MAPAL*Group*

Your technology partner for machining

» The basis of any partnership is dialogue. Because only an open dialogue allows understanding to evolve. For this reason we are continually in contact - with our customers, with our employees and with technology. «

Dr Jochen Kress, President of the MAPAL Group

From dialogue to partnership.

Dear readers,
the MAPAL Group has further developed systematically in recent years with the goal of becoming the innovative, dependable technology partner worldwide. During all the changes and adjustments that were necessary on this path and that will continue to accompany us, fundamental constants remain unaffected and at the centre of our actions: our dialogue and our resulting partnership.

We maintain our dialogue with technology at all levels in the company, hour after hour, day after day. We explore opportunities that arise from the field of machining and create space for innovations. In this way new tool concepts evolve, new production methods are driven forward.

We maintain the dialogue with our customers during every task with which we are entrusted and beyond. As a result we are familiar with the challenges in the individual sectors and have many years of experience in implementing specific requirements into tangible, effective solutions.

We, of course, continue to maintain the dialogue with our employees, with our business partners, with the institutions in our home region and worldwide.

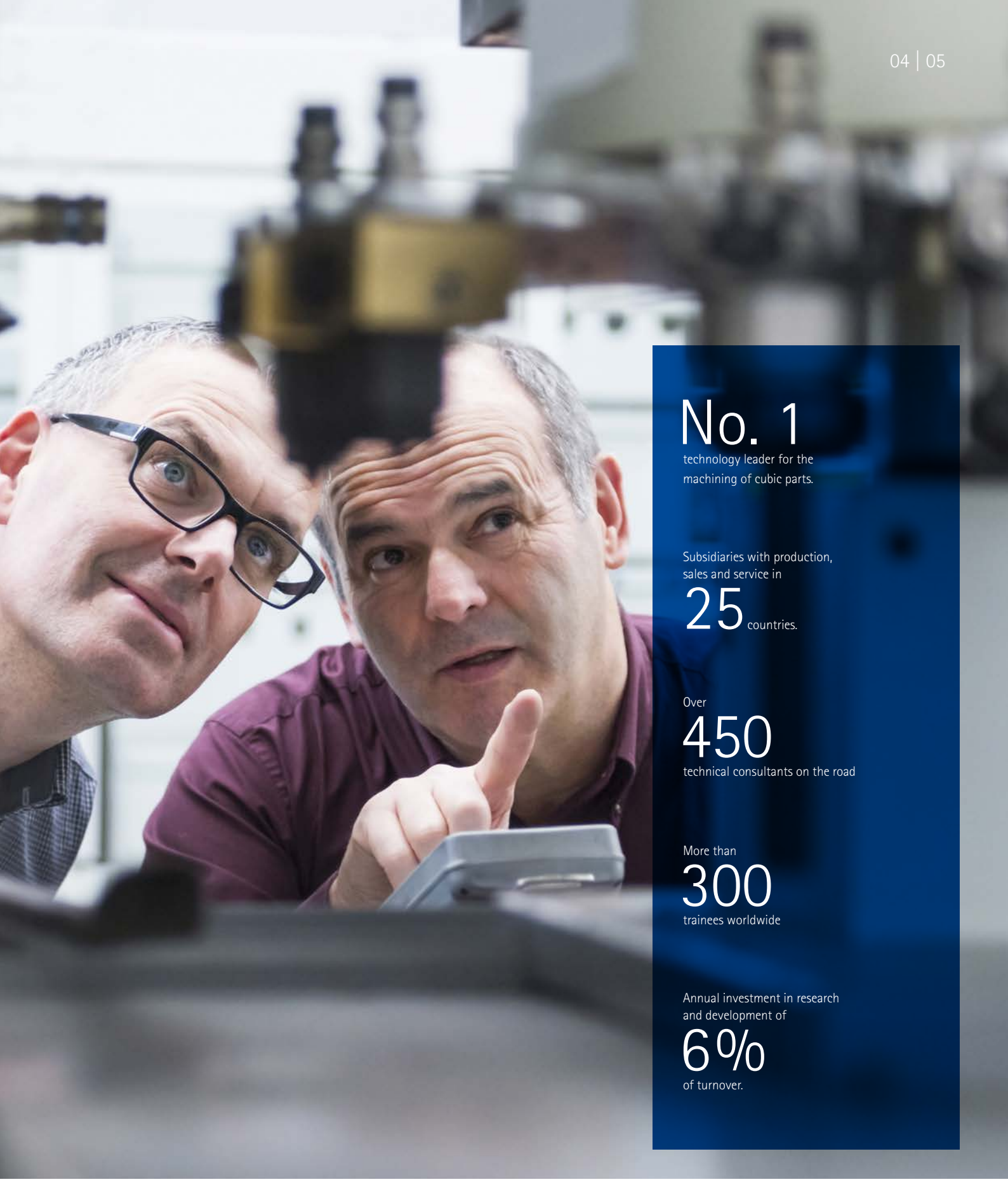
Because more evolves from this dialogue: more trust, more success. For us this means partnership.

Dr Jochen Kress

Tool and process solutions combined with comprehensive services.

We see ourselves as a technology partner, supporting our customers with the development of efficient and resource-saving manufacturing processes using standard tools, individual tool concepts and the optimisation of tool details. Our tools satisfy all the requirements on process reliability, precision and simple handling. How? Using advanced development and design methods as well as producing with the latest manufacturing facilities.

Many of our customers do not just need the optimal tool for their task, they are also looking for a partner who takes over the entire planning and management of their process. We are also there for them in this situation. We support them during all production phases and keep their manufacturing at the top level: highly productive, cost-effective and reliable. We also offer our customers complete networked solutions for all peripheral tasks related to the actual machining process.



No. 1
technology leader for the machining of cubic parts.

Subsidiaries with production, sales and service in
25 countries.

Over
450
technical consultants on the road

More than
300
trainees worldwide

Annual investment in research and development of
6%
of turnover.

Our most important asset: more than
5,500
employees worldwide.

Continuity and innovation - from the very beginning.

1950: Founding by Dr Georg Kress

1950 1951 1952

As a world-leading provider of precision tools and trend-setting machining solutions, MAPAL can look back on a successful corporate history. From the very beginning, this history was characterised by continuity and an innovative spirit that is nourished by Swabian ingenuity and creativity, as well as by the entrepreneurial courage of the Kress family as the company's owners.

1954: The original reamer - the source of the current product range

1969: Dr Dieter Kress joins the company

1950

Founding – a risky undertaking at the outset

At the age of almost 50, Dr Georg Kress takes the risk of founding MAPAL Dr. Kress KG in Aalen.
The product range initially includes tap drills and woodworking machines. MAPAL stands for Maschinen- und Präzisionswerkzeug-fabrik Aalen (machine and precision tool factory Aalen).

