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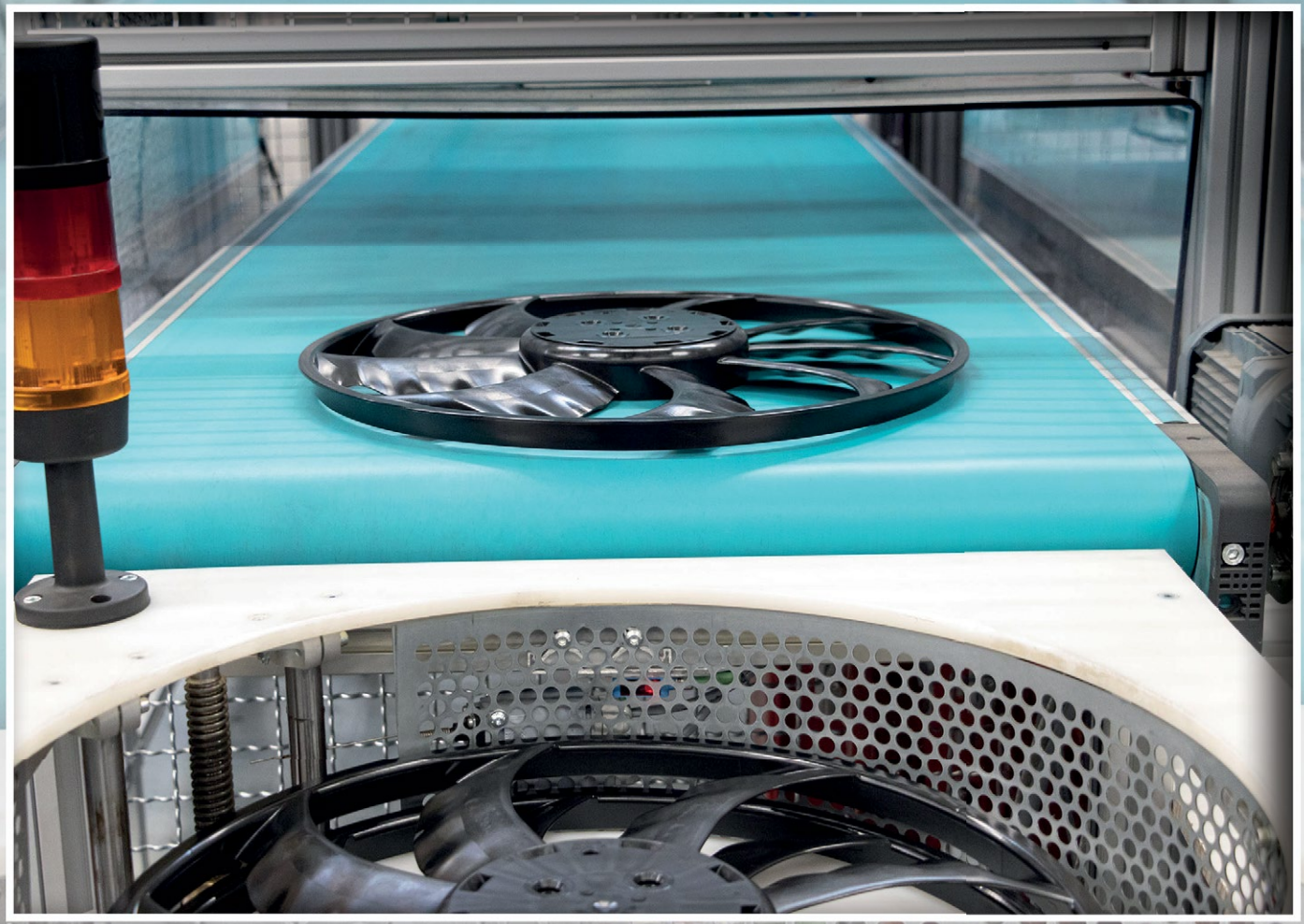

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Both, BOY XS and BOY XXS offer 50% more plasticizing volume

Up to now the maximum plasticizing volume for the machine types mentioned has been 10.2 cm³, but from the middle of this year the two injection moulding machines will have a maximum stroke volume of 15.3 cm³ as standard.

An extended screw stroke at a screw diameter of 18 mm and an injection force increased by 25 % makes this possible. Thus, the compact BOY XS (100 kN clamping force / 0.77 m² footprint) and the BOY XXS (63 kN / 0.89 m² footprint) have a significantly wider range of injection volumes in comparison to other machines in this clamping force class. These two BOY injection moulding machines do not use the piston plasticizing that is customary for this machine size, but instead rely on a screw plasticizing from 8 to 18 mm according to the "first in first out" principle. Maximum, specific injection pressures of up to 3128 bar are available.

The proven design is ideally tailored to the industrial requirements of micro injection moulding. In order to achieve a maximum conservation of resources, BOY is pushing for an almost sprueless part production with cost-effective single-cavity moulds.

The diversity of the plasticizing units allows the processing of bio-based compounds in addition to the common plastics such as thermoplastic (screw diameter 8mm to 18mm), elastomers (screw diameter 16mm) and silicone/LSR.

Dr. Boy
www.dr-boy.de

To focus entirely on hot runner business

INglass announces the sale of 100% of INEVO to Luigi Cover, owner of CST Stampi and Roberto Fagarazzi, Sales Director of the INglass mould division, since 2015.

INEVO is the new name of the INglass mould division that started as INCOS in 1987. INCOS, focused since the beginning on injection moulds manufacturing for the car lighting market and the glazing technology.

Maurizio Bazzo, President and Founder of INglass, states: "The sale of INEVO will allow Inglass to entirely focus on the HRSflow hot runner business, a market that requires continuous innovation and investments in order to satisfy the increasingly demanding needs of the injection moulding industry".

Luigi Cover, Ceo of INEVO states: "We are proud of this acquisition. INEVO has been chosen due to its deep knowledge of the lighting mould market and its high innovation skills in the production of new components for the smart mobility. At the same time the synergies with CST Stampi, both in design and manufacturing, will allow us to be a perfect partner for all the markets that require cutting edge technology ".

The just signed company transfer represents the completion of the process of total separation between the hot runner systems HRSflow division and the lighting mold division.

Inglass
www.inglass.it

WITTMANN and FarragTech now under one roof

For more than 25 years, FarragTech GmbH has been active in plant engineering for plastics processing in the auxiliary equipment sector, with one main focus within its product range on compressed air granulate

From left to right: Erhard Fux, WITTMANN Material Handling Department Manager, Aaron Farrag, Product Manager Compressed Air Drying and Mold Cooling, Michael Wittmann, WITTMANN Managing Director.

drying. As the inventor of the compressed air granulate dryer as well as internal compressed air mold cooling for blow molding processes, FarragTech has invariably been setting benchmarks when it comes to utilizing the benefits inherent in these technologies. Another main focus of the company's product development lies on protection against condensation water for cooled molds, in which area FarragTech has created an exceptionally energy-efficient and low-cost solution.

Now the product range and the team of FarragTech are being integrated into the structures of the WITTMANN Group, thus providing them with direct access from their headquarters in Wolfurt to the entire development know-how and the international sales network of the WITTMANN Group. Further development of the FarragTech products from all three sectors will be driven forward, and it is planned to have the appliances seamlessly integrated into the open concept of WITTMANN 4.0 technology.

The company's previous owner Aaron Farrag is taking over the compressed air drying and cooling segment as Product Manager, and will incorporate this product line into the WITTMANN Group. WITTMANN's Managing Director Michael Wittmann is looking forward to the future cooperation: "We extend a very cordial welcome to the FarragTech team in our group of companies. With the small-quantity dryers from FarragTech, we are closing a gap in our product portfolio. Our international outreach – combined with the advantages of these technically outstanding products – promises an enormous growth potential for our new product segment."

WITTMANN Kunststoffgeräte
www.wittmann-group.com

New products for hot runner and control systems

Meusburger presents innovations in the field of hot runner and control systems. Under the PSG product brand, the number of versions of the smartFILL nozzle series has been expanded with a new focus. The range is perfectly complemented by the pneumatic and hydraulic operating unit for valve gate nozzles. In control systems, the combination of a VCON controller with the proRTEMP+ in one cabinet has been made possible.

The newly developed series focuses on melt guidance and ease of maintenance. With the very large variety of nozzle lengths, melt channel diameters and gate geometries, the smartFILL nozzle series is now also available in the large 4557 and the small 4019 versions. The nozzles are available in the variations smartFILL (slide seal), smartFILL Shot (screwed in) or smartFILL Shot Single (single application). They are not only suitable for processing technical and filled plastic types, but also for direct gating or gating to a cold runner. The new concept of heating right up to the injection point ensures a homogeneous temperature profile, which in turn guarantees highest component quality.

Compact redevelopment

Compatible with the smartFILL nozzle series, the pneumatic (DP 53x63) and hydraulic (MH 24x55) operating units for valve gate nozzles are new in the range. With the pneumatic operating unit, the pin is opened and closed via the clamping plate using compressed air. Even with individual actuation of each nozzle, tight inside dimensions are possible for both units. This makes these operating units particularly suitable for use in conjunction with the 19 and 27 nozzle sizes in the smartFILL series.

Redevelopment of operating units for valve gate nozzles

All options in one cabinet

Achieve optimum injec-tion moulding results through sequential control of the melt flow. During the opening or closing of the valve pin, it is possible to control the various pin positions hydraulically in staggered modes. For cascaded filling of injection moulded parts with several injection points, visible defects on moulded parts can be avoided this way.

Meusburger
www.meus...

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Front page picture:
Wirthwein and WITTMANN

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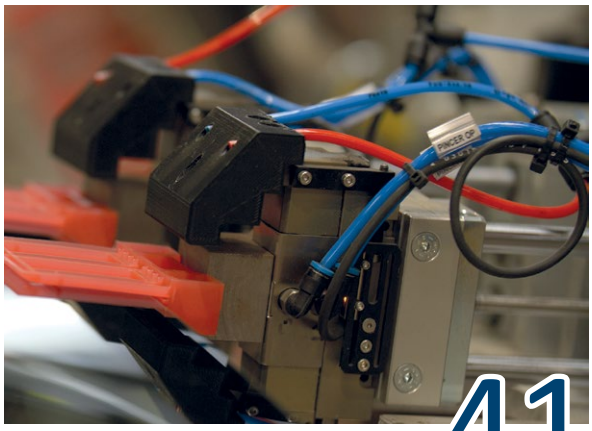
Digitalisation, the circular economy and climate protection are the leading topics of the internationally oriented K 2022, taking place in Düsseldorf this October. The nine injection moulding machines at the BOY booth will be supplemented by further four machines at the booths of partner companies. As usual – the German machine builder will take the opportunity again and address the leading topics with two fair premiers and with other interesting applications.



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The French multinational Saint-Gobain, dedicated to the manufacture of glazing for multiple industrial sectors, has found 3D printing technology developed by the Barcelona-based multinational BCN3D to be the perfect ally for increasing the efficiency of its manufacturing processes. BCN3D's 3D printers and various innovative technological solutions now enable Saint-Gobain engineers at its plant in L'Arboç, Barcelona, to significantly improve efficiency in the manufacturing processes of parts and components for its automotive customers.

At drinktec, NETSTAL will present the new PET-LINE with side entry to the international trade audience for the first time as part of an exhibition appearance. The market launch of the new series already took place in the fall of 2020 with models of 4000 kN clamping force or molds with up to 128 cavities. Now NETSTAL has expanded the portfolio to include variants with 3000 kN and is bringing a PET-LINE 3000-4000 to its booth. The system is suitable for molds with up to 96 cavities and impresses with its particularly fast lock-to-lock time of just 1.9 seconds.

The expectations as to whether the first real trade show in this industry sector in Germany would be able to build on the successes of 2018 were definitely an exciting question. After more than 2 years of pandemic, it was also not clear to what extent the willingness to travel exists and whether the strong focus on virtual formats in the last 2 years will not have a negative impact on the number of visitors? However, DESMA was able to determine that there is an unbroken interest in “real” trade fairs.

Husky Technologies™, a pioneering technology provider enabling the delivery of essential needs to the global community, today announced the launch of a second-generation control algorithm for its line of Altanium® mold controllers. The Advanced Reasoning Technology (ART 2.0) software delivers greater speed, accuracy, precision, and repeatability compared to today’s existing temperature control systems. ART 2.0 incorporates advanced autotuning and heat-up strategies which deliver higher out-of-the-box performance.

The technical plastics polyamide 6 and polyamide 66 are admittedly materials with very similar properties, yet they are frequently in competition to one another. Recently, the tense pricing situation for polyamide 66 and its temporarily limited availability have resulted in it often being replaced with polyamide 6 even in its traditional applications. However, new developments of components that have traditionally been made from polyamide 66 are now increasingly being directly implemented in polyamide 6.

Highest turnover in the company's history

At the K-Preview press conference, Gerd Liebig, CEO of Sumitomo (SHI) Demag, hailed the 2021 financial year as the Group's most successful to-date. Group sales reached a new all-time high of 808 million euros, increasing by 17.4 percent compared to the previous year (2020: 688 million euros). "This strong sales growth can be wholly attributed to our all-electric machines, where market share continues to rise," he asserted. The company is now officially the global market leader in all-electric injection moulding machines.

Focusing specifically on the results for Germany and Sumitomo (SHI) Demag Plastics Machinery GmbH, Schwaig, which comprises production sites in Germany and China, Liebig also reported unprecedented turnover figures. For the first time surpassing the 300 million mark and exceeding the pre-corona level with 302.3 million euros. "We also achieved the best results in terms of profit and customer satisfaction," states the CEO. Putting this into context, sales per employee climbed to the second highest point in the past five years. The company currently employs 1,100 people. Order intake also reached a record high of 322.9 million euros.

Profitability in 2021 was in the double-digit range and only slightly below the previous 2018 record. "This stable profit is all the more remarkable given the extreme economic adversities caused by material price increases," Liebig summed up. He remains optimistic that the 2022 results will be just as good, despite a challenging first quarter. Further milestones accomplished included a drastic 20 percent reduction in quality costs and a significant increase in customer satisfaction, reaching the second highest level in the last five years, he exclaims.

An overriding factor in the company's success is the rapid and rising proportion of all-electric machine investments, especially in Europe. "Already accounting for 33 percent in 2021, we are anticipating 40 percent in 2022," claims Mr. Liebig, who remains resolute to continue on the path adopted by his company. "We took a prudent decision to only produce all-electric machines at our plant in Wiehe. These robust results are indicative that it was the right one. Extensive investment in the two German locations will further strengthen the firm's responsiveness and R&D. Considerable resources are being re-invested in Schwaig to improve mechanical production and assembly. In Wiehe, the focus is on reducing throughput times, optimising cycle processes in final assembly and functional testing, and digitalisation projects."

Providing his industry outlook, Liebig summarised three factors likely to significantly impact sales-orientated industries: sustainability, corona and the war in Ukraine. His assessment flags several mutually disruptive forces, including escalating energy and material prices, high inflation and massively disrupted supply chains.

The effects on each market will vary hugely. While Packaging, Electronic and Medical will remain stable in 2022, the expectations in Automotive are more modest due to longer delivery times. Consumer is also uncertain due to the erosion of spending power. "Longer term, these sectors will recover and increase strongly," predicts the CEO. He believes that the automotive sector will overcome the economic and structural crisis and will rise sharply from 2024, while the high savings rate and the trend towards all-electric machines as a result of spiralling energy prices would lead to significant growth in consumer goods.

Expanding further, Liebig referenced the five influential and mutually dependent future market trends.

In addition to the significant increase in the automotive and consumer sectors, high demand for all-electric injection moulding machines links back to the sustainability and circular economy agenda, which connects back to the new EU Digital Product Passports (DPP). As part of the Sustainable Products Initiative, the DPP challenges that sustainability is no longer confined to machine or products it manufactures. "It now questions how sustainably the machine is manufactured in-house," announced the CEO.

Facing up to these challenges, Liebig shared how the company plans to improve sustainability throughout the entire product life cycle. He expands: "Critical material availability looks set to remain problematic for some time to come. Here, we'll use multi sourcing concepts to develop alternative material flows in order to achieve maximum on-time delivery through optimised availability."

Gerd Liebig, Chairman of the Management Board and Group CEO of Sumitomo (SHI) Demag Plastics Machinery, global market leader in all-electric injection moulding machines

K-Preview press conference (all photos: Sumitomo (SHI) Demag)

Sumitomo (SHI) Demag
www.sumitomo-shi-demag.eu

2021 – a record year for the WITTMANN Group

In the fiscal year 2021, the WITTMANN Group realized € 376 million in sales, the third highest figure in its corporate history. The order intake figure even reached an all-time high. In spite of the supply chain problems preventing an even higher sales figure, the WITTMANN Group is looking ahead with optimism.

This optimism is also reflected in the Group's continuing investment activities.

At WITTMANN BATTENFELD in Kottingbrunn, the construction of a new hall with more than 3,000 m² floor space was started in 2021, to house a fully automatic pallet shelf warehouse with 1,700 storage locations, an assembly area for large and vertical machines, as well as a new electrical workshop. Most of the construction work has now been completed. The assembly hall will go into operation at the end of July, the pallet shelf warehouse and the electrical workshop will be operating at full capacity by September. On the roof of the new hall, a solar power system is being installed, consisting of 1,604 panels with a total capacity of 651.8 MWh per annum.

Moreover, the extension of the R&D facility of WITTMANN Technology GmbH, located at Percostrasse in Vienna, was completed this April. Most of the new offices for 40 software and hardware developers are already occupied.

WITTMANN Technology GmbH, Vienna (all pictures: WITTMANN Group)

WITTMANN BATTENFELD Deutschland GmbH is investing in both of its technical labs located at Meinerzhagen and Nuremberg. In Meinerzhagen, the existing technical lab is being remodeled and extended, to offer customers sufficient space for factory acceptance tests from autumn this year. The technical lab located in Nuremberg is being completely modernized.

Another major investment project is under way in the USA. In May 2022, the last extension stage for Plant 1 of WITTMANN USA Inc. in Torrington, CT has been commissioned. This will be an extension by 1,000 m² of the area for automation systems and complete injection molding cells, combined with further structural alterations, such as a solar power system consisting of 539 panels with a total annual capacity of 322.9 MWh. Further extensions are also planned for the neighboring Plant 2.

Future sales and service building of WITTMANN BATTENFELD Polska Sp. z o. o.

