

Z

2019 EDITION

# magazine



## THE TOP TEN BENEFITS OF ZOLLER SOLUTIONS, AS NAMED BY OUR CUSTOMERS



### COVER STORY

The Top Ten Benefits  
of ZOLLER Solutions

### ORGANIZED SAVINGS

SIM Automation

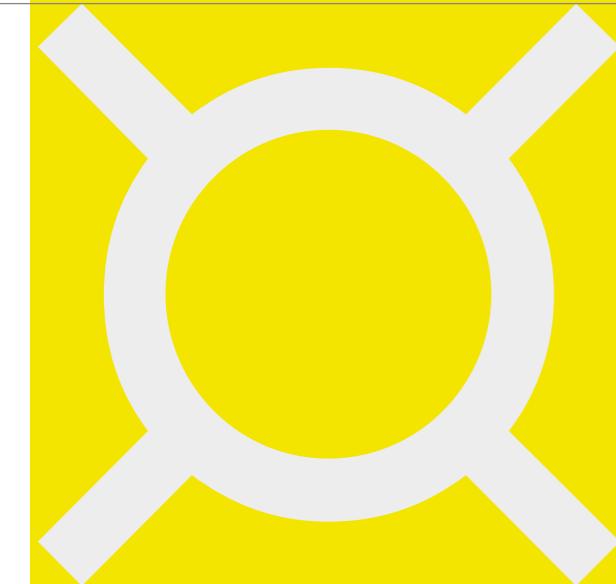
### Z.INNOVATION

New efficiency booster  
from ZOLLER

### INDUSTRY SPECIAL

Medical Technology

**ZOLLER**  
expect great measures®



## Welcome to the 2019 ZOLLER Magazine,

What criteria do you consider when selecting a solution for your manufacturing operations? Do you focus on quality, ergonomic design, or precision? Or the ease of integration into your existing processes? Or outstanding service? Then ZOLLER is the perfect choice: we offer all of the above and much more. In this year's ZOLLER magazine, we will present the top ten benefits of working with ZOLLER.

These ten benefits were selected by our customers – actual users of ZOLLER solutions. After all, that is what counts – satisfied customers who know first-hand what ZOLLER products can do. Speaking of quality products: This year, ZOLLER is launching some compelling innovations that can help you manufacture even faster, with more ergonomic operation and better precision. Our collaborative robotic assistant »cora«, for instance, takes over time-consuming, monotonous tasks, leaving your team free for what is really important.

What else can you expect in this edition of the ZOLLER magazine? Impressions from the everyday experience of our customers, information on the hot topic of automation and an industry special on medical technology, plus an entertaining behind the scenes look at the world of ZOLLER.

We hope you enjoy reading this magazine, and we welcome you to the ZOLLER world.