1954

Original reamer – the first MAPAL innovation

Dr Georg Kress procures the patent for a single-bladed reamer from an Italian inventor. The principle of this reamer with an adjustable blade clamped in a slot did not work straight away. Only ingenuity and creativity from MAPAL made successful implementation possible. This started a series of ground-breaking developments in the area of bore machining.

1969

Success – in the second generation

Dr Dieter Kress, son of the company founder, joins the company.

1960 to 1969

Growth – on a solid foundation

The company grows to 130 employees with innovative power, entrepreneurial foresight and sound business management. To give further development a foundation, Dr Georg Kress buys additional land around the company premises. With the new construction work, a general site development plan for the future was prepared.

Innovative power and expansion.

1977: First subsidiary in the USA

1984: Drastic expansion of the product range

1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986

1970 to 1979

Specialisation – for more innovative power

In the 1970s MAPAL specialises in the manufacture of tools with blades for the fine machining of bores. The manufacture of tap drills and dies, and subsequently also thread rolling tools, is discontinued. Instead, research and development are optimally structured and intensively driven forward. Continuous, swift innovations have been a feature of MAPAL ever since.

1977

New territory – the first subsidiary

Looking to the west: in 1977 MAPAL founds the first subsidiary in the USA.

1980 to 1989

Technology leader – in new areas

In the 1980s, MAPAL grows from 180 employees to 480 and takes on a technologically leading position by drastically expanding the product range. The company opens up the automotive industry on a broad scale, it re-organises sales – under the motto: wherever the customer is, we are there – and gains significant strength, not just financially.

1997: First subsidiary
in South America (Brazil)

1999: First subsidiary
on the Asian market (India)

1987 1988 1989 **1990** 1991 1992 1993 1994 **1995** 1996 1997 1998 1999 **2000** 2001 2002 2003 2004

1990 to 1999

Competence – by means of new technologies

With the purchase of the centre of competence in Pforzheim, MAPAL expands its portfolio with PCD tools, for the large-scale manufacture of aluminium parts, among others. Further centres of competence with clear areas of specialisation expand the product range with actuating tools and ISO tools, clamping tools and multi-bladed reamers.

The service area as well as the product range are significantly expanded, subsidiaries founded at home and abroad. With 1,700 employees in 1999, the MAPAL Group is a respected technology partner worldwide and one of the leading companies for custom tools.

World-leading technology partner.

2008: Dr Jochen Kress joins the executive board

2012: Own CVD coating plant

2017: Founding of c-Com GmbH

2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

2000 to 2009

Quality around the globe – with a strong foundation in Germany

In the 2000s the product range is systematically completed; further subsidiaries are established worldwide. With cost-effective, reliable, custom tool solutions, MAPAL taps new markets and also grows in challenging sectors such as the aerospace industry. MAPAL continues to rely on its strong foundation in Germany. The production sites of the centres of competence are drastically expanded, set up to be technologically leading and to set the production standards for a globally standardised range of services.

2008

In January 2008, Dr Jochen Kress joins the executive board of the MAPAL Group as the third generation.

Today

2010 to today

MAPAL – the world-leading technology partner

Due to continuous innovation and international growth, MAPAL has established itself as a specialist for machining cubic parts. With great expertise, extensive experience and a comprehensive range of products and services, today MAPAL is the world-leading technology partner.

Thanks to its great power of innovation and consistent investment, MAPAL can quickly and agilely implement pioneering topics. As such MAPAL is the first precision tool manufacturer to bring onto the market a series production tool additively manufactured using selective laser melting. Digitalisation and the topic of Industry 4.0 are also specifically addressed with the founding of c-Com GmbH. Mature solutions are quickly available for the machining of parts for future industries such as electric mobility.

