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HASCO

New Cooling Tornado Z9665/...

With the new Cooling Tornado Z9665/…, HASCO offers innovative possibilities for saving energy directly in the mould.

- Improved cooling through turbulent flow
- Efficient cooling enables shorter cycle times
- Avoidance of hot spots
- Up to 10°C temperature difference attainable compared with conventional cooling bores
- Energy saving through turbulence between 20 and 40 %

www.hasco.com

Formnext 2025: Focus on industrial applications and the commercial potential of Additive Manufacturing

Formnext 2025 will place an even greater focus on commercially successful Additive Manufacturing applications. With its sights set on advancing the industrialization of the AM industry, the leading international exhibition will demonstrate how innovative manufacturing solutions, especially in demanding sectors such as mechanical and plant engineering, can help companies achieve a competitive edge.

Reflecting the increasing relevance of industrial Additive Manufacturing (AM) applications is the new, ever-growing compendium of the VDMA Additive Manufacturing Working Group, which presents successful use cases from the mechanical engineering sector. These cases illustrate how AM technologies are addressing important challenges the industry is facing, such as resource efficiency, functional integration, and new component development. Formnext and its honorary sponsor, the VDMA's Additive Manufacturing Working Group, are jointly committed to highlighting and expanding the potential of Additive Manufacturing in the industry.

Stage program and call for speakers until 31 July

Spread over three stages, the stage program at Formnext 2025 is a special highlight of the event, offering a wide range of perspectives on Additive Manufacturing. There's still time for interested companies and experts to get involved as the call for speakers for the Application and Industry Stages has been extended until 31 July.
On the Application Stage, visitors will be shown practical applications of AM from various industries. Offering a platform for cross-industry dialog on industrial solutions, the stage aims to inspire fresh ideas for new applications. "With the increasing industrialization of Additive Manufacturing, commercially successful applications are growing in number and in relevance," explains Christoph Stüker, Vice President Formnext at Mesago Messe Frankfurt. "Sharing these use cases is essential to establish AM in other sectors and develop new solutions for specific challenges."
In addition to business cases and inspiration from different application sectors, the Industry Stage encourages discussion on cross-industry topics such as sustainability, digitalization, artificial intelligence, and many more.

Joining forces to improve awareness of industrial AM solutions

Formnext and the VDMA are pursuing the shared goal of increasing visibility of industrial AM solutions and raising awareness of their economic potential. "To achieve the desired level of industry awareness, it is vital that expert networks such as the VDMA and high-profile platforms such as Formnext work together efficiently," explains Dr. Markus Heering, Managing Director of the AM Association of the VDMA. Once again for 2025, the VDMA will be hosting a Show Case Area at the event, this year under the theme of "Profitable Industrial Solutions".
Alongside the annual exhibition, Formnext offers various formats throughout the year to support knowledge sharing and create space for ongoing dialog, information, and inspiration within the AM community.

Further information:
The VDMA compendium is available at
https://vdma.eu/en-GB/viewer/-/v2article/render/141749466

Stainless steel clamping set mounted on a model of the imaging drum of the XStream thermal platesetter by Krause Biagosch. The XStream is used for imaging printing plates in the graphic arts industry (Picture: © Krause DiMaTec GmbH)

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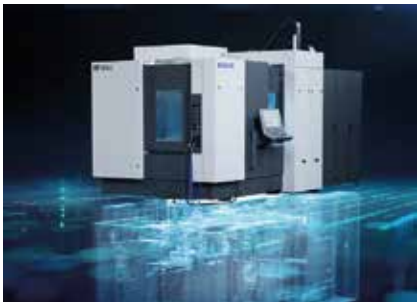

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HASCO India in new premises

HASCO has been represented in India with its own subsidiary since 2003 and is now expanding this commitment further: With a grand opening ceremony at its new, spacious premises in Bangalore, India, HASCO has reached an important milestone in its international growth strategy.

Around 100 invited guests from the plastics and mouldmaking industry attended the inauguration event in mid-September, making it a resounding success.

The Indian tool and mouldmaking industry is developing dynamically and is becoming increasingly important in the plastics industry. With a dedicated team of 12 and a local presence, HASCO has created the ideal foundation for serving its customers in India even more quickly and efficiently. At the heart of the new location is a modern warehouse with comprehensive product capacity that can be expanded as demand increases.

The new warehouse ensures the rapid availability of accessory components, significantly reducing delivery times. This strengthens HASCO's position as a reliable partner for standardised parts and innovative solutions for mouldmaking.

“This expansion is a clear commitment to speed, precision, and customer satisfaction,” emphasises Rajnikant Patel, General Manager - India/Sri Lanka/UAE. “Our branch in Bangalore enables us to provide the Indian market with optimum support in the form of high-quality products, technical expertise, and comprehensive service.”

HASCO consistently focuses on international proximity to its customers – for even greater efficiency, flexibility, and partnership-based cooperation.

(Picture: HASCO)

Visit our website
www.mold-magazine.com

Cimatron unveils reframed brand identity

Cimatron recently announced the launch of its new brand identity, ushering in a new era of developing innovations that help shape the manufacturing landscape. The company’s rebrand reflects its ongoing mission of empowering manufacturers to reach their full potential with technologies that help automate and accelerate workflows, optimize resources, and bridge the skills gap.

(Picture: Cimatron)

Cimatron’s refreshed brand identity captures both its legacy and visionary approach. By striving to fulfill the unique needs of today’s manufacturers, the company reinforces its role in helping mold, die, and discrete part manufacturers meet tight deadlines while achieving greater efficiency at every stage of production.

“Our rebranding represents not just a new look, but a new chapter for Cimatron,” said President Taline Forsberg of Cimatron. “We’re combining our decades of expertise in software development with a renewed focus on innovation, automation, and ease of use. We understand the challenges of the industry and work hard to provide the tools manufacturers need to seize opportunities and thrive in today’s competitive landscape.”

With the rebrand, Cimatron reaffirms its dedication to developing automation and industry-specific tools that accelerate time-to-market by reducing error and helping manufacturers move more quickly from design to production.

It will continue to provide technologies that maximize resources by improving communication and validating designs and manufacturing processes before jobs are sent to the shop floor. Cimatron will also continue to focus on developing intuitive tools embedded with industry knowledge to make advanced manufacturing technologies accessible to staff of any experience level.

GOLLMER Formen: premiere on K-Show 2025

GOLLMER Formen GmbH, a leading company in the international project planning and procurement of injection moulds from China, Vietnam, India and Eastern Europe, took part in the K trade fair in Düsseldorf for the first time this year. Visitors had the opportunity to find out about the latest developments in the field of international project planning and procurement of injection moulds, components and assemblies as well as turnkey systems. As an experienced partner in the global procurement of injection moulds, GOLLMER Formen GmbH offers comprehensive expertise that goes beyond mere procurement. “Our customers benefit from an excellent network, the highest quality standards and a German contractual partnership. It is no longer the simple injection moulds that we realise together with our partners. Mulity-cavity moulds, large moulds, 2K and 3K moulds are no problem. Such demanding projects are completed in record time and with maximum cost savings,” says Managing Partner Alexander Dangel. At the Kirchheim unter Teck site, the company has a fully equipped mould shop, which makes it possible to carry out subsequent changes and corrections precisely and efficiently.

This year's trade fair appearance was all about global project planning and procurement, supply chain diversification and turnkey systems. These innovative solutions combine the injection moulding machine and injection mould into a production – ready complete system. In close cooperation with Haitian International Germany GmbH, one of the world's leading manufacturers of plastic injection machines, GOLLMER Formen offers its customers a complete package: injection moulding machine, plastic injection mold and automation – all from a single source. The advatages of these turnkey systems are obvious: a significant reduction in time-to-market-process, increased competitivness and technical support from the experts from GOLLMER Formen and Haitian.

(Pictures: GOLLMER)

Succession planning secured in Bühler Group's leadership

Samuel Schär, Chief Services & Sales Officer of Bühler Group

Stefan Scheiber, CEO of Bühler Group

Calvin Grieder, Chairman of the Board of Directors of Bühler Group

Bühler Group remains committed to its long-term orientation as a family business. Through proactive personnel and leadership planning, Bühler ensures continuity and stability for its employees, customers, and partners. The Board of Directors is therefore announcing the upcoming succession plans for 2026.

The Board intends to appoint Samuel Schär as the new CEO as of January 2026.

Samuel Schär studied physics at EPFL Lausanne. After gaining initial experience in consulting, he joined Bühler 20 years ago to establish the Nanotechnology business unit. He then led the Grinding & Dispersing business area for several years, before joining the Group Executive Board in 2013 and successfully leading the Advanced Materials segment for 10 years. He later took over responsibility for the Global Services & Sales organization.

In parallel, the Board of Directors has decided to propose Stefan Scheiber as the new Chairman of the Board of Directors of Bühler Group at the next Annual General Meeting in February 2026.

Stefan Scheiber looks back at a successful 35-year career at Bühler in Switzerland and abroad. He has been a member of Group Management for 20 years in various areas of responsibility and will have held the position of CEO for 10 years at the end of this year.

Stefan Scheiber will succeed Calvin Grieder. Calvin Grieder will step down at the 2026 Annual General Meeting after 25 successful and formative years as CEO, Member of the Board of Directors, and Chairman of the Board of Directors of Bühler Group.

This long-term succession plan follows the transition initiated years ago within the owner family by Urs Bühler. The fifth generation of the family – Karin, Maya, and Jeannine Bühler – are continuing the long-term ownership strategy. Bühler will remain in the ownership of the family and will continue to pursue the goal of remaining successful as an independent, globally active technology company.

(Pictures: Bühler)

New Managing Director at MAPAL do Brazil

The position of Managing Director at MAPAL do Brazil has been filled again. Denilson Misiti took over responsibility for the Brazilian subsidiary of the Aalen-based precision tool manufacturer on April 9, 2025.

He succeeds Conrado Couto Diniz, who in turn had continued to manage MAPAL Brazil in personal union after his move to MAPAL Italia at the beginning of 2025.

Denilson Misiti has over 30 years of experience in the precision tool industry and in managing international companies in Brazil. Most recently, he was General Manager of MAPAL HiTECO TMS do Brazil, where he focused on tool management services.

He is characterized by his hands-on management style, his focus on the strategy-oriented achievement of sales and financial goals and his ability to promote employees and teams.

Conrado Diniz will fully support Denilson Misiti in the first months to ensure a smooth and orderly transition. Misiti will continue in his position as Managing Director of MAPAL HiTECO TMS do Brazil until a successor is found for this position.

New Managing Director of MAPAL in Brazil: Denilson Misiti **(Picture: ©MAPAL)**

New chapter in the management of Reis Robotics

Reis Robotics GmbH & Co. KG is embarking on a new chapter: the company is strengthening its management structure and focussing on a combination of strategic foresight, experience and innovative strength.

The management is now in the hands of Uwe Eich, who has been part of the company for 29 years. With his technical expertise, his management experience and his deep connection to Reis Robotics, Uwe Eich stands for lived continuity, technological expertise and the unique Reis spirit.

He is supported in this challenging task by the partners Lapo Vivarelli Colonna and Luigi Maniglio.

“With the new management structure, we are combining strategic responsibility and technical expertise in an ideal way,” explain the shareholders. “We are convinced that this combination will further strengthen the long-term success and innovative power of Reis Robotics.”

Uwe Eich (Picture: Reis Robotics)

With the new management, the company is clearly focussing on future topics – from efficient automation and intelligent control systems to sustainable production.

About Reis Robotics

Reis Robotics is a globally active automation company and a leader in robot technology and system integration. Headquartered in Obernburg am Main, Germany, we are a recognised integrator of complex automation systems in major industries. Our product range includes specialised robots and automation components for the welding, laser processing, multi-process automation and foundry technology market segments.

The basis of the company's successful development since 1957 is the expertise of our innovative employees in the realisation of automation solutions, from our own robot controller to turnkey automation systems. Since July 2023, Reis Robotics has been part of the family-owned industrial group Aretè Cocchi Technology and FAI Holding.

HASCO provides for a “revolution in the cooling channel”

The firm Bekto, in Bosnia and Herzegovina, switches completely to the Cooling Tornado

“The Cooling Tornado is a revolution for the entire industry,” says Redžo Bekto, full of enthusiasm about the HASCO innovation, which is marketed under article number Z9665/… The founder and Managing Director of Bekto Specijalna Izrada d.o.o. (BSI) appreciates the numerous advantages of the product in terms of energy savings, shorter cycle times, and significantly longer maintenance intervals. Overall, this leads to a considerable reduction in costs.

Cooling Tornado Z9665/…

When Asim Spahović, Area Sales Manager for South East Europe at HASCO, presented the new Cooling Tornado Z9665/… to Bekto Specijalna Izrada d.o.o. (BSI) in Goražde, Redžo Bekto was initially sceptical. “The following day, I installed the two samples from HASCO into a mould and observed the process over a period of several days,” said Redžo Bekto, recalling his first experiences with the Cooling Tornado. It quickly became clear to him that the temperature difference on the mould surface, compared with the conventional cooling method, was significantly reduced. “This led to a situation in which the cycle times when using this product fell from 57 seconds to 23 seconds.” The initial scepticism thus quickly gave way to genuine enthusiasm.

Erwin Bekto/ BSI (l.) and Asim Spahović/ HASCO (r.) in the production

The Cooling Tornado Z9665/… generates a turbulent flow in the cooling bores – alternatively, the product can be used in runners for core cooling. By creating a turbulent flow, the effectiveness of the cooling is increased by up to 20%, ensuring uniform temperature distribution. Hotspots are avoided, and the far more efficient cooling leads to significantly shorter cycle times. This results in energy savings of between 20% and 40%, which is another decisive advantage. “The plan is that, by the end of the year, measurements will be carried out on the moulds to obtain an exact figure for the energy savings,” said Asim Spahović.