The Polish WITTMANN subsidiary, WITTMANN BATTENFELD Polska Sp. z o.o., has purchased a 16,400 square meter piece of land in Krze Duże, close to its current location. Planning for the construction of a new building for sales, service and training facilities is in full swing. The start of construction is scheduled for the end of the first quarter of 2023. Completion is expected before the end of 2023.

For Michael Wittmann, CEO of the WITTMANN Group, the ongoing investments are an important step to secure continuing corporate success for the years to come.

WITTMANN BATTENFELD
www.wittmann-group.com/en_us

Exclusive anniversary event "25 years of Arburg Turkey": Arburg Managing Partner Renate Keinath with Engin Malcan (right), Managing Director Arburg Turkey, Gerhard Böhm (2nd from right), Arburg Managing Director Sales and Service, and Adem Vardar, Service Manager Arburg Turkey (photo: Arburg)

Anniversary: 25 years of Arburg Turkey

In 1996, Arburg established its own subsidiary in Turkey. Due to corona restrictions, only 40 customers in small groups could attend the Open House in December 2021. Then, on 1 June we were at last able to officially celebrate 25 years in business. The exclusive anniversary event was attended by around 180 enthusiastic guests. High-profile representatives from the parent company were Renate Keinath, Managing Partner, and Gerhard Böhm, Managing Director Sales and Service.

The backdrop to this unique evening was an atmospheric boat trip with gala dinner on the Bosporus. "I am delighted to celebrate with you in these very special surroundings the 25th anniversary of our Turkish subsidiary, and I am very impressed with the team's achievements over the past decades," Renate Keinath stated in her speech. "A presence on the Bosporus has always been particularly important for us because it builds a bridge between the countries of Europe and the Arab states." On behalf of the owner families and the entire Arburg organisation, she thanked Engin Malcan, Managing Director of Arburg Turkey, and presented him with the anniversary sculpture.

Arburg's 55 year presence on the Bosporus

Back in 1967, Arburg sold the first Allrounder injection moulding machine to Turkey via its then trading partner BHK Makine. Its customer was Teksan, the first national manufacturer of water meters. For strategic reasons, a separate organisation was founded in 1996 – Arburg Plastik Enjeksiyon Makinaları San. ve Tic. Ltd. Şti with four employees at the time.

Since 2001, Managing Director, Engin Malcan, has been driving the dynamic development in Turkey with his 17-strong team:

"In the meantime, we are the market leader for premium injection moulding machines in our export-oriented country. Arburg Turkey is a forward-thinking organisation and is constantly endeavouring to improve and to strengthen its market position."

Growing demand for high-quality machine technology

In Turkey, Arburg is experiencing growing demand for high-quality injection moulding machines, including an increasing number of electrically driven series. Allrounders are particularly sought after for the production of electronic and medical technology products, as well as in the automotive and packaging industries.

Arburg is now a market leader in premium injection moulding machines in this export-rich country. In 2005, the subsidiary moved into its current building in Beylikdüzü near Istanbul. It also has a 210-square-metre showroom with space for three to six Allrounders for training, tests, and mould trials.

Besides sales, consulting and service play a very important role in Turkey. The subsidiary offers its customers a 24-hour hotline and globally networked logistics. Around 90 per cent of all spare parts ordered are at the customer's site within 24 hours. The team includes long-standing employees with extensive expertise. One of them is Adem Vardar, a service technician who has been with the subsidiary from the very beginning and who now puts his many years of expertise to good use in an executive position as Service Manager. Since 2021, Arburg's Turkish Service has also been supporting customers in Egypt, Iran, Syria, Saudi Arabia, Dubai, and Bulgaria with maintenance and commissioning for projects.

Arburg
www.arburg.com

ENGEL founds subsidiary in Morocco

Morocco, Tunisia, and Algeria offer a dynamic environment for injection moulding production with Morocco in particular showing stable growth and remarkable potential. "Morocco has established a significant production industry in the past ten years. The automotive sector in particular has grown noticeably", says Romain Reyre, Managing Director of the new subsidiary in Tangier, as well as the Managing Director of ENGEL France. "Right from the outset, ENGEL has been able to participate in this positive development in a very successful way. The opening of the Maghreb subsidiary can therefore be viewed as an important step towards further strengthening our proximity to our customers in this region. We are building on a long-standing market position in the region, particularly in the automotive industry."

Inauguration with numerous customers and partners

In addition to the ceremonial aspects of the inauguration of the subsidiary, plenty of space was dedicated to ENGEL products and technologies: in exciting technical presentations, the keynote speakers presented successful solutions with examples from regional projects. The invited guests enjoyed the opportunity to establish or reinforce personal contacts at the ensuing reception.

Around ten employees will be permanently on site in Tangier as contacts for existing and future customers. Key to this local presence is Hamid Loucif, Head of Sales.

Local service substantially strengthened

Short commissioning times, and a very fast response in case of service calls, are decisive competitive factors for injection moulding companies. Thanks to its permanent local presence, ENGEL can now support its customers in the Maghreb region in an even better way.

"An ENGEL injection moulding machine is already available for customer trials at the site of partner IFMIA (Instituts de Formation aux Métiers de l'Industrie Automobile). And we will continue to expand this offering", says Romain Reyre describing the further plans.

Besides the automotive sector, where ENGEL has been one of the leading equipment suppliers in the region for many years, Romain Reyre sees further opportunities in other markets: "Morocco is in the process of establishing itself as a manufacturing location for medical technology and the packaging industry, too. ENGEL packs a punch in both industries. This is why I see massive potential for future growth here."

ENGEL
www.engelglobal.com

In addition to the ceremonial aspects of the inauguration of the subsidiary, plenty of space was dedicated to ENGEL products and technologies: in exciting technical presentations, the keynote speakers presented successful solutions with examples from regional projects (photo: ENGEL)

Carbon acquires ParaMatters to expand software design tools optimized for additive manufacturing

All pictures: Carbon

Acquisition to accelerate Carbon's business and customers' production of new end use parts at scale

Carbon, a leading 3D printing technology company, today announces the acquisition of ParaMatters, a software provider for additive manufacturing. This acquisition expands Carbon's current software capabilities to include topology optimization. Carbon's technology platform now broadens to enable product design and development teams to create better products in less time using a wide variety of materials and production systems.

Most software platforms used for designing and manufacturing products are optimized for constraints imposed by traditional manufacturing, including injection molding, casting, and subtractive processes. The lack of modern design software that can quickly iterate and take advantage of the benefits of additive manufacturing continues to constrain the product development lifecycle. This acquisition addresses this gap and expands Carbon's generative design software capabilities to enable increased automation and the creation of more complex, higher performance part designs. These benefits build on Carbon's introduction of Design Engine™ earlier this year which is used by global brands to automate the process of developing latticed parts for production.

"We recognize the critical role software design tools play in our customers' digital transformation. For far too long, designers have settled for software design tools that adhere to the limitations of traditional manufacturing," said Phil DeSimone, co-founder and member of the Office of the CEO. "Many design tools of yesterday are not optimized to take advantage of industry innovations, including advanced 3D printing materials and manufacturing processes. Both Carbon and ParaMatters have shared the same vision to provide modern tools to ensure product development teams can create better products in less time."

"Software is the backbone of our idea-to-production platform and we believe the generative design capabilities from ParaMatters are a key expansion of our design software," said Craig Carlson, Chief Technology Officer and member of the Office of the CEO. "By expanding our software capabilities that are optimized for additive manufacturing we are empowering a generation of designers and developers to create better end use products with advanced geometries and improved performance characteristics."

"The ParaMatters team is proud of the software design tools we've built to advance additive manufacturing. The ability to expand our offering as a part of Carbon's idea-to-production platform will enable our customers to design and produce better products," said Robert Yusin, Chairman & CEO at ParaMatters. "As one team, we intend to move the manufacturing industry beyond its current roadblocks."

Carbon
www.carbon3d.com

Picture source: DSM

DSM announces sale of Engineering Materials business

Royal DSM, a global purpose-led science-based company, today announces that it has reached an agreement to sell its Engineering Materials business to Advent International and LANXESS for an Enterprise Value of €3.85 billion.

The proposed transaction marks the conclusion of DSM's review of strategic options for its two Materials businesses and, following the agreement to sell DSM Protective Materials to Avient Corporation in April, the transformation of DSM into a focused science-based leader in Health, Nutrition & Bioscience.

DSM Engineering Materials represented €1.5 billion of DSM's total annual net sales and €334 million of DSM's total Adjusted EBITDA for 2021. DSM expects to receive about €3.5 billion net in cash following closing, after transaction costs and capital gains tax.

DSM Engineering Materials will become part of a newly created joint venture, together with LANXESS's High Performance Materials business, which will be co-owned by Advent International (60%) and LANXESS (40%). This will create a new global specialty materials company with the focus and investment that can drive the development of customer-focused innovation, in particular for industry's transition to bio-based and circular solutions. The transaction will create a platform for further growth for DSM Engineering Materials and its people. Completion of the transaction, which is subject to the customary conditions and approvals, is expected in H1, 2023.

Geraldine Matchett and Dimitri de Vreeze, Co-CEOs of DSM, commented: "In reviewing possible futures for DSM's Materials businesses, we have found tremendous new homes where they will be core to each new owner's growth ambitions. DSM Engineering Materials has been a purpose-led, performance-driven frontrunner thanks to its global talented team since the 1980s. We are certain Advent International and LANXESS will be good new owners in a transaction that is strategically attractive for all parties as we focus DSM on improving people's health and well-being. DSM has a track record of successful transformation over the past half century, and we are well underway in another such moment of strategic change."

Ronald Ayles, Managing Partner at Advent International, said: "We are deeply impressed by the people, performance and capabilities of DSM's Engineering Materials business. We are convinced that, together with LANXESS HPM, the combination of both firms will be in the best position to enact sustainable long-term growth in the engineering materials sector. At Advent International, we are very excited to contribute our deep chemical industry expertise and experience to this joint venture and we are looking forward to working with the outstanding people at DSM Engineering Materials. Together we will create a global engineering materials industry leader."

Matthias Zachert, CEO of LANXESS, commented: "With the new joint venture, we are forging a strong global player in the field of high-performance plastics. The portfolios, value chains and global positioning of the two businesses complement each other perfectly. With its innovative products, the joint venture will be able to play a key role in shaping future developments - for example in the field of electromobility. In Advent, we have a strong and reliable partner with profound experience in the chemical industry and our customer industries."

Advent International will be the majority owner of the newly created joint venture and has extensive investment experience in the global chemical sector with a proven track record in transforming companies from corporate carve-outs into industry-leading players. Advent also fosters the growth and market position of portfolio companies through further acquisitions and organic investments.

DSM
www.dsm.com

KraussMaffei introduces new, comprehensive product naming system

pioneer, purity, power and precision: A look at what the newly named machines might look like. The renaming of the products takes place step by step (picture: KraussMaffei)

Starting with the new precisionMolding and powerMolding injection molding machines, the new precisionMixhead and the newly named purity recyclingLine (formerly edelweiss), KraussMaffei is introducing a new system for naming its products. Instead of independent approaches per technology area, machines and products will in future be named according to a uniform descriptive system.

"Product naming is an important lever in making the consolidation of the technology areas in the New Machines Division and the integration of digital services perceptible to our customers. Together, we can be the most powerful supplier on the market," says CEO Dr. Michael Ruf. More specifically, products and machines in the New Machines Division will in future receive one of four name suffixes:

- pioneer for lines and system solutions
- purity for products in the circular economy sector
- power for hydraulic injection molding machines and extruders
- precision for electric injection molding machines, automation and downstream products like mixing heads or pipe heads.

"The renaming gives us the opportunity to highlight the benefits of our machines and solutions even more clearly. Our customers can thus see the benefits for their business at first glance", states Michael Ruf.

"In addition, we wanted to give our products a stronger emotional appeal. That's why the new names with "p" at the beginning link to our brand claim 'Pioneering Plastics'", adds Eva März, Head of Brand Management & Strategy, who developed the concept together with an internal project team of product owners, legal and sales.

The renaming of existing products will take place gradually. After renaming, services will remain available as usual.

KraussMaffei
www.kraussmaffei.com

DuPont completes divestiture of Biomaterials business

DuPont (NYSE:DD) has recently announced completion of the previously-announced sale of its Biomaterials business unit to the Huafon Group for a purchase price of approximately $240 million.

The results of operations of the Biomaterials business unit were previously reported in Corporate & Other. For full year 2021, the Biomaterials business unit recorded net sales of approximately $200 million.

DuPont
www.dupont.com

Picture source: DuPont

Establishment of the worldwide NETSTAL organization continues to progress

The establishment of the independent, global NETSTAL organization continues to progress under the umbrella of the KraussMaffei Group. In the most important regions, NETSTAL will serve customers from the medical technology and the beverage and packaging industries with 12 of its own subsidiaries. By concentrating on strategic application fields, users will benefit from maximum productivity and lowest manufacturing costs.

Under the leadership of CEO Renzo Davatz, subsidiaries have so far been newly established under the NETSTAL name in the United States, the United Kingdom, Belgium, France and Italy. The existing companies in Germany, Spain and Singapore are again operating under the NETSTAL name. Additional branches in Brazil, Mexico, Thailand, and China are currently still being established. The entire incorporation process is expected to be completed this year. "This is an important milestone for us, from which our customers will benefit greatly. With a total of 12 branches of our own and experts for sales and service stationed in them, we will be very close to our customers in the geographically most important markets," says Renzo Davatz, CEO at NETSTAL and member of the Executive Committee of KraussMaffei.

Renzo Davatz, CEO at NETSTAL and member of the Executive Committee of KraussMaffei (photo source: NETSTAL)

Global excellence for maximum customer success

Here, a clear focus on customers' applications is intended to measurably increase their added value. In the face of tough competition, processors are always faced with the challenge of maximizing output per square meter of production area or per employee. Cycle time, precision and reliability are significant levers to maximize productivity and minimize total cost per part produced. Efficient use of resources is also relevant, such as low energy consumption or additional material savings. "NETSTAL stands for reliable high-performance injection molding of thin-wall packaging, medical consumables, PET preforms and beverage closures. In technology and application knowledge, we continuously strive for optimization and innovation so that our customers can achieve maximum success. We consistently embed this approach in our corporate culture, worldwide and in all phases of the customer life cycle," emphasizes Renzo Davatz.

Experienced team

NETSTAL was able to win experienced industry experts for the management of its subsidiaries. Doug Haberman has taken over the management in the USA (see media release dated April 26th, 2022). The two companies in Brazil and Mexico, which are not yet active, will be managed by Italo Zavaglia. In the UK, Jim Craig is setting up the new company. The two subsidiaries in Spain and France will be managed by Jacques Socquet. David Deliever will be responsible for NETSTAL BeNeLux, based in Belgium. As before, Uwe Telinde leads the NETSTAL Germany team. Alberto Rossi continues to expand the business in Italy (See media release from June 8th, 2022). Prawit Yodprechavigit will lead the not yet active branch in Thailand as well as NETSTAL Singapore. No managing director can yet be named for the branch office in China, which is still being established.

"Despite all the adversities of the current market environment, it is a great pleasure to see the NETSTAL organization emerging and continuing to grow together. I am proud that I can rely on equally experienced and highly motivated managers for this challenge," concludes Renzo Davatz.

NETSTAL
www.netstal.com/en

WINTEC delivered the 1000th t-win injection molding machine to East Asia

WINTEC has recently celebrated the delivery of its 1000th t-win hydraulic two-platen injection molding machine, with a clamping force of 2400 tons. This is the largest machine produced by its Changzhou plant so far and will be delivered to East Asia. This is a significant milestone in the WINTEC history.

The celebration took place in Changzhou. Together with the owner from East Asia, Mr. Markus Fuchs, President Sales and Service of WINTEC Global, Mr. Dallas Wang, Director of Sales, Mr. Wolfgang Huber, Plant Manager and Mr. Derek Li, Factory Manager, attended the ceremony and completed the delivery to mark this important milestone.

Mr. Markus Fuchs welcomed the customers in the ceremony and gave an overview of WINTEC's development. "Almost eight years ago we celebrated the opening of our plant here in Changzhou, marking the birth of our brand WINTEC and our two-platen machine t-win. During this time, WINTEC has been recognized by the market with its durable, reliable, high-quality injection molding machine and its professional service. Today, we are happy to see our team's hard work pay off and appreciate the trust of our customers put in our brand and products."

Photos source: WINTEC

t-win
- Servo-hydraulic two-platen
- Convenient operation
- High output
- Energy efficiency
- High availability

As one of WINTEC's major customers, East Asia is an excellent supplier in the automotive parts industry. Mr. Tan Jianming, Chairman of East Asia, spoke highly of the cooperation with WINTEC at the ceremony. "Back in 2018, our company planned to purchase new equipment to improve production.

After comparing many different brands, visiting the plants, and doing tests, we were convinced that the machines from WINTEC could bring us both, "quality" and "quantity" improvements. Up to now, we have purchased more than 30 sets of WINTEC machines, and the machines now become our strong guarantee in improving production efficiency and stabilizing product quality."

At the ceremony, Mr. Wolfgang Huber awarded the symbolic trophy and certificate to East Asia, who is the end user of the machine. Afterwards, Mr. Dallas Wang introduced the unique graphic design of this machine to Mr. and Mrs. Tan.

Based on the high quality of the product, the professional service of WINTEC is also an important key to win and keep customers. In the future, WINTEC will continue to strive for high-quality development, focus on customer concerns, and provide more competitive solutions.

WINTEC
www.wintec-machines.com

All pictures: FANUC

Moulding shops react to spiralling electricity costs

With the price of electricity on a steep upward climb due to a number of external market influences, FANUC is witnessing more enquiries for its latest energy-saving series of ROBOSHOT ALPHA-SiB CNC injection moulding machines. These all-electric machines consume up to 70% less energy than a conventional hydraulic powered alternative, largely thanks to the highly efficient servomotor technology deployed on ROBOSHOT models. These servomotors also allow for parallel movements and cycle time gains as standard.

FANUC is a pioneer in this technology, releasing its first all-electric injection moulding machine way back in 1985, the AUTOSHOT 50. Since then, demand for the ensuing ROBOSHOT series has soared as ever-greater numbers of manufacturers look to take advantage of the energy savings these machines deliver. Today, the need to improve energy efficiency and sustainability across manufacturing facilities has never been more urgent, both to save costs and the planet.