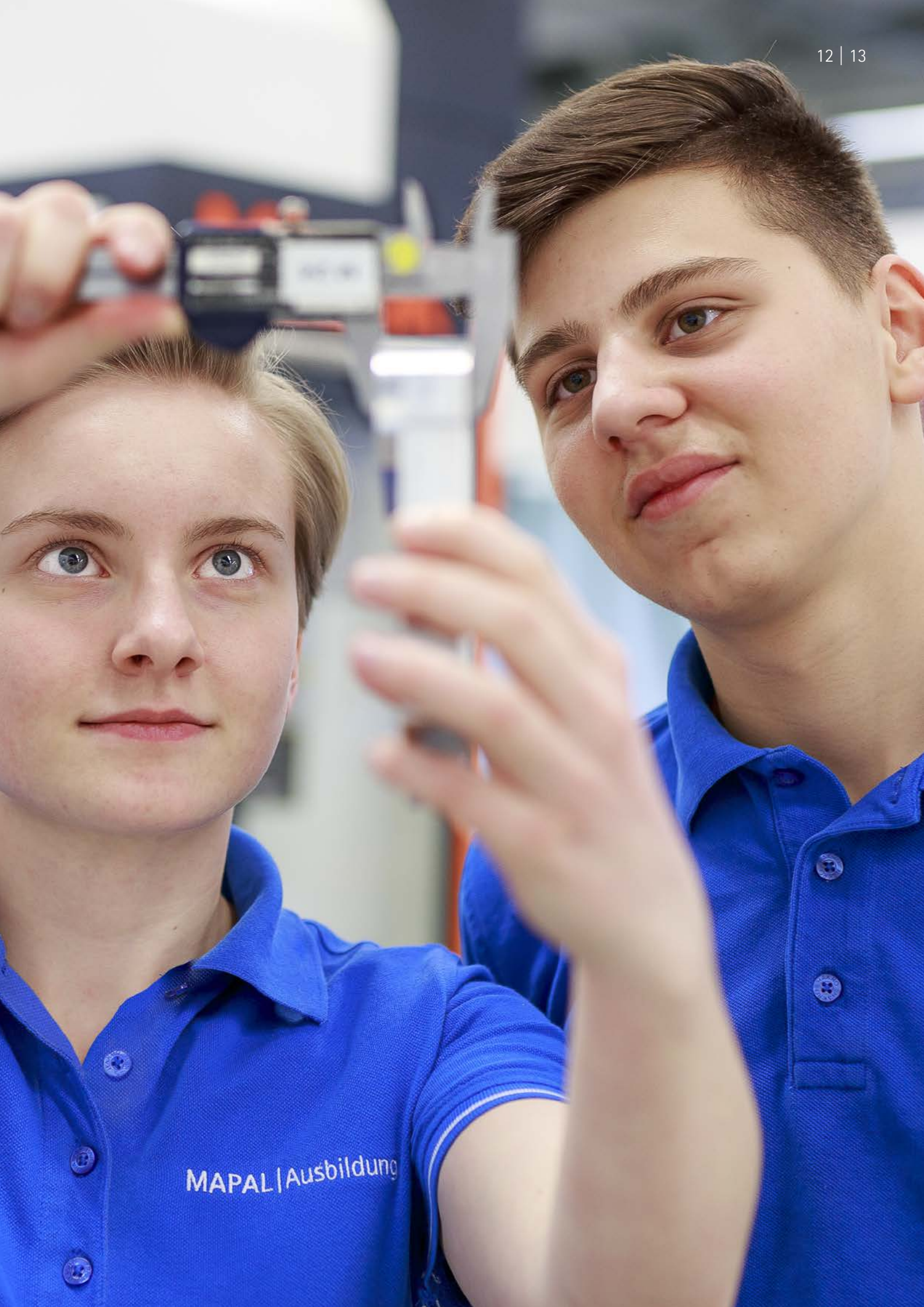
2018

On 1 January 2018, Dr Jochen Kress takes over the responsibility for the MAPAL Group. Dr Dieter Kress transfers the position of President to him.

From trainee to the specialist – people at MAPAL.

The more than 5,500 employees in 25 countries are an essential element of the success of MAPAL. MAPAL builds on the know-how and the commitment of its employees and in return offers the best conditions for a successful, secure future. With interesting, varied jobs, extensive opportunities for personal and professional further development, and modern working conditions in a global environment, MAPAL sets the course for a long-term partnership with its employees.

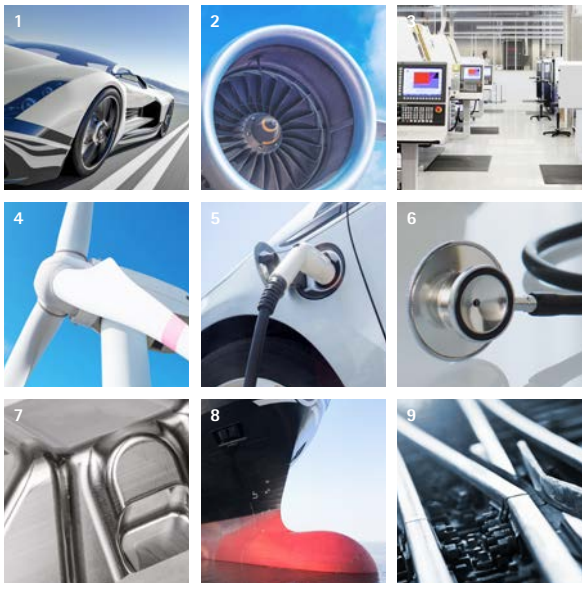
One focus is the training and retention of young people. This is achieved by a broad training programme that includes more than 300 trainees and dual study course students every year. Modern training centres and a consistent teaching concept ensure that these trainees can start work seamlessly on completing their training. In addition, students have the opportunity to implement their theoretical knowledge directly in practice during internships or student placements. They can write their thesis and in this way build up an initial network of contacts at MAPAL.


MAPAL | Ausbildung

Markets and sectors.

In many years of close collaboration with its customers, MAPAL has obtained a deep understanding of the processes for almost all methods and applications in machining manufacture. MAPAL machining solutions are used in application areas in a very wide range of sectors.

For the challenges of the automotive industry and the related underlying large-scale series production, MAPAL prepares innovations that are used successfully in the chassis and power train areas, as well as in electric mobility, by all the renowned manufacturers and their suppliers. With reliable solutions, MAPAL is also an accredited partner for the aerospace industry and sets trends and standards in manufacturing and machining technology. A comprehensive product range is available even for the newest field of competence, tool and mould making.