At present, 320 employees work at BSI in the east of Bosnia and Herzegovina – of whom 150 are employed in mouldmaking alone. Around 600 injection moulding and die casting moulds are produced each year. Including mould corrections, this impressive figure rises to 1,670. Furthermore, the company produces plastic articles for various industries – including automotive, household goods, electronics, sporting goods and fittings – on 60 injection moulding machines

with clamping forces of 50–850 t. “BSI has aligned its portfolio with international demand,” explains Erwin Bekto – grandson of the company founder, and soon to follow in his grandfather’s footsteps.

Fewer deposits in the cooling channel: Longer maintenance cycles

After two weeks of testing, says Redžo Bekto, the moulds were dismantled and the inner diameter was measured. “The cooling channels looked almost new,” he reports, moving on to another advantage: on the inner surfaces of the cooling channels, there are virtually no deposits at all. “This, too, is an effect achieved by the turbulence of the medium,” adds Asim Spahović. Through the use of the Cooling Tornado, maintenance cycles are extended from three to an estimated twelve months. Here too, BSI aims in future to obtain even more accurate data, which would be important for future maintenance schedules. When projected across a full production year – and given the number of active moulding tools – there are already clear signs of significant cost savings in the maintenance process.
Retrofitting the moulds can be carried out very quickly, and assembly is easy. HASCO offers the Cooling Tornado in diameters of 8–15 mm and lengths of 250 and 500 mm. Thanks to its ability to be shortened precisely, the product can be individually adjusted to the length of the runner or cooling channel. Redžo Bekto reports that customer enquiries are reaching him daily, asking where the product can be purchased. Moreover, feedback regarding the improved cooling performance is also being incorporated into the obligatory mould optimisations. “So far, not a single customer has declined our proposal,” says Redžo Bekto with a smile. Accordingly, BSI has already ordered around 1,000 units in various lengths and diameters in order to be able to react quickly in its customers' interests.

“The innovation of recent years in mouldmaking”

Redžo Bekto has been working successfully with HASCO for more than 40 years as a supplier of standard mould units. “In fact, the very first order was a project of enormous scale. I can truly say that the cooperation over the decades has developed well and has been worthwhile for both sides.”
“For me, this new development from HASCO is the innovation in mouldmaking in recent years,” says the technical enthusiast, full of conviction. “The performance these HASCO products deliver is overwhelming, especially in relation to the low purchase price.” As far as he is concerned, there is no doubt that the Cooling Tornado – which was voted Product of the Year by readers of the German Kunststoff-Magazin and won the Ringier Technology Innovation Award in China – should become the standard for all moulding tools. He recommends that every mouldmaker should at least test this product once – because any expert will recognise the advantages straight away.
With over 50 years of experience in cooling technology, HASCO is the leading specialist partner in this field. Back in 1971, the first nipple was developed with the corresponding quick-action coupling and patented. Continuous new and further developments have enabled the expansion of one of the most comprehensive system programmes for cooling technology in mouldmaking. The development of the Cooling Tornado marks another milestone in the company’s 100+ year history.

Asim Spahović/ HASCO (3rd.f.l.) in customer discussion with Erwin Bekto, Redžo Bekto and Mehmed Šehić/ BSI (f.l.t.r) (Pictures: HASCO)

HASCO Hasenclever GmbH + Co KG

As the leading producer of standardised, modular, high-quality standard mould units and individually designed hot runner systems, HASCO offers innovative and economical solutions from a single source for designers, mouldmakers, and injection moulders. Worldwide, more than 700 employees at 35 sites create the easiest way to build moulds.
HASCO – the pioneer of mouldmaking – supports its customers with 100 ideas from the past and 100 ideas for the future.

From insider tip to leading trade fair

As EUROGUSS turns 30, it showcases the issues that will drive the industry in the future

For more than three decades, EUROGUSS has provided a comprehensive overview of the developments in and potential of die casting. During this time, the trade fair has become established as the leading platform for the sector. In January 2026, the leading global fair for the die casting industry will not just celebrate its 30-year anniversary as an industry gathering and source of inspiration, but will bring together experts, manufacturers, suppliers, customers and decision-makers from around the world, underlining the importance of the technology for the industrial value chain – far beyond the automotive sector alone.

"What began in 1996 with around 100 exhibitors in Sindelfingen is now the internationally established platform for innovations across the entire die casting value chain," says Christopher Boss, Executive Director EUROGUSS. "To mark our 30-year anniversary, we not only want to honour the past, but above all to consciously look ahead – with a clear belief in the capabilities of our sector, even in turbulent economic circumstances. Because tradition alone is no justification for a future existence."

Well-equipped to meet the future: Die casting puts on a show of strength

The figures from the last event speak for themselves: In four packed exhibition halls at EUROGUSS 2024 in Nuremberg, more than 14,300 trade visitors – almost half of them from outside Germany – enjoyed displays by 641 exhibitors from 33 countries. In 2026, around 600 companies are expected to fill six exhibition halls for the first time. If you look at the evolution of the exhibitor and visitor profiles, it is obvious that for some time now, EUROGUSS has not just been a gathering for the automotive sector. The presence of other sectors like machine and equipment manufacturing, aerospace, energy technology, medical technology, lifestyle products like e-bikes or consumer goods shows how widespread and relevant for the future die casting is today and underlines the importance of die casting technology and products for society.

Marco Höfler, General Manager of FISA Ultraschall GmbH, attended the first event in person in 1996. He confirms that from the very outset, EUROGUSS met with a great response: "At that time, there was a kind of gold-rush mood. We quickly realised that this new trade fair was striking a chord – with us and many others. From the very beginning, the discussions were intensive, and to this day EUROGUSS is an unmissable event in our trade fair calendar."

A space for innovation, dialogue, and fresh perspectives

From the outset, EUROGUSS has enjoyed remarkably high satisfaction rates, which most recently stood at 90 percent among

visitors and exhibitors. Apart from the exhibition as such, the recipe for success also includes the high-calibre supporting programme: The traditional German Die Casting Congress – which enters its 25th round in 2026 – will explore the latest materials, processes and areas of application. In the Speakers' Corner, research meets practice – with discussions on topics like decarbonisation, digitalisation, or geopolitical challenges.

"Rising energy costs and the requirements for greater sustainability are changing the underlying conditions for many companies in Europe," says Björn Wollin, Managing Partner and Managing Director of Wollin GmbH. Wollin too was one of the original exhibitors. "The trade fair provides the opportunity to discuss these issues openly, gain new perspectives and develop solutions collectively. At the same time, it is the perfect venue for us to present our latest developments and obtain valuable feedback in face-to-face exchanges."

Setting the stage for the future

EUROGUSS is also looking to the future at its coming event in January 2026. The Rheocasting Pavilion, for example, will be devoted to innovative die casting technologies. The rheocasting process uses metals in a semi-solid state and allows the manufacture of components with greater strength, lower porosity, and excellent surface quality.

Award-winning die casting technology has become an integral part of EUROGUSS. In 2026, the European Die Casting Competition will once again recognize outstanding components made from aluminium, magnesium and zinc – with new categories for the first time and in collaboration with Initiative ZINK and the VDD (Association of German Die Casting Foundries).

In addition, the EUROGUSS Talent Award puts the spotlight on dissertations or theses on cutting-edge topics. It welcomes ideas that are technologically compelling, practical, and offer a specific benefit to the die casting industry – whether in respect of materials technology, mechanical engineering, sustainability, digitalisation or AI. The best entries will be invited to the trade fair to receive awards. Abstracts can be submitted until 9 November 2025.

The Executive Circle will take place for no less than the fourth time at the beginning of July 2026. Decision-makers from leading companies from the entire supply chain meet at different locations in Europe – the venue for 2026 is still to be announced – for forward-looking discussions about challenges and opportunities. It's a format that is not just new in the trade fair sector but is also much appreciated and popular among the participants.

The Ticket Shop for EUROGUSS is already open

Next evolutionary step in micro injection molding

MHS is proud to introduce the next evolution in micro injection molding: the new M3, a fully automated manufacturing cell designed for the high-volume production of direct-gated precision micro parts – completely waste-free and with unmatched consistency. The new M3-D08 was presented live at K 2025 in Düsseldorf.

The M3 is engineered for mass production of complex micro molded parts weighing under 200 milligrams, including components as small as 10 milligrams or less. It achieves this with no cold runner, eliminating material waste and reducing cycle time. This results in millions of identical parts at the highest level of quality, all produced through a compact, efficient process.

Despite its high degree of standardization, the M3 is designed to be flexible. Modular base tooling allows for interchangeable inserts, side actions, core pulls, and ejectors – enabling the production of highly complex part geometries. Its integrated 8-drop valve gate hot runner system is permanently mounted to the machine and stays in place during mold changes.

The M3 processes any thermoplastic material, including high-temperature engineering polymers such as PEEK, LCP, and PEI. Its ability to mold sensitive materials at scale is made possible by its patented ISOKOR process – a unique three-stage molding method that represents a fundamental shift in how micro parts are produced.

Unlike conventional two-stage systems that rely on plunger-based injection and cold runners, the M3 pre-compresses the melt in the screw, further compresses it in the hot runner, and stores it as viscoelastic energy. Upon opening the valve gate, the melt expands and fills the mold cavity in milliseconds at extremely high velocity. This rapid, homogeneous cavity filling results in denser, more isotropic parts with lower shrinkage and internal stress.

The entire process is controlled and monitored with high-resolution sensors, capturing key parameters like pressure, temperature, position, and time – ensuring full traceability and repeatability.

The melt pathway is designed for maximum control: granules are conditioned in an integrated dryer, gently melted in the screw at a controlled low temperature, and only heated to final processing temperature within the hot runner – preserving material integrity and minimizing degradation. The system's cascade pressure profile and constant pressure in the Melt Delivery Unit (MDU) ensure uniform molecular compaction and improved part morphology.

Additional innovations include a dry cycle time of under three seconds, a clamp-free horizontal mold interface with electromagnetic force, and an electric linear motor that provides smooth, sensor-monitored mold movement for sensitive tooling.

(Picture: MHS Mold Hotrunner Solutions Inc., Canada)

The M3 supports up to 32 cavities and even allows the molding of two different parts or two-component parts in the same cycle. Insert overmolding, part separation per cavity, and inline quality inspection are all supported within the standard cell design. A built-in robot handles part removal via vacuum, placing each part individually for inspection or post-processing.

Designed for cleanroom use, the M3 can be equipped with HEPA filtration and optical inspection systems to protect sensitive tools and ensure flawless output.

Solid carbide circular milling cutter

Grooving, parting-off and threading: Horn's DC circular milling system is universally applicable to numerous milling operations. In contrast to indexable inserts, tools of the DC system have a solid carbide monoblock construction. The strengths of this design are evident, for example, in greater milling depth when grooving or when milling small internal threads. Comprising numerous variants, the system is a real problem solver for users. Horn is now adapting the tool system to meet increasing requirements.

Horn has established the carbide grades RC25 and RC45 as the new standard. They have proven themselves in practice as all-rounders. Furthermore, the optimised geometries ensure even higher milling performance. They include, for example, the customised micro-geometries of the cutting edges. Horn is rounding off the DC system with additional variants. The DCN type is expanding by 35 items. There are also intermediate sizes with

With numerous variants, the system proves to be a problem solver for users (Pictures: HORN/ Sauermann)

diameters of 5 mm (0.197"), 7 mm (0.276"), 9 mm (0.354") and 11 mm (0.433"). All diameters are available for machining grooves from 0.5 mm (0.020") wide. The DCF and DCX series have also been updated with new variants.

Bridge builders in the world of plastics honored

The 2025 Dr. Richard Escales Award presented to Natalie Rudolph and Christian Hopmann

On the evening before the opening of the K trade fair in Düsseldorf, the Dr. Richard Escales Award was presented for the tenth time. Once again this year, two individuals were honored in the Research and Development and Industry categories. Every three years, Carl Hanser Verlag – a Munich-based technical publishing house – and the Association of German Tool and Mold Makers (VDWF) honor individuals in the field of plastics engineering who have made exceptional contributions to building bridges between science, industry, and society.

More than 200 guests from the international plastics industry attended the award ceremony, which was held as part of the Plastics Hall of Fame and jointly organized by Hanser Verlag and the VDWF (Picture: VDWF)

The honorees

Dr. Natalie Rudolph was honored in the Industry category. The textile and plastics engineer has had an impressive international career, holding positions at the University of Erlangen-Nuremberg, as a junior professor in the United States, and various management positions in industry. At Arevo in California, for example, she served as vice president of Research and Development, overseeing work on new technologies. Since 2020, she has been the Business Unit Manager for Polymers at Netzsch in Selb. She is an expert in additive manufacturing, high-performance composites, and plastics recycling — a topic that has shaped both her scientific and journalistic work, notably through her internationally acclaimed book “Understanding Plastics Recycling”, published by Carl Hanser Verlag. Rudolph combines technical expertise with energy, humor, and genuine warmth. She is regarded as a bridge builder between research and practice, between Europe and the United States – and as a role model for women in the plastics industry.

Prof. Dr. Christian Hopmann received the award in the Research and Development category. As head of the Institute for Plastics Processing (IKV) at RWTH Aachen University, Hopmann is a renowned plastics engineer who is highly regarded in both academia and industry. He earned his doctorate at RWTH Aachen University, then held senior positions in industry before returning to the university in 2011 as Professor and Director of the Institute. He oversees numerous research projects, including those on digitalization, lightweight construction, and the circular economy, and has set new standards through the establishment of the Plastics Innovation Center 4.0. He is active in a wide range of national and international committees, including the Association of German Engineers (VDI), the German Research Foundation (DFG), and various clusters of excellence. In addition to his scientific achievements, Hopmann is highly sought after as a mentor, networker, and author, playing a key role in advancing plastics technology in both research and education.

The trophy

The Escales Trophy is based on a work by the Italian artist Lady Be that depicts the award's namesake. Since 2019, the mosaic made of plastic components has been reproduced using additive manufacturing to serve as the award.