Electric performance

"On average, all-electric injection moulding machines use up to 70% less electricity than a hydraulic alternative of comparable size, without even accounting for the cooling requirements of the latter," explains Andy Armstrong, Head of European ROBOSHOT Sales at FANUC. "The cooling water demands of a hydraulic machine contribute significantly to running costs. FANUC's motors are air cooled, eliminating these costs."

He adds: "Generally, hydraulic machines waste electricity through the transfer of energy and movement of oil. In cases where non-servomotor technology is used, energy wastage is much higher due to the constant running of the pump motor. This is not the case for all-electric machines. In addition, the simplified mechanical complexity of all-electric injection moulding machines makes for fewer process steps and less energy loss."

Faster payback

With significant rises in energy costs across the board, actual payback periods have become increasingly short. In addition, faster cycle times, reduced maintenance costs and increased yield deliver considerable reductions in piece-part costs. Fundamentally, injection moulding machine manufacturers can no longer ignore the switch to all-electric technology. Add longevity and reliability into the equation and the long-term savings become potentially very large.

A further point of note is the power regeneration capabilities of FANUC ROBOSHOT machines. When an axis decelerates, energy returns to the power source, adding to the overall savings. Moulding shops can probably run two or three all-electric ROBOSHOT machines for the same total electricity consumption as one hydraulic model.

Proven ROBOSHOT advantages

ROBOSHOT customers also receive all the long-standing, proven advantages of these machines: precision, repeatability, part quality, quiet operation and low maintenance. The latter forms part of FANUC's number one USP: reliability and longevity. Some customers around Europe have ROBOSHOT machines that are 15-20 years old, where the annual spend on consumables is less than €200, potentially delivering the market's lowest TCO (total cost of ownership).

"Ultimately, any moulding shop that wants to remain profitable while trying to combat soaring electricity prices should refocus their investment plans on injection moulding machines with a proven ability to reduce electricity consumption," concludes Mr Armstrong. "After all, every euro cent consumed in the moulding facility is cost. Moulders should try to understand what those costs are and focus on reducing their overall cost base. This is even more relevant given today's spiralling energy costs, which could potentially remain with us for some time."

FANUC
www.fanuc.eu

Solvay launches SolvaLite™ 714 Prepregs, a fastcuring, new-generation composite system targeted at demanding high-volume automotive applications with high structural part performance (picture: Solvay)

Solvay expands its automotive applications portfolio

Solvay, a leading global supplier of specialty materials, has announced an important addition to complement its broad portfolio of composite materials for the automotive industry: SolvaLite® 714 Prepregs, a new generation of unidirectional carbon-fiber and woven-fabric products pre-impregnated with SolvaLite® 714 epoxy resin. These innovative prepregs offer fast-cure cycles, long outlife, and have been optimized for manufacturing automotive components, such as body panels, at short compression-molding cycle times in serial production runs.

"Our new SolvaLite® 714 Prepregs have been specially developed to ensure strong product robustness in large-scale industrial compression-molding processes and deliver high structural part performance," said Greg Kelly, Product Manager Prepregs, Solvay Composites. They are available in a wide range of unidirectional carbon fiber reinforced and woven-fabric formats."

In addition, Solvay recently invested in production capability enhancements for Xencor™ LFT (long fiber technology). The investment includes new manufacturing assets and additional capabilities in Solvay's Oudenaarde facility in Belgium, as well as an expansion of research and development resources at one of Solvay's technical centers in Alpharetta, Georgia. Xencor LFT is one of the key pillars in Solvay's light-weighting portfolio, which also includes short-fiber compounds and continuous carbon-fiber composites.

Xencor LFT opens up new light-weighting potential for aluminum die-cast replacement in next-generation electric vehicles. This includes several areas of metal replacement, such as those in braking and steering, electric-drive units, inverters, and battery module protection, among others.

Solvay
www.solvay.com

HASCO presents new flowmeter

In the course of production, it is frequently necessary for the flow rate of the cooling medium on the injection mould to be read off rapidly and easily so that it can be regulated locally if necessary.

Precise measurement and regulation

The new HASCO flowmeter Z9905/... enables accurate measurement and regulation of the required volumes of water in cooling systems. It can be used at temperatures of up to 100°C and operating pressures of up to 10 bar and is suitable for both water and water/glycol mixtures.

Installation anywhere in the direction of flow

The volume flow can be read off directly and easily in l/min at the bottom edge of the float and can be regulated with equal precision and speed using a screwdriver. If necessary, the flow can be shut off completely. The flowmeter can be installed anywhere in the direction of flow.

HASCO
www.hasco.com

Picture: HASCO

INEOS supplies Covestro with mass-balanced raw materials for polycarbonate plastics

The high-performance plastic Makrolon® from Covestro is used in modern headlights, among other applications. In the future, the company will also offer it based on the mass-balanced raw materials phenol and acetone from INEOS' INVIRIDIS™ range (picture: Covestro)

Covestro will now be supplied with the two mass-balanced raw materials phenol and acetone from INEOS' INVIRIDIS™ product range. Covestro uses these CO2-reduced products to manufacture its high-performance polycarbonate plastic. It is used in headlights and other automotive parts, but also in housings for electronic devices, light guides and lenses, medical devices, and many other high-value applications.

"By switching to mass-balanced renewable raw materials, we aim to significantly reduce our indirect emissions in the supply chain and offer products with a reduced carbon footprint," says Sucheta Govil, Chief Commercial Officer of Covestro. "In doing so, we're helping our customers to meet their climate goals and advance the transition to a circular economy."

New label for circular intelligent solutions

Lily Wang, global head of the Engineering Plastics segment, emphasizes the further benefits for customers: "We offer them a drop-in solution that they can quickly and easily integrate into existing production processes without requiring any technical changes. The products show the same good quality as their fossil-based counterparts." As part of the CQ family of circular intelligent solutions, Covestro offers them under the names Makrolon® RE, Bayblend® RE, Makroblend® RE, and Apec® RE. With its new CQ concept, Covestro highlights the alternative raw material basis in products and thus gives a clear indication to customers who are looking for such products.

INVIRIDIS™ brand phenol and acetone are produced from bio-attributed cumene at INEOS' Gladbeck and Antwerp sites – without competing with the food supply. Both sites are certified according to the internationally recognized ISCC PLUS as well as the RSB standard. The raw materials have a lower carbon footprint than petroleum-based products.

Certification by ISCC PLUS and RSB underlines INEOS' strong commitment to working with the bioeconomy and reflects the strong sustainability of INVIRIDIS™.

Gordon Adams, Business Director of INEOS Phenol, said, "As part of our sustainability strategy, we have developed these more sustainable phenol and acetone products, which we have named INVIRIDIS™. This new product range provides our customers with drop-in product options that meet their stringent quality and performance requirements. At the same time, we're moving the industry toward a more climate-friendly economy for phenol and acetone without compromising its unique product attributes."

Covestro
www.covestro.com

All photos: Arburg

Arburg Technology Days 2022: great enthusiasm again from industry professionals!

• This is what we all were waiting for: Over than 3.700 guests from 39 countries came to Lossburg
• "Think Tank": focussing on digitalised and sustainable plastic processing
• Highlights: 50 exhibits, specialist presentations, Efficiency Arena, turnkey solutions, digital services and more

Live and in colour: from 22 to 25 June 2022, the Arburg Technology Days took place again after a break of two long years due to Corona. Industry professionals had clearly been waiting eagerly: Over 3.700 visitors from all over the world came to the German company headquarters in Lossburg. Awaiting them under the title, "Think Tank", were around 50 machine exhibits, the Efficiency Arena with its focus on digitalisation and sustainability, service solutions and fascinating expert presentations. The guests were delighted with the wealth of technology highlights, hands-on innovations, and the spirit of this unique event in the plastics industry.

"We are extremely proud of these incredible visitor numbers: Because after all, whole regions, for example in Asia, were unable to travel due to Corona. Added to this is the fact that we organised the Technology Days four months before the world's leading trade fair, K, and not everybody will come to Europe twice within four months. The Technology Days certainly proved again their absolute global attraction," concludes Juliane Hehl, who as Managing Partner of Arburg is responsible for Marketing and Business Development. "This makes it very clear to me that our customers and visitors could hardly wait for the Technology Days either!"

Think Tank: lots of new things to discover

Under the Technology Days title, "Think Tank", Arburg proved with numerous application examples that the company does not wait until top-

ics become popular, rather it acts as a pioneer offering future-proof solutions ahead of time. This could be felt at every corner. The sparks of enthusiasm and inspiration quickly leapt across to the visitors. In discussions about the wide range of applications and exhibits that demonstrated live e.g. the “smart” injection moulding of recyclates as well as bio plastics, over the “arburgXworld” customer portal or at the presentation of the Gestica control unit with its digital assistants, e.g. “aXw Control FillAssist”, enhanced in collaboration with development partner Simcon to systematise and automate simulation of the filling process yet further. The next step follows at K 2022.

Even for "old hands" there were many new things to discover: appearing for the first time were sister companies, AMKmotion and InnovatiQ, with solutions for drive systems and additive manufacturing respectively. A digital highlight was the brand new 5G campus network, which Arburg, as a pilot customer of Deutsche Telekom, used in the Customer Center at the Technology Days 2022 for networked manufacturing in plastic processing. Expert presentations in the new Training Center and exhibits and exhibition areas distributed across the entire company covered popular topics such as turnkey, medical technology, additive manufacturing and service.

Focus on digitalisation and the circular economy

The Efficiency Arena met with a great response. Here, around twenty experts from Arburg and its partners provided information on all topics relating to "arburgGREENworld" and "arburgXworld".The focus at the total of nine stations was on innovative solutions for resource conservation and digitalisation along the entire injection moulding value chain. With the production of drinking cups that can be separated by type, the visitors were shown an application example of the R-Cycle initiative, and learnt about the key topics of circular economy and digitalisation. An overview of the entire range of products and services offered by Arburg in this respect was on display in two new, permanently installed rooms: in the "arburgGREENworld" a hybrid Allrounder 370 H processed Post-Industrial Recyclate (PIR) that originated from technical textiles (airbags). For this purpose, the machine was equipped with Arburg's new recyclate package. In the "arburgXworld" area, numerous options were shown for making production more efficient, transparent and sustainable thanks to digitalisation. The "smart" Gestica functions and the Arburg host computer system, ALS, were also presented there.

"Green" resource conserving applications

The HolyGrail technology was presented as an example of an innovative solution for "intelligent" marking and separating by type, a requirement for a closed circular economy. With this technology, a digital product passport with recycling-relevant information can be placed directly on the plastic part. As an application example, 5-litre buckets were produced from Post-Consumer Recyclate (PCR) by a hybrid Allrounder 820 H in Packaging version with a cycle time of only around five seconds. An ingenious "rib structure" of the side walls allowed up to 18 per cent of the material to be saved.

The manufacture of sustainable reusable cups made of foamed PP was demonstrated by a hydraulic Allrounder 470 S, equipped with a MuCell® package. The highlight of this application from Bockatech: the material is enriched with gas both chemically and physically, and foams directly in the opened mould after injection. This saves on material and cycle time. The microcellular structures ensure a weight reduction of up to 50 per cent and also have an insulating effect. The foamed wall thickness is 2.0 instead of the compact 0.7 millimetres. The matching gripper for the handling Multilift Select robotic system was manufactured additively by a Freeformer beforehand. The gripping function with air guidance was integrated into the component, without any additional pneumatic drives or valves.

A hybrid Allrounder 920 H processed a PP compound with up to 70 per cent sunflower husks as filler and reinforcing material into beverage crates, while an hydraulic Allrounder 320 C Golden Edition produced perforated discs through paper injection moulding, with which straw insulation can be attached to mud walls.

Machine communicates with mould

A new solution for the communication between mould and machine was presented by Arburg alongside its partner Hack, using a hybrid "Packaging" Allrounder 630 H in clean room design, which produces transparent blood tubes from shatterproof PET. The "Moldlife Sense" computer system was integrated into the 32-cavity mould. This monitors the complete life cycle and enables monitoring. The data is passed directly to the machine control system via an OPC UA interface. In this way, for example, malfunctions as well as performance-dependent maintenance intervals for the mould can be displayed.

LSR dosing unit integrated in machine controller

Digitalisation also offers practical benefits in LSR processing: via OPC UA and the Euromap interface 82.3, dosing systems can be integrated into the Allrounder control system. At the Technology Days 2022, three LSR exhibits had such an OPC UA connection: three Allrounders were equipped with LSR dosing units from Elmet, Nexus and Reinhardt Technik, and manufactured light conductors for the automotive industry, "Needle Free Valves" for infusion therapy, as well as foamed toe pads.

Part tracing without markings

Arburg demonstrated together with the start-up, Detagto, and an hydraulic Allrounder 470 A, a new solution for tracing moulded parts without markings by means of "invisible tracing". The process is reliable, tamper-proof, and requires little effort: a small camera station in or at the machine, a small server outside or in the Cloud, as well as a second camera station for recognition are sufficient. The image data of the photographed surface, that, like a finger-print, appears minimally different for each component, is converted into a storable character string, and transferred to a database. In this way, each component can be unmistakably identified later.

Exciting turnkey systems

At the Technology Days, several exciting production cells that Arburg is currently implementing with customers were also on show. A highlight was a production cell with a rotary table machine in which two robots interact with the mould in a coordinated man-

Live and in colour: over 3,700 visitors came to the Arburg Technology Days in Lossburg from 22 to 25 June 2022, and were very impressed with the unique event and the exhibits, including over 30 applications in the Customer Center alone.

ner. Another fully automated turnkey system based around an electric Allrounder was designed to produce almost 90 different product variants. Special emphasis was placed on short set-up times. Visitors were also able to see how 16 very delicate contacts can be separated from bulk material and inserted into the mould, as well as an example of an efficient way to move into automated plastic part production with container storage.

Additive manufacturing with the Freeformer

At the Arburg Prototyping Center (APC) in the Customer Center, visitors learnt all about additive manufacturing. Experts showed how to create added value with the APF process. In the APC, six Freeformers processed a wide variety of materials live, including PA10, PP, different TPU materials and material combinations of these.

About Arburg

German family-owned company Arburg is one of the world's leading manufacturers of plastic processing machines. Its product portfolio encompasses Allrounder injection moulding machines with clamping forces of between 125 and 6,500 kN, the Freeformer for industrial additive manufacturing and robotic systems, customer and industry-specific turnkey solutions and further peripheral equipment.

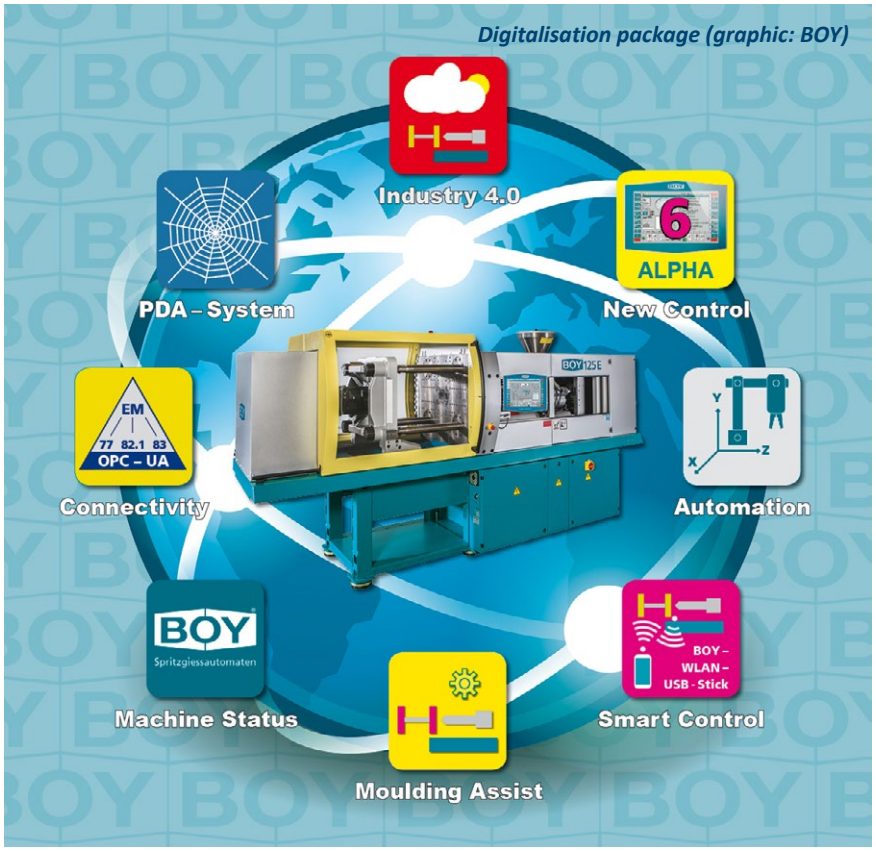
Arburg is a pioneer in the plastics industry when it comes to production efficiency, digitalisation, and sustainability. The “arburgXworld” program comprises all digital products and services and is also the name of the customer portal. The company’s strategies regarding the efficient use of resources and circular economy, as well as all related aspects and activities, are outlined in the “arburgGREENworld” program.

Arburg’s central aim is for customers to be able to produce their plastic products, from one-off parts to large-volume batches, in optimum quality at minimum unit costs. The target groups include, for example, the automotive and packaging industries, communication and entertainment electronics, medical technology and the white goods sector.

An international sales and service network ensures first-class customer support at a local level: Arburg has its own organisations at 34 locations in 25 different countries and, together with its trading partners, is represented in more than 100 countries. Its machines are produced exclusively at the company's German headquarters in Lossburg. Of a total of roughly 3,500 employees, around 2,900 work in Germany. About 600 further employees work in Arburg's organisations around the world. Arburg has triple certification, in accordance with ISO 9001 (quality), ISO 14001 (environment) and ISO 50001 (energy). ***smi***

Arburg
www.arburg.com

BOY again prepares a strong presence at K 2022



Digitalisation, the circular economy and climate protection are the leading topics of the internationally oriented K 2022, taking place in Düsseldorf from 19 - 26 October. The nine injection moulding machines at the BOY booth will be supplemented by further four machines at the booths of partner companies.

As usual - BOY will take the opportunity again and address the leading topics with two fair premiers and with other interesting applications. "We hope that we can again welcome a large number of visitors at our stand this year - especially our customers and interested parties from home and abroad", starts Alfred Schiffer his statement on the planned presentation of the specialist of injection moulding machines in the clamping force range up to 1,250 kN. According to the first statements made by the trade fair team, the nine injection moulding machines at the BOY booth will be supplemented by further four machines at the booths of partner companies.