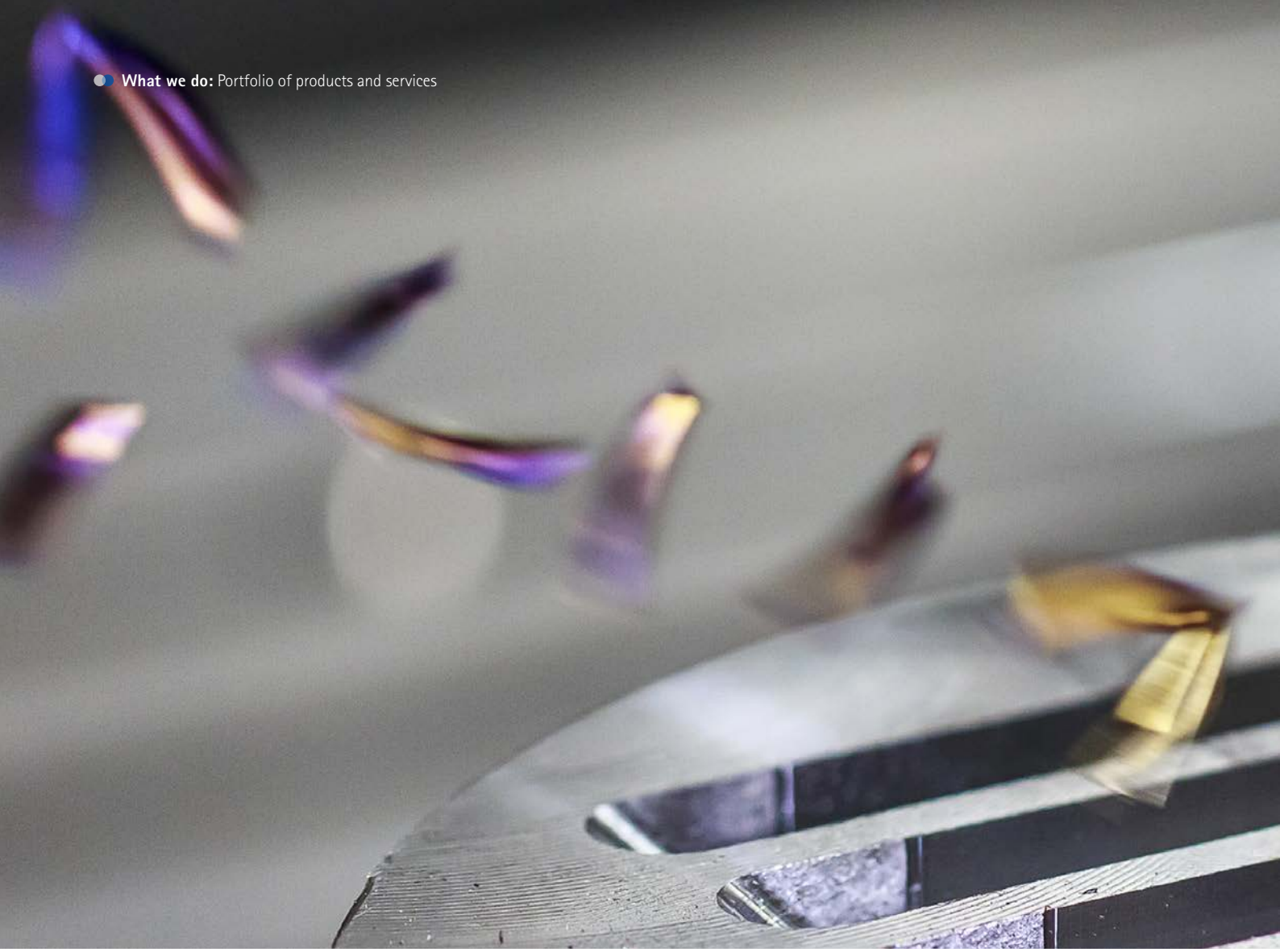


1 Automotive
2 Aerospace
3 Machine engineering
4 Power generation
5 Electromobility
6 Medical technology
7 Mould making
8 Shipbuilding
9 Rail transport

Tool and process solutions combined with comprehensive services.

MAPAL has a comprehensive portfolio of products and services. As such, individually designed custom tools and high-performance standard products are used to create machining solutions that optimally address the requirements for process reliability, precision and cost-effectiveness.

Supplemented by intelligent services, the customer receives a complete package for the machining process.



Reaming and fine boring

Tools for the fine machining of bores represent the core competence of MAPAL. MAPAL offers a suitable solution depending on the complexity of the machining operation and the requirements on precision and surface finish: reamers and fine boring tools with adjustable blades and guide pads are available for the highest precision; for the best cutting data the range includes multi-bladed reamers and replaceable head systems.

Drilling from solid, boring and countersinking

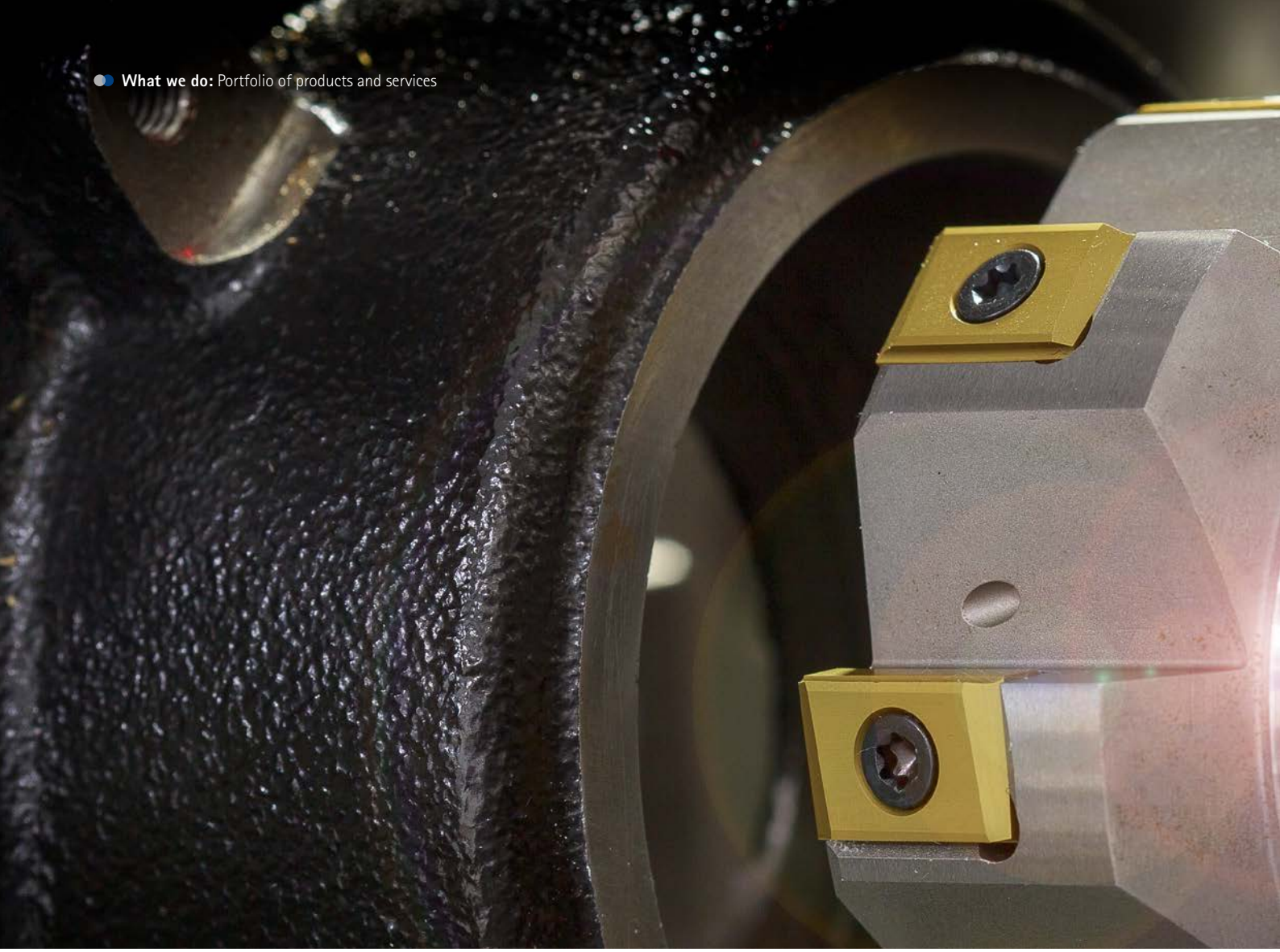
The range for drilling from solid includes solutions for the reliable and cost-effective machining of almost every workpiece material and is completed by modern replaceable head systems. Boring tools for the machining step between drilling from solid and fine machining must represent an optimal combination of robustness in view of the machining forces that arise and must also feature high cost-effectiveness. Based on innovative technology and absolute precision, MAPAL offers a comprehensive range of tools with ISO indexable inserts and with fixed brazed PCD cutting edges. Significant increases in productivity are possible with high-performance countersinking tools.

