IMPULSE

MAPAL TECHNOLOGY MAGAZINE | EDITION 74

Cover story:
Market launch in the die & mould sector

Dear readers,
dear business associates,

The coronavirus has maintained its hold over us and we cannot meet face-to-face as we are used to doing. In light of these circumstances, it is all the more important for me to share with you developments at MAPAL and our product portfolio through Impulse. In previous issues of Impulse, I told you that we were also taking and had already taken this time to make changes to our organisation, optimise processes and integrate digital possibilities. We now work much faster and are more broadly positioned for the future. In this issue of Impulse, you will find out more information and insights on this – including in an interview with Jacek Kruszynski, our new CTO.

Of course, we are and remain a family company and retain our DNA. We remain your reliable partner, who – always with your part in mind – use our understanding of processes and our complete range of products and services to make your task the focus of our cooperation. Not only in the quality and precision that you are used to at MAPAL, but also within appropriate delivery times.

We are making use of the new opportunities brought by digitalisation, for example, by quickly and directly organising the transfer of know-how. In this way, we are ensuring that you will be looked after with the same standards and skills anywhere in the world. Among others, this is taken care of by the newly implemented market segment managers and their teams.

We will also be increasing our utilisation of online channels in future so that we can quickly and directly provide you with information on our services. For this reason, one project we are currently hard at work on is an entirely new online presence that we can use to operate all kinds of digital channels. Watch this space! Our homepage and specific landing pages for news as well as the die & mould sector are already showing first insights into our new online world.

For the time being, many meetings and contacts will remain purely virtual, but I hope that we will be able to see each other in person again soon. Until then, enjoy reading this edition of Impulse. Best wishes and stay well!

Yours,

Dr Jochen Kress


MAPAL

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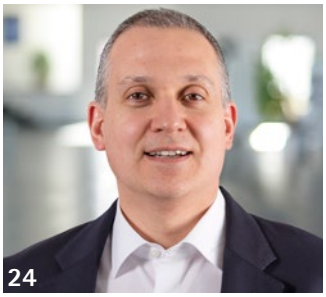

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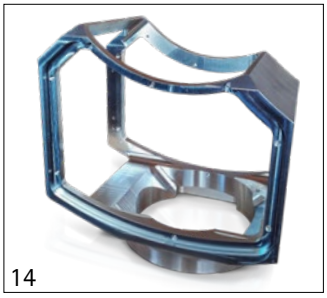

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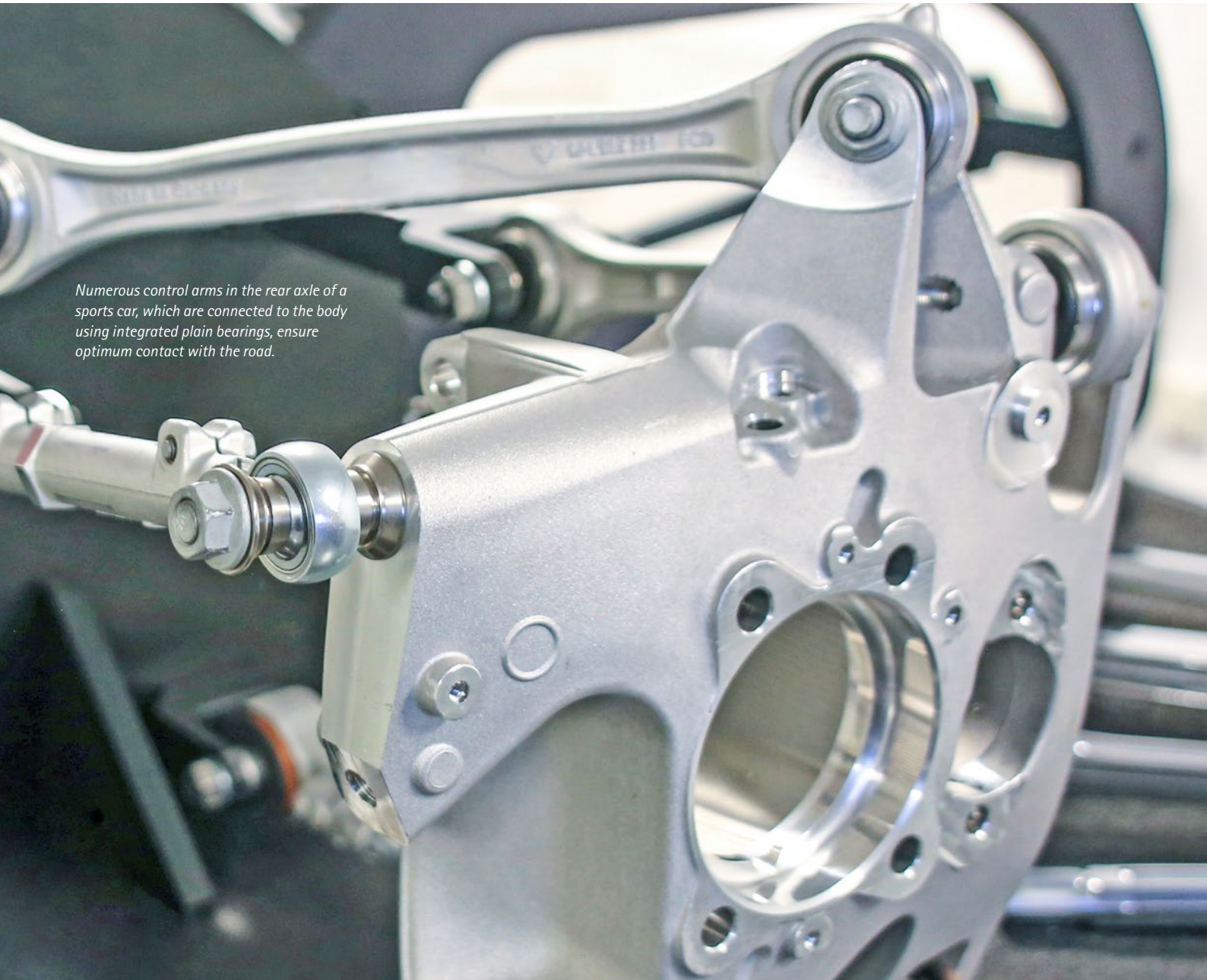
Economic, high-precision machining of forged aluminium parts

SOPHISTICATED PCD TOOL CONCEPTS FOR MACHINING ALUMINIUM

Highest precision and economical production – these aspects are the focus when Carl Hirschmann GmbH machines forged parts made of aluminium for sports vehicle chassis. Well thought-out, multi-stage combination tools from MAPAL have proven their worth here. The shape-adapted PCD cutting edges are particularly impressive. Those responsible at Carl Hirschmann are also impressed by the all-round support provided by their development partner MAPAL.



Numerous control arms in the rear axle of a sports car, which are connected to the body using integrated plain bearings, ensure optimum contact with the road.

pictures: Klaus Vollrath

1 *Satisfied with success: Thomas Maier (Team Leader Milling, Carl Hirschmann), Rainer Harter (Technical Managing Director, Carl Hirschmann) and Thomas Kuner (Technical Consultant, MAPAL) (from left).*

2 *Forged aluminium strut mounts for connecting the spring strut rod end of a vehicle axle to the chassis.*

„We have developed from a trading company founded in 1957 into an international technology leader in the manufacture of heavy-duty plain bearings, rotary indexing tables and clamping systems", said Rainer Harter, Technical Managing Director of Carl Hirschmann GmbH in rural Fluorn-Winzeln in the Black Forest. Thanks to its expertise, diligence and the ability to innovate, the original license manufacturer has developed into a manufacturer of top-quality products.

Carl Hirschmann's core products include support and guide joints, for example for the longitudinal, transverse or triangular control arms in the axle structures of high-end sports vehicles. Multidisciplinary expertise is required to produce these cutting-edge components. Carl Hirschmann has earned an excellent reputation in this field and supplies well-known sports car manufacturers.

DEVELOPMENT PARTNER FOR CAR MANUFACTURERS

„Due to the extensive experience we have gained in axle components for sports vehicles, our customers involve us in the development and production of complete axle assemblies as a partner," said Rainer Harter. As is customary in the industry, the experts from Carl Hirschmann receive a comprehensive specification sheet containing all the information on the installation space as well as the requirements and specifications from the customer. To this end, Carl Hirschmann and the customer jointly develop an optimally-suitable assembly - for whose manufacture and delivery Carl Hirschmann then accepts overall responsibility. This includes all process steps from the procurement and machining of all external components, which includes in particular the aluminium forgings, to the just-in-time delivery of complete and tested assemblies to the customer's production line. To this end, Carl Hirschmann has networked its IT systems directly with those of its customers so that call-offs can be imported directly from the production planning system run by the customer, a sports car manufacturer, into the company's own ERP system.

THE CHALLENGE OF PRECISION MACHINING

In addition to technical perfection, the cost-effectiveness of the process plays an essential role in component machining. And this, in turn, requires the smooth supply of well-thought-out high-performance tools. Carl Hirschmann has brought tool manufacturer MAPAL on board for just this purpose.

„The axle structures in top sporting vehicles must be as light as possible and withstand the enormous dynamic loads. This means that lightweight designs are required for these safety parts, right to the limit of what is feasible - with the corresponding demands on machining," said Thomas Kuner, Technical Advisor at MAPAL in Aalen. The forged parts are therefore made of high-strength aluminium alloys. These workpiece materials are long-chipping and difficult to machine. The machining must also be extremely precise because of the tight tolerances required. A maximum deviation of ± 5 µm is permitted in critical areas such as the seat of the bearing shells.

In order to manufacture economically despite this, Carl Hirschmann uses customised stepped and combination tools from MAPAL, which the tool manufacturer equips with various shape-adapted blades. High-precision calottes, slots, threads or undercuts can be produced with comparatively ➔

few feed movements. This is much quicker than the time-consuming „multipass milling" with standard tools. The preferred tool cutting material is polycrystalline diamond (PCD). The cutting edges are usually brazed in.