The digitalisation and increasing networking of the plastics industry is one of the key topics at K 2022. BOY has also taken care of the topic and will be offering its trade fair visitors a whole range of innovative technologies and developments.

The new component in the BOY digitalisation package is the ALPHA 6. The machine control in 16:9 screen format is equipped with additional functions as well as a new visualisation and symbolism.

After its premiere presentation at the K 2022, the current Procan ALPHA ® 4 will be replaced by the ALPHA 6 control step by step.

Circular economy and the climate protection are the other key areas at the K 2022.

BOY has extremely energy-efficient injection moulding machines of the E-series in its product range for active climate protection and sustainability. Significant energy savings compared to machines with older technologies thus reduce the development of CO_2 emissions.

Additionally, BOY will present its own development of a new cooling water distribution system which will be offered as standard for all injection moulding machines in the future.

The set flow rate is digitally recorded and shown on the machine display. Target quantities and tolerances can be set, displayed and monitored. A temperature display with process data monitoring is optionally available.

Also optionally available is the electromechanical ejector. In contrast to the previous hydraulic ejectors, the electromechanical version offers a main drive independently operating mode with synchronised ejector movement. In the BOY 125 E trade fair exhibit, the electro-mechanical ejector will move synchronously to the gripper hand of the BOY-handling device LR 5. Likewise, an opening of the mould in the opposite direction synchronously to the movement of the ejector is generally possible so that the moulded part does not experience any horizontal acceleration when it is removed from the mould.

With the electro-mechanical injection unit (eSP), BOY offers a very interesting hybrid version for its injection moulding machines in terms of application technology. The primary advantage of the electro-mechanically driven unit is

BOY 125 E facts:
» Injection moulding machine
» top-model from Dr. Boy
» 1250 kN clamping force
» Servo-Drive
» moveable injection unit
» Two-Platen-clamping unit
» maximum efficiency
» maximum quality
» lower energy demand
» maximum precision
» flexible use of moulds
» comfortable operation
» Procan ALPHA 4 control
» easy automation
» worldwide service

the possibility of simultaneous operation. Rotational and axial movements of the new electro-mechanically driven unit are carried out independently of the machine hydraulics by two servo motors.

This is particularly advantageous for short cycle times and high dosing volumes. With an optional second servo pump, all other movements of the injection moulding process can be controlled and performed simultaneously.

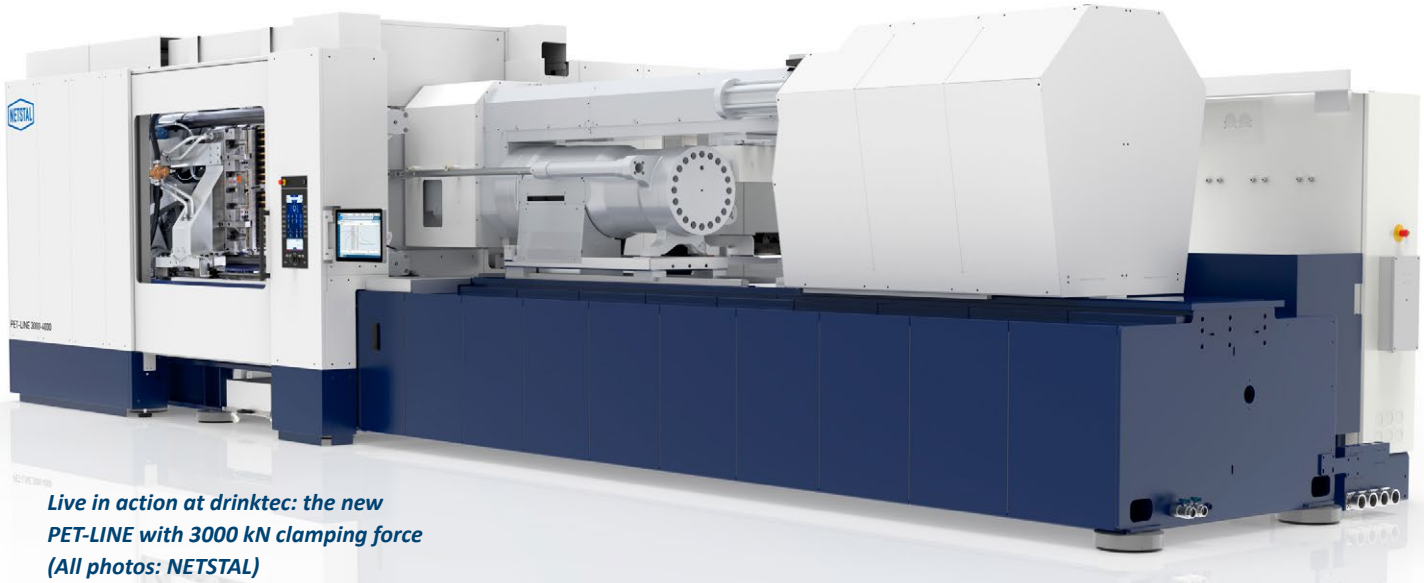
On the subject of the increasing degree of automation in this industry, BOY will present at its booth a large number of exhibits with integrated handling devices. While the BOY handling unit LR 5 has so far mainly been used for the parts removal from the mould, BOY will demonstrate at K 2022 that the handling unit can also be used for other applications. In the interaction between a BOY 35 E VV overmoulding machine, an additional input terminal as well as the LR 5 handling device and a further assembly automation, metal insert parts are overmoulded into T-shaped handles, then removed from the mould with the LR 5 and supplied to an assembly automation.

Here, the four Bit-inlays individually selected by the visitor are inserted into the plastic grip. The LR 5 then places the assembled sets on a conveyor belt and the visitor receives his individually assembled tool set.

Company profile

Dr. Boy GmbH & Co. KG is one of the leading worldwide manufacturers of injection moulding machines with clamping forces up to 1,250 kN. The very compact, durable machines work precisely, energy-saving and thus highly economically. With innovative concepts and solutions, BOY has proved itself again and again as a trendsetter. Automation, digitalisation as well as sustainability and CO2 savings are particularly in focus. Since the company was founded in 1968 more than 50,000 Injection Moulding Machines have been delivered worldwide. The privately-owned company continues to put special emphasis on engineered performance and high-class "made in Germany" workmanship. *smi*

BOY
www.dr-boy.de



Live in action at drinktec: the new PET-LINE with 3000 kN clamping force (All photos: NETSTAL)

NETSTAL presents new PET-LINE 3000 at drinktec

At drinktec (Munich, Germany, September 12-16), NETSTAL will present the new PET-LINE 3000, producing CSD preforms with a thread for tethered caps. By extending the series, the Swiss company is increasingly establishing itself in the market for preform systems with side removal. Thanks to innovative features, users benefit from higher productivity and lower manufacturing costs.

At drinktec, NETSTAL will present the new PET-LINE with side entry to the international trade audience for the first time as part of an exhibition appearance. The market launch of the new series already took place in the fall of 2020 with models of 4000 kN clamping force or molds with up to 128 cavities. Now NETSTAL has expanded the portfolio to include variants with 3000 kN and is bringing a PET-LINE 3000-4000 to its booth. The system is suitable for molds with up to 96 cavities and impresses with its particularly fast lock-to-lock time of just 1.9 seconds. "Our strategy of re-sorting the market situation in the side-entry system sector is paying off. With the new PET-LINE, we are now winning significantly more new customers than before. The system convinces customers with lower manufacturing costs per preform. To reach further target groups soon, the 5000 kN model is already under development," says Renzo Davatz, CEO of NETSTAL and member of the Executive Committee of the KraussMaffei Group. The new PET-LINE 3000 can already be ordered and the first models are already running successfully at customer sites. NETSTAL will supply separate information on the sales launch of the larger PET-LINE 5000 later.

Fully compatible, higher productivity and less energy consumption

"In the production environment, the new PET-LINE was compared with similar machines from other manufacturers. Existing 96-cavity molds and post-mold-cooling stations were used in the tests. Energy consumption was reduced by 20-25% with the new PET-LINE. At the same time, material throughput increased due to the faster cycle time. The customer produced more preforms per unit of time at significantly lower electricity costs," explains Stefan Kleinfeld, PET Product Manager at NETSTAL. The considerable energy savings are the result of many innovations developed and implemented at NETSTAL. In addition to the latest generation of drives and inverters, the electric toggle without ball screw and adaptive control play a key role. Thanks to the adaptive controllers, the machine independently adjusts the parameters to the process. "The PET-LINE learns the weight of the mounted take-out gripper and automatically optimizes the driving profiles for fast removal. Furthermore, the machine performs an independent estimation of the mounted mold weight and optimizes the movement time for optimal opening and closing movements. Since the drives are always equally loaded in the process, an elevated level of efficiency is achieved and the power yield is higher," says Stefan Kleinfeld.

The highest productivity under all conditions

Since the machine performs the optimizations automatically, only minimal expertise is required on the injection molding machine for optimum production. Molds and EOAT with RFID chips are not necessary. Nevertheless, these third-party molds can be used on the new PET-LINE without any loss of performance. The simple operation of the entire preform production system is additionally supported by SMART OPERATION. This feature, which is included as standard, allows all sequences to be freely stored and the entire system to be operated with just four keys. New operators are trained in no time at all and can independently control one or even several lines. Instructions printed on paper are not necessary, as all work steps are shown on the display. The new PET-LINE always works under optimum conditions.

CYCLE GUARD and integrated preform quality control

The CYCLE GUARD also contributes to this by reliably preventing non-removable preforms, so-called short shots, in harsh industrial environments with unstable power grids, thus ensuring maximum system availability. The optionally available safety function permanently monitors the power supply to the injection molding machine and, if necessary, provides sufficient energy to bridge power failures in the millisecond range. In case of prolonged power failures, the current cycle is completed in a controlled manner. The preforms are finished and ejected from the cores of the mold. Injection for the next cycle is interrupted and the entire system is stopped in a controlled manner. As soon as the power is back, production can be resumed after a short system check. CYCLE GUARD works without batteries and is particularly low-maintenance and cost-effective in operation.

The integrated Pecolux inspection system from IMD Vista monitors and documents preform quality in real time. Quality deviations are checked in continuous inline operation. The system checks key features of the preform such as the gate and the thread. In addition, the preforms are checked for color differences, black specs, bubbles and crystallinity. Thanks to the fast feedback and compact integration into the post-mold-cooling unit, this solution is a particularly intelligent and economical inspection routine to produce preforms. Users are thus able to document the quality of the produced batches to their customers at any time.

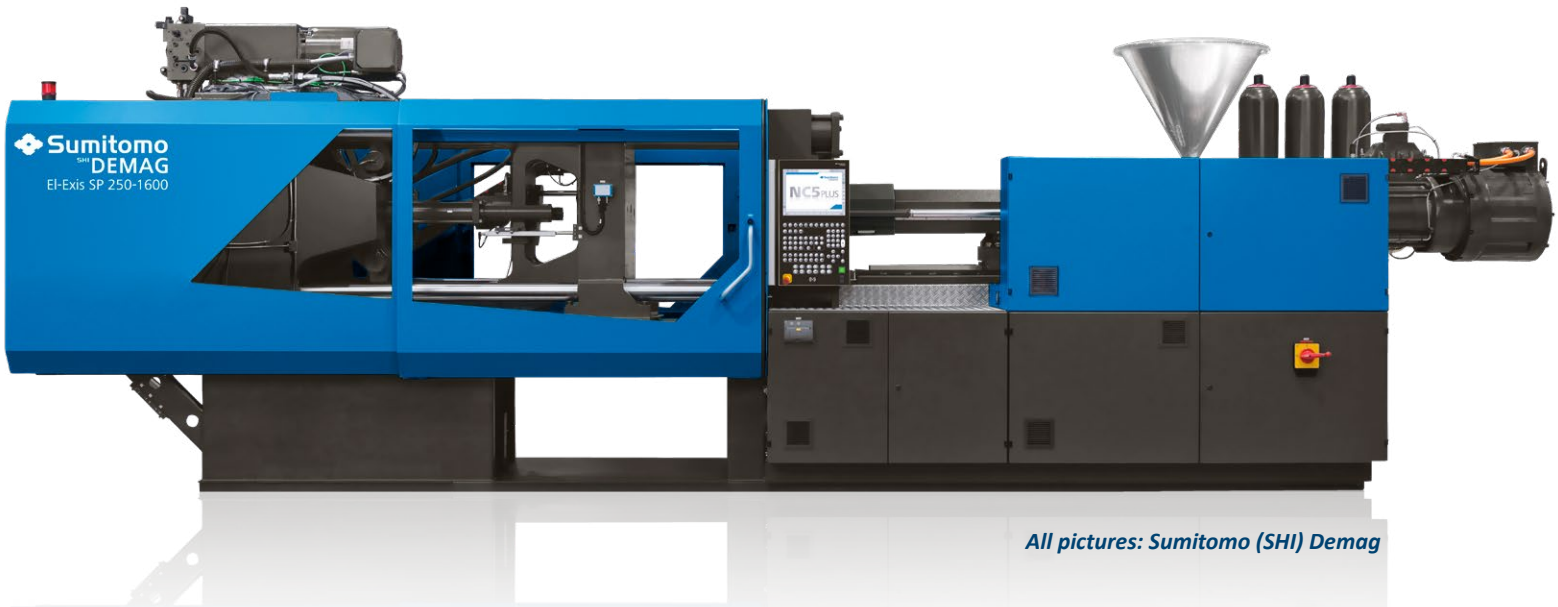
"The successful launch phase of the new PET-LINE with side removal has given us a thoroughly positive mood. The good compatibility with existing molds, the particularly low energy consumption, as well as low AA values and the fastest cycle times have been attested from all sides. Up to 100% rPET, but also combinations with flakes, colors, and additives, are processed stably and gently within a large process window," emphasizes Stefan Kleinfeld.

Sustainable preform with thread for tethered caps

NETSTAL is producing 10.5 g lightweight CSD preforms for 0.5-liter PET bottles at its booth. The high-performance mold with 72 cavities comes from mold partner MHT Mold & Hotrunner Technology. Partner company Eisbär Trocknungstechnik from Austria handles material preparation and the dehumidifier. The chiller is provided by Swiss company ef cooling. Equipped with a GME 30.40 thread, the preform already meets the new EU requirement for tethered caps, according to which from July 2024 caps must remain attached to the bottle after opening. This design is intended for disposable bottles, has venting slots, and reduces the amount of material used on the bottle thread and cap. PET granulate from the Neogroup company is processed, which consists of 25% chemically recycled PET. The new PET-LINE 3000 will be producing at drinktec from 10 a.m. to 12 p.m. and from 2 p.m. to 4 p.m. daily. The preforms produced at drinktec are later fed into PET recycling so that new PET bottles will be produced from the material. *smi*

NETSTAL
www.netstal.com/en

The new PET-LINE comes with the latest generation aXos control system, equipped as standard with SMART OPERATION



All pictures: Sumitomo (SHI) Demag

Continuing the all-electric injection moulding machinery success story

Sumitomo (SHI) Demag Plastics Machinery GmbH, Schwaig: At the introductory press conference for K 2022, Dr Thorsten Thümen, Senior Director Technology, outlined the company's evolving strategic focus. He also gave guests a clear indication of the upcoming product innovations that will feature as exhibits at the world's leading trade fair, drawing upon the successes of the company's all-electric injection moulding machine portfolio.

"We are focusing on the global expansion of the IntElect platform, which will open up additional fields of application," explained Dr Thümen. For example, a "multi" version for the efficient production of multi-components, as well as a high performance IntElect S. Both new additions will cover the medium clamp force range. Additionally, standardised process engineering equipment packages for LSR and physical foaming (MuCell) will be available.

Keeping PAC-E with packaging trends

Indicative of the importance of the packaging market at Sumitomo (SHI) Demag, Dr Thümen announced a corresponding expansion in this area. Based upon the El-Exis SP platform, this includes future delivery of a "servo" variant equipped with servo pumps in the medium and high clamping force range to further enhance energy-efficiency, as well as additional supplementation of process engineering equipment packages.

The most exciting development for the packaging market will be the global unveiling of a new high speed machine series at K 2022. Named PAC-E and initially targeted at packaging applications requiring a medium clamp force, Dr Thümen briefly described PAC-E as a fusion of features from the El-Exis platform and IntElect series. Yet with a brand new injection unit specifically developed for high speed packaging applications.

Accelerating automation plans

Simultaneously, the company continues to drive forward its in-house development of automation solutions. The SAM (Sumitomo (SHI) Demag. Automation. Machine.) robotics concept first unveiled last year comprised the SAM-C. A linear 4-axis robot with cartesian kinematics for standard applications to complement the longstanding cooperation with Sepro and its linear 4-axis SDR.

A new addition is an innovative variant of the SAM robot. Designed for more complex requirements, it combines the linear axis system with other technologies. "The SAM models are our proprietary automation products. The design, software and servo motor technology comes from our company," emphasised the Senior Director Technology.

Overall, the company's automation strategy comprises three pillars: 'Easy Automation' is the standardised production solution, encompassing an injection moulding machine and robot. Designed for handle&place and handle&box applications, it offers users a compact production unit footprint, extensive handling functions, with fully integrated robot control.

'Industry Solutions' blends automation concepts developed specifically for the automotive, consumer and electronic industries with automation solutions created by partners for special packaging and medical applications. Lastly, 'Customized Automation' that is based on concepts developed by regional experts located across automation competence centres spanning Europe, Asia and America.

Setting the sustainability example

Presenting a total of eight full-electric machines under the 'Act! Sustainably' slogan at the revered Dusseldorf show, four will be showcased on the Sumitomo (SHI) Demag stand and a further four at the VDMA's Circular Economy Area, Sepro, ONI and Pagès.

Additionally, the company's web-based software solution 'myConnect' plays a central role in presenting critical data and decision making information in real time. "Looking to the future, all new machines will be equipped with this central platform, which offers a wide range of fully networked support services. It's now been extended to also include condition monitoring. Additionally, Sumitomo (SHI) Demag is driving the digitisation and implementation of AI-supported systems through to an IoT platform that combines all functions," states Dr Thümen.

In his presentation at the K-Preview, the Senior Director Technology presented the individual exhibits, highlighting special technological features and disclosed more application-specific information. More details were promised to the public in the run up to the international trade show.