The Dr. Richard Escales Award

Presented every three years, the Dr. Richard Escales Award recognizes outstanding achievements in communicating plastics engineering expertise. Its namesake, Richard Escales (1863–1924), was a chemist, author, and founder of the trade journal “Kunststoffe”. Previous recipients of the award, which has been presented since 1998, include Dr. Erwin Bürkle (1998), Prof. Dr. Tim Osswald (2001), Dr. Erwin Baur (2004), Prof. Dr. Christian Bonten (2007), Prof. Dr. Georg Steinbichler (2010), Prof. Dr. Erich Wintermantel (2013), Prof. Dr. Sonja Pongratz (2016), Prof. Dr. Andreas Gebhardt (2019), and Prof. Dr. Thomas Seul and Kurt Gebert (2022).

(Picture: HASCO)

HASCO Designer Day: Interesting discussions and new ideas

HASCO Designer Days offer an interesting platform for professional discussions about modern mouldmaking. Numerous designers and toolmakers followed the invitation to Designer Day in Lüdenscheid. They took the opportunity to find out about the latest developments and practical solutions and enjoyed an exciting programme. The event kicked off with a presentation on HASCO's 100 years of pioneering work in mouldmaking and current innovations in the areas of mould bases and hot runners. One focus was on digitalisation: innovative tools that support efficient design processes were presented in the HASCO Portal. Practical tips and tricks showed participants how to optimise everyday processes. Other highlights included HASCO SET – a standard engineering tool for fast and easy offline work – and the CAD services that HASCO has developed in cooperation with leading system houses. The programme was rounded off by a presentation of native databases, which illustrated the advantages of parametric data and dynamic installation spaces. The event concluded with a tour of the company, which offered exciting insights behind the scenes at HASCO.

In addition to HASCO's innovations, the focus was primarily on open dialogue with customers. Participants looked ahead together to the requirements, expectations and wishes of designers. HASCO uses this valuable first-hand knowledge to develop further future-oriented innovations in an agile manner.

With Designer Day, HASCO once again emphasises its role as a competent partner for mouldmaking, offering its customers reliable support from the initial idea to the production of the injection-moulded article. The intensive exchange between standard mould component manufacturers and users provides valuable impetus for innovations and practical solutions – a win-win situation for all involved.

Efficient air purification for mould making

Auhtor:
Dipl.-Ing.
Peter A. Walther

It's a familiar situation – summer comes, once again hotter than the one before, and precision takes a nosedive. Daytime temperatures exceed 30°C and the nights at 25°C are still are far too warm to deliver dimensionally accurate components. What elements can be influenced and improved with reasonable effort?

First we have windows; one kWh per m^2 of glass can easily get into the production hall, which adds up to fully 10 kWh with 20 m^2 of south-facing windows, the same as 1 kg of heating oil. The room air heated in this manner must be transported out and replaced with cooled outside air.

Relevant heat sources are found in the eroding room: The cooler for the dielectric fluid. Temperatures of 4–6,000°C develop at the electrode-work piece interface, which would quickly heat the dielectric fluid to high levels and cause the work piece in the bath to expand. The dielectric fluid therefore has to be cooled to a constant temperature of 25°C.

An investment of three heating calories is needed to produce one cooling calorie. If the dielectric fluid cooler is in the room, it significantly contributes to room heating.

The expansion of the EDM components is affected by 30°C during the day and 25°C at night. Repeat accuracy goes out the window. So much for precision.

Safety requirements also have to be considered in eroding. EDM operators are required to observe the safety requirements according to DIN EN ISO 28881: 2014-01, and therefore to comply with the relevant state of the art for capturing emissions in accordance with DGUV information 213-726.

For the operator, this means complying with a guiding value of approx. 100 mg/m^3.

This is according to measurements taken in 2009-2011. The 43 individual measurements with a 95th percentile resulted in a guiding value of 100 mg/m^3 for the atmospheric load.

A need for extraction exists regardless to prevent the formation of an explosive atmosphere.

Upper and lower explosion limits (UEG and OEG) are provided in the safety data sheets for dielectric fluids.

This knowledge is also considered in the DIN EN ISO 28881 standard.

It calls for connection to a flue gas extraction system as the result of the underlying hazard analysis.

The extraction duct has to be fitted with a flow meter (a sensor, for example) and a safety slider corresponding to the extinguishing equipment. Thus the operator is required to keep corresponding hazard assessments in written form on file with the comprehensible establishment of protective measures. Correctly dimensioned extraction systems are therefore indispensable to obtain fire insurance benefits in case of a fire.

nova 1000 SE on an AGIE die-sinking EDM machine (Picture: ACOTEC-Walther)

(According to company documents ACOTEC-Walther, Air Consult & Technics, Günzburg, Germany)

Everything from one source for efficient injection moulding processes

Meusburger offers injection moulders a wide range of high-quality components and accessories for mould making. True to the motto 'Everything from one source', customers benefit from a complete package tailored to efficient processes, maximum quality and reliable results in injection moulding. The company has a finished goods warehouse of around 18,000 m² and offers approximately 100,000 items, with 98 per cent directly available from stock, which saves you time and money when purchasing and operating.

Wide selection for temperature regulation and ejectors

The range of Meusburger includes a broad spectrum of products that are specifically tailored to the needs of injection moulders. In the field of temperature regulation, the company offers reliable and safe elements that ensure perfect conditions for high-quality injection moulded parts and smooth operation. A large selection of ready-to-use ejectors and core pins in different designs and materials is also immediately available from stock. Additionally, a configurator enables the customised cutting to length of the pins.

Electrical components and marking stamps: process control and marking

A comprehensive range of electrical components, including industrial connectors with various combination options, matching cable ranges, proximity and limit switches as well as magnetic proximity sensors, thermocouples and pressure sensors, enables optimal process monitoring and secures production. Additional accessories are complementing the offer. The range also includes a variety of marking stamps for individual marking of plastic parts in many versions, sizes and marking types, even with a fixed height and with latching function for highest process reliability.

Precise guiding elements and locks

Reliable, high-precision guiding elements, also in self-lubricating versions or as ball guiding units, form the ideal base for precise injection moulds. Ready-to-use and interchangeable centring units in round and flat designs ensure reliable final centring of the mould in the split line face.

Meusburger offers injection moulders a wide range of high-quality components and accessories for mould making (Picture: Meusburger)

Comprehensive accessories and workshop equipment

To complete the moulds, Meusburger offers a wide range of attachments, from lifting equipment to cycle counters, ensuring a safe operation and transport. This offer is rounded off by an extensive range of workshop equipment with high-quality items for various applications in mould making.

Compact information and practical solution support guide

The comprehensive range is clearly summarised in the Meusburger's current injection moulders brochure. Furthermore, the company offers a practical solution support guide with more than 70 typical injection moulding errors as well as their cause and remedy, that serves as the ultimate reference for eliminating current problems or when creating new designs. Interested parties can request a free copy from their personal contact in field sales.

For more information, visit
www.meusburger.com/injection-moulders

High-performance reamers optimize the production of mold inserts made of hardened steel

Best hole qualities, tight tolerances, maximum precision: these are the key factors in the manufacture of mould inserts made of hardened steel. Fritz Schmidt Metallgießerei GmbH & Co. KG relies on high-performance reamers from Gühring's HR 500 range. This enables the Meckenheim-based company to double its tool life compared to a competitor's reamers. And thanks to cutting speeds that are five times higher, it also saves valuable machining time.

Marcel Horn (Gühring) and Fabian Hambach (Fritz Schmidt Metallgießerei GmbH & Co. KG)

Customers from various industries, such as medical technology and the automotive industry, rely on the high level of vertical integration at Fritz Schmidt Metallgießerei GmbH & Co. KG: Thanks to its in-house design, foundry, mould making and mechanical processing, the company offers tailor-made solutions in the field of aluminium die casting as well as for mould and plant engineering. The highest quality standards are a top priority.

"We have been using various Gühring tools for years," reports Fabian Hambach, deputy manager of toolmaking at Fritz Schmidt Metallgießerei GmbH & Co. KG: "In the last four years, we have significantly increased the number of Gühring tools, particularly in mould making." This is an area where not only precision and process reliability are extremely important. Tight tolerances must also be adhered to in order to maintain the required contour accuracy. This is particularly true in the area of reaming, where manufacturing must be accurate to the micron.

Precision without compromise

Reamers are also used in the production of mould inserts manufactured by the company. Extreme precision is required here, as these moulds define the outer contour and surface of the component produced in the die-casting process. This process enables the mass production of complex components made of aluminium alloys, which are used in the automotive industry, for example. The quality of many components therefore depends on the quality of a mould insert – Fritz Schmidt Metallgießerei GmbH & Co. KG has no room for compromise.

To drill holes of different diameters in the mould inserts, Fritz Schmidt Metallgießerei GmbH & Co. KG initially uses reamers from a competitor. However, the results are not entirely satisfactory: the service life is insufficient, resulting in high tool costs. Fabian Hambach then asks his long-standing contact at Gühring for advice: "We can do better than that," says sales representative Marcel Horn – and recommends a high-performance reamer from the HR 500 range to his customer. "The HR 500 is one of the Gühring tools I would stake my reputation

A mould insert is manufactured from hardened steel (Pictures: Gühring KG)

HR 500 high-performance reamer

on," says Marcel Horn. And soon the customer would share this opinion.

Maximum performance in hardened steel

"Since we were looking for a reamer for these applications that also performs very well in hardened steel up to 50 HRC, the decision was quickly made in favour of the HR 500 Universal for through holes (item no.: 1686)," explains Marcel Horn. In addition to outstanding hole qualities and process reliability, the reamers also have to cope with very hard and wear-resistant material. Since liquid aluminium alloy is later injected into the mould under high pressure, the mould insert is exposed to high mechanical stresses and temperatures – and must not deform. For this reason, the company uses hardened steel (1.2399, 48-50 HCR), which can withstand these stresses. A case for the HR 500 Universal: the high-performance solid carbide reamer not only demonstrates its strengths in steel, stainless steel, titanium and special alloys, but also in hardened steels up to 63 HRC. The TiAlN-nanoA coating ensures high wear protection, which in turn leads to long tool life. It is available in diameters ranging from 2 mm to 20 mm. During machining, the central coolant supply with outlet via oil grooves on the shank ensures optimum cooling and reliable chip removal in the through hole. In combination with the extreme feed and cutting speeds that can be achieved with the HR 500, users do not have to worry about process reliability.

Double service life, 5-fold faster cutting speeds

"We tried out the reamer and immediately achieved excellent results," recalls Fabian Hambach. The high-performance reamer (Ø 10 mm) can machine 230 holes in mould inserts for the automotive industry, where the reamer previously used had reached the end of its service life after only 115 holes. But that's not all: "Our original goal was to increase service life and process reliability," reflects Fabian Hambach. "The fact that we have also become many times faster was a positive side effect."
Instead of the previous cutting speed of V(c)= 10 m/min, the HR 500 easily achieves five times that speed: "The competitor's tool couldn't even come close to our cutting values," summarises Marcel Horn. Thanks to the switch to high-performance reamers from the HR 500 range, Fritz Schmidt Metallgießerei GmbH & Co. KG has been able to significantly improve service life and machining times while maintaining the same surface quality and tolerances.

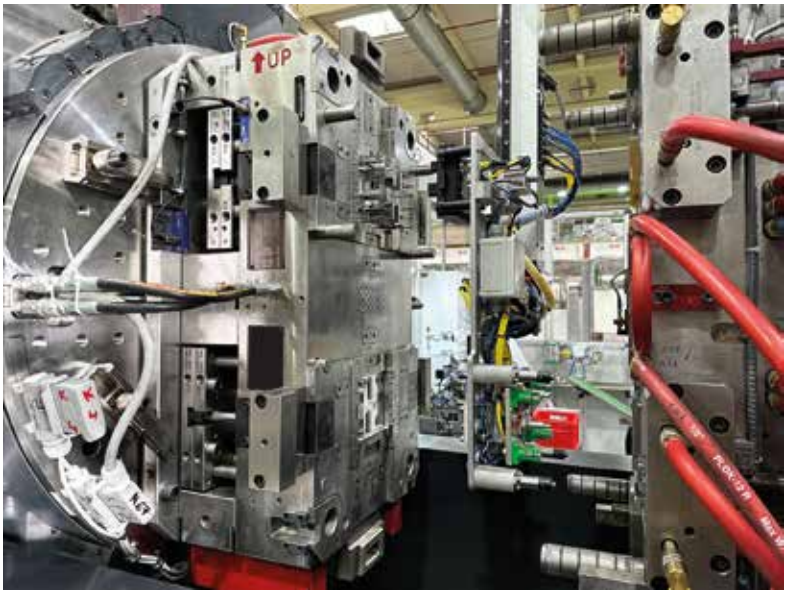
> **Fabian Hambach, Deputy Head of Toolmaking, Fritz Schmidt Metallgießerei GmbH & Co. KG: "We tried out the reamer and immediately achieved excellent results"**

No more gaps

With the HR 500 range, Gühring offers standard high-performance reamers for all diameters from 1.95 mm to 76 mm. Customers benefit from short delivery times and a wide product portfolio: in addition to the version for universal applications, the standard range also includes the short HR 500 version for limited installation spaces and various material specialists, such as for applications in cast iron or aluminium. While standard fixed dimensions are only available in a range of +/- 0.03 and in 10µ increments, Gühring is closing a significant market gap with this new addition: the Albstadt-based tool manufacturer is now also offering the fixed dimension series in a range of +/- 0.05 and in 5µ increments. This saves users high costs for special tools and also benefits them with over 100% more wear allowance and longer tool life.

Highly integrated production cell for ambitious multi-component process

A high level of process integration and complete automation are the decisive factors to achieve the required efficiency in manufacturing fuse boxes for agricultural utility vehicles. The production equipment is flexible due to its modularity. The plastics processor REINERT describes the recently completed project as a milestone and praises the excellent teamwork with its partner companies MAIER and WITTMANN.



Inside the rotary mold, Polyamide and TPE are processed simultaneously

In terms of technology expertise, REINERT is certainly ahead of the game. With its focus on the automotive industry, the plastics processor can offer a remarkable range of services, including multi-component injection molding, as well as gas injection, various insert molding techniques, clean-room production and even organo sheet processing to make light-weight parts. “We are also often in demand as development partner, especially when the task is tricky”, explains Jürgen Hahn, Managing Director of REINERT Kunststofftechnik GmbH & Co. KG, during our visit to the company’s headquarters in Bissingen an der Teck, Germany – and the component lying in front of us on the table in the large conference room is certainly rather complex.