**Christoph, Eberhard and Alexander Zoller**  
CEO's of E. Zoller GmbH & Co. KG

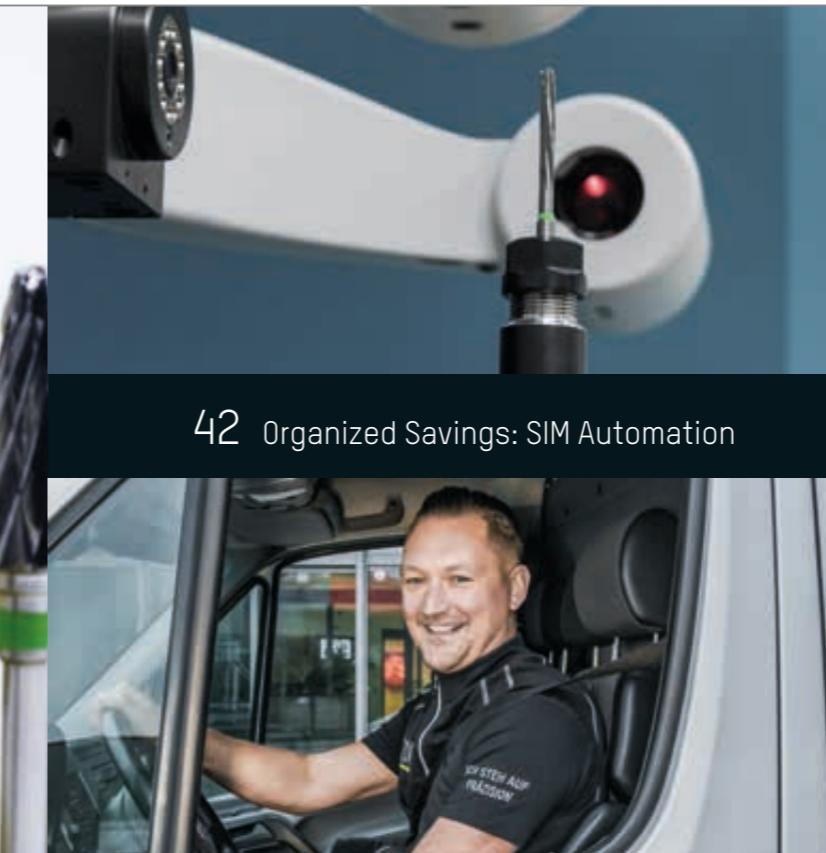
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2019 Edition

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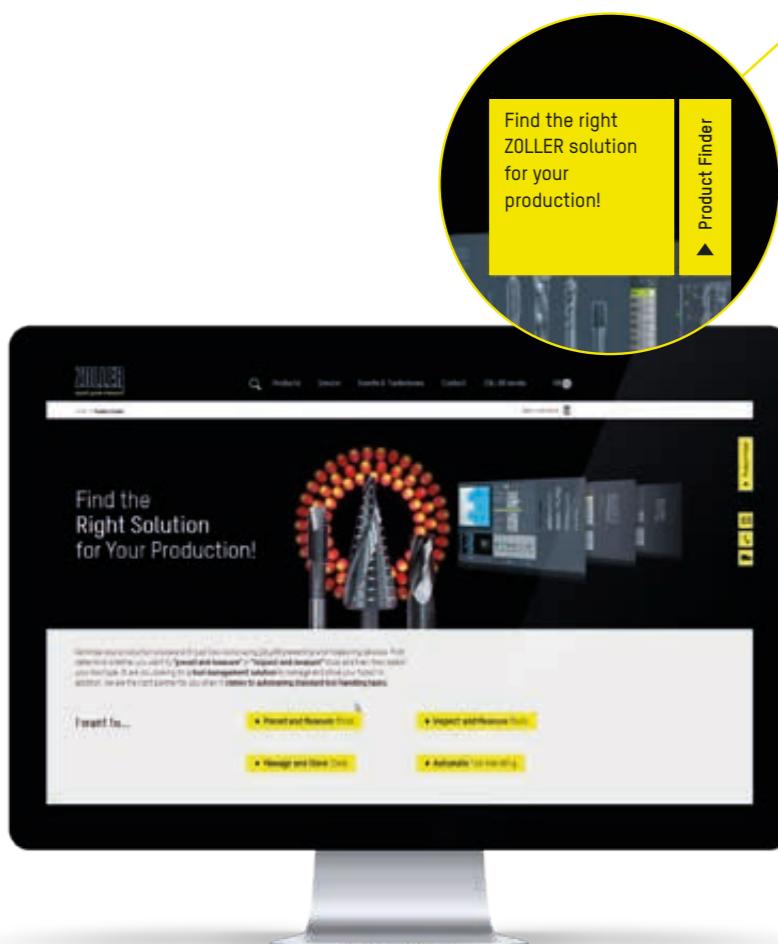
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## CLICK, CLICK, DONE!

In just two clicks, the new ZOLLER website will display the right solutions for your specific requirements from our solution portfolio. See for yourself! Test out the product finder today!

[www.zoller-usa.com](http://www.zoller-usa.com)



### NETWORKED WITH THE BEST

Once again, the open house event at INDEX Group showed how essential networking is today. Networking with the best technological partners in your industry is key, as the partner exhibition emphasized. Of course, ZOLLER was there!