Milling

MAPAL offers the right tool for every milling operation. These include solid carbide end milling cutters, milling cutters with PCD-tipped cutting edges, as well as milling cutters with replaceable ISO inserts. Along with the common types of machining, MAPAL also covers special methods such as circular milling, trochoidal milling or helix milling with innovative tool solutions.

Clamping

On the usage of tools, their connection to the machine spindle, and with it the clamping technology, has a central role. For every application, the clamping technology range from MAPAL offers a connection that ensures the tool has the performance, radial run-out accuracy and changeover accuracy it needs in use. Particularly in the area of clamping technology, the intelligent use of additive manufacturing opens up new design possibilities.

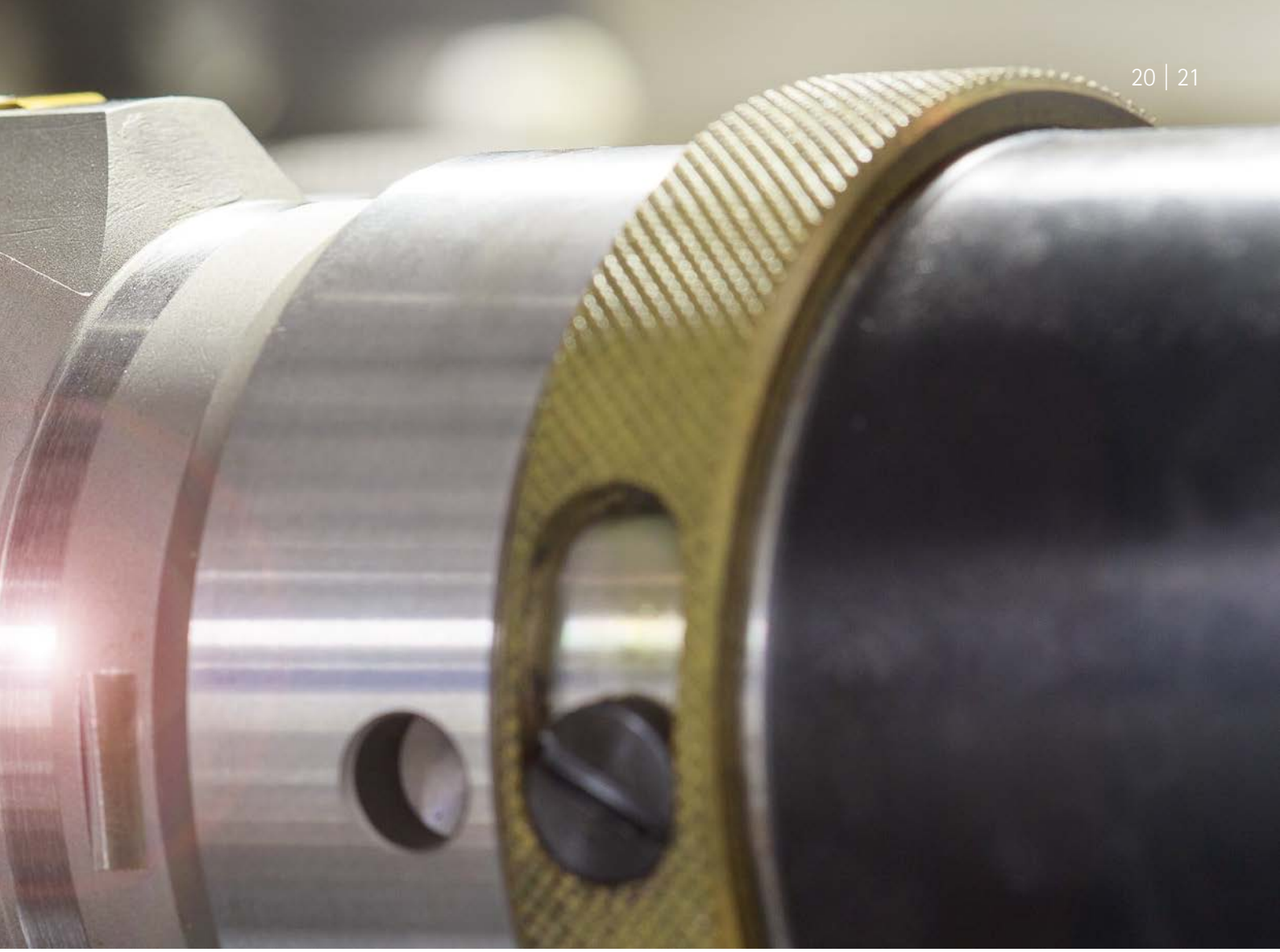


Turning

MAPAL's focus in the area of turning is on hard turning using PcBN. Special tool systems for scroll-free turning, for flexible hard grooving and indexable round inserts for the optimal utilisation of the cost-intensive PcBN cutting material are part of the range, as is a broad selection of standard indexable inserts. The portfolio is supplemented by HSK-T turning holders that make it possible to exploit the advantages of the HSK connection also on lathes. Complete solutions are also available for selected applications.

Actuating

Actuating tools stand for the highest rationalisation and optimisation potential during the machining of complex contours, non-cylindrical bores, face surfaces or recesses, whether on custom machines or for complete machining on flexible machining centres. The product range includes mechanical actuating tools, boring bars and facing heads, as well as NC-controlled tools such as the flexible mechatronic tool system TOOLTRONIC, for machines without an additional feed unit.



Setting, measuring and dispensing

In modern manufacturing facilities, mature storage systems and highly precise setting fixtures and measuring devices are used for the technical and logistical processing of the individual items of production equipment. The crucial factor for efficiency is an appropriate data structure in conjunction with devices that are reliable and intuitive to operate. A holistic modular system is available for this area with the products and services from MAPAL.