It is a fuse box for agricultural utility vehicles, consisting of two black boxes clipped together with sealing, numerous sockets and screws, plus lateral red brackets to hold the cover in place after electrical installation. “Both boxes have come out of the injection molding machine as complete assemblies including sealing and metal inserts, except for the red brackets”, Christoph Klement, Deputy Project Manager at REINERT, explains proudly. “This project is really a milestone for our company.”

18 variants and other products in quick succession

The WITTMANN robot operates with different grippers to provide flexible support for 18 product variants

The challenge in this project was more than just the high cost pressure, which has long been quite common in the automotive sector, but rather the necessity to combine lowest possible unit costs with extremely high flexibility of the production cell. In fact, the fuse boxes from REINERT are produced in 18 different variants. Moreover, it was necessary to enable the highly automated production cell to be fully utilized by making

some other products as well.
"That is the trend"; emphasizes Alen Cevra, Managing Director of MAIER Maschinen- und Werkzeugbau GmbH, which is in charge of developing the integrated production process and the automation involved. "Especially here in Germany, we are more and more often dealing with a wide range of different products and consequently small batch sizes. This requires fast and simple machine setting processes, as well as the necessary flexibility for frequent readjustment of the production cell's components to new requirements."
With its headquarters in Markgröningen, Germany, and another facility in the immediate neighborhood of REINERT in Bissingen, MAIER specializes in the design and production of complex customized machinery and automation solutions. MAIER has already supported the injection molding processor REINERT for many years in developing production equipment for extremely complex parts. "Mr. Klement came to us with a CAD drawing of the part", says Cevra. That was in the early summer of 2022. Less than one year later, the fully automated production cell had already been delivered. This success was the result of excellent teamwork between all participating companies. "The key factor is communication. We can discuss everything openly, even in the event of occasional differences of opinion, and we all know that we can rely on each other", emphasizes Andreas Schramm, Managing Director of WITTMANN BATTENFELD Deutschland GmbH, the third partner in the project. WITTMANN delivered a large W832 pro linear robot, which handles the inserts as well as the finished parts and thus functions as the link between the injection molding process and the subsequent processing steps.

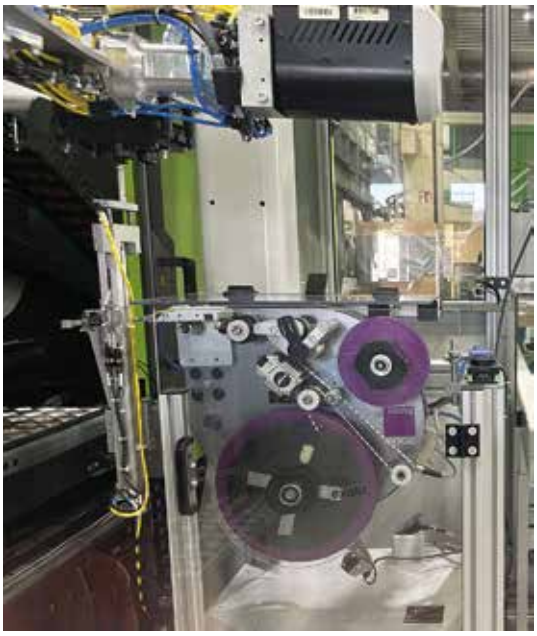
The process starts with arranging the inserts

placed into a drawer after being filled, and are then passed on into the production cell. At that point, the robots take over. First, a small six-axis robot chips in, whose task is to arrange the sockets and screws required for one fuse box in the specified grid dimensions. The WITTMANN W832 pro takes up the inserts and places them into the lower cavity of the rotary mold inside the injection molding machine. Immediately afterwards, the gripper removes out of the top cavity the finished molded part from the previous cycle. In the 1+1-cavity mold, the base body is formed first. The hard component is a fiberglass-reinforced, flame-retardant polyamide. After rotating the

The W832 pro robot from WITTMANN is the link between injection molding and downstream processing steps

A linear robot mastering many different tasks

In spite of extensive automation, the production process now starts with manual work while the project is still at the pre-series stage. The inserts must be sorted into exchangeable trays. There are three types of inserts, which are required in different numbers for each fuse box model. Accordingly, there are three different exchangeable trays which are



Silicone membranes are placed on the underside of the part by a vertically movable stamp

The camera for the fully automatic 100 per cent quality check is installed between the assembly station and the clock-out belt

mold, the second component, a TPE material, is directly molded on to provide the seal for the upper edge of the fuse box. Simultaneously, the next base element is formed inside the lower part of the mold.

Parallel to the injection molding process, the W832 pro also performs an assembly task plus a thorough quality check. From the injection molding machine, the robot first takes the part to the assembly station. In the base of the black fuse box model running off the clock-out belt on the day of our visit, there are four small holes. Later on – when installed in the vehicle – these will provide ventilation. They are now covered with a silicone membrane. To this end, the robot holds the box horizontally above the assembly station, thus enabling the rising stamp to fit the seal onto it accurately.

For the 100 per cent quality check, MAIER has installed a camera system right next to the assembly station. The robot must move the part only 20 centimeters to the right. Here, the W832 pro robot's rotary servo axes play out their strengths, for they are required to present in quick succession three different critical points on the molded part to the camera. First comes the silicone membrane just mounted. It is checked whether the membrane has been fitted correctly and whether the holes below it – each only 1 mm in diameter – are all open. At this point, the LED camera installed on the gripper comes on in order to take perfect pictures for evaluation. After checking the ventilation valve, the robot turns the part to give the camera a clear view onto the TPE seal. The camera focuses precisely on the part of the seal which penetrates most deeply into the hard component. "If this part is completely filled, the rest of the seal is also faultless", says Fabio D'Amato, COO of MAIER. Finally, the connector coding is checked. If the image processing system signals OK three times, the W832 pro then deposits the fuse box on the clock-out belt and immediately picks up a new set of inserts for the next cycle.

Real-time communication across corporate boundaries

To enable an extremely fast changeover from one fuse box model to another, there are not 18 different molds, but instead several different mold inserts and grippers. A particularly large amount of coordination work has been invested in the grippers. Where to place the valves? How to guide the energy chain so that the end-of-arm tooling can turn the part in the shortest possible time? And how to save weight? The WITTMANN team had really looked into every detail and fully exploited all efficiency potentials.

The lighter the robot arm, the more scope is available for the weight of the gripper and the parts to be moved. What is more, light weight has a direct positive effect on energy efficiency – a topic particularly close to the heart of the decision-makers at REINERT. They are pleased to find the WITTMANN linear robot equipped with a sustainable feature. Thanks to EcoMode, the robot varies the speed of its movements. The injection molding machine sets the clock with its cycle time. The robot fully utilizes this time window, which means that most of the time it moves more slowly than technically feasible. This saves energy and simultaneously protects the mechanism in the interest of a long service life for the robot.

To provide communication between all components of the production cell – including the injection molding machine, the two robots, the assembly station and the image processing system, all coming from different manufacturers and each equipped with their own control systems – they are interconnected via Profinet. This industrial Ethernet standard laid out for real-time communication ensures a smooth process and facilitates the production startup following machine setting. Before the central control unit of the automation cell starts the production process, it checks whether the correct program has been set on the injection molding machine and on the linear robot. The network system also enables fast remote servicing in the event of a malfunction. The specialist engineers from MAIER can access the cell from outside, to check the control system of all individual components and to view the camera images from quality assurance. "WITTMANN is the ideal integration partner", says D'Amato. "Not all robots offer so much flexibility and openness."

Easy operation is vital

WITTMANN was already well known to REINERT long before the fuse box project got under way. Many more WITTMANN robots are operating on the production floor in Bissingen, and products from WITTMANN are also in use at the two other plants of REINERT in Czechia and Romania. "Our production staff members are top fit as well as familiar with programming and operating the robots from WITTMANN", says Klement. "This is mainly due to the easy operation and continuity in operating logic across many generations of robots."
At the beginning of the project, an articulated robot for the tasks of insertion, removal, assembly and quality checks was briefly considered. But REINERT deliberately decided against this option. "I have always said that things should be kept as simple as possible", explains Jürgen Hahn. "That minimizes the error risk, and our machine operators are very keen and highly motivated." The Managing Director is also familiar with the further advantages of WITTMANN: "The robots are sturdy and long-lasting; we are getting excellent service. "

Geared for growth

In close teamwork, REINERT, MAIER and WITTMANN have trimmed the automation of the entire process for maximum efficiency and flexibility. Every detail was analyzed in order to meet all requirements and still keep the costs reasonable. Programmers and software experts from WITTMANN were also on board. "Whenever something has to be reprogrammed, it took just a telephone call, and the work could go on at once", says D'Amato. The production cell is laid out to produce up to 400,000 assemblies per year. In the pre-series, 50,000 fuse boxes for agricultural utility vehicles are being produced to begin with. How fast the numbers of units may increase is not foreseeable. For a start, the production cell is to be fully utilized with other, equally complex parts. "The basic concept of the production cell keeps all options open for us", says Christoph Klement. As soon as the fuse boxes really take off, the trays now being filled manually can very easily be replaced by vibrating bowls, hoppers and separators. Then the equipment will be able to maintain autonomous production for up to eight hours.

During the pre-series phase, the inserts are still being fed manually. But everything has been prepared for using vibrating bowls, hoppers and separators

Jointly exploiting all efficiency potentials: Alen Cevra from MAIER, Andreas Schramm from WITTMANN BATTENFELD Deutschland, machine operators Robil Gün, Christoph Klement and Jürgen Hahn from REINERT, and Fabio D'Amato from MAIER (from left to right) (Pictures: WITTMANN)

Dressel + Höfner boosts process reliability with KNARR ejectors featuring venting

For greater process reliability and a wider process window in injection moulding, as well as significantly longer maintenance intervals, Dressel + Höfner Automotive now relies on DLC-coated ejector pins for venting from standard parts manufacturer KNARR based in Helmbrechts as a matter of course in its injection moulding tools.

The toolmakers replaced all 49 ejectors in the ejector set with models featuring venting from KNARR. Since then, there have been no more issues with venting (Picture: Pergler Media)

When the automotive industry demands highest quality, the experts at Dressel + Höfner Automotive GmbH, a Welp Group company based in Neustadt near Coburg (southern Germany), are highly sought-after partners for OEMs. This is where intelligent system and complete solutions in plastic injection moulding are created. Thanks to the effective use of synergy effects within the group, the company can act as a full-service provider for projects on request, seamlessly covering all stages from product development through toolmaking, injection moulding, assembly and painting, right through to delivery to the customer's production line.

Maximum process reliability and stability are required when supplying an OEM's assembly line. Consistently high quality and absolute adherence to delivery dates are taken for granted. One hundred percent good parts are expected, and if this is not met, a customer complaint can quickly become costly and resource-intensive to resolve. For this reason, those responsible at Dressel + Höfner Automotive invest considerable effort to prevent complaints reliably from the outset.

Orders come predominantly from the automotive industry

Around 90 per cent of orders at Dressel + Höfner Automotive come from the automotive industry, with the remaining ten per cent coming from sectors such as general mechanical engineering or electronics. “Orders for the automotive industry are roughly evenly split between technical components and visible parts,” explains Sven Hübner, Head of Toolmaking at the Neustadt-based company. “This includes numerous parts with delicate and complex geometries that demands the full expertise of our experienced employees in both toolmaking and the injection moulding process. And yet, one is never completely immune to surprises.”

Spot the defect: a connection in the centre of the grille structure is not completely filled. Continued use of the tool without maintenance significantly increases the damage (Picture: Pergler Media)

The 15 employees in the company's in-house toolmaking shop maintain around three hundred active tools. At Dressel + Höfner Automotive, the mould plates of the tools are usually made from plastic mould steel 1.2312, while the remaining parts of the mould base are generally made from cold work steel 1.1730. For high-volume applications, corrosion-resistant steels such as 1.2085 are also employed. Moulding components are primarily made from hardened 1.2343 ESR, although other high-alloy steels up to 60 HRC are also utilised. This is particularly necessary when processing filled materials — for example, one component for a head-up display contains around 65 percent glass fibre. Achieving economically viable tool lifetimes in such cases is only possible with highly wear-resistant materials.

With the spiral-shaped venting channel, the ejectors remain securely and precisely guided along their entire circumference. With DLC coating, the ejector pins also possess excellent dry-running properties (Picture: KNARR)

Make or buy

At Dressel + Höfner Automotive, the in-house toolmaking team focuses on the inserts, while the mould frames of the injection moulding tools are sourced entirely externally. The toolmakers have the capacity to cover around one-fifth of the group's tool demands, with a weight limit of 5 tonnes. These also include multi-component tools. The rest is supplied by reliable partners in the region, as well as from Portugal, and occasionally, depending on the customer's specifications, by qualified companies from China. In addition to new tools, the internal toolmaking team is also responsible for the repair and maintenance of existing tools.

For Sven Hübner and his team, the standard parts specialist KNARR from Helmbrechts has long been more than just a supplier. KNARR has established itself as the first choice, especially for ejection systems: the combination of product quality, practical solutions and a clear strategy creates security and efficiency in daily operations. The collaboration, however, extends far beyond this. The mould makers also rely on KNARR for other components, confirming the southern German company's status as a reliable partner for long-term success in toolmaking.

Filling and demoulding finest geometries

The range of manufactured products is very diverse. The visible parts produced by Dressel + Höfner Automotive include, for example, speaker grilles for the current Volkswagen Tiguan model. As the Heat of Toolmaking explains, "Such fine grille structures are normally designed in the mould so that they are filled from the inside out during the injection moulding process. Otherwise, there is a risk that the plastic will simply "starve" in the delicate flow paths of the grille and parts of the cavity will remain unfilled."

Fifteen employees create new tools in the company's in-house tool shop and take care of the maintenance and overhaul of existing tools (Picture: Pergler Media)

The toolmaking team manages between 300 and 400 active tools at Dressel + Höfner Automotive. These tools ensure high process reliability and stability (Picture: Pergler Media)

At the same time, these products also require a sophisticated approach to demoulding – the delicate structures of the speaker grille should be removed from the injection mould with minimum stress and without deformation. This in turn requires complex ejector systems that push the fine geometries out of the mould as gently as possible.