### HUFSCHEMID AT ZOLLER

Hufschmied Zerspanungssysteme GmbH has been working successfully with ZOLLER solutions, such as the »roboSet«, »pomBasic«, »titan« and »genius«, for many years. Hufschmied were due for an inside look at ZOLLER: That's why, during a recent company outing in 2018, they stopped at ZOLLER – they were highly impressed by the size and cleanliness of our production, as well as by our bistro and kitchen.



### ZOLLER IS IN

Over 5,000 visitors attended the third annual InDays, the innovation and technology days put on by Ingersoll Werkzeuge GmbH in Haiger. It's no wonder: there were plenty of top-level technological leaders on site – including ZOLLER, of course. Attendees could review how easy it is to integrate a »venturion« into a complete process chain, and get to know the new measuring program for precision tools on the »genius«.

# TOP 10

THESE ARE THE **TOP TEN BENEFITS** OF ZOLLER SOLUTIONS, AS NAMED BY OUR CUSTOMERS

Excellent quality, outstanding service, good user friendliness – almost every company promises these things to their customers. But how can you, the customer, tell whether these claims are true? Can you determine their validity before you make an investment? The answer is simple: Yes, you can. You can find out what current customers and users are saying by reading case studies and user reports. For this edition of the Z.magazine, we did the legwork for you and analyzed a variety of customer voices.

What we found is that ten benefits of using ZOLLER solutions came up time and again, and we felt you deserve to know what real customers are saying are the top ten biggest benefits of using ZOLLER Solutions in their production facilities.

We hope you enjoy reading about the top ten benefits of ZOLLER Solutions!



# EVERYTHING FROM A SINGLE SOURCE

## Systematic Benefits

Manufacturing requires a complex system consisting of many different individual components: From CAD/CAM work stations to the warehouse, work preparation, production to delivery; A wide variety of different areas need to come together.

Only a company that understands the overall system as a whole and can keep everything in check can ensure processes are smooth and economical. That's why ZOLLER takes a comprehensive approach, starting with the biggest variable in the production process – the tool. It offers the biggest potential for increasing productivity: scrap can be minimized, quality increased, and machine downtimes reduced.

With a clever combination of hardware, software and service, ZOLLER offers **system solutions focused on presetting, measuring, inspecting and managing tools** that optimize the entire production process.



Andreas Ruff, production planner in aluminum machining at Metabo

Metabo, a manufacturer of high-quality cordless tools, focuses all its energy on meeting high quality demands while increasing efficiency. With ZOLLER, the company did just that. Andreas Ruff, production planner in aluminum machining at Metabo, explains the benefits of using ZOLLER solutions: "They are expandable. Today, we use ZOLLER solutions not only for tool presetting, but also for all of our tool management. Having one system from a single source, without any lost productivity, is important to us."

**metabo**<sup>®</sup>

## 2

## Reproducible Precision – for certifiable quality

Scrap or good part? As tolerances become tighter and tighter, often just a few microns decide whether a part is shipped off to the customer or to the scrap heap. Precision is more important than ever in modern manufacturing.

By using certified calibration equipment and gauges, ZOLLER guarantees high precision (around 2 µm), long term. Consider this: The diameter of a human hair is between 50 and 100 µm on average. While the thickness of a human hair naturally varies, tool dimensions and the setting of those tools needs to be as consistently accurate as possible in order to achieve the ultimate goal of increasing productivity and allowing for accurate planning. ZOLLER products, therefore, offer process security, along with certifiable quality in the form of comprehensive documentation and test reports.



“WE HAVE ABSOLUTELY NO COMPLAINTS, AND OUR CUSTOMERS CAN FULLY RELY ON THE MEASUREMENT RESULTS.”

Jens Schröder, Head of Research and Development at ROT

**ROT Gruppe**  
REINER DEHLMANN TOOLS

As a manufacturer of precision tools and special grinding machines, ROT GmbH offers its customers individually tailored solutions. One of the company's specialties are diamond tools that provide extremely high precision at batch sizes as small as a single part. Absolute precision and efficiency are the name of the game. ZOLLER supports the company with reliable measurement, explains Jens Schröder, Head of Research and Development at ROT. This saves time and ensures repeatability. The result: No complaints and satisfied customers.