Services

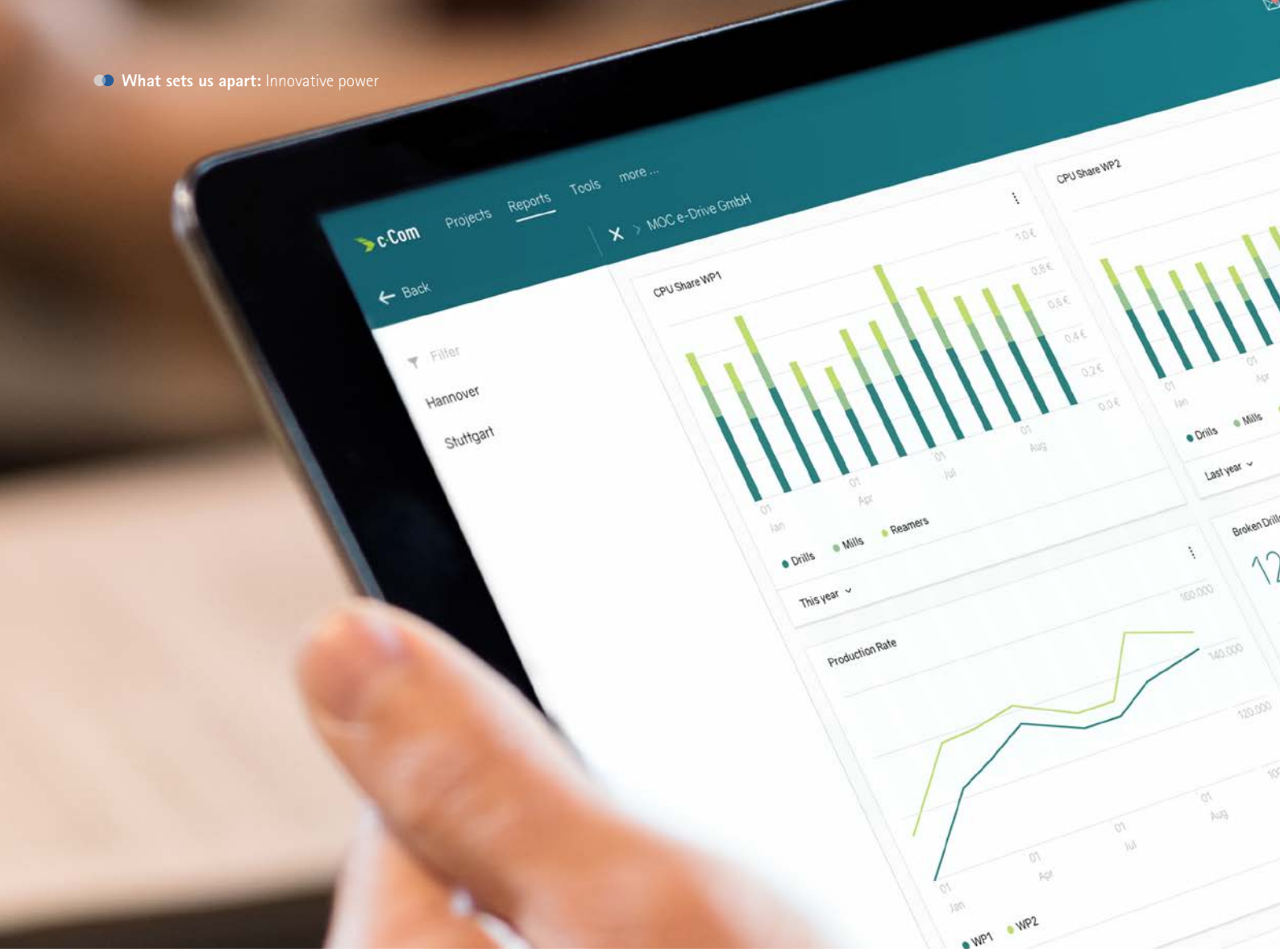
In the metal-machining industry, the focus is on process costs. Anybody who wants to control them must understand all processes. MAPAL supports production during all phases and areas with custom services from the areas of engineering, logistics, maintenance and training.

Mastering the challenges of the future with innovative power.

Megatrends are important drivers for innovations. Requirements that modern tool technology must address stem from overriding topics such as energy efficiency or the conservation of resources, and also the very latest developments such as the change in the drive train of vehicles or Industry 4.0.

MAPAL places great value on continuous research to be able to offer customers solutions for the implementation of megatrends using innovative products. Close contact with customers, partners and institutes forms the basis for this activity. The systematic development of specific products and services from ideas to market maturity is a hallmark of MAPAL.

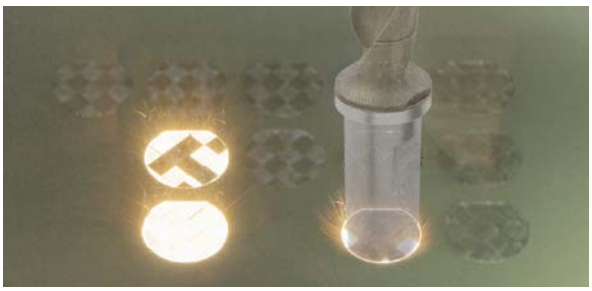
Currently there is a particular focus on the changes in the automotive sector. The change away from the combustion engine to electric mobility is occupying precision tool manufacturers, among others, to a particular degree. Thanks to the intensive collaboration with automotive manufacturers and suppliers, MAPAL was able to offer holistic solutions for machining the parts of electric motors at a very early stage and in this way live up to its reputation as an innovative, dependable partner for projects of the future.



Digitalisation creates transparent processes.

Digitalisation is also placing particular demands on the company. Here two basic developments are important: first the digitalisation of MAPAL itself that offers better customer service and is an even more dependable partner due to improved transparency, consistency of data and uniform standards worldwide. In addition, the digital networking of the business along the value chain produces new products or significant changes to products.

MAPAL has invested intensively here in the past few years and, with c-Com, is the first company in the sector to develop an open, digital, cloud-based platform for collaborative data management for tools. Today the start-up c-Com GmbH offers modular, digital services related to machining and makes it possible for its customers to enter the digital world easily. MAPAL also uses c-Com, for instance, for its Tool Management services and in this way ensures the greatest possible transparency for all flows of data and goods.



Identifying opportunities and implementing them with courage and foresight.

MAPAL is one of the first companies in the sector to address selective laser melting intensively. Based on extensive foundation work, the major potential of 3D printing in relation to the design of tools has been tapped in the research and development area.

New possibilities for design, especially for small, delicate as well as geometrically complicated tools can be mentioned here as well as possible weight savings due to integrated internal cavities.

MAPAL placed on the market the first additively manufactured series production tool with the indexable insert drill QTD for small diameters. The spiral cooling channels necessary for optimal function could not be formed by conventional means, however they are not a problem for 3D printing. Today, selective laser melting represents an excellent addition to production by machining.

Technologically leading due to continuous research and development.

Innovations have always been the driving force in the company. The research and development area is correspondingly large, in terms of both personnel and the technical facilities. High annual investments safeguard the technologically leading position of MAPAL.

Day after day, more than 60 engineers, technicians and machine operators work in the development centre in Aalen on the areas of coating, material technology and simulation. With specific specialist support from the centres of competence, they develop new tool solutions, new cutting edge geometries, ideal cutting materials and coatings for high-performance tools. They try out alternative manufacturing methods and test innovative technologies for efficient tool production.