Venturing to sum up the strategic outlook, notwithstanding the aggregate effects of global economic uncertainties, Dr Thümen announced: "Our strategic ambition is to be an international system provider respected for our industry-oriented application expertise, with a European focus," he announced. The company's global positioning and associated strength should provide the basis for this. Drawing upon the synergies between the individual plants in Germany (Schwaig/Wiehe), China (Ningbo) and Japan (Chiba).

He used the hydraulic series Systec XL to put this into context. Citing that delivery times in Europe should drastically reduce, customers in Asia get access to previously unavailable machines and market penetration in South America increases.

With the all-electric IntElect series, the strategic direction remains steadfast. Standard applications will continue to have orders fulfilled in Chiba. For industry orientated and customised solutions, the IntElect machines will be manufactured in Germany.

Sumitomo (SHI) Demag Plastics Machinery GmbH

Sumitomo (SHI) Demag has shaped the development of the plastics industry from its very beginning. As a specialist for injection moulding machines for plastics processing, Sumitomo (SHI) Demag and its Japanese parent company are leading the industry. The global development and production network of Sumitomo Heavy Industries and Sumitomo (SHI) Demag is comprised of four facilities in Japan, Germany and China with more than 3,100 employees. The product portfolio includes all-electric, hydraulic and hybrid injection moulding machines with clamping forces of between 500 kN to 15,000 kN. With more than 154,000 installed machines, Sumitomo (SHI) Demag is present in important global markets and ranks among the largest manufacturers of injection moulding machines in the world.

In addition to injection moulding machines, Sumitomo (SHI) Demag offers customised and standardized systems for the part handling automation, technical and process solutions for special applications, tailored services and service concepts as well as a range of financial options to support investment in injection moulding machines. ***smi***

Sumitomo (SHI) Demag
www.sumitomo-shi-demag.eu

MacroPower XL 700/3400H/350S/210V Combimould (all photos: Wirthwein and WITTMANN)

3-component technology from WITTMANN BATTENFELD at Wirthwein Crimmitschau

Since February this year, Wirthwein has been producing technical parts for the automotive industry with 3-component technology at its plant in Crimmitschau. The equipment used is a MacroPower XL 700 from WITTMANN BATTENFELD.

Wirthwein Crimmitschau GmbH & Co. KG is a company of the Wirthwein Group founded in 1949 by Walter Wirthwein in Creglingen. What started off at that time with the production of octagonal wooden pegs for railroad superstructure is today a family-owned and owner-managed company with more than 3,500 workers on 22 production sites worldwide. The company's entry into plastics processing took place in 1967 with the production of dowels for track fastening. Today's product portfolio of the Wirthwein Group includes components and assemblies for the automotive industry, railroad superstructure, the electrical and household appliances industries, medical technology and interior construction.

In Crimmitschau, fan propellers and frames for the automotive industry have been manufactured since 1993, since 2012 in the name of the newly established Wirthwein Crimmitschau GmbH & Co. KG. Today, this company manufactures technically advanced components for the automotive industry with 120 associates on corporate premises of about 21,000 m², of which almost half is used as storage and production area, with fan propellers and fan frames still constituting the company's core competences. The range of fans includes both axial ventilators for thermal motor control and radial ventilators for conditioning systems in cars. These components are very demanding in terms of tolerances. The balancing requirements for radial ventilators are particularly stringent, since here even the slightest imbal-

ance will cause unpleasant noises in car interiors.

Wirthwein Crimmitschau uses a variety of technologies to manufacture its components, such as compact injection molding, physical foaming, multi-component injection molding, automation, fully automatic greasing and pre-conditioning of parts, right up to assembling complete structural components. Of the 33 injection molding machines operating at Wirthwein Crimmitschau and ranging from 250 to 15,000 kN in clamping force, nine have come from WITTMANN BATTENFELD. Since 2018, exclusively machines from the servo-hydraulic SmartPower series and the MacroPower series from WITTMANN BATTENFELD have been added. The matching parts removal robots have also come from the WITTMANN Group.

Apart from their compactness and user-friendliness, the servo-hydraulic machines from WITTMANN BATTENFELD stand out primarily by their intelligent, economical energy utilization. Their high level of energy efficiency is primarily due to the combination of a fast-response, speed-controlled, air-cooled servo motor with a highly efficient constant displacement pump, known as the "Drive on Demand" system.

The machine most recently delivered is a 3-component model from the MacroPower series with 7,000 kN clamping force and enlarged clamping plates. This MacroPower XL 700/3400H/350S/210V was installed at Wirthwein Crimmitschau in February of this year. The machine is used to manufacture a component for a car window regulator consisting of PA, TPE and POM. The machine is equipped with a W843 pro robot from WITTMANN, which removes the finished parts and deposits them on a conveyor belt. Moreover, this machine comes with the HiQ Flow application software, which serves to detect and compensate viscosity fluctuations in the material. A special feature of the MacroPower XL 700 installed at Wirthwein is its direct control of the mold's index plate by way of complete integration of the mold's servo motor in the machine's Unilog B8 control system. This enables high-precision rotary movements of the large-sized, heavy index plate and thus ensures an extremely safe production process.

From the left: Marco Windrich, Managing Engineer of Wirthwein Crimmitschau, Dr. Maike Gruschwitz, Plant Manageress of Wirthwein Crimmitschau, Peter Zahn, Sales WITTMANN BATTENFELD

Great attention was also paid to the cycle time. Independent, parallel movements of the three injection units are a standard feature of the MacroPower Combimould machine. Each injection unit has its own servo-hydraulic drive. The screw drives of the injection units are also equipped with servo motors. This enables dosing of all three aggregates parallel to the movement of the mold. So, an optimized cycle time is ensured even together with an extremely short cooling time.

Dr. Maike Gruschwitz, Plant Manageress of Wirthwein Crimmitschau GmbH & Co. KG, and Marco Windrich, Managing Engineer, are very pleased with the machines from WITTMANN BATTENFELD. Particularly positive features are the user-friendly, self-explanatory control system, as well as the height of the machines. "Our machine setters like working with the WITTMANN BATTENFELD equipment", reports Dr. Maike Gruschwitz. Moreover, the service provided by WITTMANN BATTENFELD is said to be excellent. "The commissioning of this most recently delivered machine took a very positive course. All tasks were solved immediately, customers' wishes fulfilled straight away", Gruschwitz says. And Marco Windrich adds: "The machines from WITTMANN BATTENFELD are less prone to failure than others, and in the event of any problems, these can very often be solved by telephone, or if not, the WITTMANN BATTENFELD engineers are also quickly on site." According to Windrich, especially the equipment's low susceptibility to failure and the fast-troubleshooting service are important for Wirthwein Crimmitschau, since with more than 300 active products every machine standstill involves complex challenges.

Apart from the high quality and easy operation of the machines and the excellent service, the good energy balance of the machines is another important feature for Wirthwein. Marco Windrich comments: "The Wirthwein Group is

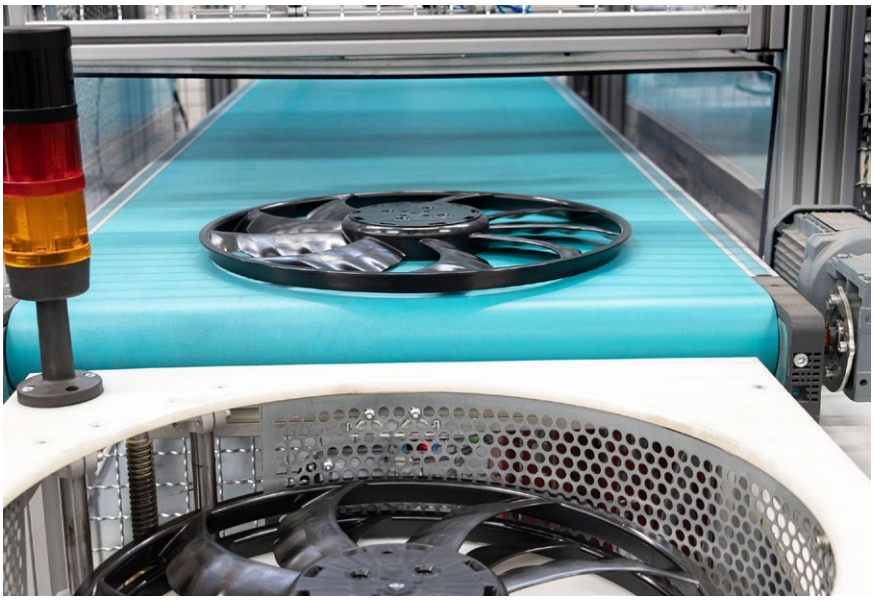
currently working on a 'cost over lifetime' evaluation of its entire machine fleet at all of its production facilities worldwide. In addition to the purchase price, the calculation of these costs also includes technical availability and support, as well as the equipment's energy consumption and CO2 footprint. We expect that the WITTMANN BATTENFELD machines will get good results here, due to their high energy efficiency and low susceptibility to failure."

The WITTMANN Group

The WITTMANN Group is a globally leading manufacturer of injection molding machines, robots and auxiliary equipment for processing a great variety of plasticizable materials – both plastic and non-plastic. The group of companies has its headquarters in Vienna, Austria and consists of two main divisions: WITTMANN BATTENFELD and WITTMANN. Following the principles of environmental protection, conservation of resources and circular economy, the WITTMANN Group engages in state-of-the-art process technology for maximum energy efficiency in injection molding, and in processing standard materials and materials with a high content of recyclates and renewable raw materials. The products of the WITTMANN Group are designed for horizontal and vertical integration into a Smart Factory and can be interlinked to form an intelligent production cell.

The companies of the group jointly operate eight production plants in five countries, and the additional sales companies at their 34 different locations are present in all major industrial markets around the world.

WITTMANN BATTENFELD pursues the continued strengthening of its market position as a manufacturer of injection molding machines and supplier of comprehensive modern machine technology in modular design. The product range of WITTMANN includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and chillers. The combination of the individual areas under the umbrella of the WITTMANN Group enables perfect integration – to the advantage of injection molding processors with an increasing demand for seamless interlocking of processing machines, automation and auxiliaries.



Depositing of axial ventilator wheel

Radial ventilator

The most important facts about the Wirthwein Group

Wirthwein is a leading manufacturer of plastic-based components, assemblies and systems for innovative key industries. Family-managed since its foundation in 1949, Wirthwein operates production plants at 22 locations and with more than 3,500 workers in Europe, Asia and North America. As a full-service supplier, Wirthwein combines ultra-modern mold-making, injection molding, blow molding and assembly technologies into a comprehensive package unique in the industry.

Since 2012, Wirthwein Crimmitschau GmbH & Co. KG has been specializing in processing plastics by injection molding, relying on state-of-the-art technology and the expertise of some 110 highly qualified associates. **smi**

WITTMANN BATTENFELD
www.wittmann-group.com/en_us

The DKT 2022 in Nuremberg was very successful for DESMA!

The expectations as to whether the first real trade show in this industry sector in Germany would be able to build on the successes of 2018 were definitely an exciting question. After more than 2 years of pandemic, it was also not clear to what extent the willingness to travel exists and whether the strong focus on virtual formats in the last 2 years will not have a negative impact on the number of visitors?

However, DESMA was able to determine that, with the exception of the so-called "long distance" customers, there is an unbroken interest in "real" trade fairs and a very good visitor frequency, exciting dialogs and overall a great customer interest could be perceived. DESMA also offered parallel to the DKT with the digital Xpertforum 2022 the possibility that prevented visitors could inform themselves comprehensively about the product novelties in a virtual way.

In the focus of the innovations, the new horizontal machine D 969.300 SEALMASTER+ was presented live at DESMA with 20 strong arguments. This new machine platform offers, among other things, a significantly higher productivity and a universal applicability for different industrial sectors with an outstanding ease of maintenance. For example, all temperature control units and also the vacuum pump can be extended on a service rack with a single handle. The cable lengths are shortened to a minimum and thus offer the best conditions for reactive control behavior. The newly developed Servogear 2.0 offers approximately 50% faster travel speeds and perfect positioning accuracy thanks to adaptive controllers. In addition, due to the new stroke ratios, spacer plates are no longer necessary for low mold heights and double layer molds can also be used without additional options.

With the CO^2 calculator developed by DESMA for the elastomer processing industry, a decision support with an integrated weighting for investment decisions could be presented for the first time, which met with a very large customer interest. The topic has fully arrived in this industrial sector and everyone is called to action. It is no longer 5 to 12, but decisions must be made immediately to achieve rapid progress.

In relation to the global climate targets, several machine and process developments were also presented, which cover answers to the current topics, such as extraction of alternative forms of energy and their distribution, as well as special machine for newly dimensioned infrastructure projects and also the area of mobility change.

The holistic view of the process and procedure development necessary for this, up to the complete realization under one roof, was the focus of the information offensive on the DESMA booth.

In addition to cultivating existing customers, interesting discussions were held with new customers, which even led to surprising business deals. This means that real trade show formats, such as the DKT, are able to fully exploit their potential, as the inhibition threshold to break new ground is very low and initial contact can be established in an uncomplicated and informal manner. What's more, exhibitors with a successful concept can immediately generate enthusiasm.

Many good and intensive discussions with decision-makers were the result of this DKT 2022. ***smi***

DESMA
www.desma.biz/en

Based on a legacy ENGEL duo injection moulding machine, the production cell for processing plastic flakes has a modular design. The production cell at the K show features a high-performance melt filter by ETTLINGER and a degassing unit

High recycling quality directly from plastic flakes

At K2022, ENGEL is presenting the new two-stage process for the first time as a live exhibit at a trade fair. Now it is possible to process plastic waste as flakes in injection moulding directly after grinding.

With a new process, ENGEL makes it possible to process plastic waste as flakes in injection moulding directly after grinding. Since pelletising as a separate process step is eliminated, the innovation significantly improves the energy and cost efficiency in plastics recycling. At K2022, ENGEL is presenting the new two-stage process for the first time as a live exhibit at a trade fair. Logistics load carriers with rollers, also known as dolly pallets, are being produced at the ENGEL stand at the Circular Economy Forum in the open air area.

To be able to process flakes in injection moulding, the recycling process breaks plasticising and injection down into two mutually tuned, but independent, process steps. In the first stage, the raw material, for example plastic flakes originating from post-consumer or post-industrial collection, is melted in a conventional plasticising screw. The melt is transferred to a second screw for injection into the cavity. Depending on the material and application, a melt filter and a degassing unit can be integrated into the process between the plasticising and injection units. This means that high-quality products can be created – even from contaminated plastic waste. Processing plastic flakes directly significantly improves the energy and CO2 footprint compared to processing regranulate.

Typically, plastics from post-consumer and post-industrial collection are first ground, and then, after sorting and cleaning, compounded, filtered and pelletised, and finally fed into the injection moulding process as regranulate. This means the plastic has to be melted twice. Pelletising the recycled material is an energy-intensive process which typically also involves logistics overhead. The need for this step is removed completely in the two-stage process. Based on calculations by ENGEL, the energy required for manufacturing the product is reduced by 30 percent.

One focus of the new process is on large-volume moulded parts, many of which, such as pallets, transport boxes and waste containers, are already made from recycled materials today. Integrated degassing extends the usage spectrum to applications in the packaging and automotive industry.

New degassing unit improves product quality

The ENGEL developers focused on the degassing unit in particular. Degas-

ENGEL is one of the global leaders in the manufacture of plastics processing machines. Today, the ENGEL Group offers a full range of technology modules for plastics processing as a single source supplier: injection moulding machines for thermoplastics and elastomers together with automation, with individual components also being competitive and successful in the market. With nine production plants in Europe, North America and Asia (China and Korea), and subsidiaries and representatives in more than 85 countries, ENGEL offers its customers the excellent global support they need to compete and succeed with new technologies and leading-edge production systems.

sing is important to achieve high product quality across the board. Residual moisture, and volatile substances originating from material degradation or ink residues, can pass through the melt filter. If these compounds are not removed before the melt is injected, this can lead to pores on the inside and defects on the surface of the part. This not only impairs the visual appeal, but can also reduce the mechanical load bearing capacity of the part.

Another special feature of the ENGEL solution is that the first plasticising unit in the two-stage process also has the task of buffering raw material. This achieves a continuous process which supports the use of smaller screws to ensure further cost savings.

Legacy injection moulding machines as the basis

ENGEL is demonstrating the new two-stage process's ability to perform at the K show in the production of dolly pallets. A blend of polyolefins from a post-industrial collection is being processed on an ENGEL duo 12060H/80Z/900 injection moulding machine.

Production cells for processing recycling flakes in the new two-stage process are based on legacy injection moulding machines. This too also makes a contribution towards lowering the recycling costs and accelerating the establishment of a circular economy for plastics.

The project partners for the presentation at the show are AVK Plastics, which produces pallets on ENGEL duo injection moulding machines in Balk, Netherlands, where some of these machines are already using the new two-stage process, and IPP, headquartered in Ennepetal, Germany, a specialist in logistics solutions for supply chains. The mould for this exhibit comes from Haidlmair (Nußbach, Austria) and the high-performance melt filter for effective removal of solid and elastomer contamination from ETTLINGER (Königsbrunn, Germany). R-Cycle is another partner.

Information transparency for value-added recycling

The pallets are equipped with an RFID chip and a QR code integrated by means of in-mould labelling. Visitors to the show can use the QR code to retrieve information on the material and the recycling process from R-Cycle database in real time.

ENGEL joined the R-Cycle Community in the spring of 2022. The objective of this cross-company initiative is to introduce digital product passports for plastics products. All information relevant to recycling is automatically recorded as early as the product manufacturing stage so that, for example, waste sorting plants can identify recyclable plastics more accurately and deliver single grade fractions for recycling. In this way, it is possible to stop the downcycling that has been prevalent thus far and to recycle plastics on a par or even with added value. ***smi***

ENGEL
www.engelglobal.com

One focus of the new process is on large-volume moulded parts, many of which, such as pallets and other logistics products, are already made from recycled materials today (all photos: ENGEL)

For more sustainability in the automotive industry: Techniplas and KraussMaffei build new MXW 1000 ColorForm system

At Techniplas, the MXW 1000 ColorForm from KraussMaffei produces premium-quality automotive components (all photos: KraussMaffei)

- *Depth effect for premium-quality automotive components*
- *Customer benefits from KraussMaffei expertise in injection molding and reaction process machinery*
- *Flow-coating with PUR directly in the injection mold*
- *Reduction of working steps saves money and conserves CO_2*

"ColorForm technology holds great potential for a lower CO_2 footprint in the production of components with a finished multifunctional surface," explains Michael Fuchs, Global Application Owner Surface & Lightweight at KraussMaffei. Now the technology once more demonstrates its strengths at TECHNIPLAS, the well-known provider of sophisticated plastic components for the automotive and plumbing industries. In Treuen, Saxony in the Vogtland region, a KraussMaffei MXW 1000 ColorForm system for the series production of components with a transparent surface has been put into operation.