# 3 BEST QUALITY

For Long-Lasting Precision  
in Everyday Production

ZOLLER products are able to offer high precision for good reason: they are thoughtfully designed, made of high-quality materials and brand name components, and are built with care in assembly. Whether it's the THK guides, Uhing drives, Bosch and Festo pneumatics or the Heidenhain measurement systems – the internal quality of ZOLLER devices comes shining through. Take, for example, the thermally optimized base, which allows for maximum rugged performance, or the high-quality optic elements with tempered lenses and lighting monitoring. This commitment to quality pays off in even the most difficult everyday manufacturing environments by providing precise results from the get-go and for many years to come.



## HE-Zerspanungstechnik

Single parts, assembly groups, prototypes and small series – HE-Zerspanungstechnik specializes in custom manufacturing. The company is constantly changing tools. Clearly, investing in a professional presetting and measuring machine pays off – right from the start, it offers 50 to 60 percent shorter set-up times. Increased part quality is another benefit, as company owner René Dobberke explains. When we asked him why he chose ZOLLER, he told us he could think of many reasons – precision, great service, user-friendliness. None was more important, though, than quality. ZOLLER offers unparalleled quality you can rely on in any situation.

**"IT'S SIMPLY HIGH-QUALITY –  
THE DEVICE RUNS AND  
RUNS, FLAWLESSLY,  
RIGHT FROM THE FIRST  
SECOND."**

René Dobberke,  
Owner of HE-Zerspanungstechnik



# USER FRIENDLY

## Measuring Is Easy and Comfortable with ZOLLER

In a time when expert employees are in short supply, even the most precise machinery is useless if it isn't easy to operate. Luckily, ZOLLER devices don't take a Ph.D. to use, and don't require colleagues to sit in a separate measurement room. The devices can simply be left in the production hall and operated by the employees on site.

**The intuitive controller takes operators step by step through the measuring procedures, the majority of which are automated.** In addition, a practical Help menu is available in different languages. This allows various users to always achieve the same precise results.

In addition to user-independent data collection, ZOLLER devices offer even more ergonomic benefits, like 180° spindle accessibility or adjustable height control units. This makes measurement not just simple, but comfortable as well.



Anfotec Antriebstechnologie GmbH is a provider of high-quality industrial and mechanical drive elements. With ZOLLER system solutions for tool presetting and management, the company has optimized both its mass and prototype production, making both much more economical. One key criteria behind the company's choice to work with ZOLLER was the user-friendliness of our systems, as CEO Christian Hast explains:

**"THE USER INTERFACE OF THE ZOLLER DEVICES IS VERY EASY TO OPERATE. GUIDANCE THROUGH THE MEASURING PROCESS IS GREAT; EVEN A NON-MACHINIST CAN PRESET AND MEASURE A TOOL."**



**ANFOTEC**  
Antriebstechnologie GmbH

Christian Hast, CEO of Anfotec

# ECONOMICAL RIGHT DOWN THE LINE

Maximum Productivity and Process Reliability

ZOLLER system solutions are a great choice for any company that wants to increase productivity and lower costs at relatively low expense. No matter whether you choose a complete automation solution including tool cabinets and management, or start off by investing in a presetter – success will be immediate, and you can build on your investment at any time, thanks to our modular system.

Even presetting and measuring with a ZOLLER device reduces scrap while

increasing tool life and machine run times. Since tool presetting is handled outside of the CNC machine, set-up times are also greatly reduced. **A presetting and measuring machine alone can save around 15,000 euros per machine, per year.**

Companies that also work with ZOLLER TMS Tool Management Solutions also benefit from reduced tool costs and search times, uniform tool data and comprehensive planning reliability.