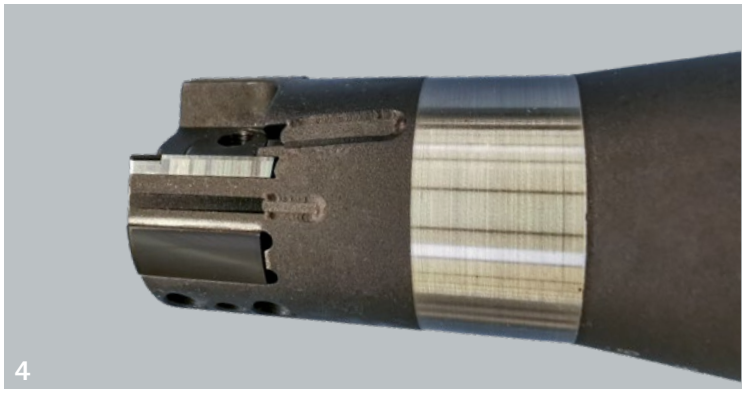
Thanks to the sophisticated step and combination tools, Carl Hirschmann can implement numerous different machining processes without changing tools. Another advantage of combination tools is the fact that there are fewer alignment deviations as a result of tool changes. „We also achieve the best combination of dimensional accuracy and tool life with PCD tools", said Thomas Maier, Milling Team Leader. In addition, the cutting edges are convincing due to their reliability. „This is even more important for us because we have to meet just-in-time delivery deadlines to our customers", Thomas Maier explained. The demands on the stability of the production processes are therefore correspondingly high.

DEVELOPMENT PARTNERSHIP WITH MAPAL

„We have been working closely with MAPAL on the development and delivery of such tools since 2013", Thomas Maier explained. Here, the experts from both companies take a precise look at the relevant specifications for the requested assemblies and components and define which tool designs, cutting edge geometries and NC strategies they will use to achieve the desired results as efficiently and economically as possible. „MAPAL contributes profitably at all times thanks to its far-reaching understanding of the process", Thomas Maier confirmed.

POSITIVE EXPERIENCE WITH SUPPORT AS WELL

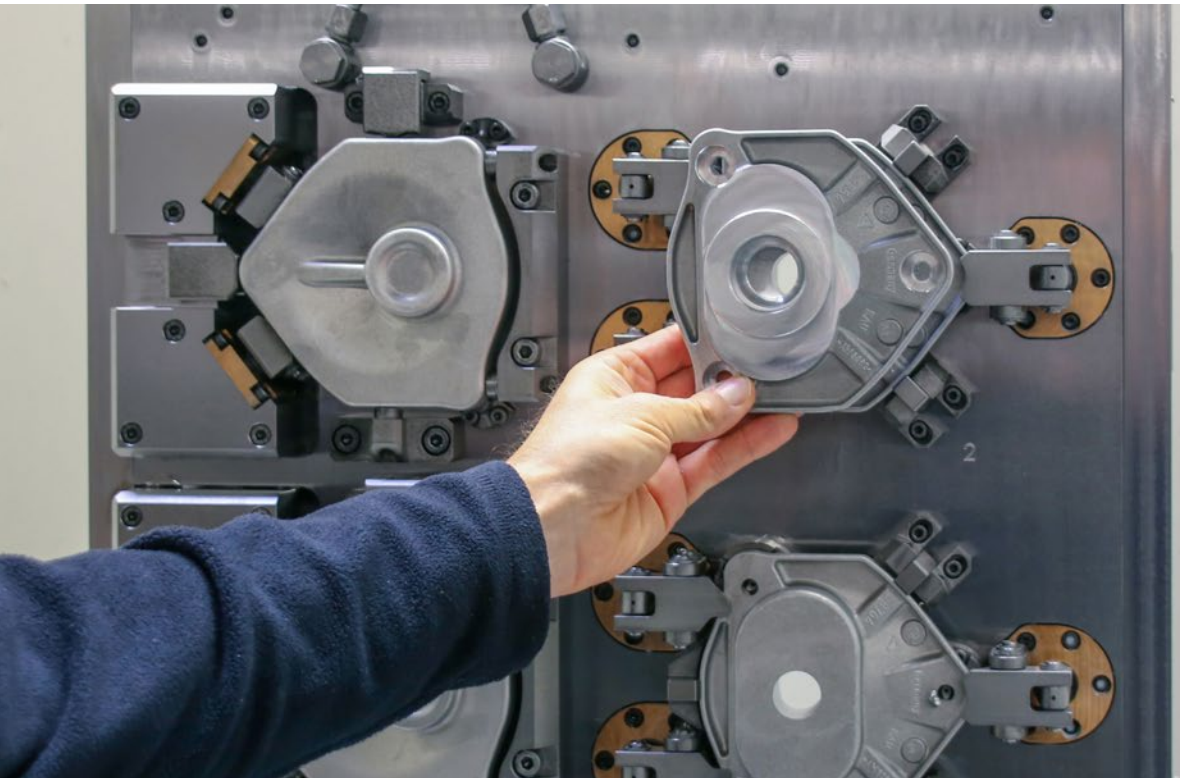
„For us, an essential part of tool supply is also the support provided by MAPAL", Thomas Maier confirmed. In addition to development cooperation, this also includes all other aspects such as delivery times for new or repeat orders, tool life or tool life quantities and cutting edges, as well as the speed of reaction in maintenance, reconditioning and repair of tools. „We feel we are in good hands with MAPAL", Thomas Maier summarised. ■



3 *This PCD multistage tool is used to pre-machine the calotte among other things, and to drill out and circularly mill the fine thread.*

4 *The fine boring tool with three PCD guide pads and one PCD cutting edge machines the seat of the bearing shell. In the centre of the picture you can see the ring-shaped concentricity control point.*

Close tolerances of up to ± 5 µm must be maintained when machining the dome bearing. Extremely tight tolerance specifications also apply to the fine thread.



Workpieces clamped in the clamping fixture on a machining centre.

pictures: Klaus Vollrath

Faster processes and even more customer service

New structures

MAPAL has undergone an internal reorganisation and is refining its product and market management. By interlinking functional areas more closely, the company wants to accelerate the pace of innovation. In our interview with Jacek Kruszynski, the CTO explained why the workpiece is at the forefront now more than ever.

Mr Kruszynski, as Chief Technical Officer, you were involved in realigning organisation at MAPAL, particularly with regards to future product management and the processing of individual market segments. Which objectives does MAPAL associate with this restructuring?

As you are aware, the industry is currently facing huge challenges – just think of new mobility, the digital transformation or sustainability. We have to keep up with these developments. Reorganising our processes is therefore a key element of our structural programme for 2022.

How exactly does this programme, or process reorganisation look?

We want to be able to serve our customers even better in future by greatly reducing lead times for different business processes, such as offer processing or tool configuration. In order to achieve this goal, we have reduced connections, defined clear responsibilities and merged equal or similar tasks. We also want to transfer issues that were previously project-based into our daily work. For us, this is specifically about tapping new markets, interlinking internal processes more closely and creating additional sales channels.

MAPAL is also turning to new market segments where the company has not yet had a strong representation. Is this the beginning of a gradual withdrawal from the automotive industry?

While it is true that we have been recently dealing with new sectors where we were less active in the past, that does not mean that we are rolling back our involvement in our traditional markets, such as the automotive industry. Quite the opposite. Many of our core competencies are in the automotive sector. For this reason, we will be working with this sector and its technological developments more intensively than ever. We aspire to be the leading precision tool manufacturer and solution provider in the automotive sector, both in the field of conventional powertrains and in e-mobility. We are well equipped for both developments and are therefore pursuing a dual strategy. Our approach is to push forward new technologies and look for e-mobility fields where we can make the most of our skills. At the same time, our research and development engineers are working hard to optimise existing technologies.

How is MAPAL generating the necessary resources to work in new sectors and fields of application? Surely this means increased costs, such as in product development, logistics, marketing and customer support?

We are well prepared for the upcoming tasks. By restructuring our processes, we are freeing up additional space and creating more efficiency along the entire process chain. We have defined new areas of responsibility and recruited specialists to deal exclusively with individual market segments.

Are other future sectors of general machining and the die & mould sector included?

That is right. When people think of MAPAL, until now they mainly thought of applications in the automotive industry. But there are a variety of applications outside of this sector. I can see good applications for MAPAL tools in the food industry, in the optics, medicine and media sectors as well as in the die & mould sector. Even mobility, in general terms, is a fixed part of our human existence. People move, whether on foot, with their own vehicle or other means of transport such as ships, trains or airplanes. This too offers even more areas of application. ➔

"We want to be able to serve our customers even better in future."

Jacek Kruszynski

picture: gettyimages (Mark Evans)

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What are some examples of these?

Think of the transportation of all kinds of energy sources. Parts such as compressors, units or valves require a variety of machining processes. This includes bores that have to be created with a high level of precision. Parts like this are therefore perfect for micrometre-precision machining with MAPAL tools.

What makes the die & mould sector so interesting for MAPAL?

That is easy to explain. Moulds are used for all kinds of applications. We need them for everything in our daily lives, whether that be household appliances, transportation or medical and visual aids. For this reason, we are devoting ourselves to this vast field and dealing with all applications, parts and components that overlap with our skills in precision machining.

What exactly does that mean?

If the applications fit into our programme, we will serve them. Furthermore, we are constantly developing our portfolio further and expanding it to include products and services that are necessary to provide our customers with a full service. And always with the approach that the component is at the forefront.

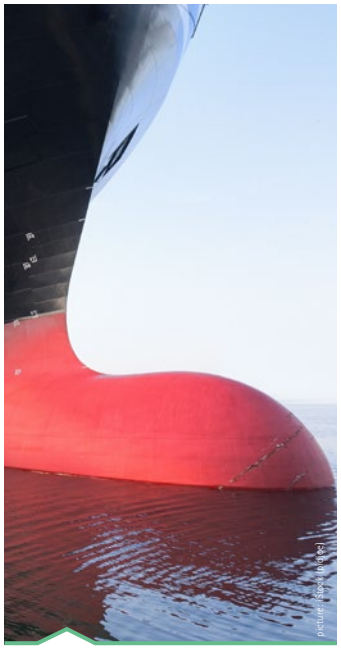
How vast is the scope of the new structures?