Process expertise and quality awareness are the keys to sustainable production in the automotive industry. The wealth of experience of Techniplas as the user and KraussMaffei as the provider of injection molding technology and PUR/PUA processing systems makes solutions possible that become increasingly more significant these days. ColorForm, that is, the ingenious fusion of injection molding technology and surface finishing with polyurethane in a single process step, is one such solution.

ColorForm: Coating right in the mold

The ColorForm process is based on a combination of injection molding and polyurethane processing. The tried-and-tested multi-component injection molding procedure is the foundation of this process. What is special about it: After injection molding of the thermoplastic mold base body, this body is flow-coated with polyurethane (PUR) or polyurea (PUA) as the surface material in a second cycle.

The RimStar Flex ColorForm reaction process machine, which was designed specifically for this process, and the mixing head feed the surface material (PUR/PUA) directly into the cavity. "RimStar systems take up very little space and meter even small amounts precisely and at a high clock frequency," explains Philipp Strasser, Global Application Owner RPM & Automotive at KraussMaffei.

Transparency with depth effect

"On this system, parts are produced in the injection-compression molding

process. To obtain a special depth effect, a premium-quality, transparent PUR surface is applied to these parts," explains Toni Luckner, Process Developer in Treuen (Vogtland).

"Our customers, large OEMs from the automotive industry, have stringent requirements regarding quality. There must not be any deviations greater than 0.2 mm on any part of the transparent component. Using the MXW 1000 in combination with the RimStar Flex for PUR metering, we fully meet these requirements," says Luckner.

Techniplas has had positive experiences with the ColorForm technology from KraussMaffei for many years now. At Techniplas, the technology is called "ColorFuse". The company currently has four ColorForm systems in Treuen and one in Rüti, Switzerland. This system has been manufacturing ColorForm parts in series production since 2016.

In addition, their in-house TechCenter in Treuen operates two more systems.

Mission accomplished: Employees from Techniplas and KraussMaffei are happy about the successful commissioning of the MXW 1000 ColorForm for the production of smartbars for the automotive industry. From left: Peter Giessmann (KraussMaffei), Eric Jan Frijters (Techniplas), Philipp Strasser (KraussMaffei), Michael Fuchs (KraussMaffei), Rene Rudolf (Techniplas), Sarah Seidel (Techniplas)

Production in the cleanroom

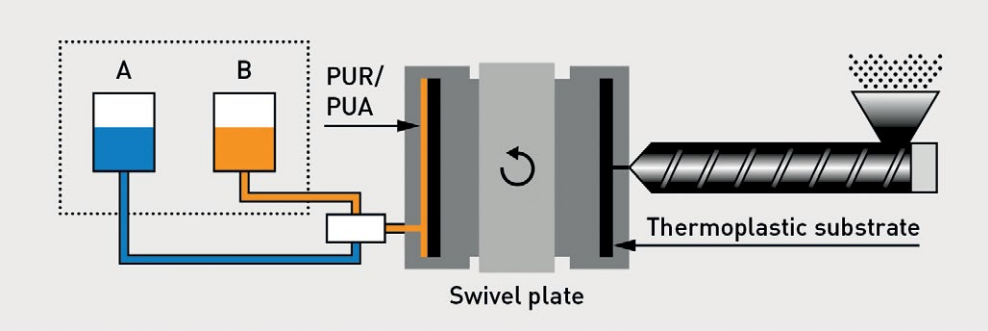
"We run this production process under cleanroom conditions. Thus, not a grain of dust can sneak in between the coating and the substrate surface while the mold is open." Accordingly, the entire system is equipped with a cleanroom enclosure. "In this way, we achieve very low scrap rates", emphasizes Luckner.

KraussMaffei supplied both the MXW 1000 injection molding machine and the RimStar Flex mixing and metering machine, including mixing heads for efficient production of components with a polyurethane surface

Efficient and sustainable production

Initially, ColorForm was developed for greater production efficiency and specific effects for vehicle interior components. At Techniplas, the MXW 1000 ColorForm system puts those qualities on full display. Today, however, aspects such as workplace safety and the CO_2 footprint of the technology compared to other production methods are becoming more and more important. Again, the ColorForm process scores points here in multiple areas. Moreover, ColorForm compo-

Schematic representation of the PUR/PUA flow-coating in the mold



nents are increasingly used even in the exterior area because here as well, a classy appearance is a selling point for end customers.

Increased potential for saving

Not only is the ColorForm technology eliminate the need to transport and paint components, and to invest in a painting plant – the ColorForm components are also ready for installation as they are discharged from the highly automated production cell. This saves both production time and money for buffer storage and drying of the components.

The swivel plate for the thermoplastic substrate makes the MXW 1000 from KraussMaffei particularly productive

Upgrade in difficult times

For the system that has been put into operation now, Techniplas used an existing MXW 1000 injection molding machine from KraussMaffei as the basis. Techniplas had the MXW retrofitted at its manufacturer's main factory in Munich's Allach neighborhood. "There, all necessary equipment is available on-site, and commissioning at the TechCenter was also completed on schedule – both for the injection molding machine and for the PUR technology, that is, for the RimStar Flex with two MK 5-2K CCM mixing heads for simultaneous production of two components. This cannot be taken for granted under the current basic conditions determined by the pandemic," says Luckner.

New control system and ORCA cooling

The MXW 1000 was not just retrofitted for ColorForm technology. Its control system was also completely upgraded to the MC6 control system, and a new ORCA cooling system was installed. "The system performs a contact-free temperature measurement, which minimizes maintenance. The technology allows us to control the twenty cooling circuits of the MXW precisely and thus makes a critical contribution to the high, uniform quality of the components," explains Luckner.

KraussMaffei – Pioneering Plastics

KraussMaffei is among the world's leading manufacturers of machinery and systems for the production and processing of plastics and rubber. Our brand stands for cutting-edge technologies – for more than 180 years. Our range of services covers all areas of injection molding machinery, extrusion technology and reaction process machinery. This gives KraussMaffei a unique selling point in the industry. With the high innovative power of our standardized and individual product, process, digital and service solutions, we can guarantee customers sustained additional value over the entire value-adding chain. Our range of products and services allow us to serve customers in many sectors including the automotive, packaging, medical and construction industries, as well as manufacturers of electrical and electronic products and household appliances. KraussMaffei employs around 4.700 people all over the world. With more than 30 subsidiaries and over 10 production plants, as well as about 570 commercial and service partners, we are represented internationally close to our customers. Since its foundation in 1838, the company's headquarters have been in Munich.

In April 2016, the Chinese state-owned company China National Chemical Corp. Ltd. ("ChemChina"), one of the leading chemical companies in China, became the majority shareholder of KraussMaffei Group. At the end of 2018, ChemChina listed the KraussMaffei Group as KraussMaffei Company Ltd. in Shanghai. The listing opened up access to the Chinese capital market and local investors. *smi*

KraussMaffei
www.kraussmaffei.com

Moretto mini dryers: small size, big performance

From the left: D TX, XD TX and XD XM (picture: Moretto)

With over 10,000 machines sold, the Moretto mini dryers continue to be one of the products more appreciated by customers all over the world thank to their high performance, compactness and polished design.

They are suitable for the treatment of technical polymers in the moulding of complex components serving demanding sectors such as medical, optical, electronics and telephony. Thanks to their small size, they can be installed directly on the mouth of the processing machine.

The range includes three products lines for a total of 9 models distinguished by specific characteristics. The D TX series is characterized by ease of use. The operator, guided by the system database, can independently set the machine according to the polymer to be treated and the required production. The airflow adjustment is automatic in the XD TX series instead. By simply setting two parameters – polymer type and hourly throughput – the dryer automatically manage in a self-adaptive way the necessary airflow to treat the material. The XD XM series is suitable for applications in sectors such as medical and optical.

Standard features of the range are the anti-stress system that prevents over-drying of the polymer and the implementation of the OTX hopper – available in the Pyrex version in the XM series – which increases and completes the dryer performance, creating a high-energy efficient solution. The several connection possibilities via USB and RS 485 serial port make these products perfectly integrable with Mowis, the Moretto supervising and management system, as well as linked to instruments for data collection. Versions are available for connection to Master 300 palmtop for better ergonomics in multi-hopper drying system, or in case of installation on the machine.

The latest development in the Moretto drying family is X COMB, the super compact mini dryer suitable for lower throughput of technical polymers. Fully electric, it is specifically designed to efficiently treat hygroscopic technical polymers. A high-energy efficient product for demanding sectors such as medical, optical and electronics. 7 models available that complete a range of products from 0.25 up to 45 kg/h.

"Reliability, this is the word that best describes Moretto technology. Over 2200 are the mini dryers purchased in 2021, machines that stand out for their quality, performance and attention to detail" HNP, local partner Moretto in South Korea

A global leadership

Since its foundation in 1980, Moretto S.p.A. has gained a top position among the market leaders in the production of automated systems for the plastics processing industry.

The group has a direct presence in over 70 countries and consists of 8 branches, offering a range of highly customised solutions for an increasingly expanding market. Innovation and attention to customer requirements are the main criteria that drive and motivate a team of more than 450 employees, who are united in supporting and using technologies strongly focused on the future. ***smi***

Moretto
www.moretto.com

Professional diagnosis with the profiTEMP TM

The new profiTEMP TM by Meusburger is especially designed for MoldCheck (picture: Meusburger)

The new profiTEMP TM hot runner diagnosis device by Meusburger is especially designed for electrical testing of heaters and sensors as well as preheating and heating up the hot runner.

The main function of the profiTEMP TM is the MoldCheck, a complete and professional diagnosis of the condition of the heaters and sensors as well as the wiring of a hot runner. No specialist electrical knowledge is required for use. The diagnostic result can be saved as a PDF file on a USB flash drive. The range of functions and operation are especially tailored to the requirements of mould makers as well as maintenance and service departments. The heating fuses are easily accessible from the outside which is a great advantage if there is a fuse failure. In addition, the profiTEMP TM offers the option of heating up and preheating the hot runner. As usual, Meusburger offers the device from stock.

Advantages at a glance

- Compact and lightweight
- Logical and intuitive navigation requires almost no training
- Cost reduction due to short testing times and the self-sufficient MoldCheck
- Reduction of set-up times through the MoldCheck and preheating of the hot runner
- Targeted support for trouble-shooting and detailed correction tips

Characteristics

- Checks 12 zones as well as heating and preheating
- 15 amp heating outputs
- Operation via a 7” touchscreen, user interface in 15 languages
- USB port for data export and update of firmware
- Dimensions: 200 x 260 x 400 mm

The new profiTEMP TM by Meusburger is especially designed for MoldCheck. *smi*

Meusburger
www.meusburger.com

Meusburger is the market leader in the field of high-precision standard parts. Customers all over the world make use of the advantages of standardisation and benefit from the company’s over 55 years of experience in working with steel. The product portfolio ranges from high-precision standard parts and selected products for workshop equipment to hot runner systems and hot control systems and systems in the areas of knowledge Management and ERP. This makes Meusburger the reliable global partner for making moulds, dies, jigs and fixtures.

High-performing hot runner systems for small precision parts

Picture: Oerlikon HRSflow

Designed for low shot weights, our hot runner line for small applications combines maximum precision and fast cycle times with special attention to sustainability.

As plastic part design continues to push boundaries, and sustainability will be the future for all molders, challenges to injection molding are increasing. Designed for low shot weights, ranging from 0.2 to 30 gr, the multi-cavity series from Oerlikon HRSflow is conceived to enable maximum design flexibility and ensure tight production tolerances at the same time.

Suitable for a large-scale production of injection molded components, it is the ideal solution when an outstanding surface quality and short cycle times are required as for example in:

- thin wall packaging
- beverage and home
- beauty and personal care
- medical parts
- technical applications

The minimum gate to gate pitch is up to 22 mm for open gate and 25 mm for valve gate with the smallest nozzle pocket of Ø 16 mm.

Oerlikon HRSflow hot half is a fast plug and play solution for the injection molding machine. The internal geometry is suitably profiled to guarantee excellent resistance to bending and torsion, even with high cavitation numbers. The dedicated channel design and the specific coating significantly increase the wear and tear of components, performing also optimized corrosion resistance.

The Company can offer conformal cooling circuits, conceived and built by in-house SLM Technology in case of challenging applications whatever the market segment destination.

On the road towards environmental responsibility

More and more companies are looking to reduce the environmental impact of their products by making use of recycled plastics. We provide for biopolymers and PCR resins dedicated technical solutions, as they are often characterized by narrow process windows due to thermal or shear sensitivities. Oerlikon HRSflow hot runner systems are furthermore conceived to prevent damages caused by foreign particles accidentally present in the bio or PCR compound. This allows to avoid any streaking or flow marks that could jeopardize the cosmetic and functional result of molding. *smi*

Oerlikon HRSflow
www.hrsflow.com

3D printing of body parts for motorcycles

That was the challenge successfully taken up, in 2021, by 3D modeller Michelangelo Agostinetto, with the support of Fabula 3D and LATI3Dlab. The client? The well-known motorcycle customiser Nicola Martini, aka Mr Martini.

But let's go back and see what happened. When 3D printing the first prototypes, Michelangelo ran into some problems related to the strength of the materials and the processability of the parts. It is, in fact, very difficult to find strong materials that are also flexible and heat-mouldable enough to be slightly modifiable in shape.

This is the point at which Marco Ardesi of Fabula 3D stepped in, offering to look after the printing of the pieces, while LATI3Dlab agreed to provide filaments in reels for use in mechanical strength and deformability tests, to be performed using a variety of post-processing techniques.

Specimens were printed in duplicate, thereby making it possible to perform tests and comparison trials. The parameters evaluated were: quality of the aesthetic finishing, shape memory after heating with hot air, and heating and bending strength.

The filaments supplied by LATI3Dlab, all carbon fibre-reinforced, were LATAMID 12 AM H2 K/15, based on PA12, and LATER G HT AM K/10, which is made from PETG with enhanced thermal behaviour. Both products were processed in a closed-chamber printer equipped with a special high-temperature nozzle.

Picture source: LATI

Materials and assembly expert Claudio Concina, a member of Mr Martini's team, then worked on the parts using the "tools of the trade" (hot air, hammer, pliers and so on) in order to shape them. The results were excellent.

Materials such as LATAMID 12 AM H2 K/15 have proven to be suitable for use in this field, allowing a heat-moulded geometry to be deformed in order to reduce or completely eliminate shape memory, yet without any loss of strength or compactness. In this case, a final post-annealing process, serving to heat crystallise the parts, improved the results still further.

In the world of vehicle customisation, the strength and the processability of materials are fundamental requirements.

Mr Martini is a visionary customiser, in terms of both design and technical solutions: by using these materials for 3D printing, he has further expanded his own creative horizons.

Taking customised tools and technologies to the designers' own workplace is crucial in order to create objects more sustainably, in terms of time frames and costs, than is possible using traditional methods. Today, chassis scanning and the subsequent part printing tests are part of Mr Martini's normal workflow.

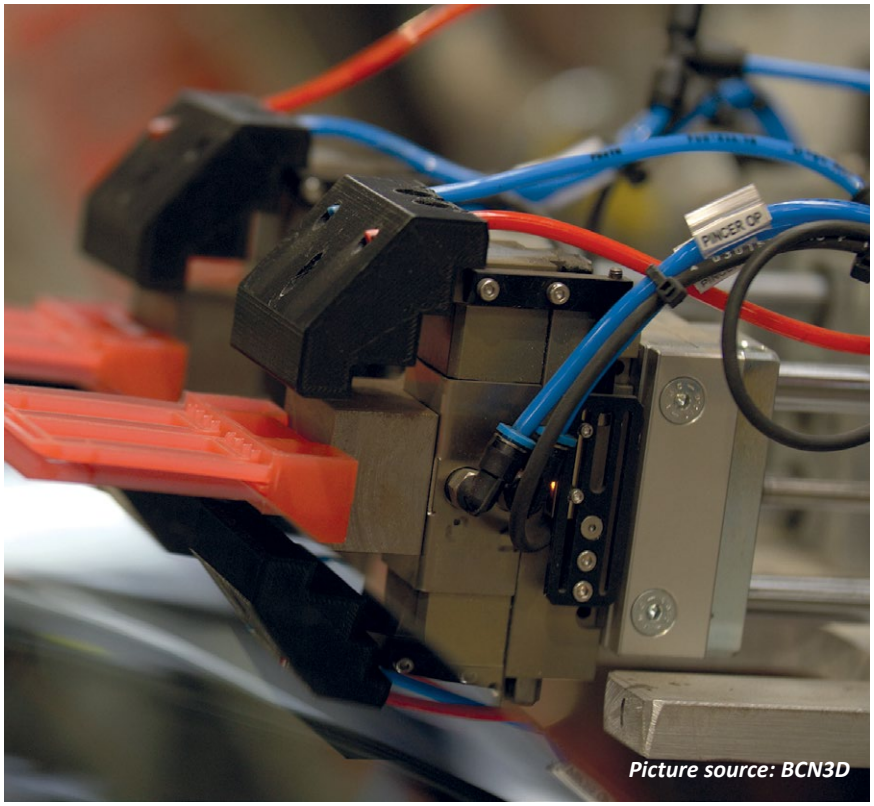
Two motorcycles with sides and other internal components made from LATER G HT AM K/10 have already been produced, and another is already in the pipeline...

It is difficult to predict just what Mr Martini will come up with in the future, as he always proposes pioneering and innovative concepts in his projects.

We are sure that, thanks to the technical materials from LATI3Dlab, he will be able to envisage new applications, and realise his ideas in 3D. **smi**

LATI
www.lati.com/en

Elevating efficiency of automotive production line



Picture source: BCN3D

At the French multinational facility in l'Arboç (Barcelona), 3D printers from BCN3D are used to manufacture tooling such as templates and positioning fixtures that contribute to more efficient glazing production lines.

The French multinational Saint-Gobain, dedicated to the manufacture of glazing for multiple industrial sectors, has found 3D printing technology developed by the Barcelona-based multinational BCN3D to be the perfect ally for increasing the efficiency of its manufacturing processes.