Edge areas allow alternative injection

The speaker grille for the Tiguan, made from PC/ABS (polycarbonate/acrylonitrile-butadiene-styrene) — a thermoplastic blend that combines the advantages of polycarbonate and ABS — presented a different challenge: "The part has a large edge area around the actual grille – filling this with an injection through the grille would be a major challenge," reports Hübner. "Our experts therefore designed the four-cavity mould for two left and two right parts, each with three injection points along the edge area – the relatively small grille structure is then filled in a circular pattern from the edge."

Demoulding of the grille structure is assisted in each cavity by a KNARR ejector set with a total of 49 linked 1millimetre ejectors, which carefully push the grille out of the mould. Additional ejectors are also positioned under the edge areas of the speaker grille. This ensures the delicate demoulding of the visible part.

The simulation is only as good as the data it based on

The mould flow analysis showed the convergence of the plastic flows in the centre of the grille. The compressed air in this area, along with the unavoidable gas emissions from the plastic during injection moulding, could be vented easily in the simulation via conventional vents, and the melt filled the grille structure homogeneously and completely.

For the first few thousand shots, the mould performed exactly as predicted. Dressel + Höfner Automotive delivered 100% good parts to the OEM's assembly line. Then, after around 20,000 flawless parts, a defect suddenly appeared — initially barely visible, so it might not have been noticed by the operator at the injection moulding machine. However, the incoming inspection at VW immediately detected the defect. The consequence: a

The back of the speaker grill – the sprue system of the four-cavity mould for left and right parts is clearly visible. The ejector set is mounted directly in the center (Picture: Pergler Media)

customer complaint with all the resulting implications.

Process on a razor's edge

Finding the error was relatively easy – neither the injection moulding machine parameters nor the material had changed, and no defect could be detected in the equipment itself. “That left the tool – and we quickly suspected that the fault was due to insufficient venting,” recalls Hübner. “The tool was serviced, cleaned and reassembled. And indeed – the defect had completely disappeared.”
However, the relief was short-lived – what the toolmakers had already anticipated came to pass: after another 5,000 shots or so, the fault reappeared. “The process was literally on a razor’s edge,” explains Hübner. Within a few thousand shots, the conventional venting system becomes blocked – this required a maintenance interval that could severely compromise the cost-effectiveness of the already tightly budgeted production of the speaker grille. We therefore had to look for another solution.

Intelligent venting via the ejectors

Especially with highly viscous materials, the venting helix cannot be enlarged arbitrarily, as structures exceeding 0.02 millimetres would probably lead to burr formation. An alternative is to use many small venting channels. Ejectors that can be equipped with a venting channel are ideal for this purpose. Our standard parts partner KNARR had such ejectors with integrated venting in its range – but only from a diameter of 2 millimetres.
Thanks to close communication with the KNARR field service, the toolmakers were able to convince their standard parts supplier to equip ejector pins with just a 1millimetre diameter with venting geometry and include them in the standard range. Despite the spiral-shaped vent channel, the round shaft of the ejector remains precisely guided over its entire circumference. For stability optimisation, KNARR uses an HSS variant for small diameters.

Advantages clearly evident in direct comparison

In this tool, the four complete ejector sets, each with 49 ejectors, were all equipped with corresponding ejector pin variants with venting. This allows trapped air in the mould and plastic outgassing to escape effectively.
The success was immediate: “The only change we made was to replace the ejectors. That alone enabled us to quadruple the maintenance interval to more than 20,000 shots,” emphasises Hübner. “Even now, venting is no longer the limiting factor – other issues are now what determine the maintenance interval.”

Dressel + Höfner Automotive can offer the entire process chain – from part development through toolmaking, injection moulding, painting, and assembly to delivery to the OEM's assembly line (Picture: Pergler Media)

Venting as a standard feature

Hübner and his team have come to rely on KNARR's venting solution as standard for both round and flat ejectors. “The generous additional venting provided by these standard parts significantly increases process reliability and stability in the injection moulding operation,” emphasises the Head of Toolmaking. “The process has become considerably more resilient with the new ejectors, and the process window for the machine operator has thus opened up substantially. The earlier and more smoothly air and outgassing products can be released from the tool, the lower the likelihood of problems occurring.”
The standard application of ejectors for venting also means that they are used even in cases where they are not strictly necessary.

Profile

Dressel + Höfner Automotive
Dressel + Höfner is a member of the globally active Welp Group. With modern production facilities and extensive experience, the productivity experts in Neustadt near Coburg, in southern Germany, develop and manufacture intelligent system and complete solutions in plastic injection moulding. Dressel + Höfner has firmly established itself in the industry as a trusted partner for precision tool and mould making, high-quality injection moulded parts, industrial plastic coating and the precise mounting of plastic and metal components into ready-to-install modules. The full-service providers supply just in time or just in sequence, as required. The Welp Group, with more than 1,000 employees, develops and manufactures injection moulding tools as well as plastic and metal components, builds and individually refines vehicles and safeguards human lives with sophisticated protection solutions.

Sven Hübner, Head of Toolmaking at Dressel + Höfner Automotive: "The process has become significantly more resilient with the new ejector pins, and the process window for the application engineer at the injection moulding machine has thus opened up considerably. Together with our partners at KNARR, we ensure that our processes become more resilient and stable. Ultimately, this secures the assembly process for our customer – a factor that should not be underestimated in the competition for lucrative contracts." (Picture: Dressel + Höfner Automotive)

Nevertheless, according to Hübner, it pays off: "Yes, ejectors for venting are slightly more expensive than the standard models. But the additional cost is low – and in every tool we have equipped with them, the process window has been noticeably expanded. And even a single maintenance saving compensates for the additional costs many times over."

Ready-to-install ejector pins from the standard parts specialist

Even for the standard versions with venting, KNARR offers the option of pre-machining — a service that Sven Hübner now regularly takes advantage of. "The ejectors arrive and go straight to tool assembly – at a stage when the customer is often already counting down the seconds until production starts," says Hübner. The pre-contoured ejector pins free up a lot of time during this phase. In addition, we now order all ejector pins with DLC coating. This further improves process reliability and ensures excellent sliding properties without the use of lubricants. This is crucial, because lubricants could potentially block venting channels with dimensions as small as 1/100 millimetre.

To ensure that ejectors with venting are reliably used, the item numbers are stored as standard and included in the parts list. This ensures that the correct ejectors are used even during repairs. "Together with our partners at KNARR, we are making our processes more resilient and stable," emphasises Hübner. "This ultimately secures the process for our customer as well — a factor that should not be underestimated in the competition for lucrative contracts."

Richard Pergler

company building Dressel + Höfner Automotive (Picture: Dressel + Höfner Automotive)

Focus

Venting of moulds

Venting of injection moulds is a complex challenge. When the plastic melt is injected into the cavity, it displaces the air trapped inside. In addition, many plastics – including polyamides, polyolefins and polycarbonates, as well as flame-retardant and fibre-reinforced materials – generate gaseous by-products during the injection process that also need to be removed. This must be done without compromising the quality of the product surface. KNARR ejector pins for venting support intelligent and large-area venting of the moulds at Dressel + Höfner. This makes processes more reliable, significantly increases the process window and allows maintenance intervals to be extended considerably.

Point of view

Paying extra costs on the off chance?

Stable, resilient processes are the basis for supplying directly to an OEM's assembly line. It makes sense to design the tool accordingly and to "build in" sufficient reserves to ensure consistently reliable and defect-free production. In this case, the very modest additional expense of using DLC-coated ejector pins with venting as standard is definitely justified. Strictly speaking, the venting in these tools is therefore dimensioned considerably larger than actually necessary. However, the ability to remove trapped air and outgassing from the plastic melt at an early stage significantly opens up the process window for the machine operator. Maintenance intervals are extended, and any potential disruptive factors can be mitigated more easily and quickly – that alone more than compensates for the additional expenditure.

Richard Pergler

PCD milling programme – exchangeable head milling cutter

This PCD milling programme from Horn includes the DM 50 series, a replaceable head milling system for economical machining of aluminium that is particularly suitable for universal applications including those where the cycle time is critical.
With the DM50 series, HORN offers a tool concept that is a well thought out solution in terms of wear, flexibility and cost effectiveness, especially for universal applications and those that require optimal cycle times. The main wear zone of the head and the inserts can be replaced, as can an intermediate sleeve that enables different cutting heights. The system therefore offers a tool solution that can be flexibly customised to any application, while at the same time focusing on operating and service costs. Thanks to its high level of versatility, the tool system can be converted quickly to different corner radii and corner chamfers with the desired cutting height. The combination of inserts on the face and periphery in a 2:1 ratio is tailored to different application requirements and milling techniques. Precise positioning on changeover without any offset guarantees accurate milling results. The design, with an emphasis on the axis angle, enables soft cutting and high surface quality.

The design of the DM 50 series, with an emphasis on the axis angle, enables soft cutting and high surface quality

The replaceable head milling cutters round off the wide range of standard and special tools in HORN's portfolio of ultra-hard cutting materials, making the tool manufacturer an important partner in the field of PCD tools.

In addition to the DM 50 series, this PCD milling system offers end and face milling cutters for cost-effective machining of aluminium (Pictures: HORN/ Sauermann)

K 2025 confirms its pole position as global No. 1 trade fair for the plastics and rubber industry

K 2025, the most relevant trade fair for the plastics and rubber industry worldwide, drew to a successful close on 15 October 2025 after 8 days. In view of the current difficult economic climate, many companies in the plastics and rubber industry travelled to Düsseldorf with rather subdued expectations. But the mood prevailing across the fully occupied exhibition grounds proved outstanding on all trade fair days. The plastics and rubber industry presented itself as more innovative, international and determined than ever to actively shape the transition to more sustainability, digitalisation and social responsibility.

"K has demonstrated once again just how much innovative power and dynamism this sector holds. The enormous international interest, the high demand for information and the multitude of concrete investment conversations all the way to many contracts concluded right on site underline the importance of this trade fair as a global platform for pioneering solutions and partnership-based exchange," emphasises Marius Berlemann, Chief Operating Officer at Messe Düsseldorf, and adds: "K is an indispensable compass in uncertain times and once again succeeded in confirming its role as the most important impulse provider and launch platform for the global plastics and rubber industry, where numerous companies have unveiled their innovations to the global public for the first time."

Under the strapline "The Power of Plastics! Green – Smart – Responsible" 3,275 exhibitors from 66 nations presented forward-looking technologies, products and processes along their entire value chain across 18 exhibition halls and outdoor areas. Over 175,000 trade visitors from around 160 countries travelled to Düsseldorf meaning that K attendance remained stable. K provided impressive proof of its position as the industry's most global trade fair: 73% of all visitors came from abroad and over one third of these from overseas. A particularly strong representation was seen from China (6,300 visitors) and India (6,400 visitors). A total of 10,000 visitors travelled from the US and Brazil to K 2025. The trade fair again stood out with an above-average ratio of decision-makers (67%).

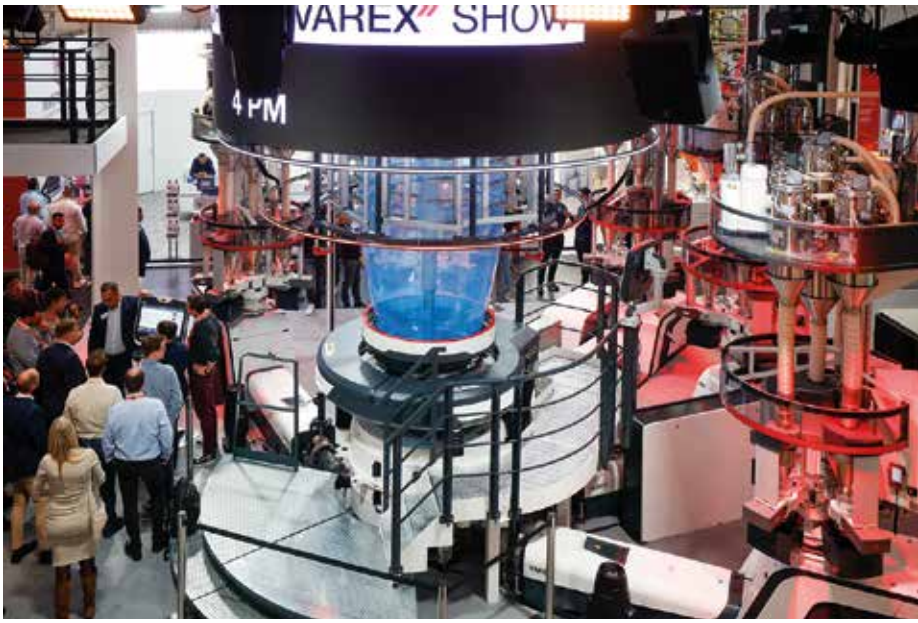
"The environment we currently have to navigate remains enormously challenging," explained Ulrich Reifenhäuser, Chairman of the K 2025 Exhibitor Advisory Board. "But it is especially in such times that the strength of our industry becomes visible. Every three years the global plastics sector comes together here – and for good reason: K is the place where innovations are launched, partnerships are forged, and visions turn into reality. Plastics have been – and will remain – the most important material of our time. They fuse lightweight design, utility, energy efficiency with versatility serving as pioneers of progress in many applications – from medical technology to mobility and energy supply. With improved recycling solutions and circular concepts, they will increasingly become the most sustainable material of our times."

With its three central key topics “Shaping the Circular Economy”, “Embracing Digitalisation” and “Caring about People” K 2025 struck exactly the right chord with the spirit of the times. Machine and plant builders impressively showed how efficiency, precision and resource savings can be linked through their ultra-modern manufacturing systems and live demos. The segment of raw and auxiliary materials also convinced the audience with its innovations: from bio-based materials to recycled compounds to new additives that fuse functionality with sustainability, the exhibitors showcased an impressive panoply of solutions for tomorrow’s material development. From highly advanced recycling plants and alternative raw materials to data-driven manufacturing systems to strategies for talent promotion and resource savings – it was palpable in all halls: the sector has taken up the challenges and works determinedly on solutions.