The proximity to the customer is already clearly apparent even in the development area: new tool solutions can be tested and optimised in the test centre. Services also include breaking in new products for customers and manufacturing from prototypes to pre-production. More than 400 test series are run annually in a real production environment. Different machining centres, highly precise measurement technology and the possibility of additive manufacturing using 3D printing make it possible to simulate exactly almost every production process at the customer. In addition, MAPAL makes individual machines in the test centre available to customers as a service.

The development engineers receive valuable impetus for new products due to their close contact with customers, machine manufacturers and cutting material suppliers, as well as due to the intensive cooperation with universities and leading institutes during new research projects.

Worldwide production system guarantees the highest product quality.

MAPAL tools stand for the highest quality and cost-effectiveness. These requirements are also the top priority during the production of the tools. On 27 sites worldwide, the latest manufacturing facilities and standardised production processes ensure that the manufacturing and reconditioning of tools meet the highest standards.

MAPAL attaches great importance to globally consistent, highly modern production. Continuous investments in machines, systems and NC programs, in quality assurance and certification, as well as in the training and further training of employees ensure the innovative MAPAL products are produced to the same high quality worldwide. The manufacturing processes are also consistently standardised. The centres of competence responsible for the related product area specify the production processes and are responsible for them worldwide. The latest 3D design and simulation programs form the basis for this activity. Intelligent interfaces then transfer data digitally to the related machine tool, laser or 3D printing system.

Reconditioning in original quality

Reconditioned tools with original geometry and coating achieve almost the same tool life as a new tool. For quick processing, upon request MAPAL collects and delivers the tools and ensures standardised original quality also in this area.

Technically orientated field service makes a real partnership possible.

Proximity to the customer is not just a slogan at MAPAL, instead it is an essential part of the corporate identity. Since the foundation of the company, the focus of the activities has been on the continuous, close dialogue with customers and addressing directly the topics occupying customers.

Only by means of regular contact on equal terms is it possible to become familiar and understand in detail customers' processes and the challenges in the different sectors and markets. And to make more and more improvements on this basis.

This is what more than 450 employees in the technically orientated field service stand for worldwide.

Close to the customer - worldwide.

The close dialogue with customers and therefore also the early identification of technological requirements and approaches for innovations are an essential pillar of corporate policy for MAPAL. Accordingly, MAPAL is represented directly with production subsidiaries and sales subsidiaries in 25 countries. As such, short distances, personal contacts and long-term partnerships are possible.

Along with the primary production plants in Germany, local production facilities in strategically important markets guarantee short delivery times worldwide. They are responsible for the production of selected products, as well as for reconditioning, repairs and repeat orders for the local market.

Along with its subsidiaries, MAPAL products are available in 19 further countries via sales representatives.

Germany
The headquarters of the corporate group.

South America

01 Brazil: MAPAL do Brazil, Ibirité and São Paulo

North America

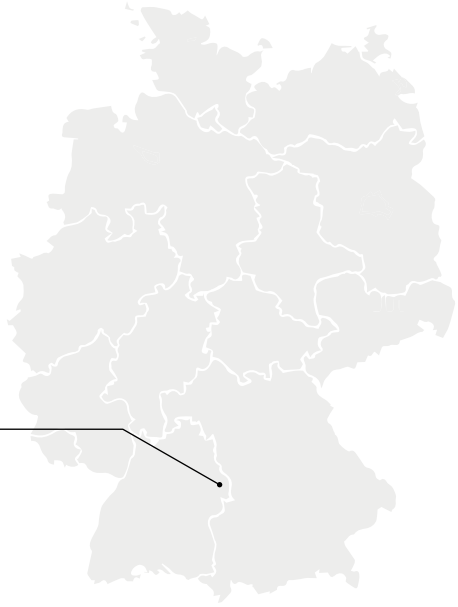
02 Mexico: MAPAL FRHENOSA S.A., San Pedro Garza García and Querétaro
03 USA: MAPAL Inc., Port Huron and Fountain Inn

Europe

04 Denmark: MAPAL representative Michael Bang Pedersen, Harrislee
05 Germany: MAPAL Fabrik für Präzisionswerkzeuge Dr. Kress KG, Aalen,
August Beck GmbH & Co. KG, Winterlingen,
c-Com GmbH, Aalen,
LASERPLUSS AG, Idar-Oberstein,
Lothmann Werkzeugtechnik GmbH & Co. KG, Ludwigsburg
MAPAL ITS GmbH, Eppingen,
MAPAL WWS GmbH & Co. KG, Pforzheim,
MILLER GmbH & Co. KG Präzisionswerkzeuge, Altenstadt,
voha-tosec Werkzeuge GmbH, Lindlar,
WEISSKOPF Werkzeuge GmbH, Meiningen,
WTE Präzisionstechnik GmbH, Ehrenfriedersdorf
06 France: MAPAL France S.A.S., Le Chambon Feugerolles,
Villepinte, Toulouse and Vigneux De Bretagne
07 Great Britain: MAPAL Ltd, Rugby and Rainey Engineering Solutions, Lisburn
08 Italy: MAPAL Italia S.R.L., Gessate
09 Austria: MAPAL representative Ewald Gringer, Adlwang
10 Poland: MAPAL Narzedzia Precyzyjne Spółka z o.o., Poznan
11 Romania: MAPAL Microtek S.R.L., Codlea
12 Switzerland: MAPAL representative Andreas Mollet, Brittern
13 Czech Republic | Slovakia: MAPAL C&S s.r.o., Mladá Boleslav
14 Hungary: MAPAL representative Andras Koleszar, Budapest

Asia and Australia

15 China: MAPAL China Ltd, headquarters in Shanghai; 16 further sales offices
16 India: MAPAL INDIA Pvt Ltd., headquarters in Coimbatore; 4 further sales offices
17 Indonesia: MAPAL INDONESIA, Tangerang Selatan Banten
18 Japan: MAPAL KK, Saitama
19 Malaysia: MAPAL Malaysia Sdn Bhd, Balakong
20 Singapore: MAPAL Asia TET Office, Singapore
21 South Korea: MAPAL HiTECO Co. Ltd, Siheung-si and Adico Co. Ltd, Anseong-si
22 Taiwan: MAPAL Precision Tool Systems Co. Ltd, Tainan City
23 Thailand: MAPAL Tooling (THAILAND) Co. Ltd, Bangkok
24 Vietnam: MAPAL HiTECO Vietnam Co. Ltd, Hanoi
25 Australia: MAPAL Australia Pty Ltd, Ballarat



1 Aalen

Strong foundation in Germany.

Centres of competence safeguard technical lead

In addition to the headquarters of the MAPAL Group in Aalen, there are eight further sites in Germany representing technologically leading tool solutions. The centres of competence, as acknowledged specialists in their area, safeguard a high standard of production, support regional sales and are responsible for the transfer of know-how and expertise to the subsidiaries worldwide.