BCN3D's 3D printers and various innovative technological solutions now enable Saint-Gobain engineers at its plant in L'Arboç, Barcelona, to significantly improve efficiency in the manufacturing processes of parts and components for its automotive customers including Daimler Mercedes, Stellantis Group, Volkswagen Group, Renault Dacia and Ford. By creating 3D printed tooling, the French giant's Spanish factory has improved and reduced costs and times by manufacturing tooling implemented in automated lines.

This success story exemplifies how BCN3D's 3D printing technology can be of great assistance to the automotive sector and consolidates the additive manufacturing solutions manufacturer based in Gavà, Barcelona, as a strategic partner of this industrial sector worldwide. This case shortly follows the incorporation of its equipment in the production plants of Seat and Nissan in recent years.

Since 2019, Saint-Gobain's Sekurit business unit at the L'Arboç plant – where 19 million different automotive glazing units (backlites and sidelites) are produced per year – has incorporated 3D printing technology after outsourcing for years the manufacture of tooling that it entrusted to mechanized processes with much higher costs compared to 3D printing.

The incorporation of this additive manufacturing technology has since enabled Saint-Gobain's Spanish plant to save around 170,000 euros and reduce its lead times for tooling by 93%. The 3D printed parts take the form of tools, jigs, and fixtures all the way through to quality control.

3D printing revolutionizes production at Saint Gobain

Saint-Gobain's Barcelona plant has incorporated 3D printing technology (including IDEX Technology) in its workshop with several BCN3D Epsilon W50 series printers and Smart Cabinets, making it easier for the multinational to develop new ideas, easily and conveniently create new prototypes in a shorter period of time compared to other machining technologies, and carry out tests and end-use parts in a matter of days, all while maintaining the highest quality.

Additive manufacturing integrated into automation

Saint-Gobain integrates additive manufacturing into tooling that facilitates the production of rear and side panels for vehicles. The process begins with a fully automated robot line: the glazing is cut to shape, the sides are smoothed and designated aesthetic details are added.

The glazing is then collected and placed in an oven to create the curves. Fresh from the furnace, the glazing is checked for dimensions and quality, and then sorted into pass or fail for manual checking. ***smi***

BCN3D
www.bcn3d.com

Elastomer troubleshooting: the influence of insert preheating

The problem of crack formation in rubber parts can be avoided by preheating the inserts.

Figure 1: Cracks in a rubber part (suspension bushing) after injection molding (all pictures: SIGMA)

Virtual molding instead of just simulation: the mold makes the difference!

Not only the behavior of the part but also the thermal behavior of the mold can be analyzed and optimized with SIGMASOFT ®elastomer. The molder can now accelerate the development process and achieve the desired part quality from the very first shot. Furthermore, he will be able to start the virtual series production even before his mold is built.

Case study

After production crack formation could be observed on one side of a suspension bushing which caused a malfunction (Fig. 1). The molder reached out to SIGMA to analyze the possible reasons for this failure.

The part was simulated together with the full mold and all process parameters to achieve a realistic representation and to consider all factors influencing the cracking: rubber part, runner system, metallic insert, contour providing plastic inserts. In this way, the real production could exactly be reproduced over several molding cycles (Fig. 2).

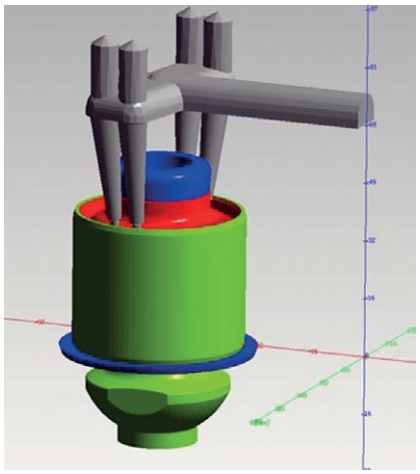


Figure 2: Modelling of all components. Red: elastomer compound; blue: plastic insert (PEEK); green: metal insert (Steel)

The analysis of the current status showed big differences of the temperatures within the rubber part. The temperatures of the outer regions were much higher compared to the inner regions, due to the thickness of the metal insert. Additionally, it became evident that the plastic insert (PEEK) blocked the heat transfer into the rubber. Thus, it was not possible to reach the necessary curing inside the critical area (circled in Fig. 3, left). Even after a cycle time of 420 s (395 s heating time) there was still significant variation of the curing throughout the part and – even more important – an average curing degree of only 20%, which was distinctly too low (Fig. 4, left).

Possible counter measures include a longer cycle time (resulting in higher production costs) or the optimization of the curing behavior inside the part. It was proposed to preheat the inserts to 100°C. This change was included into the virtual process and a second thermal rheological analysis of the filling, holding and heating phase was performed. The preheated inserts led to a more homogenous temperature distribution inside the part. In the critical area the temperature could be increased by 40°C with this approach (Fig. 3, right). The higher average temperature, the more homogenous temperature distribution and the bigger energy amount available (mostly in the metal inserts) led to a higher curing degree of 93% instead of 20% after a cycle time of 420 s (Fig. 4, right). Thus, the warpage induced by curing was also reduced.

Besides achieving a higher curing degree in the critical area (which improves the local mechanical strength), the local stresses could also be reduced. Both together prevent the cracking of the part. The problem of crack formation in the suspension bushing thus could be avoided by preheating the inserts. A possible additional reduction of the cycle time was not investigated.

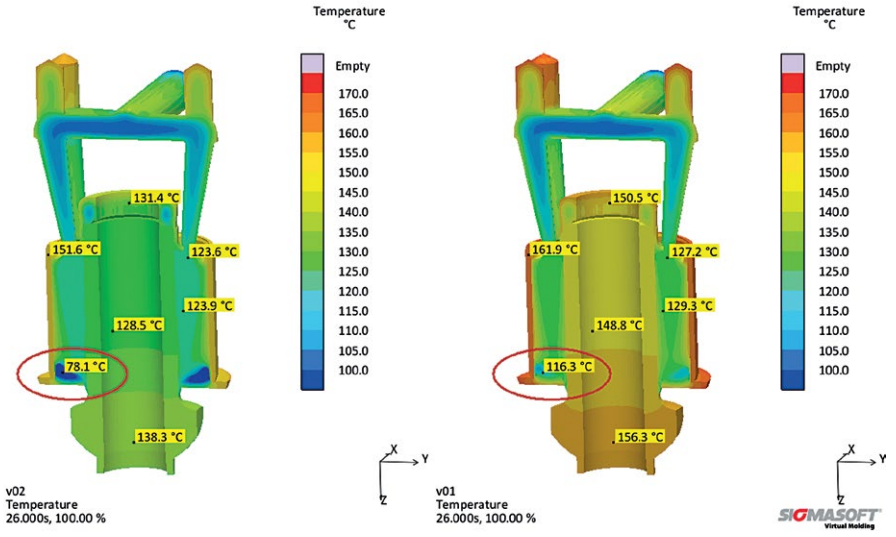


Figure 3: Temperature distribution at the end of filling with cold inserts (left) and with inserts preheated to 100°C (right)

Company profile

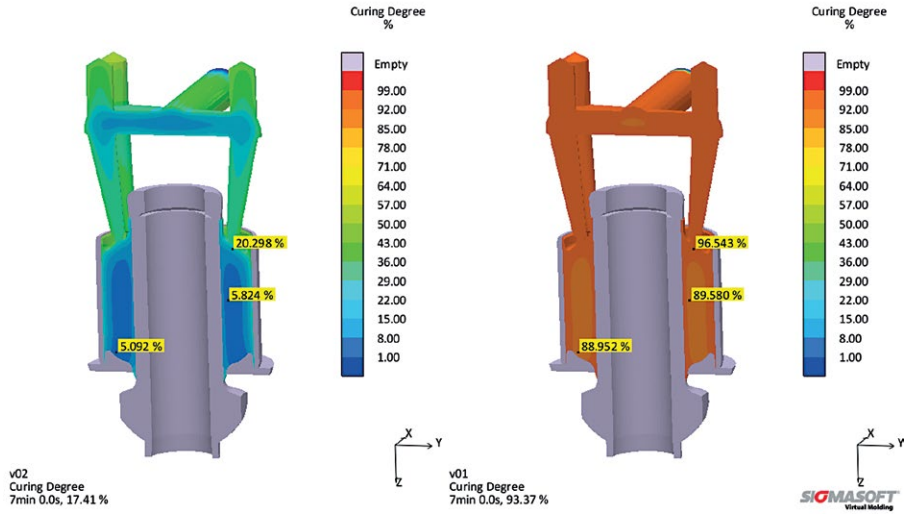
Since 1998, SIGMA Engineering GmbH has been driving the development of the injection molding process with its simulation solution SIGMASOFT® Virtual Molding. This virtual injection molding machine enables the optimization and development of polymer components and molds as well as the mapping of the entire production process. The SIGMASOFT® Virtual Molding technology combines the parts 3D geometries with its tooling and temperature control system and integrates the parameters of the production process. This ensures a cost-efficient and resource-saving production as well as high-performance products – from the first shot.

SIGMASOFT® Virtual Molding integrates a multitude of process-specific models including 3D simulation technologies that have been developed and validated over decades and are being continuously optimized. The SIGMA Solution Service and Development team support customers specific goals with application solutions. The software company SIGMA offers application engineering, training, direct sales and support. A software straight from its developers and designers to be a solution service to polymer engineering all over Europe.

SIGMA Engineering GmbH, headed by Managing Director Thomas Klein, has subsidiaries in the USA, Brazil, Singapore, China, India, Korea and Turkey. In addition, SIGMA supports its users worldwide in a variety of international companies and research institutions with its Virtual Molding technology. smi

SIGMA
www.sigmasoft.de

Figure 4: Curing degree inside the part after a cycle time of 420s (7 minutes) with cold inserts (left) and with inserts preheated to 100°C (right)



Picture: Husky

Husky launches new control algorithm that elevates performance of Altanium® mold controller

The Advanced Reasoning Technology (ART 2.0) software delivers greater speed, accuracy, precision, and repeatability compared to today's existing temperature control systems.

Husky Technologies™, a pioneering technology provider enabling the delivery of essential needs to the global community, today announced the launch of a second-generation control algorithm for its line of Altanium® mold controllers. The Advanced Reasoning Technology (ART 2.0) software delivers greater speed, accuracy, precision, and repeatability compared to today's existing temperature control systems.

ART 2.0 incorporates advanced auto-tuning and heat-up strategies which deliver higher out-of-the-box performance. It consistently delivers high accuracy and control precision, significantly reducing variability in the molding process shot-after-shot and mold-after-mold. Test results show that ART 2.0 delivers up to 42% faster heat-up times with 30% less energy use.

"We've elevated our controller technology to a new level," said Aurelien Bastien, Husky's President of Hot Runners, Controllers & Medical. "The all-new tuning and control solution enhances performance while increasing productivity and significantly impacting a molder's bottom line."

ART 2.0 includes two complementary heating solutions, which upgrade Husky's original ART Classic control solution. The primary heating strategy is UniStart which offers uniform and homogeneous heating while promoting even thermal expansion of components in the hot runner. UniStart distinguishes itself by finding the right balance between applying full power to the slowest

heating zone and controlling overshoot to minimize heat-up and stabilization time.

A complement to UniStart is AltaStart, a patent pending advanced algorithm which staggers heating so that all zones reach process temperature simultaneously. Power is not applied to lower mass zones until the last possible moment, reducing material residence time and minimizing degradation in areas like the nozzles with less melt volume. AltaStart also reduces energy consumption by bringing the fastest responding zones, such as the tips, to temperature last.

ART 2.0 also provides auto-tuning capabilities that ensure a high level of control with minimal to no user interaction. Unlike competitive systems with limited tuning outcomes, the ART 2.0 system has more available tuning choices to deliver high level control. It uses individually adjustable P, I, and D values for selection during the auto-tuning routine, increasing the chances of arriving at an optimal result by limiting any gaps that a zone may fall into using the one-parameter method.

Based on benchmark testing, ART 2.0 also provides a significant return on investment (ROI) due to the system's ability to reach set point and stabilize the process faster. "Based on the benchmark testing, we start making good parts sooner than conventional control systems," said Bastien. "We achieve a faster payback because we produce more parts in a shorter period of time."

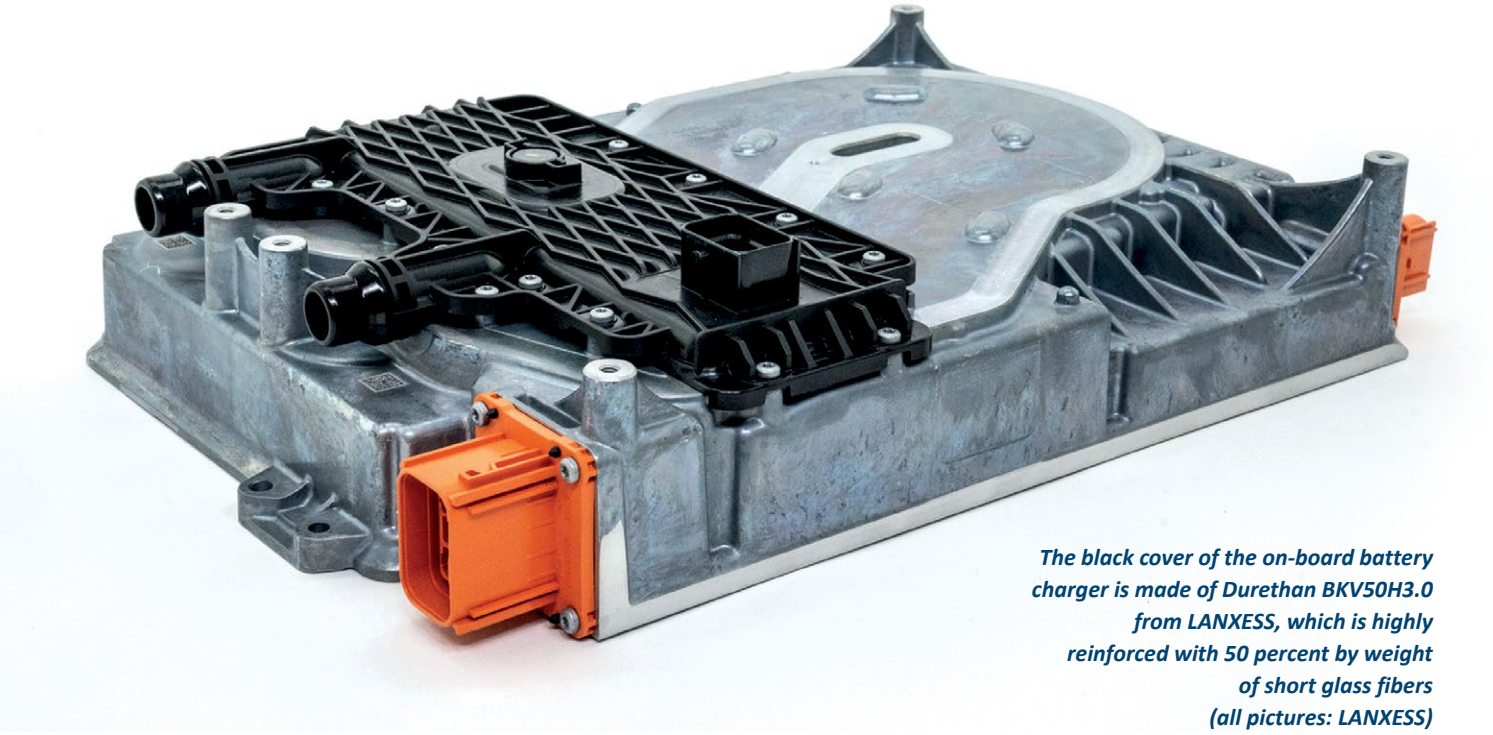
The Altanium® mold controller, powered by ART 2.0, has proven to be the most user-friendly based on a standard setup procedure for qualifying new molds. An expert operator achieved a 64% increase in productivity based on understanding the steps to execute adjustments and the number of button presses to complete the steps versus competitive technologies. A highly functional human-machine interface (HMI) delivers this enhanced usability, reducing complexity and minimizing button presses.

About Husky

Since 1953, Husky Technologies™ has been pioneering technologies that enable the delivery of essential needs to the global community with industry-leading expertise and service. A global leader, Husky is powered by teams of exceptional people in more than 40 locations with valued customers who operate in over 140 countries. By focusing on sustainably sourced feedstocks, material reuse and the exclusive use of medical-grade polymers, Husky continues to be committed to enabling the circular economy now and into the future. *smi*

Husky
www.husky.co

New large-scale application for plastics from LANXESS in electric vehicles



The black cover of the on-board battery charger is made of Durethan BKV50H3.0 from LANXESS, which is highly reinforced with 50 percent by weight of short glass fibers (all pictures: LANXESS)

- *Cover for on-board battery charger made from polyamide 6*
- *Resistant to water-glycol coolant*
- *Strict requirements regarding leak tightness fulfilled*

The technical plastics polyamide 6 and polyamide 66 are admittedly materials with very similar properties, yet they are frequently in competition to one another. Recently, the tense pricing situation for polyamide 66 and its temporarily limited availability have resulted in it often being replaced with polyamide 6 even in its traditional applications. However, new developments of components that have traditionally been made from polyamide 66 are now increasingly being directly implemented in polyamide 6.

One current example of this is the cover for an on-board battery charger that is used in an all-electric compact vehicle made by a German car manufacturer. It is composed of Durethan BKV50H3.0 from LANXESS, which is highly reinforced with 50 percent by weight of short glass fibers. The manufacturer of the system consisting of the cover and charger is Leopold Kostal GmbH & Co. KG, Luedenscheid, Germany, a global system supplier of automotive, industrial and solar electrics as well as electrical connector systems.

This large-scale application underlines the fact that polyamide 6 compounds do not necessarily have to be hydrolysis-stabilized to be used in cooling applications with glycol-water coolants in electric vehicles. “We assume that in the future, polyamide 6 products of this type will become very common in the mass production of covers and other thermal management components for electric vehicles. That is especially the case for applications such as fluid connectors or control units in the cooling system,” explains Dr. Bernhard Helbich, Technical Key Account Manager at LANXESS’ High Performance Materials business unit.