We have established comprehensive market segment management so that our international sites and sales partners will be able to work together even better in future. The new structures ensure a global transfer of expertise, which benefits the customer. The entirety of our sound knowledge is therefore state of the art – at any time, in any place. This is also the main reason why we have set up product, application and segment management for every market segment, with a team of specialists to exclusively deal with each area. After all, our focus is not solely on developing a marketable product – we look at the entire application and examine the machining process very closely. As already mentioned, the part is always at the forefront at MAPAL.

Have changes also been made to the MAPAL product portfolio?

Our product range is already highly diversified. Naturally, however, we perform regular analyses as part of our product lifecycle management. We check the extent to which the current portfolio is meeting our customers' future requirements and then focus on developing new products so that we can provide a full service for all areas of application. With regards to the die & mould sector, we offer more than just tools for drilling


picture: Fotolia (missisya)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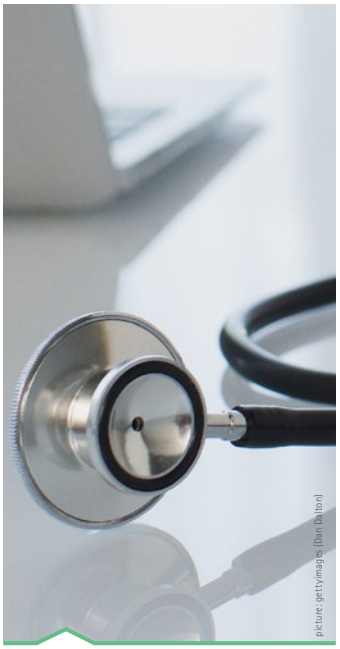
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and milling. Our range also includes reaming and clamping tools, as well as dispensing and measuring devices. We also offer tool management and digital services and advise customers on how they can reduce their part costs long term. The MAPAL programme goes far beyond the actual tool.

Which national markets will be impacted by the reorganisation first?

We are initially concentrating on our core markets, that is, the DACH region, China and the USA and introducing the new structures there. In general, however, we plan to go everywhere our customers are. And if our customers are connected, we will follow these connections. In the automotive sector, we want to focus on regions where e-mobility is gaining ground. In the aviation sector, we are currently increasing our focus on markets such as China and Turkey.

How important is international cooperation within the MAPAL Group?

We consider it one of our core tasks to increase communication with our international sites and sales partners. We have established the requirements for this by implementing digital tools and exchange platforms as well as training and information offers. The purpose of this is to create a MAPAL community. Knowledge is a megatrend. Young people handle knowledge very differently and we therefore want to use all possible options for knowledge sharing by consistently expanding digital possibilities.

Has the COVID-19 pandemic impacted the introduction of the new structures?

The pandemic has not significantly affected the reorganisation of MAPAL. We had already started to gradually introduce the new structures two years ago. However, the coronavirus allowed us to take more time to develop or consolidate certain projects in greater detail. The pandemic even accelerated some of our projects, such as the digitalisation of data and processes and the use of new communication channels.

What is planned for the near future?

Applications such as machine learning and the digitalisation of engineering processes are going to become more important. They offer us a variety of ways to support customers with their machining tasks. We will be dealing with the implementation and use of such tools even more in the coming months. ■

PARTNERSHIP DURING TOOL SUPPLY

When tool expertise and consulting quality match

Start-ups in the field of machining services have to prevail against fierce competition. They cannot afford to waste money while procuring. This is also the case with Bonertz Technik GmbH, which was founded in 2014 and has since made the leap from a pure service provider to a manufacturer of innovative clamping devices for use in machine tools. When purchasing cutting tools, the company pays particular attention to performance, process reliability and good support.

You can tell by the colour of the chips how hard it gets during machining

pictures: Klaus Vollrath

„When we founded the company in 2014 we only had one CNC machine and initially worked purely as a machining service provider", recalled Robert Bonertz, Managing Director of Bonertz Technik GmbH in Föhren. The company gradually increased its specialisation in more demanding tasks. Bonertz Technik GmbH deals with workpiece materials that are difficult to machine - special alloys, high-strength steels up to 1,100 N/mm2 or super-hard materials with up to 60 HRC. Bonertz Technik GmbH also specialises in components which require a complex clamping setup. Examples of this are filigree structures which have to be machined out of a solid with a high level material removal.

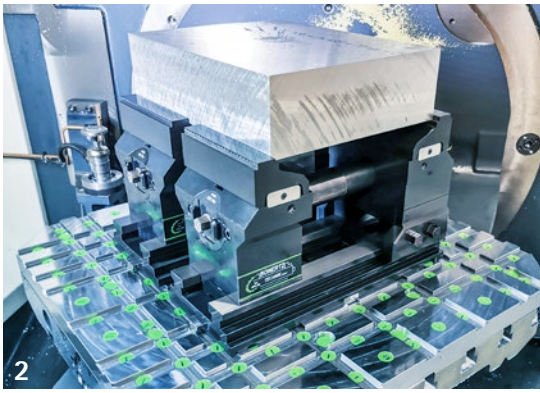
Satisfied customers enabled the company to grow rapidly. Today, Bonertz Technik GmbH has four modern, high-precision 3- and 5-axis milling centres in its production area. The necessary infrastructure in areas such as work preparation, CAD/CAM programming and quality assurance is also in place.

DEVELOPMENT OF ADVANCED CLAMPING TECHNOLOGY

„With many machining tasks, we were always annoyed by the inadequacies of the available clamping technology for clamping the components", recalled Managing Director Patrick Vilfan. This was especially apparent when the components to be processed had to be re-clamped due to frequent product changes. This required far too much time due to the cumbersome handling, which was detrimental to productivity. In addition, some of the clamping devices were very misshapen and created tool restrictions which hindered the machining. Another disadvantage of the standard clamping devices were the installation heights, which limited the available travel in the Z-axis.

That is why the people responsible at Bonertz Technik GmbH decided to produce better clamping devices themselves. And not only for personal use, but also for marketing. As time went by, various versions of 5-axis clamps were developed as well as an innovative machine table as an alternative to costly zero-point clamping systems. ➔

1 *Good understanding: Robert Bonertz (left) and Patrick Vilfan (right) inspect a replaceable head tool together with MAPAL employee Klaus-Dieter Leick.*



2 *HPB machine tables from Bonertz Technik GmbH can usefully replace the outdated T-slot standard and are used wherever zero-point clamping systems are too inflexible. The interplay of vertical and horizontal grooves simplifies alignment.*

3 *The view into the tool store of one of the milling machining centres shows various MAPAL tools.*

4 *The HPC 5-axis clamps developed by Bonertz Technik GmbH can be handled quickly and easily, extended modularly up to a clamping width of 1335 mm and in some cases enable set-up time savings of up to 90 percent.*

5 *Machining of series parts made of high-strength tool steel for the clamping technology developed in-house*

4


5

pictures: Klaus Vollrath

PRACTICALITY IN THE FOREGROUND

„Practical considerations were at the forefront of our developments", Patrick Vilfan explained. In addition to high clamping force, an important feature was extensive modularity in the structure. Depending on the design length, the base rails are equipped with a variety of interfaces to the machine table. The clamping range can be easily extended from 10 to 1335 mm by means of spacers without any loss of clamping force. The maximum clamping force is

50 kN. The jaws, which are available in a wide range of versions, can be replaced without tools in just a few quick seconds. In practice, the systems resulted in set-up time savings of up to 90 percent. The developers at Bonertz Technik GmbH paid special attention to avoiding tool restrictions as far as possible. The clamps are therefore also available in several height variations between 130 and 210 mm.

FROM A „UNEXPECTED ENCOUNTER"...

„The contact with Bonertz Technik GmbH came about rather by chance a few years ago because they were processing components for one of our subsidiaries as a contract manufacturer", recalled Klaus-Dieter Leick, application engineer at MAPAL. This is how he got into conversation with Bonertz when he had problems machining high-strength tool steels with trochoidal milling cutters from a competitor.

Specifically, this involved solid carbide milling cutters for cutting depths of up to 3xD with diameters of 8-14 mm, the use of which revealed that the cutting forces were considerably too high in relation to the chip volume. „The resulting overload of the spindle was already clearly audible from the machine noise and could also be seen on the controller load diagrams", Robert Bonertz said. Klaus-Dieter Leick then provided him with some MAPAL solid carbide milling cutters to test the associated machining process. The results were convincing.

„The overload problems have been a thing of the past ever since thanks to the milling cutters from MAPAL. In addition, tool lives have increased significantly – by up to 30 per cent for some tasks", Mr Bonertz is pleased to report. Since then, the managing director is familiar with the performance of the standard tools from

MAPAL. For the tasks at hand, Bonertz Technik GmbH primarily requires solid carbide tools for steel machining, including milling cutters for roughing and finishing, trochoidal milling cutters, drills and deep drills as well as replaceable head systems for drilling and milling. At Bonertz Technik GmbH milling cutters are mainly used in the diameter range from 2 to 20 mm, drills in the diameter range from 1.2 to 20 mm.

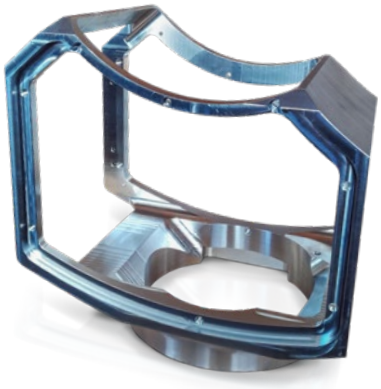
...TO BECOMING THE MAIN FOCUS SUPPLIER

„After the first successful applications we gradually used more and more tools from the MAPAL portfolio", Mr Bonertz said. After the trochoidal milling cutters, the company tested solid carbide milling cutters for finishing its clamping systems. The tool previously used had defects on the surface caused by chatter marks. The tools from MAPAL were convincing thanks to their better cutting behaviour and the resulting surfaces.