2 Pforzheim

3 Eppingen

4 Altenstadt

5 Meiningen

6 Ehrenfriedersdorf

7 Winterlingen

8 Idar-Oberstein

9 Lindlar

1 Headquarters of the company group

MAPAL Fabrik für Präzisionswerkzeuge Dr. Kress KG
Obere Bahnstrasse 13
D-73431 Aalen
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Fax: +49 (0) 7361 585-1029
E-mail: info@mapal.com
www.mapal.com

MAPAL Dr. Kress KG in Aalen is the headquarters of the corporate group. The central functions are concentrated in Aalen, for instance research & development, marketing, training and further training, process management or the services area. Aalen is also the largest production site in the group, especially for the areas fine boring, tools with ISO elements, clamping technology, setting, measuring and dispensing. The goals for the entire corporate group are prepared here and implemented worldwide with the local partners.

2 Centre of Competence for PCD tools

MAPAL WWS GmbH & Co. KG
Heilbronner Strasse 25
D-75179 Pforzheim
Phone: +49 (0) 7231 9663-0
Fax: +49 (0) 7231 9663-2029
E-mail: info.wws@mapal.com

Founded in 1980, today's MAPAL WWS GmbH & Co. KG became part of the MAPAL Group as the Centre of Competence for PCD tools in 1994. Over more than 16,000 square metres, simple to highly complex high-performance and high-precision tools are developed and produced in the world's largest and most modern production facility for PCD tools. The range of PCD tools covers precision boring tools, milling head systems, end milling cutters, custom tools for drilling from solid, boring, milling and combination tools.

3 Centre of Competence for actuating and ISO tools

MAPAL ITS GmbH
Jakob-Dieffenbacher-Strasse 8
D-75031 Eppingen
Phone: +49 (0) 7262 9996-0
Fax: +49 (0) 7262 9996-7099
E-mail: info.its@mapal.com

In 2015, MAPAL significantly expanded its production capacity for actuating and ISO custom tools with the new site in Eppingen. The 5,000 square metre, modern production and administration building combines the former Sinsheim and Vaihingen-Enz sites. The product range is concentrated on custom tools with ISO elements and standard and custom actuating tools.

4 + 5 Centres of Competence for solid carbide tools

MILLER GmbH & Co. KG, Präzisionswerkzeuge
Im Tal 12
D-89281 Altenstadt
Phone: +49 (0) 8337 727-0
Fax: +49 (0) 8337 727-4027
E-mail: kontakt@miller-tools.de
www.miller-tools.de

MILLER GmbH & Co. KG, founded in 1991, is a specialist for rotary solid carbide tools and has been part of the MAPAL Group as the Centre of Competence for solid carbide tools since 2003. One of the largest and most modern factories for solid carbide tools produces high-performance drills and milling cutters on the Altenstadt/Iller site over an area of 15,000 square metres. Along with the large standard programme available ex-stock, the design and manufacture of custom tools is a second important area for the business. Due to the modern logistics centre, customers worldwide are quickly and smoothly supplied with high-performance tools.

WEISSKOPF WERKZEUGE GmbH
Gleimershaeuser Strasse 5a
D-98617 Meiningen-Dreißigacker
Phone: +49 (0) 3693 5017-00
Fax: +49 (0) 36 93 5017-08
E-mail: info@weisskopf-tools.de
www.weisskopf-tools.de

More capacity and increased speed of response for the production of solid carbide tools are provided by WEISSKOPF WERKZEUGE GmbH, founded in 1993 and member of the MAPAL Group since 2012. Over its 2,000 square metres, WEISSKOPF concentrates on the quick small-scale production of solid carbide tools and the manufacture of small drills.

6 Centre of Competence for clamping chucks

WTE Präzisionstechnik GmbH
Gewerbegebiet an der B95, 2a
D-09427 Ehrenfriedersdorf
Phone: +49 (0) 373 4117-0
Fax: +49 (0) 373 4117-101
E-mail: info@wte-tools.de
www.wte-tools.de

WTE Präzisionstechnik GmbH was founded in 1999 with 12 employees. Since the start of its business activity, the focus has been on the development, production and sale of high-accuracy chucks. It has been possible to expand production significantly since the company was integrated into the MAPAL Group in 2008 as the Centre of Competence for clamping chucks. In a production area of around 5,800 square metres, WTE is responsible for the broad standard programme of precision drill chucks, hydraulic chucks, micro-chucks and shrink chucks.

7 Centre of Competence for multi-bladed reamers

August Beck GmbH & Co. KG
Ebinger Strasse 115
D-72474 Winterlingen
Phone: +49 (0) 7434 270-0
Fax: +49 (0) 7434 270-1700
E-mail: info@beck-tools.de
www.beck-tools.de

August Beck GmbH & Co. KG was founded in 1906 as a mechanical workshop. Since then the company has developed into a medium-sized industrial business focussed on the manufacture of fine machining tools. Since 2004 the 4,000 square metre site in Winterlingen has belonged to the MAPAL Group and, as the Centre of Competence for multi-bladed reamers, is specialised in tools for the fine machining of bores. The foundation is formed by a comprehensive range of reaming and countersinking tools available ex-stock along with custom tools designed and manufactured to customer requirements.

8 Specialist for innovative laser technology

LASERPLUSS AG
Hauptstrasse 279A
D-55743 Idar-Oberstein
Phone: +49 (0) 6781 98664-0
Fax: +49 (0) 6781 98664-99
info@laserplussag.de
www.laserplussag.de

LASERPLUSS AG, founded in 1997, has specialised in the customer-specific manufacture of laser systems for precision applications related to the marking and engraving of all materials, the welding of plastics and the cutting of metals and hard materials. The latest laser technology is always used. The company has augmented the MAPAL Group since 2008.

9 Centre of Competence for tool and mould making

voha-tosec Werkzeuge GmbH
Schreinerweg 2a / 2b
51789 Lindlar
Phone: +49 (0) 2266 4781-0
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voha-tosec Werkzeuge GmbH has been the Centre of Competence for tool and mould making since 2019. Formed from two separate companies in 2004, voha-tosec concentrates on milling tools, machining strategies and tool systems for mould, tool, model, die making and mechanical engineering. At the company headquarters in Lindlar, the high-perfor-mance tools are developed and manufactured in a highly modern facility. Systems are also available for reconditioning, recoating and modification.

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Mat. no. 10162425
MAPAL-EN-CO-01-030-0219-VVA Printed in Austria.