Visitors from throughout the world came hungry for information: alongside recycling, resource savings and topics related to circularity, conversations also centred on digitalisation, automation, artificial intelligence, and efficiency increases, in particular.

This year’s event was characterised by high satisfaction levels. According to preliminary survey results, 95% of visitors stated that they had achieved their objectives at the trade fair. 98 per cent of trade visitors rated the range of products and services on offer as excellent or were very satisfied with it. Visitors were especially impressed with the strong presence of market leaders and the multitude of innovators.

The numerous Specials at K 2025 also proved very popular with the international audience. Especially the official Special Show “Plastics Shape the Future” organised jointly by Plastics Europe Deutschland and Messe Düsseldorf inspired with Expert Talks, panel discussions and Start-up Pitches on various themed days. Just as compelling was the VDMA Forum “The Power of Plastics”, which presented the technical implementation of circular processes in plastic production with live demos and expert talks. This programme was complemented by the Start-up Zone and Science Campus bringing together innovation and research. By presenting Rubberstreet under the patronage of wdk, K once again provided a showcase for the innovative power of the elastomer industry. With the debut of “Women in Plastics” K sent out an inspiring signal for more diversity, responsibility and a future-oriented industry. Guided Tours for a wide variety of target groups such as industrial designers or young professionals rounded off the package.



For a detailed review of K 2025 with exhibitor interviews and video footage visit: K-LIVE

The next K will be held in Düsseldorf from **18 to 25 October 2028**. For more information, impressions and statements go to www.k-online.com .

(Pictures: Messe Düsseldorf / ctillmann)

Quick Release Solutions from Ganter

Secure parts in seconds without tools

Ganter has added a quick release star knob to its product range. This builds on the current selection of various quick release nuts. Together, they offer designers a wealth of options for quickly and securely fastening covers or the like without the need for tools. Removable quick release star knobs and nuts speed up set-up tasks and shorten idle times.

The quick release star knob GN 6336.9 sits firmly in the locating thread after at most one full turn. This is made possible by three retracting thread segments that pull back inside the shaft when the push button is pressed. This allows the shaft to be inserted into the threaded hole without resistance. When the push button is released, the threaded segments emerge again and grip the nearest thread turns. The knob can then be tightened with at most one full turn. The knob can be released and removed just as quickly by following these steps in reverse. The version with increased clamping force can be used for higher axial forces on the shaft. It has a disc with ball bearing under the shaft head, which eliminates the friction under the knob. This design also reduces wear on the contact surface.

The new quick release star knob is available in steel or stainless steel, with M 8, M 10 and M 12 thread, as well as in eight lengths from 24 to 69 mm.

In applications with protruding threaded bolts instead of internal thread, quick fastening can be achieved with quick release star knobs GN 6336.3, quick release knurled nuts GN 6303.1 and quick release knurled nuts GN 6305.1. They look the same as their conventional counterparts from the outside. The difference lies in a hole bored through the thread at a slight angle. This makes it possible to slide the nuts over the threaded bolts projecting perpendicular to the clamping surface. The internal thread of the quick release nut only engages at the fastening point, and it can be tightened with no more than one full turn. The thread is dimensioned so that the nuts perform just as well as the conventional versions with regard to tightness.

Ganter was founded in 1894 as a mechanical workshop in Furtwangen in the Black Forest. As early as 1912, the company published its first catalog of standard parts – five years before establishment of the Standardization Committee of German Industry, the predecessor to today's Deutsches Institut für Normung (DIN). Today, Ganter has 550 employees at two locations dedicated to developing, manufacturing and selling standard parts for diverse sectors of industry. Roughly 80,000 articles are kept in stock for prompt availability.

(Picture: Otto Ganter GmbH & Co. KG)

More information on Ganter standard parts can be found on the internet at ganternorm.com

Meusburger makes design processes more efficient

Meusburger has comprehensively optimised its digital offer to make design processes even more efficient for its customers. The Meusburger portal with its new, intuitive configurators and wizards enables time-saving and structured work. The new functions combine tried and trusted advantages with significantly improved user interface and transparency.

Intuitive configuration:
The hot runner configurator

The highlight of the innovations is the hot runner configurator, now available in the Meusburger portal. It allows users to optimise their individual hot runner solution for their application in just a few clicks. The configurator offers maximum flexibility thanks to different manifold types and a large selection of nozzles with variable positions. The intuitive user interface guides the user efficiently to the ideal solution. The technical specifications and prices are displayed in real time, ensuring full transparency and planning security. Another major advantage is the live view of the hot runner manifold, whose 3D data is immediately available for further processing in the customer's CAD environment. In addition, suitable mould bases and components can be selected directly in the configuration process, enabling a consistently aligned design.

Designing made easy:
New label configurator

The new label configurator allows customers to design their own customised labels quickly and easily. With the improved user interface, users are guided step by step through the configurator so that E 19xx labels can be ordered or requested even more efficiently. The labels can be customised with text, logos and symbols according to your own specifications, and changes can be made easily at any time. Templates can be saved in parts lists, enabling faster reuse. The design is done directly online in the Meusburger portal, without additional software, and a live preview ensures maximum control and time savings.

The Meusburger CAD tool
as a strong partner

On top of this, the Meusburger CAD tool offers a user-friendly software solution for designing. It is characterised by easy access to Meusburger's comprehensive standard parts library, regular updates and compatibility with various CAD systems. Configurable models, including installation space, as well as integrated wizards for mould bases and die sets support the designer efficiently. The tool can also be used offline, which offers maximum flexibility for project work.

www.meusburger.com/designers

The Meusburger CAD tool provides users with easy access to the standard parts library as well as integrated wizards for mould bases and die sets (Picture: Meusburger)

Osprey® MAR 55

Osprey® MAR 55 tool steel eliminates the choice between weldability and performance

Osprey® MAR 55 is the latest addition to Sandvik's range of metal powders within the area of tool steels. It is a highly versatile material bridging the gap between maraging steels and carbon-bearing tool steels. In an interview Ingemar Bite, R&D manager at Seco and Faraz Deirmina, principal metallurgist at Sandvik, discuss what this new tool steel enables in manufacturing today.

Ingemar Bite, R&D manager at Seco

Seco is a leading global provider of metal cutting solutions for indexable milling, solid milling, turning, hole making, threading and tooling systems. For nearly 100 years, Seco has driven excellence throughout the entire manufacturing journey, ensuring high-precision machining and high-quality output. The R&D department that Ingemar Bite runs is always looking for ways to improve its products and make the best use of additive manufacturing (AM) technology.

Ingemar, what is your overall experience of using MAR 55?

"MAR 55 is the AM material with the most interest and attention today, and there is a vast variety of tooling solutions currently running in

our customers' productions. These solutions have delivered real value through shorter cycle times, more stable and reliable production processes, several combined operations in a single tool, longer lifetimes on tools and inserts, and more.
AM as a manufacturing method opens new possibilities for us to equip our customers with unique solutions beyond the limits of traditional manufacturing. MAR 55 has helped us push those limits."

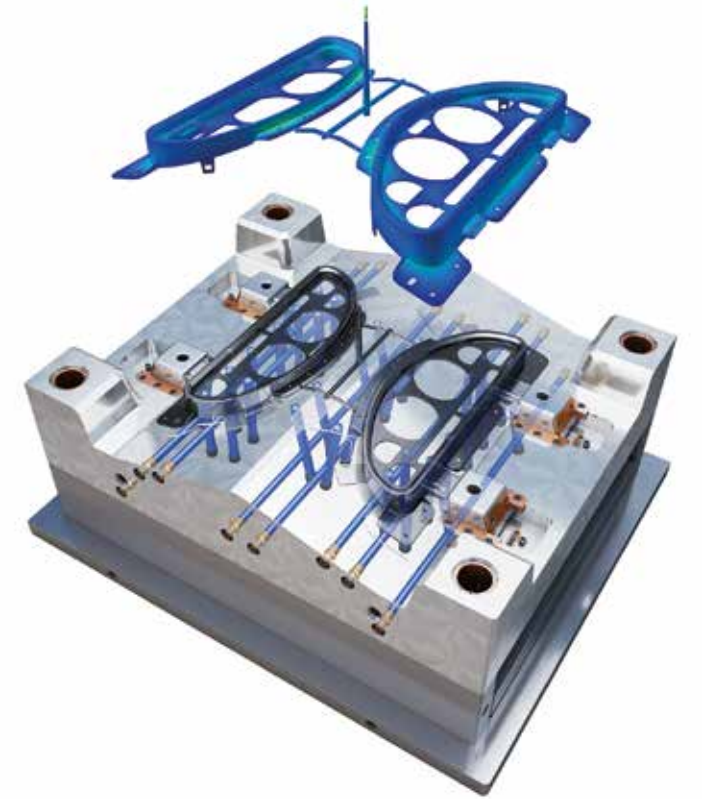
Faraz, you designed this new alloy. What was the idea behind it?
"18Ni300 maraging steel is one of the most common alloys in laser additive manufacturing for tooling. It prints well, but it has limitations such as lower thermal stability and thermal conductivity compared to carbon-bearing hot-work tool steels. MAR 55 was developed with these limitations in mind, offering a solution yet maintaining equally good printability as that of 18Ni300.
MAR 55 is optimized for laser powder bed fusion (PBF-LB/M) and does not require plate preheating. With an as-built hardness of 48-49 HRC at a Charpy V-notch toughness tests of 60 J, hardness ranges (~45 - 52 HRC) are achievable by a simple tempering/ageing step. There is no need for prior costly austenization (solution annealing). This makes it a strong choice for injection mold and large high-pressure die-casting (HPDC) tools and inserts.
In production, reliable printability of MAR 55 has been proven by Ingemar Bite and his team at Seco, who has successfully scaled up to heavier and more complex hybrid tools. Seco can offer test pieces for evaluation and has the knowledge to support customers with implementation of MAR 55 in L-PBF production."

What key benefits have you experienced when working with MAR 55 in Seco so far Ingemar?
"We are working a lot with AM hybrid technique, where it is crucial to have good mechanical properties and wear resistance already in the as-built condition. The conventionally produced pre-machined backends which we weld our AM part on, would distort in shape if heat treatment is applied.
MAR 55 comes with a higher hardness and wear resistance than, for example, 18Ni300 or MAR 60 without heat treatment, as well as better corrosion resistance. Tests also show that the fatigue strength is on a similar level as for some materials (wrought tool steels) used in our products today, which brings confidence to AM in general as a manufacturing process."

Faraz Deirmina, Principal Metallurgist at Sandvik and the designer of Osprey® MAR 55 (Pictures: Sandvik)

Are there other reasons behind MAR 55 becoming a popular solution so quickly Faraz?
"Yes, from a tooling applications standpoint, the key properties are strength, toughness, wear and oxidation resistance, and thermal conductivity. At elevated temperatures, hot hardness and thermal fatigue resistance are equally significant. At comparable strength levels, MAR 55 performs better than 18Ni300 on all of these, reaching performance close to hot-work tool steels such as H13 and H11.
Tests with MAR 55 demonstrate 25 - 65% lower wear damage (adhesive and abrasive) compared to 18Ni300. As customers report, this implies a longer service life.
In-house thermal conductivity data at ~50 HRC, indicates that MAR 55 matches additively manufactured H13 at similar hardness, i.e. significantly higher than 18Ni300. The high cycle fatigue limit is promising and comparable to wrought tool steels. This is due to the absence of detrimental non-metallic inclusions (e.g. aluminium and titanium nitrides and oxides).
Also, impact and fracture toughness are significantly higher than both H13 and 18Ni300, also at cryogenic temperatures, opening opportunities in defence and aerospace applications.
In collaboration with customers, MAR 55 is also used in hot isostatic pressing and laser directed energy deposition with good results. Surface engineering, for example nitriding, has been explored and the gain in performance is under evaluation."

Software takes the complexity out of cooling system design



(Picture: Cimatron)

Gone are the days when the only safeguard between bad design and production disaster were the keen eyes of moldmakers adept at spotting problems before jobs were sent to the floor.

While the value of experience remains high, today's advanced software for mold design offers automation and sophisticated analysis functions that go far beyond simply replacing pen and paper to changing the way manufacturers approach the art and science of building molds.

When it comes to designing cooling systems, capabilities that simplify intricate tasks and evaluate mold design in its entirety ensure that waterlines and components are safely and effectively placed, and molds perform as required.

Continuously developed with the needs of the moldmaker in mind, Cimatron's dedicated technologies for cooling design include tools that help moldmakers of any skill level design with confidence and consistently produce optimal results.

Designing with confidence

Cimatron's flexible capabilities for cooling system design meet a variety of needs, from fine-tuning waterline positioning to testing whether a design concept will literally hold water.

Two capabilities that simplify both initial and late-stage cooling design are the planar sketching function and the ability to automatically generate waterlines based on the placement of components, such as plugs and connectors.

It takes just seconds to drag and drop a component from a Cimatron component catalog into a design, where waterlines that match the size of the selected component can then be generated with a few mouse clicks. For even more design automation, entire circuits can be created simply by connecting the holes drawn by adding components.

Even when gate and runner design are not yet set in stone — or in steel, as the case may be — designers can quickly gain a general idea of where waterlines should be placed and an understanding of how much space is available. For instance, long holes are often not drilled perfectly straight, but Cimatron's default clearance parameter will automatically provide enough wiggle room to help designers achieve the results they need regardless of drilling accuracy.

Similarly, Cimatron design tools help prevent performance issues over time by ensuring that waterlines are placed where they will not weaken sections of the mold, especially areas that are repeatedly exposed to alternately high and low temperatures. While Cimatron provides default settings for ideal clearance between design elements, users are provided with the flexibility to set their own parameters.

Simplified baffle design

Cimatron provides several capabilities for the placement of baffles, from calculating ideal length and positioning to supplying, in a convenient table, a list of baffles that need to be ordered from a supplier.