„For us, the process reliability tools offer is a very important aspect", Mr Bonertz explained. This is the only way that the employee can leave the equipment running after setting it up and devote himself to other tasks without having to worry about interruptions or even damage in the meantime. The tools from MAPAL are also excellent in this respect, confirms Bonertz. The managing directors are not only convinced by the technical factors – the economic aspects also play a role, of course: „We use replaceable head systems wherever possible". Different interchangeable heads can be used with only one tool holder. A replaceable head is significantly cheaper than a comparable complete tool including tool holder. „For the reasons mentioned (quality, performance, process reliability and cost-effectiveness) around 80 percent of the solid carbide tools we use today come from MAPAL", Mr Bonertz said.

ADVICE AND SUPPORT ARE CONVINCING

„At MAPAL the quality of the advice and support matches the performance of the tools", Patrick Vilfan said. Because the support provided by the field service is also an important aspect for Bonertz Technik. Klaus-Dieter Leick keeps in constant contact and provides samples for tests when new demand or interesting new products become apparent. Added to this is MAPAL's own initiative, for example if a specific product from the standard range is not immediately available from stock. „In such a case, we receive direct alternative suggestions regarding similar tools with which the required machining result can also be achieved", Mr Vilfan said. This support has also contributed to MAPAL becoming a preferred contact for new tasks. ■



Component made of the high-strength aluminium alloy 7075 for the C-axis of a laser with a machining rate of more than 80 percent The filigree geometry required a lot of care in planning the stresses and the milling strategy.
(picture: Bonertz Technik GmbH)

Machine and tool must harmonise for the best results

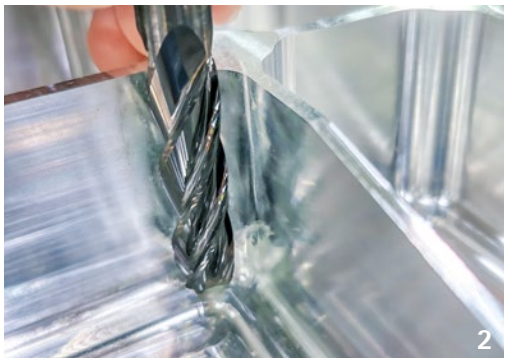
HIGH PERFORMANCE IN PRECISION MACHINING OF ALUMINIUM

picture: iStock

Lightweight components subject to particularly high dynamic loads, such as aluminium structural parts for aircraft, are usually machined from solid material. Up to 95 percent of the material is removed during the process. Such components are sometimes up to 30 metres long. The cutting machines need to deliver enormous performance with high precision because with residual wall thicknesses of less than two millimetres in some cases, even deviations in the tenths of a millimetre range could cause problems. Today, the market demands fully tested and optimised technology solutions consisting of machine, automation, tools and machining software. In this environment, milling tools which MAPAL has developed especially for high-performance machining have proven their worth.

The five-axis machining centres on the PBZ HD series from bavius can machine workpieces with dimensions of up to 30,000 x 800 x 575 mm. The spindles (up to 80 kW/ 30,000 rpm/ 39 Nm) enable high machining rates.

pictures: Klaus Vollrath



1 *Designed for high-performance machining, the OptiMill-SPM-Rough internally cooled solid carbide milling cutter for roughing has a tapered neck for optimum rigidity.*

2 *Thanks to its long cutting edges, the OptiMill-SPM-Finish solid carbide milling cutter can even machine the walls of deep pockets in a single pass.*

3 *MAPAL tools demonstrate their good vibration avoidance properties on such „chicanes" in the corner area of deep, narrow pockets.*

4 *In a good mood: The team of Alexander Follenweider (Technical Support MAPAL), Michael Hofmann (Area Sales Manager, MAPAL), Stefan Diem (Application Engineering, bavius) and Thomas Jungbeck (Technical Advisor, MAPAL) (from left to right) presents the sophisticated test part.*

„Our speciality is the development and manufacture of five-axis machining centres for high-performance cutting of large-format workpieces", said Stefan Diem, application engineer at bavius technologie gmbh (bavius) in Baienfurt. The company, which originally belonged to the Handtmann Group, has been operating in this field for around 30 years and has correspondingly extensive expertise. In 2017, bavius became independent as part of a management buy-out and has since been operating under a new name.

The bavius machine users come from a wide range of industries. There's a particular focus on aerospace. The requirements are especially high in this area. In most cases, it's a matter of machining clearly defined parts or groups of parts made of high-strength aluminium alloys, which are always required in the same design for a period of around ten years. As the components are usually safety components for airplane structures, customers demand safe, fully validated technology solutions. These consist of machine, clamping setup and tools as well as machining technologies including all parameters. The solutions must meet the aircraft manufacturers' high safety standards in all points.

PRECISION CHALLENGE

„Such aircraft structural parts are partly milled from solid rolled material as well as forged blanks, whereby the machining volume can reach up to 95 percent", added Michael Hofmann, Area Sales Manager at MAPAL. The structures are as filigree and thin-walled as possible in order to save as much weight as possible. This places the highest demands on precision, because during machining the tightrope walk between low weight on the one hand and assured compliance with the required component properties on the other must be mastered. In addition, the surface finish quality plays an essential role with safety-relevant components. Even the most minor damage could become the starting point for fatigue cracks in critical areas such as transitions or fillets. Such risks of failure must be avoided at all costs.

At the same time the fastest-possible machining rates are required from an economic point of view. The tools used therefore play an essential role in addition to the properties of the processing machine. Their suitability is put through its paces as part of extensive pre-testing, as the order depends on successful validation by the customer for all those involved. MAPAL is a frequently consulted development partner for such projects due to its expertise in tool development and manufacture. ➔

EXTREME DEMANDS ON THE TOOLS

„The demands on the tool are extremely high for a component currently in the pipeline", said Thomas Jungbeck, Technical Advisor at MAPAL. The customer requires high cutting performance, for which the bavius machine (a PBZ HD with a spindle power of 80 kW at a spindle speed of up to 30,000 rpm) offers the ideal prerequisites. In the application, the benchmark is around 7-8 litres of generated chip volume per minute. A challenge for the tools is initially the small size of the pockets, which limits the possible applications of large-format milling cutters.

As a result of the undercut in some pockets and the small corner radii, a large proportion of the machining tasks have to be carried out with rather small-format milling cutters with diameters of only 16 mm for roughing and 12 mm for finishing. MAPAL has developed solid carbide milling cutters especially for such applications – the OptiMill-SPM-Rough for roughing and the OptiMill-SPM-Finish for finishing. Both milling cutters are uncoated. They can remove up to 1,500 chips per second thanks to appropriately designed chip flutes with polished surfaces. The triple-fluted roughing cutter has a conical neck, which makes it particularly resistant to bending. As a supplement the SPM-Rough milling cutter with indexable inserts, also newly developed, is available for areas with suitable geometry and sufficient space.

VIBRATION UNDER CONTROL

„A particular challenge in such operations is to avoid vibration", Michael Hofmann said. The large-format components with their thin walls can easily be excited to cause vibration. This in turn forces a reduced processing speed. This is particularly critical when finishing close to the bottom area of the pockets where a radius must also be maintained in the transition to the base. Vibration can quickly occur here, especially with major wrapping in the corner area at the high feed rates.

For this reason, MAPAL has developed a new finishing geometry for the milling cutters, especially for finishing deep pockets and filigree component structures, which prevents a „pull effect"

pictures: Klaus Vollrath

(i.e. drawing in of the tool into the full material) even with major wrapping. Equally significant is the highly positive geometry of the cutting edges and their asymmetrical pitch. Thanks to the particularly long cutting edges of the four-edged finishing cutter, finishing can be carried out in a single pass, even on very deep pockets.

TECHNOLOGY DEVELOPMENT ON THE RIGHT TRACK

„In view of the results we have achieved in this project with the MAPAL milling cutters, we believe we're on the right track", Stefan Diem concluded. In the trial machining was optimised on a section of the customer's component; now these findings are being transferred to the customer's production.

Stefan Diem is particularly pleased that the milling cutters prevent vibrations even in very tight corners. The MAPAL tools performed excellently here. Another advantage that bavius achieves with the milling cutters is the excellent surfaces after finishing. The performance is also convincing: „We were able to fully exploit the high dynamics of our machine. In combination with the tools, this resulted in a time saving of 26 percent during this trial", Stefan Diem concluded. ■

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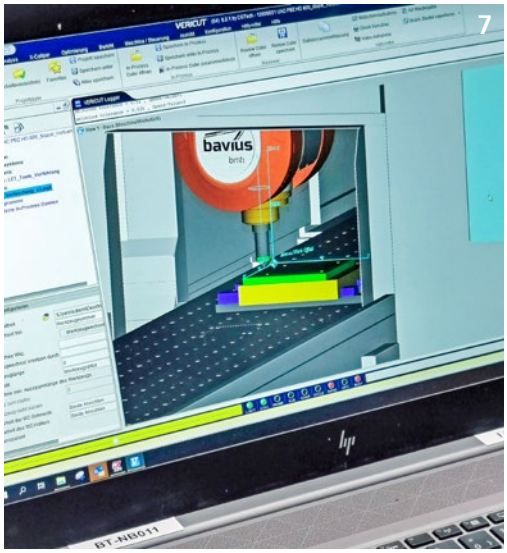