Permanently leak tight and resistant

Plastic components in the cooling circuit of combustion engines have long been a domain of polyamide 66. This is because the thermoplastic is highly resistant to hot coolants such as water-glycol mixtures. However, the requirements in the

"The upswing in e-mobility is accelerating. Numerous new plants for battery cell production are currently being built in Europe. This fast-growing market also offers great opportunities for LANXESS, especially in the field of battery chemistry. We are already producing many of the necessary raw materials for advanced battery technology. The cooperation with Guangzhou Tinci Materials Technology Co. marks a first major step for LANXESS to contribute to a local battery materials supply chain in EU."
Anno Borkowsky, Member of the Board of Management of LANXESS

thermal management of purely electric powertrains are shifting toward lower temperatures. For all-electric vehicles, the long-term thermal resistance of polyamide 6 compounds to water-glycol mixtures is sufficient for most of the parts, even for the significantly longer stressing times in some cases. Thus, the cover permanently withstands temperatures of up to 85 °C during vehicle operation without any problems, and burst loads of up to 10 bar are achieved. Long-term tests on test specimens also revealed that the mechanical properties of the compound in water-glycol mixtures hardly diminish even after 1,500 hours of storage at 110 °C and a pressure of 1.5 bar. As a result, the material meets the technical requirements of a major German carmaker for water-cooled components of electric vehicles.

High degree of strength and stiffness

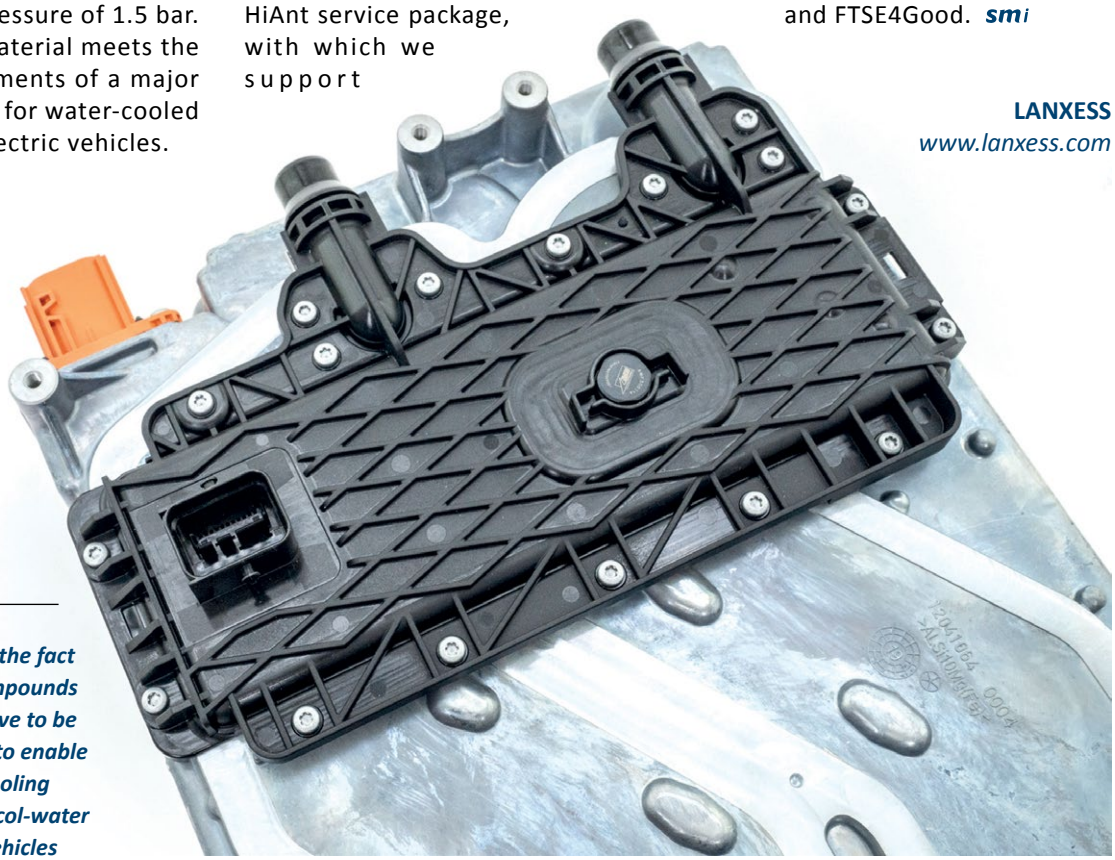
At around 29 centimeters long and 12 centimeters wide, the cover has a considerable flange length. The cover, together with a seal, is screwed to the aluminum housing of the charger. The high degree of strength and stiffness shown by the polyamide 6 compound ensures that the cover meets the strict leak tightness requirements. Helbich comments, "To that end, we optimized the mechanical component properties in close collaboration with Kostal and, by simulating filling, we determined how minimum values for shrinkage and warpage can be achieved in injection molding processing. These services are part of our HiAnt service package, with which we support our project partners at all stages of component development."

In addition, the cover exhibits other material advantages of Durethan BKV50H3.0. For example, it is easy to process and can be injection-molded at high injection speeds, which benefits short, and therefore economical, cycle times. Furthermore, its copper-free H3.0 thermal stabilization does not result in electrical corrosion occurring on metallic parts in the cooling circuit. Another of the compound's virtues is that it is resistant to media typically found in vehicle operation, such as oils, greases, battery electrolyte, and road salt.

About LANXESS

LANXESS is a leading specialty chemicals company with sales of EUR 7.6 billion in 2021. The company currently has about 14,900 employees in 33 countries. The core business of LANXESS is the development, manufacturing and marketing of chemical intermediates, additives, specialty chemicals and plastics. LANXESS is listed in the leading sustainability indices Dow Jones Sustainability Index (DJSI World and Europe) and FTSE4Good. *smi*

LANXESS
www.lanxess.com



The cover underlines the fact that polyamide 6 compounds do not necessarily have to be hydrolysis-stabilized to enable them to be used in cooling applications with glycol-water coolants in electric vehicles

KRAIBURG TPE automotive application breakthrough


Picture: KRAIBURG TPE

KRAIBURG TPE has developed an innovative material technology that enables the production of thermoplastic elastomers (TPE) that is fitting for various application in the automotive market including the low density TPE for extremely weight-saving components.

The automotive industry sets the pace being the most important consumer of TPEs. The flexibility of TPE materials helps manufacturers and designers meet performance, design and sustainability target they desire in the automotive applications.

Design, Comfort and Vibrant Interior Finishing

KRAIBURG TPE's THERMOLAST® TPE compounds offer many material advantages such as abrasion chemical and scratch resistance and soft touch elements in automotive interior applications. Some of the TPE compounds consist of soft touch as well as design functional elements. Also, the TPE compounds reduce annoying ratting and creaking noises when used for damping elements.

With the ability to render precise material color matching, the TPE compounds ensure vibrant hues for vehicle interiors, meeting color-fast requirements to ensure colors will not fade easily.

The TPE exhibit good adhesion with PP, ABS, ABS/PC and PMMA through both injection molding and extrusion.

KRAIBURG TPE's TPE compounds comply with the low emission and odor requirements defined in Fogging DIN75201 and Ordor VDA270 standards.

Additionally, the TPE compounds are on par with OEM requirements namely, 03-10-104 (Renault) | B62 0300 (PSA) | DBL 5562 (Daimler) |GMW 15702, GMW 17374, GMW 14722 (GM) | GS 93042 (BMW) | MS-DC-242 (FCA) | STJLR.51.5306 (JLR) | TM-1010 (Tesla) | VW 50123 (VW) |WSS-M2D507 (Ford).

Typical automotive interior application including floor mats, cup holders, door sill panels, cable sleeves, thumb wheels, air conditioner flap and more.

High Quality Exterior Surface & Weather Resistance

KRAIBURG TPE compounds offer outstanding benefits for automotive exterior. The TPE compounds feature good weathering and UV resistance as well as thermal stability which is required in for exterior applications that are exposed to harsh weather and heat. The TPE compound has passed weathering tests such as the Kalahari and Florida test.

It displays excellent adhesion with a broad range of thermoplastics including PP, PP+30% glass fiber, SAN, ASA, PMMA, PC/ABS, and nylon, allowing for design innovation and flexibility of parts processing with multi-component injection molding.

The THERMOLAST® TPE compound meets OEM approval from global automotive majors including 03-10-104 (Renault) | B62 0300 (PSA) |DBL 5562, DBL 5422 (Daimler) |GMW 15702, GMW 16233 (GM) |GS 93042 (BMW) |MS-DC-242 (FCA) |STJLR.51.5306 (JLR) |TM-1010 (Tesla) |VW 50123, TL 52622 (VW) |WSS-M2D505 |WSS-M2D517 (Ford).

The compound's high surface quality and excellent flow properties make it ideal for automotive exterior applications like window encapsulation, water deflector, side mirror gasket and sealing for brake lights.

Lightweight TPE

The selective series of lightweight properties are ideal for diverse automotive applications like door sealing systems, cowl sealings, anti-rattle seals, window encapsulations, roof rail mats and more.

The lightweight TPE, possessing a density of <0.8g/cm³, has excellent compression set as well as smooth and uniform surface.

It also exhibits good weathering resistance, having passed weathering tests such as the Kalahari and Florida tests.

The TPE compounds exhibits good adhesion with polyolefins materials (PP/PE, TPS, TPV) through injection molding and coextrusion. *smi*

KRAIBURG TPE
www.kraiburg-tpe.com

Picture: SABIC

Further enhance the performance of EV

SABIC launches BLUEHERO™ to help accelerate shift to electrification and lower carbon future, with initial focus on automotive industry.

SABIC, a global leader in the chemical industry, has recently introduced BLUEHERO™, an expanding ecosystem of materials, solutions, expertise and programs aimed to help accelerate the world's energy transition to electric power and support meeting global goals on climate change. The company's starting point with BLUEHERO is support of the automotive industry's mission to create better, safer and more efficient electric vehicles (EVs), with an emphasis on improving structural battery components with unique flame retardant materials and solution development expertise.

The automotive industry is leading the charge in moving toward new, more sustainable mobility systems. This includes a major shift towards battery powered EVs, which can convert over 77 percent of electricity into movement compared to only 12 to 30% for vehicles with internal combustion engines. In addition to this high performance, EVs also emit no tailpipe pollutants and are typically responsible for significantly fewer greenhouse gas emissions during operation – enabling important contributions to meeting global goals on climate change.

SABIC provides cost-effective and technologically advanced thermoplastics – which can offer significant advantages over conventional materials (metals) – to help the automotive industry further enhance the performance of EVs. For example, using plastics in EV battery, electrical and charging components can deliver multiple benefits: reduced weight and system complexity, extended driving range, expanded design freedom, streamlined manufacturability, recyclability, and enhanced thermal management and occupant safety.

SABIC's new BLUEHERO electrification initiative also leverages specific knowledge and expertise around large part molding, compression molding, advanced injection molding and polymer flame interaction to help support customers with solutions that can meet critical requirements and enable efficient production.

The company expects to strengthen and expand its thermoplastic offering to help enable electrification with the elevated focus and new investments that will become available under BLUEHERO.

An integral element of SABIC's BLUEHERO ecosystem is its global team of engineers, research fellows and scientists. This team is harnessing its established and growing expertise in design, testing and data generation for EV batteries and related applications to problem solve and overcome current limitations. As part of its work, the team collaborates with customers, development partners and others across the value chain, from OEMs and tiers to tooling suppliers and testing agencies.

With promising opportunities for the world to employ electric technologies, SABIC anticipates expanding the focus and scope of its BLUEHERO initiative to help support efforts in additional sectors. Those could potentially include energy storage, charging infrastructure, other modes of transport and industrial and consumer equipment. ***smi***

SABIC
www.sabic.com

Improved vehicle interior air quality with Evonik's new Aldehyde Scavenger

Picture source: Evonik

• ORTEGOL® LA 3scavenges formaldehyde and acetaldehyde to improve vehicle interior air quality
• New scavenger designed for good processability and high emission reduction performance
• Supports automotive industry to meet increasingly stringent emission demands

One of the biggest challenges for the automotive industry is to remove odors from car interiors. With a key requirement to reduce emissions from aldehydes, Evonik has developed its new second-generation aldehyde scavenger, ORTEGOL® LA 3. The additive is specifically designed to reduce formaldehyde and acetaldehyde levels in automotive molded foams, helping to reduce the "new car smell".

Increasing consumer demand for neutral odors inside the vehicle has placed an ever-increasing focus on additive formulators like Evonik to develop modern, high-performance scavengers that enable automotive OEMs to reduce VOC and FOG levels. The industry's continuing drive to lower aldehyde levels must also be balanced with maintaining good processability and the final quality of the polyurethane (PU) foam products. Evonik's new scavenger works by reacting with the aldehyde – this ensures easy processing without compromising the quality of the PU application.

"With strong pressure coming from consumers in Asia to completely remove the 'new car smell', reducing odors inside the cabin has become a key focus area for us," said Roland Hubel, Head of Evonik's PU additive business for flexible foams. "We have a broad portfolio of additives that includes low odor and low VOC surfactants, as well as our latest NE (Negligible Emission) range of catalysts and aldehyde scavengers such as ORTEGOL® LA 3 to help our customers meet today's more stringent emission demands."

Recommended for use in conjunction with DABCO® NE 300 and DABCO® NE 1550 or DABCO® NE 1600, ORTEGOL® LA 3 is unique in that it can scavenge several aldehyde species (formulation dependent). ORTEGOL® LA 3 is registered for use in all major regions including US (TSCA), Canada (DSL) and Europe (REACH). Additionally, ORTEGOL® LA 3 does not contribute to emissions in VDA 278 or VDA 276 (Chamber Test).

To support these new low VOC and low emission solutions, Evonik has established its own certified odor panel in Shanghai, China to facilitate its in-house odor testing during new product development and to better support customers in the region.

Company information

Evonik is one of the world leaders in specialty chemicals. The company is active in more than 100 countries around the world and generated sales of €15 billion and an operating profit (adjusted EBITDA) of €2.38 billion in 2021. Evonik goes far beyond chemistry to create innovative, profitable, and sustainable solutions for customers. About 33,000 employees work together for a common purpose: We want to improve life today and tomorrow.

About Specialty Additives

The Specialty Additives division combines the businesses of versatile additives and high-performance cross-linkers. They make end products more valuable, more durable, save more energy and simply better. As formulation experts in fast growing markets such as coatings, mobility, infrastructure and consumer goods, Specialty Additives combines a small amount with a big effect. With its 3,700 employees the division generated sales of €3.71 billion in 2021. *smi*

Evonik
www.evonik.com

exhibitions calendar

Taipei Plas

27 September - 01 October 2022
Taipei, Taiwan
www.taipeiplas.com.tw

Taipei Plas is a biennal international exhibition for plastics and rubber technology. You can see every facet of production, meet company representatives and industry professionals from across Asia and check out the vast array of breakthrough processing machinery, parts, finished products and materials.

K

19-26 October 2022
Düsseldorf, Germany
www.k-online.de

K is the world's largest trade fair for the plastics and rubber industry. It gathers the most important supplier of plastics and rubber machinery, raw and auxiliary materials and semi-finished products, technical parts and reinforced plastic products under one roof. It is an ideal platform to showcase products and innovations and to make business contacts.

Plastindia

01-05 February 2023
New Delhi, India
www.plastindia.org

Plastindia is an international plastics exhibition and conference where national and international exhibitors present their new products and technologies. It is an ideal meeting place for buyers and sellers, joint ventures etc. and also enhancement business prospects, strategic alliance and technology transfer.

PLASTEC WEST

7-9 February 2023
Anaheim, CA, USA
www.plastecwest.com

PLASTEC West is the largest annual plastics event in North America. It goes above and beyond plastics and polymers. Discover the latest biocompatible polymers and cutting-edge large-scale injection molding solutions, while uncovering technology solutions in medical design & manufacturing, 3D printing, and robotics.

Chinaplas

17-20 April 2023
Shenzhen, China
www.chinaplasonline.com

Chinaplas is the largest plastics and rubber trade fair in Asia and widely recognized by the industry as one of the most influential exhibitions in the world. The rapid development of science and technology has dramatically increased the range of applications of plastics and rubber in various manufacturing sectors, including automobile, electronics and electrical appliances, information technology and telecommunication, building and construction and others.

Moulding Expo

13-16 June 2023
Stuttgart, Germany
www.messe-stuttgart.de/moulding-expo

In 2023, Moulding Expo will be the most important European event for tool, pattern and mould making: The top exhibitors of the branch present the best the European tool construction, pattern and mould making industry and suppliers' technologies has to offer – at first hand, with passion, soul and enthusiasm. Look forward to an industry get-together which provides new business opportunities to your company.

PLAST

5-8 September 2023
Milan, Italy
https://www.plastonline.org/en/

Plast is an international trade exhibition for the plastics and rubber industry, where interested visitors can get a complete overview of the latest developments in the industry from raw materials to finished products, from machinery to services. Plast will coincide with the exhibitions Ipack-Ima, Grafitalia and Converflex that are dedicated to packaging, graphics and converting.

FAKUMA

17-21 October 2023
Friedrichshafen, Germany
www.fakuma-messe.de

Fakuma is a prominent meeting place for the industry, with international charisma. It holds second place in the overall ranking of international trade fairs for plastics. Fakuma offers a top-class, comprehensive range covering all aspects of injection moulding technology as well as extrusion and thermoforming, in which it holds a leading position. The range of provision at Fakuma is rounded off by forward-looking forums, workshops and special shows.

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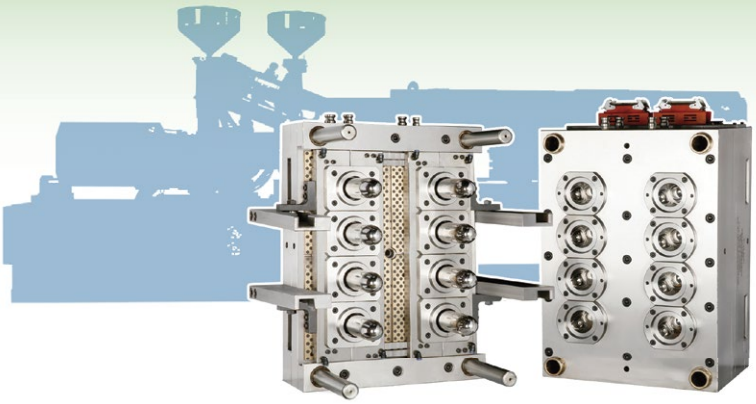

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