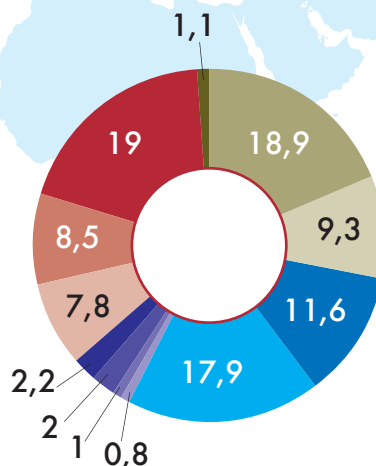
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