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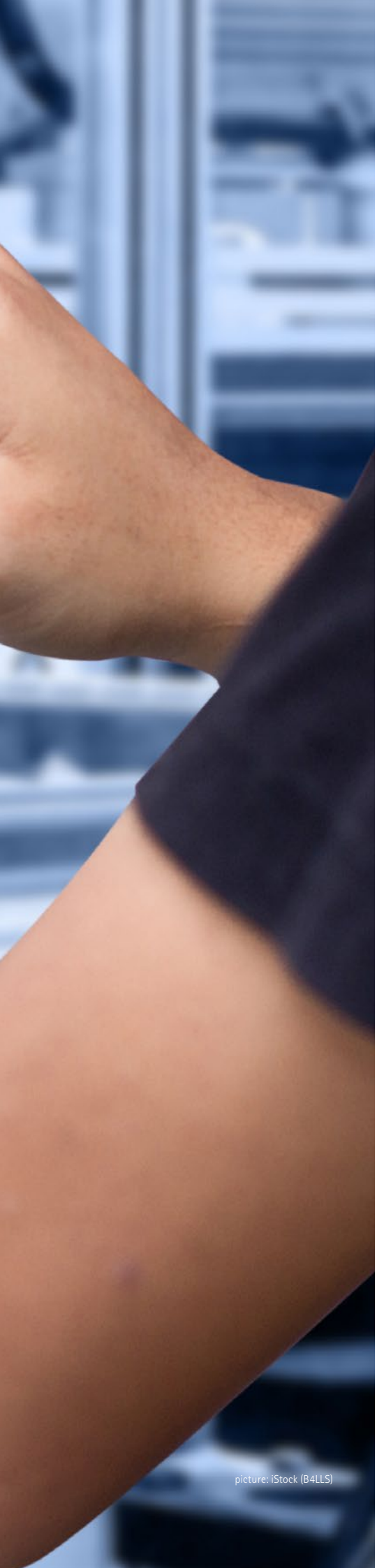
5 *After machining, this wing rib made of HoD 7075 for a wide-body aircraft weighs just 30 kg out of the original 600 kg, with dimensions of 3,600 x 600 x 100 mm. The wall thicknesses are between 1.6 and 4 mm.*

6 *Milling cutter ICM90-SPM-Rough with indexable inserts is suitable for larger pockets and external contours.*

7 *The milling strategy is developed at bavius with the aid of modern CAM software.*

8 *Numerous deep, partly very narrow pockets with thin walls produced using five-axis simultaneous machining.*

Digitiser c-Com combines the knowledge of machinists and tool manufacturers with digital know-how in its solutions.



picture: iStock (B4LLS)

PERFECTING MACHINING

The solutions of digitiser c-Com specialise in smart tool management. The new field of machine analytics is adding a new area of application to artificial intelligence. Managing Director Giari Fiorucci explained its benefits.

Digital Manufacturing Magazine (DM): How are you approaching the optimisation of machining manufacturing?

Giari Fiorucci: All our solutions pursue the approach of using data to generate information and knowledge. We help machinists to reduce their tool costs and optimise tool applications. This goes right down to increasing OEE (overall equipment effectiveness).

DM: How does this look in a practical sense?

Fiorucci: We implement our philosophy in three specific solution lines: DTM – Digital Tool Management, LCM – Life Cycle Management and MAS – Machining Analytics Solutions. With Digital Tool Management, we offer a software solution that goes beyond conventional tool management. Along with information such as tool master data, tool costs, inventory and tool location, application data such as reasons for tool changes is stored here for tool performance monitoring purposes. Furthermore, users can use the platform to exchange reports, images and videos on tool problems or possible solutions with internal and external partners. This takes place in the same way as we know from our private life: via a modern and user-friendly application interface and apps. Not only do we want to provide data, but we also want to convey information and knowledge to support the user in working more efficiently – and ultimately, in reducing costs.

DM: What is your approach for tool life cycle management about?

Fiorucci: We want to further boost the potential offered by digital tool management. As the name suggests, this is the management of serialised tools throughout the entire life cycle, and beyond the company's borders at that. Tracking serialised tools in a shopfloor environment has been possible for many years. RFID chip, DMC, QR codes and other approaches enable manufacturing businesses to know where which tool is located. Today, there are two core issues here: as soon as the tool leaves the company, tracking is no longer possible or then only focuses on logistics – where is my tool? – but not on the life cycle. ➔

DM: And how are you doing things differently?

Fiorucci: We are supporting a collaborative approach with the c-Com platform. This means that we track the tool not just logistically outside of the machining company – such as whether it is currently at the regrinder or the coater – but rather, we record all relevant information about reconditioning, such as the number of regrinding steps, type of coating and other aspects. Combined with application data, this allows processes to be optimised and acute problems in machining and logistics processes to be resolved quickly.

DM: How do you define machine analytics solutions?

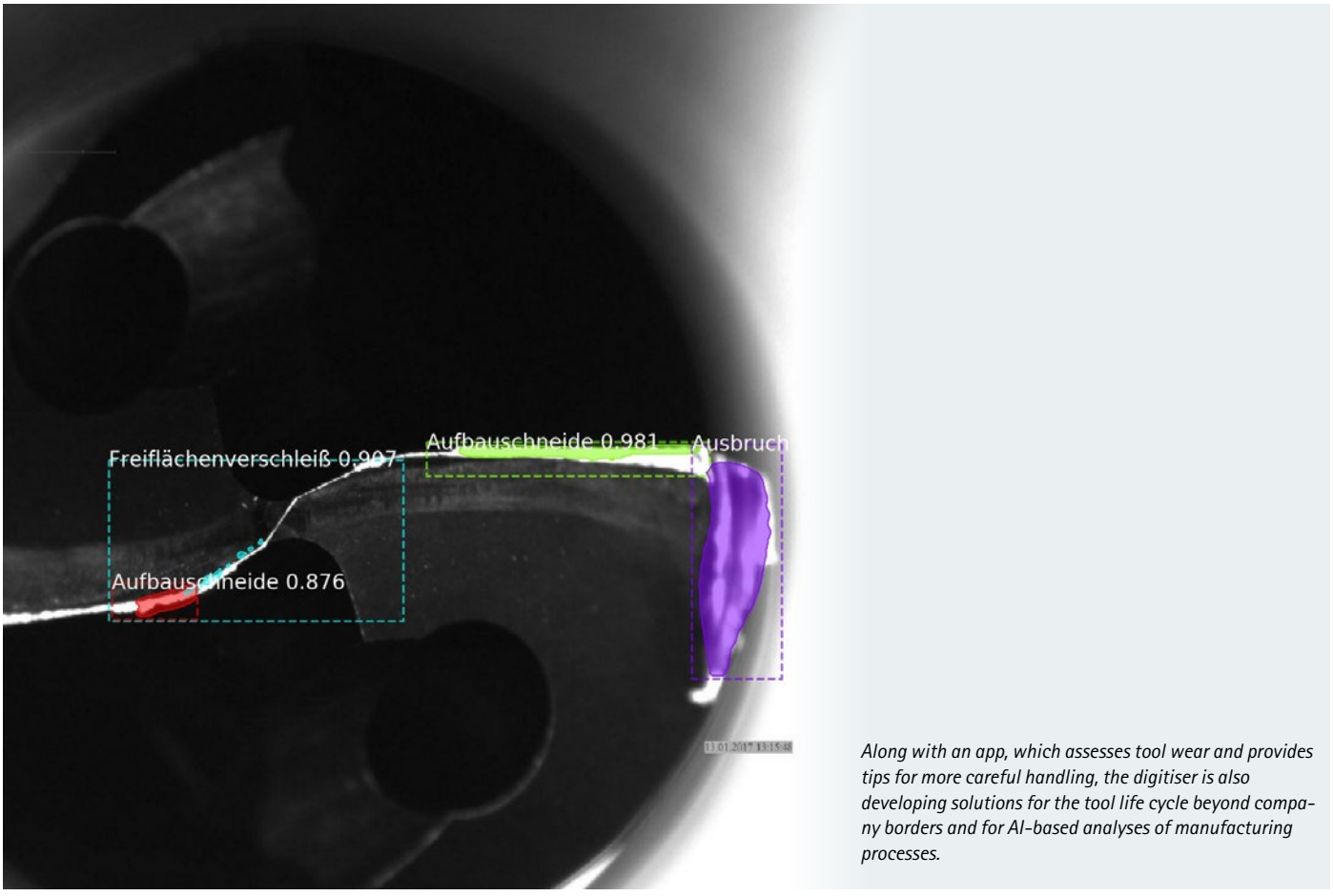
Fiorucci: This is the third and still rather new pillar of our offer – we are partly still in the development stage here, with the first pilot projects currently taking place with users. These are advanced analytics solutions for optimising machining processes. Their objective is to process data and information from different sources and to obtain knowledge from this (what, why, when, how). This allows the machining company to derive decisions and actions aimed at directly improving overall manufacturing efficiency. Internally, we often refer to these as "assistive solutions". Things are therefore also moving towards assistance systems for manufacturing – as you see in cars today. From time to time, for example, a tool may not reach its expected tool life. In this case, a task force is formed, who sometimes need a few man-days to solve the problem and return the OEE to the green zone. If we can use the intelligent analysis of existing data to quickly provide assistance and reduce this solution effort, this is an enormous help to our users. However, it is still too early to reveal too much at this stage.

DM: This sounds like the element of artificial intelligence. Do you use this in your solutions and what are your intentions here?