When an initial baffle design is complete, Cimatron can count the baffles and label each with a corresponding hole number on the design. The software will collect all baffle information build a spreadsheet that lists information for each baffle – including the matching hole number on the design, baffle

length to be ordered, final baffle length after cutting, and hole size. Having all the information collected in a single easy-to-read format simplifies ordering and prevents production and assembly errors.

Playing it safe

Given the inherent complexity of designing plastic injection molds, software capable of providing an accurate 3D representation of the mold at any step in the design process helps moldmakers visualize design progression. Running checks and analyses to ensure they're on the right track and verify what their eyes are telling them increases confidence that designs are solid.

Moldmakers can choose to run analysis tools at any point during the design process, such as distance checks that ensure waterlines and components are a safe distance from their neighbors — namely various features and other components — and circuit checks verify the performance of entire circuits.

By analyzing circuits in their entirety, Cimatron can identify sections where poor design is likely to cause problems. For instance, analysis helps designers spot where a plug has been placed in a channel that should be open, where a circuit lacks an output, or where a waterline is divided in two and then comes back together. By assigning specific colors to questionable areas or outright design errors, Cimatron makes it easy to quickly understand problems and ultimately make designs as good as they can be. For example, color coding based upon specified distances from a hole could let a designer know if the waterline or component has been placed between a designated 200 thousandths (.200) and 250 thousandths (.250) of an inch from the hole.

If the user wants the software to color code the portion of the design that falls between any specified distance parameters, they could choose to "paint" that section red — or any other color they choose — to make it easy to see how close they are to a particular feature or features on either side of the waterline or component they are placing in a design.

Filling analysis and flow simulation

Cimatron's integration with partner Altair's Inspire Mold makes it easy for moldmakers with any level of experience to perform simulation throughout development to ensure molds will perform as required. This integration enables designers to seamlessly work back and forth between the two systems to verify design changes seconds after they are made. Filling analysis and flow simulation tools help moldmakers quickly understand how designs will perform. The ability to verify a design early in the engineering process is especially helpful because it can help designers make improvements that ensure the rest of the design process is more productive.

When mold design is complete, analyses and simulation help designers understand how well the mold will perform and make changes without the need for expensive physical testing. Inspire Mold's filling analyses and flow simulation capabilities extend to multiple aspects of mold performance, including runner and gate placement, waterline optimization, and analysis of critical factors like cooling efficiency, filling pressure, velocity, and temperature distribution.

Especially helpful is its ability to analyze how mold temperatures affect overall performance, including the prediction of common issues like weld lines and warpage. When problems are identified, the software can generate models of anticipated part deformation. Those models can be shared with Cimatron, where designers can make changes that compensate for the deformation and improved designs simulated in Inspire Mold. This seamless integration supports a workflow between the two systems that improves efficiency and accuracy and helps produce a better product.

Taking the complexity out of cooling

Cimatron automation and tools for cooling system design simplify an inherently complex and error-prone process by empowering moldmakers with any level of experience to design molds that go the distance.

Easy-to-use tools simplify intricate design tasks, while safeguards like distance and analysis checks help designers visualize and resolve problems before they become time consuming and expensive. Flow simulation and filling analysis tools help designers understand how molds will perform at any point in development so that changes made early on will positively impact the rest of the process.

With little room for error and facing increasingly complex demands, today's moldmakers require reliable technologies to help them meet their goals. When it comes to designing cooling systems, Cimatron helps manufacturers achieve greater productivity, shorten development time, and produce high-quality molds without sacrificing quality.

From classic mechanical engineering emerge intelligent productivity systems

HELLER at EMO Hannover 2025 – “Experience sparks Intelligence”

Gebr. Heller Maschinenfabrik GmbH can look back on more than 130 years of success. What once began as a small workshop has developed over generations into a leading international supplier of CNC machine tools. But the year 2025 marks a turning point that goes far beyond technological advances. At EMO Hannover, HELLER presented itself with a new brand identity based on the claim “Experience sparks Intelligence.” This message sums up how the company combines its historical experience with the latest intelligence to transform classic mechanical engineering into intelligent productivity systems. Experience thus becomes a catalyst for the future – a future in which automation, digital services, and artificial intelligence are not just buzzwords, but create concrete competitive advantages.

Digital solutions from HELLER support the entire process chain

Dr Thorsten Schmidt, CEO of HELLER, emphasises: “We are focusing on three key areas – machine operation, maintenance/ service and production planning – where AI delivers real benefits and can boost our customers’ productivity.”

Dr. Thorsten Schmidt, CEO of HELLER, succinctly summarizes the new direction: “Mechanical engineering is a thing of the past. Today, it's about how we combine experience, technology, automation, and digital intelligence in a way that creates real added value for our customers. Together with our partners, we want to design manufacturing that is not only productive, but also intelligent and future-proof.”

Strategic importance of EMO 2025

EMO Hannover has always been the leading trade fair for international mechanical engineering. For HELLER, however, participation in 2025 means more than just a presentation platform. It is the starting point for a new brand strategy, a milestone on the path from machine manufacturer to holistic solution provider. EMO is the place where this transformation becomes visible – visible in the machines, in the automation solutions, in the digital services, but above all in the attitude with which HELLER presents itself.
Thorsten Schmidt sums it up: “With ‘Experience sparks Intelligence,’ we are showing that HELLER is much more than a machine manufacturer. We see ourselves as a partner for productivity, a driver of innovation, and a companion for our customers on their journey into an intelligent future. This attitude shapes our presence at EMO – and beyond.”

Machines and automation

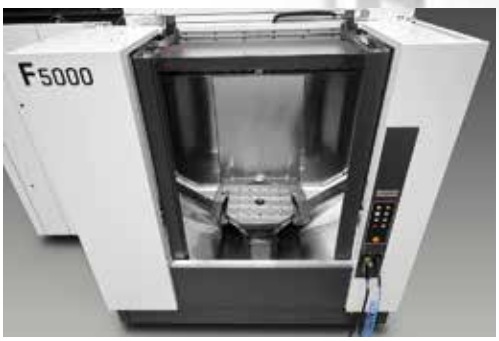
A key highlight of the trade fair presentation was the HF 3500 in combination with the new RP4 robot cell. This system exemplifies HELLER's philosophy of viewing automation not as a complicated add-on function, but as an integral part of modern manufacturing. Thanks to its multibatch capability and intuitive teach concept, a wide variety of workpieces can be set up flexibly without the need for special robot expertise. The integrated digital twin supports the operator during setup and

The HELLER HF 3500 5-axis machining centre stands out thanks to its table kinematics featuring counter bearings as standard, as well as its high dynamics and short non-productive times

simulates processes before they are actually executed. The result: setup times are reduced, sources of error are minimized, and even unmanned shifts or autonomous weekend operation become possible. Thorsten Schmidt emphasizes: “Our customers are under enormous pressure. They have to manufacture increasingly complex components in smaller batch sizes with shorter delivery times, while at the same time facing a shortage of skilled workers. The HF 3500 with RP4 is our answer: an automation solution that is simple, flexible, and economical.”

In addition to the HF 3500, HELLER presented another technological highlight in the form of the F 5000. This 5-axis machining centre with a direct-drive mill-turn rotary table is designed for the most demanding requirements, such as those encountered in everyday applications in the aerospace, mechanical engineering, and medical technology industries. Thanks to its clevis kinematics and powerful HSK-T-100 motor spindle, even the most complex geometries can be machined in a single setup. This saves time, increases process reliability, and improves precision. The newly developed

The HELLER 5-axis machining centre F 5000, equipped with tilt-head kinematics and a rack-type tool magazine, is especially flexible and extremely well-suited to the machining of undercuts and recesses



tool rack magazine with mobile rack is particularly innovative and revolutionizes setup. Tools are prepared in sets and changed while the machine is running. This drastically reduces non-productive times while also reducing the workload for operators.

Digital solutions

At EMO 2025, HELLER also presented a comprehensive portfolio of digital and AI-supported services that take the operation of its machines to a new level. With the ASK. me chatbot, HELLER introduces the first intelligent communication interface between humans and machines. Whether for maintenance, error analysis, or status queries, ASK. me understands the language of the operator and provides clear, context-related answers. The chatbot uses the collective knowledge of HELLER and its users and becomes smarter with every interaction.

This is complemented by the HELLER Services Interface (HSI), which creates transparency throughout the entire machine life cycle. Production data is not only collected, but also evaluated using AI and visualized in an understandable form – as text, diagrams, or tables. This reveals optimization potential, enables preventive maintenance to be planned, and helps avoid unplanned downtime. With the myHELLER customer portal, users also have access to spare parts, service information, and an overview of their entire machine park at any time – regardless of location, intuitively, and efficiently.

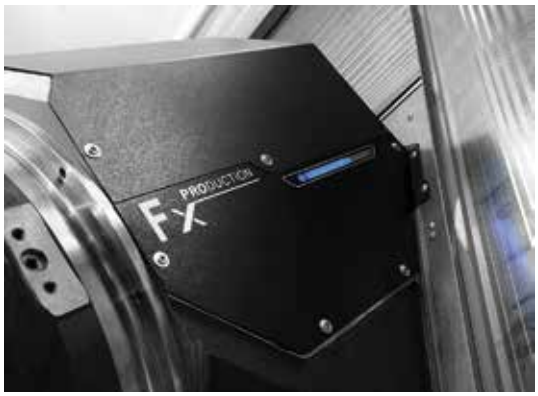
The SETUP, PRODUCTION, and QUALITY Assist systems also demonstrate how consistently HELLER focuses on the operator. They accompany the operator throughout the entire process chain—from setup to production to quality assurance. This not only increases efficiency, but also enhances safety and ensures quality.

(Pictures: HELLER)

The TOKN Area – Experience, Dialogue, Co-Creation

A special highlight of the trade fair presentation was the TOKN Area. It was much more than just an exhibition space – it was an experience world, dialogue platform, and innovation laboratory all in one. Here, visitors could experience live how HELLER networks processes, visualizes data, and involves customers in the development of new solutions. In interactive sessions, CAD data was transferred to digital twins, processes are simulated, and optimizations are tested – even before they are implemented in real life. This makes it clear that HELLER not only builds machines, but is also a partner that shapes the future together with its customers.

Thorsten Schmidt describes the significance of the TOKN Area as follows: “TOKN is our key to the future. Here we show how we connect technology, data, and people. Customers become not just spectators, but active co-creators. This is co-creation in its purest form.”



Digital solutions are becoming increasingly important in industrial environments. HELLER demonstrated practical applications of these solutions and explain the underlying concepts

New developments in Oerlikon HRSflow MULTIflow HRS® multi-cavity systems

Hot runner solutions for sustainable and compact applications

At K 2025, Oerlikon HRSflow presented its latest hot runner technologies tailored to the beauty and personal care industry. Engineered for luxury and sustainable packaging using the latest generation of PET and co-polyesters, these solutions meet the growing market demand for premium aesthetics combined with environmentally responsible choices. In addition, the company showcased the new Up nozzle series, designed for tight-space applications with low shot weights.

At K 2025, Oerlikon HRSflow unveiled its innovative hot runner solutions, specifically optimized for high-end cosmetic packaging using the latest generation of PET and co-polyesters, including materials with a high percentage of recycled content fully compatible with the most stringent European PET bottle recycling streams.

Among the innovations on display were the flawless quality results using Eastman Cristal™ One Renew IM812, a recycled and recyclable resin offering a true glass-like shine. Thanks to molecular recycling, this material ensures consistent color even with up to 100% recycled content and enables molding of components with massive wall thicknesses, ideal for high-end, design-driven packaging.

In this demanding market segment, Oerlikon HRSflow supports mold design and optimal gate conditioning, provides rheological analysis for application-specific solutions, and fine-tunes the molding process. For special components, the company defines the ideal hot runner configuration and predicts part quality using its advanced Test Lab.

Up Nozzle Series for hard-to-reach gate locations

The innovative Up nozzle series allows direct gating in hard-to-reach areas, with a minimum gate-to-gate pitch of 15 mm and a 12 mm cut-out, making it perfect for compact applications with low shot weights.

Engineered for challenging gating areas, it is particularly suited for beauty and personal care applications such as caps, lipsticks, lip gloss and mascara and optimized for cosmetic polymers with narrow process windows.

The Up nozzle series also handles demanding technical polymers, including PA and PBT, and is successfully used in electronic components to eliminate the cold runner in most applications.

Oerlikon HRSflow's dedicated hot runner solutions for luxury cosmetic packaging with wall thicknesses of up to 12 mm (Picture: © Oerlikon HRSflow)

EMO MILANO 2027: A journey to the centre of innovation

After the German edition, taking place these days in Hanover, EMO, the world exhibition dedicated to the metalworking sector, will return to Italy in 2027. The organisation of the event is entrusted to the operational structures of UCIMU-SISTEMI PER PRODURRE, the Italian machine tools, robots and automation systems manufacturers' association. EMO MILANO 2027 will be held at the fieramilano exhibition centre from 4 to 8 October.

As per tradition, the announcement was made during the press conference organised by UCIMU-SISTEMI PER PRODURRE within EMO HANNOVER.

Promoted by CECIMO, the European Association of Manufacturing Technologies, and organised by EFIM-ENTE FIERE ITALIANE MACCHINE, the event, which is alternately held in Hanover and Milan, will thus return to Italy after six years.

Indeed, it was in 2021 when, despite the pandemic, the organisers of EMO MILANO 2021 succeeded in attracting 60,000 operators from those countries that had given the green light to travel from their territories. Even in that peculiar situation, the figure confirmed the appeal of the event and of the city of Milan, surely central and undoubtedly one of the best served and connected by international and intercontinental transport systems. After all, the previous edition, in 2015, was a real success considering the number of exhibitors and visitors, setting an all-time record for the Milan edition of the world trade show, both in terms of number of participants and square metres occupied.

The next edition is expected to be rich in content and opportunities for the operators of the sector: EMO MILANO 2027 will propose a real "journey to the centre of innovation", as stated in the slogan chosen to accompany the event communication from now until 2027.

At EMO MILANO 2027, the entire spectrum of international products from the sector will be on display: metal cutting and metal forming machine tools, robots, automation systems, additive manufacturing, digital solutions, artificial intelligence. These are technologies on which the sustainable development of the planet depends, a theme that will be widely covered by the exhibition.