H.P. Kaysser GmbH + Co. KG supplies sheet metal components to companies from over 30 industries. The orders they receive are just as diverse, requiring frequent conversions. With solutions by ZOLLER, the company achieves excellent flexibility and maximum economic efficiency at the same time, as Udo Schwarz, Production Manager of CNC Machining Technology at H.P. Kaysser, emphasizes: **"We save an average of 20 to 30 percent of tool and operating material costs, and our production processes are already 10 to 15 percent faster."**

 **H.P. Kaysser**  
Systemlösungen in Metall

Udo Schwarz, Production Manager  
of CNC Machining Technology at H.P. Kaysser



# TECHNICAL KNOW-HOW MADE IN GERMANY – WITH THE RIGHT SOLUTIONS FOR ANY CHALLENGE

Walter AG is a leading international metalworking company with a product range including around 45,000 catalogued tools. At its Frankfurt location, the company focuses specifically on manufacturing microtools – absolute precision and repeatability are key. Jean-Paul Treger, Head of Measuring Technology and Quality Assurance at Walter, explains why ZOLLER is the ideal partner for tool inspection: "In our search for the right solution, we saw that ZOLLER has lots of experience and is open to customer requests. They made optimized, specialized adjustments for us that allow us to complete measurements faster, easier, and with more precision than ever before."



Jean-Paul Treger, Head of Measuring Technology and Quality Assurance at Walter



ZOLLER customers benefit from decades of experience and from the technical know-how of a family company that has been working to create economical production processes for three generations.

Long-term success is always in focus – ZOLLER products fulfill the demands for reliability, precision and endurance that customers associate with the "Made in Germany" seal. And rightly so: All products are still developed and produced entirely in Germany. They provide better productivity in manufacturing halls all over the world. **A large international team of developers makes certain ZOLLER solutions are prepared to meet the challenges of today's markets, both now and in the future.**

# Innovations for the Machining Industry

Tailor-made Solutions for Customers

The best way to make sure you stay ahead is to help shape the future. At ZOLLER, we have always worked with this idea in mind. Back in 1977, for example, we saw the potential of computer technology for production companies. We have had in-house software development ever since. It has developed the unparalleled »pilot« operating technology as well as our comprehensive TMS Tool Management Solutions.

But we offer more than just innovative software to give customers added value and smooth production processes. Our machine designs are similarly focused on user needs. For example, the »eQ« single-hand operating device has set a new standard for operating comfort since its introduction. **Today, ZOLLER proves our power of innovation year after year by launching new devices, new software modules and new data transfer options.**

Frequently, our customers are a driving force behind our innovations – if our broad, modular product portfolio doesn't cover a specific need, we can develop the right solution quickly.



“THE SOFTWARE IS ALWAYS ADAPTED TO OUR NEEDS QUICKLY.”

**HUFSCHEMIED**  
ZERSPANUNGSSYSTEME

If customers need high performing tools for challenging materials, Hufschmied Zerspanungssysteme GmbH is the right choice. These kinds of tools pose unique challenges for measuring technology. Developing them takes an innovative company that can create perfectly tailored solutions. The company has found just the right partner in ZOLLER, according to CEO Ralph Hufschmied. Even with specialized geometries like left-hand turning single cutters, ZOLLER can develop solutions for precise measurement quickly, Hufschmied explains.

Ralph Hufschmied,  
CEO of Hufschmied

# OUTSTANDING INTERNATIONAL CUSTOMER SERVICE

ZOLLER promises verifiable productivity increases, inviting high expectations from our customers. Luckily, these are expectations we can fulfill – through our products and our services.

From initial consultation to commissioning, from training to expert support in any questions that come up, from maintenance to individual adaptations to specific challenges:

**Companies that choose ZOLLER benefit from unique manufacturing know-how throughout the entire product life cycle – and maximum system availability.**

With offices and stand-alone branches in 58 countries, ZOLLER believes in staying close to its customers around the globe – and is perfectly prepared to meet country-specific requirements.