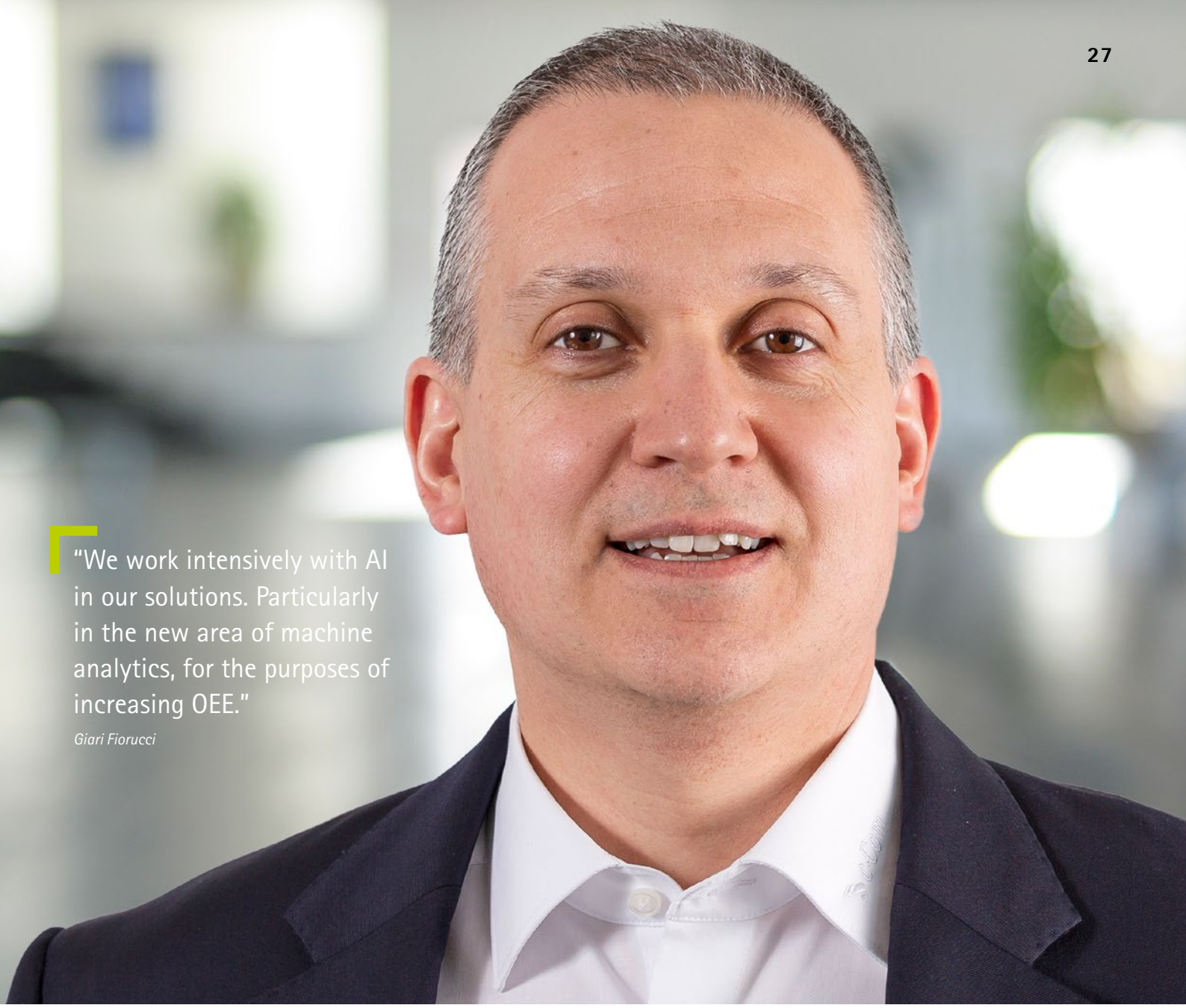
Fiorucci: Yes. We work very intensively with AI in our solutions, such as to detect wear and tear on tools in the form of an app that provides information on how to prevent it. We also mainly use AI in the new area of machine analytics I mentioned before, for the purposes of increasing OEE. For example, to keep the tool's wear low. This is increasingly becoming about the predictive field – we want to know more about what could go wrong in the future. This would enable us to find solutions with our customers before any damage or losses in efficiency even occur.

DM: Were there any recent user applications that even surprised you?

Fiorucci: Yes, we were dealing with specific tools that are being reconditioned. Before reconditioning, we have to examine whether and to what extent these are worn and damaged. However, there is also dirt that can easily be mistaken for damage. That is why it is essential to distinguish between dirt and wear. Today, this is handled by experienced specialists who have to inspect each individual tool – tying up expen-



Along with an app, which assesses tool wear and provides tips for more careful handling, the digitiser is also developing solutions for the tool life cycle beyond company borders and for AI-based analyses of manufacturing processes.



"We work intensively with AI in our solutions. Particularly in the new area of machine analytics, for the purposes of increasing OEE."

Giari Fiorucci

sive resources. We analysed some of these tools with our software. Although these were not yet "trained" for this application, they were able to distinguish between worn and simply dirty tools with a very high success rate, and in just a fraction of the time required for manual sorting.

DM: You offer your software both as a Cloud-based and on-site installation. Why is that?

Fiorucci: While we prefer Cloud-based solutions, we allow our customers to make their own decision. There are various reasons for this: with a Cloud-based solution, you save on the local installation and software management. All that you need is access to the internet. Many customers have recognised the benefits here too and use our software in the Cloud. But some customers want to have it installed on site, and of course, we support this.

DM: You are a subsidiary of the tool manufacturer MAPAL. Are your solutions compatible with tools from other manufacturers?

Fiorucci: While we are a subsidiary of a tool manufacturer, we generally take an open-market approach and our solutions also work with tools from other manufacturers. The configuration actually confers one advantage for our users, as we combine knowledge from three domains to make our solutions: our digital know-how, the practical knowledge of our users and the expertise of an established tool manufacturer. This makes up our competence in machining. ■

Jan Bihn asked the questions.

"WE ARE VERY WELL POSITIONED"

For about two years, MAPAL has been working hard on solutions for the die & mould sector. In September 2020, the company hit the ground running on a broad front – with a product range tailored to the needs of the industry. A peek at the new specialist catalogue or at die-mould.mapal.com shows the entire range of services.

MAPAL has big plans for the market launch in the die & mould sector. Dietmar Maichel, Head of Segment Management Die & Mould, made a clear statement: "In this interesting sector, we want to convince with the same competence that makes us strong in sectors such as the automotive industry or machine engineering." To meet this demand, a team of specialists at MAPAL have been intensively dealing with the requirements in the die & mould sector. For example, the company is striking new paths in sales and logistics. Many products are available from the warehouse through MAPAL and authorised specialist trade partners.

ALL FROM A SINGLE SOURCE

The quick availability of tools was important for the team of experts. However, the first priority was to establish a product range that satisfied the special requirements of the sector. "We used our expertise from the existing MAPAL range and gained key sector knowledge from our acquisition of the Voha-Tosec and Radtke companies. Both companies specialise in solid carbide tools in the die & mould sector and have been part of the MAPAL Group since 2018. This network enabled us to determine the best geometries and in cooperation with the experts, to define the sector-specific tool dimensions," explains Maichel. The programme for the die & mould sector now forms a cross-section through MAPAL's tool portfolio, from milling with fixed and replacement blades and drilling to countersinking and reaming. "It is an integrated programme that has not been offered on the market in this form until now," emphasises the market segment manager. This is because it also includes clamping tools, setting and measuring devices and dispensing systems and engineering services – the entire range of the complete supplier. For companies in the die & mould sector, this means they can receive a consistent machining solution from MAPAL, if needed, which offers lots of potential for efficiency. "We are very well positioned with this programme," says Maichel. Uwe Rein, Sales Director Die & Mould is also confident: "We are starting the year 2021 well-equipped and perfectly prepared with lots of competence in the die & mould sector." ➔

Trade partners in Germany, where sales have already started, have expressed a lot of praise and positive feedback.

Uwe Rein: "Dealers have been impressed by our activities in the die & mould sector." They find it interesting to have MAPAL by their side as a precision tools manufacturer, "who offers one of the most comprehensive programmes of products and services there are. Currently, no other providers feature such a vast and in-depth assortment for potential end customers. Dealers appreciate our specialist skills and the solution focus that MAPAL has for customers."

The MAPAL programme is also becoming increasingly popular with major direct customers in the die & mould sector. "This shows that our tools have already been well-received in the sector," adds Rein.

However, it is mainly smaller businesses that are active in the die & mould sector. "We therefore decided to serve these customers via a regional trade channel to offer them a fast and efficient service," explains Rein. Across Germany, MAPAL now cooperates with five trading companies. These are locally represented and based in Bavaria, Baden-Württemberg, Hessen and North Rhine-Westphalia. "All trading partners are specialist dealers for cutting tools. Along with having a great deal of expertise, they play a huge regional role in supplying end customers with precision tools," says Rein. In addition to the MAPAL assortment for the die & mould sector, these trading partners usually also sell machines and corresponding accessories. MAPAL is also already working with authorised specialist dealers in Denmark, Italy and Portugal. "We will also be expanding the trading network in Italy and Portugal to make it more closely interlinked," announced Rein. As for the international availability of the product programme for the die & mould sector, MAPAL plans to take a gradual approach. "We are pursuing a strategy tailored to each country by making use of our experiences from practical tests in Germany." Each market launch is being planned and prepared with care. International trading partners and the respective country subsidiaries of MAPAL are in close contact. Through in-house training programmes, MAPAL ensures that employees and customer contact partners have up-to-date product knowledge and application expertise at their disposal.

NEW SPECIALIST CATALOGUE

The MAPAL portfolio for the die & mould sector includes some 6,600 items, with the related specialist catalogue more than 500 pages thick. If you take a look through them, you will find numerous product highlights. For Dietmar Maichel, for example, these include the tools with high-feed geometry, both the solid carbide design of the OptiMill series and the versions with replaceable blades, which enable machining with high rates of removal and can also be used flexibly. "Also worth a mention are the shoulder radius milling cutter OptiMill-3D-CS with its large operating radius or the drilling reamer MEGA-Drill-Reamer, which combines three work steps into one and is mainly used in the mould sector for creating dowel pin and ejector bores."

The catalogue is already available in English and German. "An Italian and Portuguese edition will be available soon," announced Maichel. Other languages are currently in preparation. The catalogues can be downloaded at die-mould.mapal.com.

DIGITAL TOOL DATA AND A DELIVERY PROMISE

Regarding the availability of products, MAPAL bases itself around the requirements of the sector. "We want to deliver quickly," ensures Maichel. The majority of items are kept in stock and available within the respective delivery promise, either within 24 hours or no later than five days. Many other items are available upon request. These are monitored for planning purposes and the delivery promise is flexibly adjusted as required. The production of custom tools is also possible. In addition, MAPAL provides its customers with digital tool data for CAD/CAM systems. ■

The MAPAL team for the Die & Mould sector can be contacted directly at:
die-and-mould@mapal.com

ABOUT

Dietmar Maichel | Global Head of Segment Management Die & Mould

Dietmar Maichel has worked for MAPAL since 2006. He started his career here as a Trial and Development Engineer in R&D for the Aviation sector and CFK machining before working in the 3D Milling department. From these fields, he contributes experience in the fine machining of parts from the whole piece. Maichel has also been involved in implementing customer projects in structural part machining as well as turbine and impeller manufacturing.