Therefore, thanks to the agreement signed with MiCo DMC, the official and exclusive partner of EMO MILANO 2027 for the room booking service, the operators of EMO MILANO 2027 can access the platform dedicated to hotel reservations in Milan and surrounding areas via the exhibition website emo-milan.com. In this way, they will have the most suitable options for their specific needs, in terms of location and price range, at their disposal well in advance. Details, projects and initiatives concerning the event will be presented as the exhibition approaches, but in-depth content is already available on the website emo-milan.com. From September 2025, the website is the fastest and most comprehensive source of information and contact details for all those who will take part in EMO MILANO 2027.

Special attention will be devoted to the organisation of the event which, given the industrial development expected in the coming years and the attractiveness of the city of Milan, is anticipated to be a sell-out fair. For this reason, the organisers of EMO MILANO 2027 have reserved all 12 exhibition halls available for the trade show and, starting in September 2025, a hospitality service will be offered to facilitate the booking of accommodations for operators in the city, which has become one of the most popular tourist destinations.

Innovative milling system

Horn is expanding its DA milling system for corner, face and plunge milling. With the DA65 type, the system offers a larger insert than the existing DA62. This enables greater axial cutting depths during the process. Horn uses a six-edged indexable insert. The insert can be used on both sides and has three axial and radial cutting edges on each side. A large core cross-section with maximum insert length is the impressive feature of the precision-sintered triangular insert. Despite the negative insert angle, the insert design results in a positive cutting geometry, which leads to easy cutting. The six inserts per indexable insert result in a good cost-per-cutting-edge ratio.

The six inserts per indexable insert result in a good cost-per-cutting-edge ratio

The DA65 system can be used as a roughing and finishing system. In tests, the milling system achieved surfaces during finishing that meet market requirements. The choice of axial and radial angles has been proven to result in lower torsional moment and lower transverse load on the spindle compared to previous systems. This allows the system to be used on less powerful machines with unstable operating conditions. Another advantage of the selected axial angle is the good chip removal, especially in helical plunge operations.

The cutting edge geometry generates a precise 90° corner angle with a maximum cutting depth of 7 mm (0.276"). The patented indexable inserts are available with corner radii of 0.8 mm (0.031") and 1.2 mm (0.047"). The proven SA4B carbide substrate is suitable as an all-rounder for milling steel, stainless steel, cast iron and aluminium. The inserts are also available in the carbide grades SC6A and IG6B for machining other material groups.

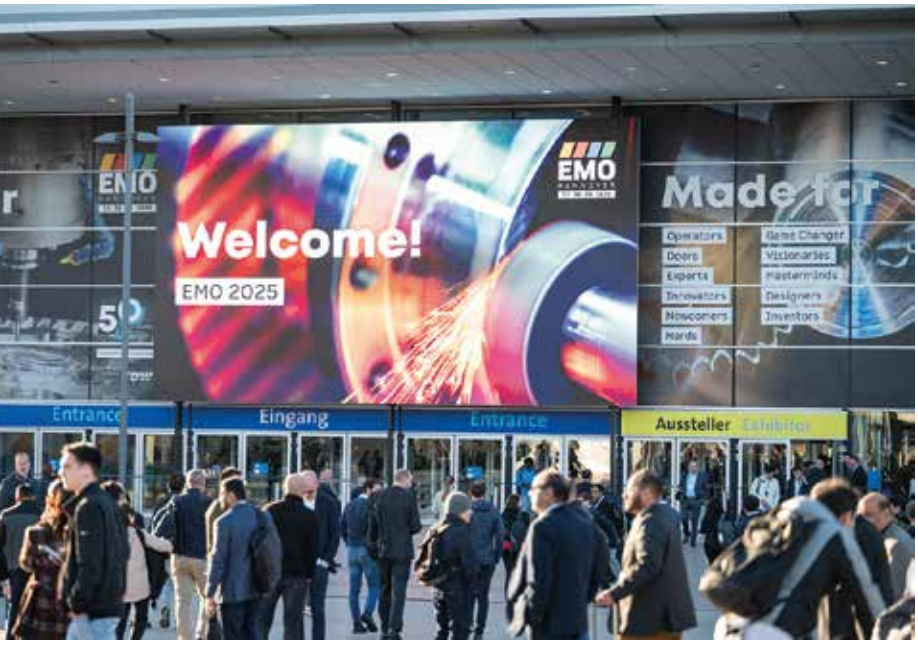
The tools are available as end mills in diameters of 32 mm (1.260") and 40 mm (1.575"). In these types, they are equipped with two or three inserts. The tools are available as shell milling cutters with cutting diameters of 50 mm (1.969"), 63 mm (2.480"), 80 mm (3.150") and 100 mm (3.937"). Depending on the diameter, there are four, five, seven, nine or eleven teeth. All tools have targeted internal cooling to the cutting zone.

The DA65 milling system guarantees process reliability across a wide range of applications, high expertise and economic benefits for the user.

The DA65 milling system guarantees process reliability across a wide range of applications, high expertise and economic benefits for the user (Pictures: HORN/Sauermann)

EMO 2025 is pushing AI and automation for greater competitiveness in global industry

The whole world of metalworking – for five days, Hannover was the venue for EMO, the world's leading trade fair for production technology. Attracting a number of 80,000 trade visitors from all over the world, the exhibition grounds provided important innovative impulses for greater competitiveness in the industry. The main focus was above all on the topics of automation and artificial intelligence, which have once again found their way into industrial processes as drivers of pro-duction efficiency.



Trade visitors from all over the world enjoyed important innovation impulses and inspiration at EMO 2025

Technology, information, exchange, international networking, and cooperation – this is what EMO has embodied for 50 years. More than 1,600 exhibitors from 45 countries and a diverse supporting program presented a host of solu-tions for modernizing and upgrading production.

"There is a profusion of smart and impressive technical solutions. This EMO has convincingly demonstrated that," says Carl Martin Welcker, General Com-missioner of EMO 2025. "For them to be effective, the booster engine of in-vestment now really needs to fire. Many projects are in the pipeline after three years of investment restraint, but the uncertainty in the political sphere contin-ues to put the brakes on investment," Welcker continues.

Confidence is already picking up abroad, particularly outside Europe. In the visitor survey, two thirds of visitors from there state that they intend to invest. In Germany, the figure is less than half. This is reflected by the current trend in foreign orders placed with the German machine tool industry, which increased by 6 percent in the first seven months of 2025 compared to the same period of the previous year. Demand from Germany fell by 22 percent over the same period. Nevertheless, EMO exhibitors are reporting sales. Norbert Teeuwen, Managing Director of Okuma Europe says: "Open Possibilities – that is precisely what connects EMO and Okuma. Our appearance at the exhibition was a complete success – among plenty of sales, we even sold three exhibition machines directly off the booth to our customers. For us, EMO is always a highlight. Thank you!"

Automation is a hot topic in the industry

The big topic in the industry is automation. This is driven by costs and a short-age of skilled workers. 50 percent of the visitors surveyed are interested in how they can use automation to boost their productivity. "Automation is every-where here and is going to make a big difference," says Aaron Morrill, CNC mechanic from the USA. The importance of the use of robots is growing, as numerous robot manufacturers have impressively demonstrated at EMO. Ralf Winkelmann, CEO of Fanuc Europe, says: "We also see that robots will become increasingly important in the machine tool industry. Industrial robots will coexist with human operators. In the future, they will provide the most efficient solutions."

Interfaces to digitalization and sustainability

More than a third of the trade visitors want to learn about new aspects of digitalization

EMO 2025 is promoting automation for more competitiveness worldwide

and AI. “We see added volume in processes where all the possibilities for processing data from sensors are utilised. AI is useful for this and improves quality in the factory,” says Jan Otoupakik, CEO 4dot Mechatronics, a start-up from the Czech Republic. This was also reflected in the popularity of the P.O.P Talks, which were held daily at the central innovation stage, and highlighted numerous aspects of AI in production.

Automation, digitalization, and artificial intelligence ensure higher productivity, efficiency and quality. This also increases sustainability in production, for example by promoting efficiency in energy and materials. Sustainability is an important factor in research and among talented young people. “We are working on various solutions. One very important example is to reduce the energy consumption of production systems, for example by reducing the coolant flow so that only as much coolant as necessary is used, rather than as much as possi-ble. That was the strategy in the past. This allows us to save up to 95 per cent of the pump energy, electrical energy and up to 60 per cent of the total energy consumption of the production system. So, this is a big step forward,” says Professor Berend Denkena from the Leibniz University Hannover.

Top platform for international managers

Once again, EMO has proven to be a top platform for managers and buyers. In the visitor survey, more than half of the respondents stated that they were top or middle managers. They also have the authority to make procurement decisions.

Overall, 94 percent of visitors felt their objectives for the visit had been achieved. 98 percent rated EMO between satisfactory and very good. This is also reflected in the verdict of the exhibitors. Irene Bader, Board Member at the German-Japanese company DMG Mori, puts it in a nutshell: “What we presented at EMO in 2025 is a glimpse into the future of production. Our cus-tomers' enthusiasm and their valuable feedback have once again shown us how important face-to-face exchange is for real innovation. For five days, EMO was a global meeting place for ideas, partnerships, and new perspectives.” And German Wankmiller, Chairman of the Board of Management of Grob-Werke, adds: “Overall, we are satisfied with how this year's EMO went, and we've been positively surprised considering the currently challenging market situation. The number of visitors and the quality of the discussions have also been consistently positive and have given us important ideas to follow up over the coming months.” “Once again, it has proven possible to attract international market leaders in metalworking to EMO and address the new topics in industrial production,” concludes Dr. Markus Heering, Executive Director of the EMO organizer, the VDW. “As a result, it has consolidated its position as the world's leading trade fair and barometer of trends,” he summarizes.

Technology, information, exchange, international networking and cooperation – this is what EMO has been all about for 50 years

General Commissioner of EMO 2025 Carl Martin Welcker at the opening press conference of EMO 2025

EMO 2027 will take place from October 4 to 8 in Milan, Italy.

Exhibitor feedback from EMO Hannover 2025

4dot Mechatronic Systems s.r.o., Czech Republic, CEO Jan Otoupakik (Startup Area)
We see added volume in processes where all the possibilities for processing data from sensors are utilised. AI is useful for this and improves quality in the factory.

DMG Mori AG, Germany/Japan, Board Member Irene Bader
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Emuge-Franken, Germany, Managing Director, Gerhard Knienieder

Dr Markus Heering, Managing Director of EOM organiser VDW, was a sought-after interview partner for the media during the five days of the trade fair

For us, EMO Hannover is much more than just a product show – it is a global meeting place for movers and shakers. The direct exchange with many international customers and partners at our stand once again proved very valuable for us.

Fanuc Europe Corporation SA, Luxemburg, CEO Ralf Winkelmann
We also see that robots will become increasingly important in the machine tool industry. Industrial robots will coexist with human operators. In the future, they will provide the most efficient solutions.

Stefan Simic, Leiter EMD toolshop leader (trade visitor from Serbia)
I think AI is very important and that it is something that we cannot escape. We need to embrace it and learn to live with that because that is the future.

Grob-Werke GmbH & Co. KG, Germany, Chairman of the Board of Management German Wankmiller
Overall, we are satisfied with how this year's EMO went, and we've been posi-tively surprised considering the currently challenging market situation. The number of visitors and the quality of the discussions have also been consistently positive and have given us important ideas to follow up over the coming months.

Hainbuch GmbH, Germany, Production Division Manager Stefan Nitsche
EMO 2025 was once again exactly the right platform for us to present our latest developments to an international trade audience. Nowhere else do we meet so many decision-makers who are specifically looking for innovative solutions

Leibniz Universität Hannover, Germany, Professor Berend Denkena
We are working on various solutions. One very important example is to reduce the energy consumption of production systems, for example by reducing the coolant flow so that only as much coolant as necessary is used, rather than as much as possible. That was the strategy in the past. This allows us to save up to 95 per cent of the pump energy, electrical energy and up to 60 per cent of the total energy consumption of the production system. So this is a big step forward.

Okuma Corporation, Japan, Managing Director of Okuma Europe GmbH, Norbert Teeuwen
Open Possibilities – that is precisely what connects EMO and Okuma. Our appearance at the exhibition has been a complete success – among plenty of sales, we even sold three exhibition machines directly off the booth to our cus-tomers. For us, EMO is always a highlight. Thank you!

Paul Horn GmbH, Germany, Managing Director Markus Horn
EMO Hannover is the central point for us to meet customers and partners from all over the world. As an international meeting place, it plays an indispensable role in innovation and face-to-face discussions with our customers. EMO 2025 has been a complete success for us, and we are looking forward to the next one.

Siemens AG, Germany, Stand Manager Dominik Riehle
The response to our presence at the trade fair was overwhelming – a particular highlight was the launch of our data alliance with leading machine tool manufacturers, which is paving the way to revolutionary AI solutions in the pro-duction industry. It was not only the large number of visitors that was impressive, but above all the decision-making competence and specialist knowledge of our discussion partners. The commitment to encouraging young, talented people was also tangible: The picture was characterized by a lot of interest from young people and strong initiatives to generate enthusiasm for the industry. We actively support this – among other things through the Special Education Show and the German Skills Competition.

United Machining Solutions, Switzerland, CEO Stephan Nell
The launch of our new United Machining Solutions Group at this year's EMO was a resounding success. We have been delighted to receive consistently positive feedback from the numerous visitors. In addition, we have already set a new record for incoming orders – a strong signal for our joint future.

Wohlhaupter GmbH, Germany, Managing Director Frank Wohlhaupter
This year's EMO Hannover once again provided us with the ideal platform to meet our international customers and partners. I was particularly pleased that the quality of visitors to our stand was again very high, especially those from Europe.

The new United Machining Solutions Group used EMO 2025 to present eight world firsts

(Pictures: VDW)

A particular highlight of Siemens AG's participation in EMO was the launch of a data alliance between the company and leading machine tool manufacturers, which is intended to pave the way to revolutionary AI solutions in production

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