The FRAISA Group is internationally known as a manufacturer of high-quality cutting tools. To achieve this level of quality, the Hungarian location FRAISA Hungária Kft. has been using ZOLLER solutions for quite some time. They are currently using their third generation of the ZOLLER »genius«. They chose the company for its reliable, high precision, but also for its outstanding service, as CEO György Varknal explains: "The devices always work reliably. And when we have a question, support from ZOLLER is always one hundred percent reliable. **Our good experiences with maintenance and support are simply priceless.**"



György Varknal, CEO of FRAISA Hungária

# SECURITY FOR THE FUTURE – WITH MODULAR SYSTEMS FOR MAXIMUM FLEXIBILITY

Christoph von Hiller,  
Group Manager of Prototyping at STIHL

STIHL is known as one of the world's leading manufacturers of chainsaws and power tools. The company has been working with ZOLLER on presetting, measuring and tool management for many years. One of the reasons they decided to do so was our future-oriented development capabilities, as Christoph von Hiller, Group Manager of Prototyping at STIHL, emphasizes: "With a central tool database, software interfaces, and modular software, ZOLLER offered a digital outlook and clear opportunities for development – including with regard to tool management."

**STIHL®**



Of course, you could buy a new device for every new challenge. But a better option is to invest in a modular system that can grow with your challenges. That's exactly what ZOLLER offers. With optimal coordination between software and hardware components, our flexible products can be expanded with additional functions or connected to new devices. That makes getting started with ZOLLER easy – you can start off small, then expand accordingly over time. That's what we call ready for the future.



# 10 Ready for Industry 4.0

Through Connection to Third-Party Systems

There is no way to avoid Industry 4.0. Comprehensive networking is the only way to design efficient production processes. However, this networking is often easier said than done, especially when products are in use internationally. Every country has its own parameters in choosing controllers or CAM and ERP software. Standards in Europe may be much different from those in the US.

Luckily, ZOLLER customers are perfectly positioned, even when connecting to third-party systems:

**With a large selection of interfaces that is constantly being expanded. And with our practical z.One central tool database that supplies all production stations with tool data in real time – in many cases, the z.One database is now the only database being used for tool data.**



„WE USE SOLUTIONS FROM ZOLLER BECAUSE THEY CAN BE INTEGRATED INTO OUR EXISTING PRODUCTION AND OFFER SECURE DATA TRANSFER BETWEEN THE CAD/CAM SYSTEM AND THE MACHINE. ZOLLER IS THE ONLY COMPANY THAT CAN DO THAT.“

Complex milled parts are the specialty of Stammberger Werkzeugbau GmbH. The company focuses on precision, modern technologies and consistent networking from the presetter to the machine. For CEO Wolfgang Stammberger, ZOLLER is the only choice for this kind of innovative manufacturing.

Wolfgang Stammberger, CEO of Stammberger

**Stammberger**  
WERKZEUGBAU



## STRONG PERFORMANCE

Ten runners took to the starting line for Z.sports at the Freiburg Marathon in April. After 42 kilometers, Michael Haas took 45th place in his age class after 4:10:32 hr. of running in beautiful weather. Jennifer Sobott took 69th place in her class in the 10 kilometers with a time of 1:06:33. Congratulations!



### REACHING THE TOP TOGETHER

At ZOLLER, interdisciplinary work is the name of the game – even in our free time. This was clear, for example at the Bietigheim BZ Company Run, which included five Z.sports participants from Quality Assurance, Sales and Marketing.



### SHUT YOUR EYES AND PUSH THROUGH ...

...that was the name of the game for the Z.sports team at the Fun Mud Run put on by the National MS Foundation in Detroit. Teams that wanted to come out on top needed to deal with multiple obstacles and plenty of mud. The ZOLLER team handled all these challenges with ease.

### A NATURAL HIGH

Z.sports cyclists joined the Strombike Marathon through the Stromberg-Heuchelberg nature park once again in 2018 – most of them chose the longest route of 80 kilometers and 1,900 meters of elevation gain. Seems ZOLLER employees like to aim high after work as well.