Uwe Rein | Director Sales Die & Mould

In addition to his position as Director Sales Die & Mould, Uwe Rein is also the Managing Director of MAPAL subsidiary WEISSKOPF Werkzeuge in Meiningen. Before joining MAPAL, Rein worked in trade for many years. The technical specialist salesman for tools and machines developed a keen interest for the die & mould sector early on. Over the course of his career, Rein has gained vast industry knowledge and experience along with a variety of contacts in the die & mould sector.

Market segments are defining the CLAMPING TECHNOLOGY of the future

New structures in the MAPAL clamping technology product range – both from an organisational and product perspective

Dennis Minder, who has been responsible within MAPAL clamping technology for six years, took over overall product management for the department from Jochen Schmidt at the start of 2021. Schmidt will be responsible for the General Machining market segment in future. In an interview with Impulse, the two spoke about this long-planned step, the future of clamping technology and the new role of the market segments.

Impulse: Mr Schmidt, you handed over official responsibility for clamping technology to Mr Minder at the start of the year. What brought you to this decision?

Jochen Schmidt: The entire company is currently undergoing realignment (Read more on Page 10 ff). Part of the organisational restructuring is increasing the focus on market segments. At the start of the year, I took over overall responsibility for the General Machining market segment. Since 2018, Dennis Minder and I had already been planning for him to take over clamping technology product management from me eventually. Since then, he has gone through all areas of clamping technology and learned everything about our products, customers and the markets from scratch and gradually grown into his role. When we introduced our redesigned chucks, he had already taken responsibility for this.

Impulse: Mr Minder, what are your plans for clamping technology at MAPAL?

Dennis Minder: Having already been able to play a role in the clamping technology journey in recent years, I plan to stay the course. The transfer of responsibility took place smoothly, and there was therefore no rough cut – apart from the contact partner, there will be no major changes. We will continue to give our all to putting customer needs first.

Impulse: How would you describe the journey you have taken in a few words?

Dennis Minder: We are currently undergoing a transformation process. The chuck used to be just a tool holder. Now, it is increasingly becoming an application-oriented, performance-enhancing element of the overall system. To continue this, we plan to focus even more on individual market segments in the future and develop chucks for special requirements from the markets. The individual product and market segment departments at MAPAL are working closely together on this – so Jochen Schmidt and I will also be continuing our close cooperation.

Dennis Minder | Global Head of Product and Application Management Clamping Technology

Dennis Minder, born in 1993, has worked for MAPAL since 2012. He completed his dual Bachelor's degree to become an Industrial Engineer at MAPAL and his Bachelor's thesis dealt with the field of clamping technology. Also at the Baden-Württemberg Cooperative State University, he completed studies in the field of industrial engineering in cooperation with MAPAL, which he will complete as a Master of Science at the beginning of 2021.

In the clamping technology division, Dennis Minder's activities included business development in Asia, supporting regional MAPAL branch offices there, presenting MAPAL products to customers and actively handling the acquisition of new customers. As a product specialist, he then immersed himself in the technology, supported customers throughout Europe and was entrusted with complete product lifecycle management and the product launch of new products. Since 1 January 2021, he has been responsible for Clamping Technology as a Product Manager.

Jochen Schmidt: I can only confirm this. In market segment management, we are intensively confronting the individual needs of customers from the specific markets and using these to generate – in cooperation with the respective product management – corresponding standard products and custom solutions. While this has already taken place in the same way in the past, we will now be increasing our focus on the individual market segments. Our optimally tailored overall system allows us to offer maximum added value for the users – our customers.

Impulse: Were the two recently presented chucks with their new design – the Hydro DReaM Chuck 4.5° and Hydro Mill Chuck – already developed in this way?

Jochen Schmidt: In actual fact, we – as already in the past – developed the essential characteristics that make these chucks special using specific customer requirements. With the Hydro Mill Chuck, the corresponding requirements actually appeared in different market segments – wherever our customers machine high-quality parts in highly dynamic machining processes.

Dennis Minder: We took these requirements, including from customers in the aviation or die & mould sector, and transformed them into our Hydro Mill Chuck. With this hydraulic chuck, we satisfy the main concerns for maximum process reliability, which is the most important requirement with these machining processes.

Impulse: What makes the new Hydro Mill Chuck so special, besides its process reliability?

Dennis Minder: For the new chuck, we developed our existing MillChuck HB further, which has, for example, proven itself many times over with trochoidal milling. We also designed the new Hydro Mill Chuck for highly dynamic processes with spindle speeds of up to 33,000 rpm.

To do so, we adjusted the entire geometry, technology and design. For example, the contour is optimised for dynamic processes. Both the Hydro Mill Chuck and the Hydro DReaM Chuck 4.5°, therefore both chucks designed according to the new industrial design, offer clear added value – not only in terms of their function, but also with regards to their ergonomics and handling.

Impulse: Which customer requirements does the second chuck, the Hydro DReaM Chuck 4.5°, meet?

Dennis Minder: Due to the few tool restrictions on the shrink chuck, many parts were previously only able to be machined with it, meaning that parts with critical contours were reserved for shrink chucks. Now hydraulic chucks however offer indisputably significant advantages over shrink chucks. To enable our customers to use these benefits, we implemented the original contour of a shrink chuck in a hydraulic chuck. This is possible as the tension in our Hydro DReaM Chuck 4.5° is fed into the collar – without any technical disadvantages for our customers. They only have advantages with the new chuck – easy handling, better surface finishes and a very ergonomic chuck. If customers switch their machining to our Hydro DReaM Chuck 4.5°, they also do not have to plan any new calculations for tool restrictions, but can directly use the chuck as a "plug and play" solution.

Jochen Schmidt: In general, with this new chuck, we are accompanying our customers in switching to the hydraulic chuck. We meet them where they are – and in many cases, that is the shrink chuck. To make the switch as easy as possible for the user, we attach instructions directly onto the product. For example, the chucks feature a prominent symbol with the instruction "Do not shrink". This is because the original contour may otherwise lead to confusion in manufacturing and a hydraulic chuck must never be used in combination with a shrink unit.

Impulse: These are just the first two chucks in the new industrial design. What's next? Are other chucks planned?

Dennis Minder: Of course, other chucks in the new design are on the way. These will be able to be identified with the UNIQ in their name. UNIQ represents the unique quality of the chucks – but more on that later. Currently, we are focusing on offering the Hydro Mill Chuck and the Hydro DReaM Chuck 4.5° in other versions. For example, we are currently seeing a high demand for a BT30 interface for the Hydro Mill Chuck in Asia. We are working on implementing this requirement and will launch the corresponding chuck on the market this year. Both hydraulic chucks will also soon be available with new clamping diameters. Furthermore, we are working on other products to add to our programme – we will have more to report on this soon. ■

Jochen Schmidt | Global Head of Segment Management General Machining

Jochen Schmidt, born in 1975, has worked for MAPAL since 1992. He completed his education to become a mechanic in the company and has occupied different positions in production, work preparation and technical office and field service. Furthermore, he underwent further training alongside his work, both on the technical side and the business side. From 2009 to the end of 2020, Jochen Schmidt headed up the Clamping Technology product division at MAPAL and successively expanded it. In the process, he took over responsibility for production and sales office in this division as well as corporate support for the clamping technology centre of competence. Since 1 January 2021, Jochen Schmidt has been Head of the Market Segment for General Machining.

Hydro Mill Chuck and Hydro DReaM Chuck 4.5°

DESIGN AWARD 2020

Since November 2020, the first two series of the MAPAL chucks have been available in a new, already award-winning design. Both hydraulic chuck series – Hydro Mill Chuck and Hydro DReaM Chuck 4.5° – clearly combine the performance promise of quality and function in their new design. This is achieved through an optimal interplay of geometric and functional properties.

The newly-developed hydraulic expansion clamping system enables high machining parameters through excellent stability and accuracy. It minimises self-excited vibration so that clamped tools are not exposed to micro-vibration. This in turn leads to a reduced spindle load of up to 15 percent, enables a significantly longer tool life and guarantees optimal surface quality.

In addition, the brilliant surface which MAPAL creates using a specially developed polishing process ensures that the chucks are more resistant to dirt and corrosion. Users can safely clamp the tool in the holder with little force requirement. This is ensured by "foolproof handling", i.e. simple and self-explanatory handling of the chucks. This saves a considerable amount of time compared to other clamping mechanisms, especially with the Hydro DReaM Chuck 4.5°.

The new hydraulic Hydro Mill Chuck is specially designed for clamping milling tools with an HA shank. Due to the secured high temperature resistance of 80 °C – in tests up to 170 °C – even at very long milling cycles, it impresses with highly dynamic milling applications of high-quality parts with excellent process reliability and a high material removal rate. For example, through machining at spindle speeds of up to 33,000 rpm with SPM (Structural Part Machining), HSC (High Speed Cutting) or HPC (High Performance Cutting). Universal application for roughing, semi-finished and finishing operations.

The Hydro DReaM Chuck 4.5° is ideally suited for reaming and drilling applications as well as for use with finish milling cutters. Thanks to the clamping initiation in the hollow shank taper collar, it enables maximum rigidity with minimal use of material at minimal tool restriction. The outer contour of the Hydro DReaM Chuck 4.5° is based one to one on DIN 69882-8 for heat shrink chucks. This means that the advantages of hydraulic clamping technology can be transferred to these applications.

Precision tools from MAPAL for Slovenia

MB-NAKLO:

„We want to be a solution provider"

Trading partner MB-Naklo distributes MAPAL products in Slovenia. The Naklo-based company sees itself not only as a tool supplier, but also develops machining concepts for its customers. Nataša Bernard has been running her father Matej Bernard's company since summer 2020.

Matej Bernard founded MB-NAKLO in 1990. The company history started in a garage. Matej Bernard built up his small company with confidence in his knowledge and a lot of willpower. He firmly believed that the company would succeed. Last year, MB-Naklo celebrated its 30th anniversary on 1 October 2020. The company now employs ten people and has an annual turnover of around ten million euros.

THE BEGINNINGS

Matej Bernard and his company specialised in the trade of tools. At first he only sold simple cutting, hand and measuring tools. In 1991, one year after the foundation of MB-Naklo, Slovenia declared its independence from the Federation of Yugoslavia. After that, the small country flourished economically. A domestic industry emerged which gradually opened up to markets beyond the country's borders.

Matej Bernard ran his small company with great discipline. He worked a lot, was managing director, buyer, customer advisor and storekeeper all in one person. The trained toolmaker and former sales manager benefited from the practical experience he had acquired while working for two large companies in former Yugoslavia.

MB-Naklo's market launch was a success. Mr Bernard expanded and hired staff. From the very beginning he relied on well-trained and experienced engineers from the mechanical engineering sector. „The expertise of our employees contributes significantly to successful cooperation with our customers and partners", Matej Bernard is convinced. This aspiration is also continued by his daughter Nataša, who took over operational management of the company in the summer of 2020. MB-Naklo does not see itself as a classic trading company. „We are first and foremost an engineering company which develops complete solutions for users", she emphasised. That is also MB-Naklo's motto: „We want to be a solution provider."

THE PRODUCT RANGE

In order to meet this demand also on the product side, Matej Bernard continuously expanded the MB-Naklo portfolio and supplemented it with sophisticated high-performance tools for machining. In doing so, he met the exact needs of a growing industry which was producing ever more sophisticated components. MB-Naklo took over several exclusive representations in the field of tool technology, and later also secured the distribution rights for process automation equipment and metalworking machines. The first contact with MAPAL came about in 2001. At that time, Janko Kokalj, who heads the tool department at MB-Naklo, travelled to the EMO in Hanover and visited MAPAL's stand there. „He immediately recognised the potential of MAPAL products for the Slovenian market", Matej Bernard recalled. Immediately after the trade fair he came to the MAPAL headquarters in Aalen for initial talks and soon after this the cooperation between MB-Naklo and MAPAL was contractually sealed. It was the beginning of a strong and trusting partnership. „MAPAL's high-performance tools established themselves very quickly on the Slovenian market and have now become established as a quality brand", Matej Bernard recalls. He says this is also thanks to the tireless efforts of his dedicated employee Janko Kokalj, who is retiring this year after 23 years of service to MB-Naklo. Andraž Kržišnik and Rok Dolinar have now taken over customer care and technical support for MAPAL tools. They are experienced engineers and have been part of the MB-Naklo team for many years.

THE CUSTOMERS

There are numerous supplier companies in Slovenia working for the major international car manufacturers. „They are our main customers", Matej Bernard explained. Automotive manufacturing is the most important industry in Slovenia. Production concentrates on die-cast aluminium components which are preferably processed with MAPAL PCD tools. „We also supply many MAPAL fine boring tools and indexable inserts, and MAPAL PcBN tools for hard machining are also in great demand." The crane and construction machinery industries play an important role alongside the automotive industry. „Here, mainly solid carbide tools are used for drilling and milling as well as for boring", Nataša Bernard explained. MB-Naklo also has the matching hydraulic and shrink chucks for the MAPAL tool range in its range.

The needs of the customers are the Bernards' top priority: „We see our customers as important business partners with whom we work closely and in a spirit of trust." The company therefore attaches great importance to staying in touch, be it by phone or, as far as currently possible, through on-site visits. MB-Naklo is represented at trade fairs and on social networks such as Facebook and Linkedin. The company has been

Nataša Bernard
Nataša Bernard took over the operational management of MB-Naklo in summer 2020. She has been with the company for 14 years and is responsible for marketing and finances. In 2016 she graduated with an MBA in Marketing.

Matej Bernard
Company founder Matej Bernard is the owner of the company and Member of the management team.

pictures: MB Naklo

publishing its own trade magazine since 2008, where it reports on the latest technological developments. Specialist seminars are also offered for the customers at the company headquarters in Naklo or also at MAPAL in Aalen. „These training courses are always very well received. Because in addition to gaining a lot of skills, the participants also develop an understanding of our technological approach to the design of machining solutions", Nataša Bernard said.

MB-Naklo's comprehensive concept has proven itself. „Our company is built on a stable foundation. Despite the global crisis in many areas including the COVID 19 pandemic we have not been critically affected", the Bernards emphasised, and are approaching 2021 with a great deal of optimism. „We are planning to hire additional staff. And together with MAPAL we want to work intensively to provide the best possible support for the customers in Slovenia with innovative solutions, a wide range of services and individual support". ■

New online presence with added value

The MAPAL homepage has had a new design since November 2020. With new technology, a new look and new content, the company is paving the way for targeted and modern online communication with added value.

Digitalisation is one of the core topics at MAPAL for long-term success. On the one hand, it means networking and streamlining processes in the company through digital means and adapting these for the future. On the other hand, the focus of the digitalisation is on outwards communication. The comprehensive online project includes a customer portal, suitably presented content on new webpages and an attractive shop offer. The first sub-projects have been online since the end of last year. As such, along with the classic MAPAL homepage, which can be found at MAPAL.COM as usual, other websites with a clear alignment are available:

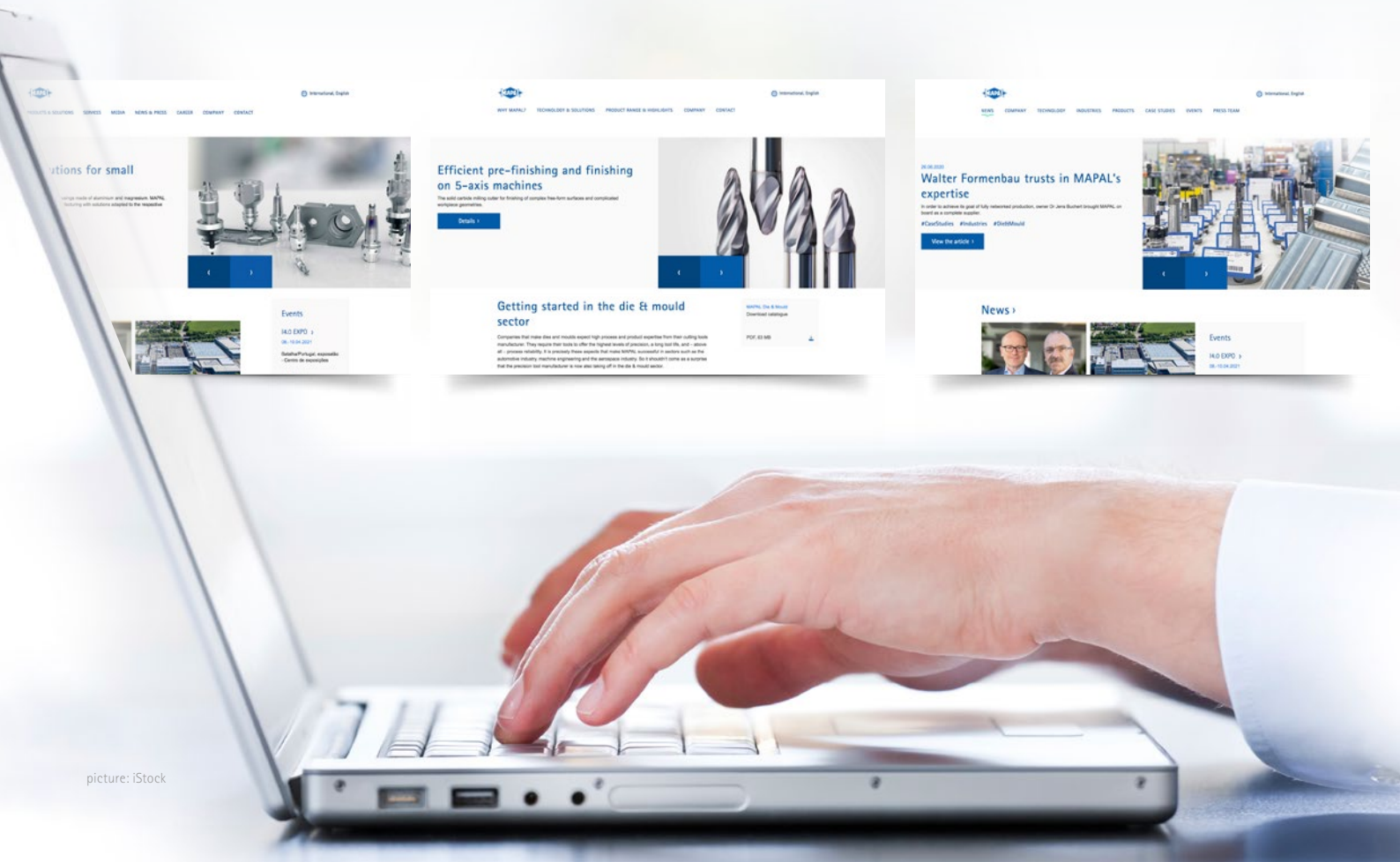
NEWS.MAPAL.COM

On the new news and press portal, MAPAL publishes current information with up-to-date content optimised for online viewing. Customers, interested parties, journalists and potential employees are kept up-to-date with the news portal and have a direct contact partner in the press team for the different topics.

DIE-MOULD.MAPAL.COM

The landing page die-mould.mapal.com is available especially for the international die & mould sector. Detailed information concerning processes, tools and applications reveal the service potential of MAPAL to supply customers from the die & mould sector with everything from a single source.

Further online offerings are gradually being added to improve the service and cater more directly to customer needs. ■



picture: iStock

The Executive Board of MAPAL has grown from three to five members. Along with President Dr Jochen Kress, as well as existing members Dr Ralf Herkenhoff and Dr Michael Fried, Siegfried Wendel (62) and Jacek Kruszynski (58) have joined the Executive Board as of 1 October 2020. The expansion took place as part of the reorganisation of the internationally active corporate group.

PARTICULARS

SIEGFRIED WENDEL

After over 40 years at MAPAL and long-time membership in the extended executive board, most recently as Director Global Sales, Siegfried Wendel was appointed Chief Sales Officer (CSO). He is responsible for global sales as well as the individual sales channels.

JACEK KRUSZYNSKI

Jacek Kruszynski, who had been part of the extended executive board of MAPAL since January 2020, has been new Chief Technical Officer (CTO) since 1 October. He is in charge of Product and Market Segment Management as well as Research and Development.

www.mapal.com

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