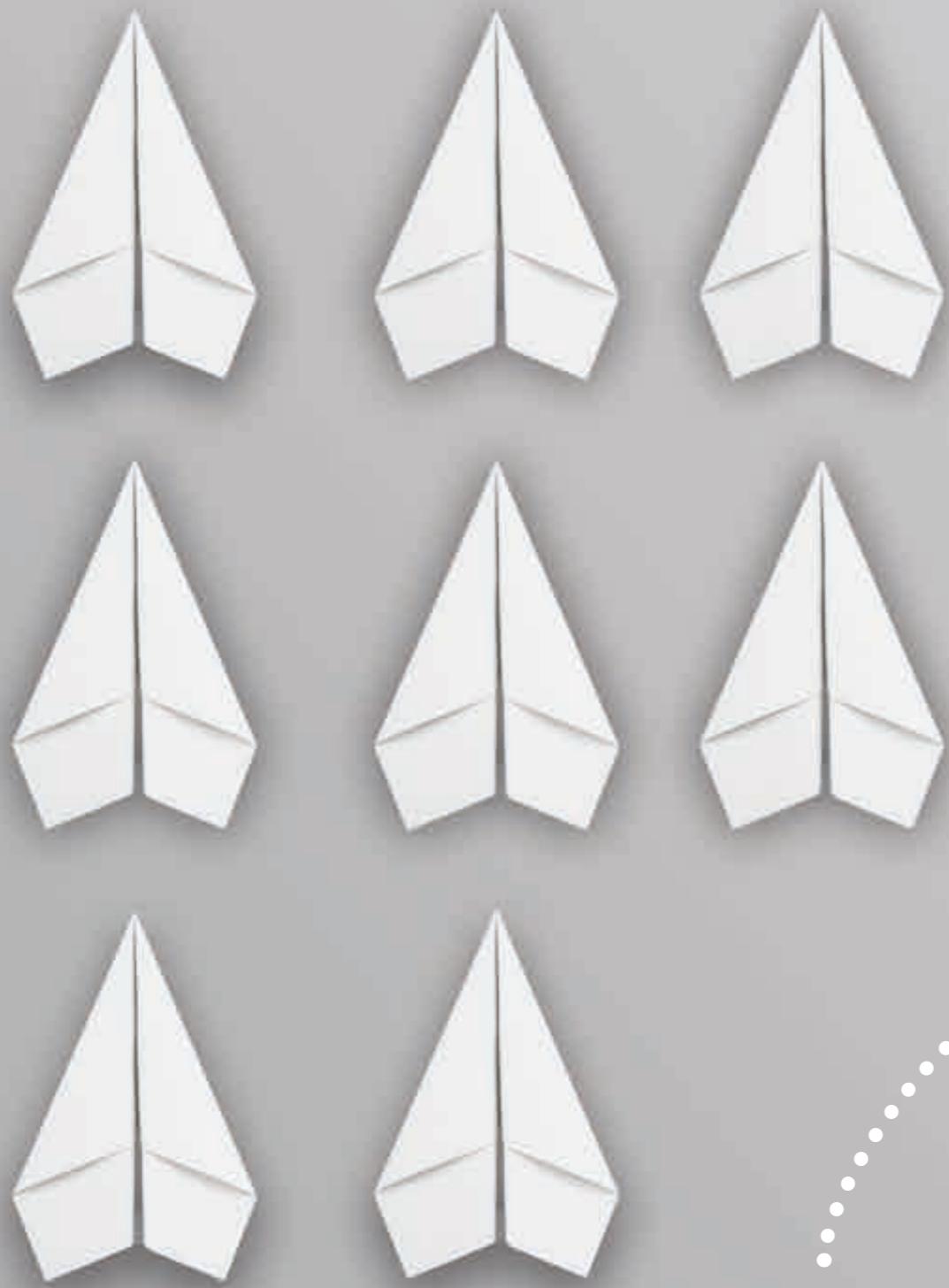


### SHANGHAI STAYS ON THE BALL

Every year, Xinzhuang Industry Park in Shanghai puts on a basketball tournament for all the companies in the park. Naturally the Z.sports team from ZOLLER Shanghai took part, showing off their sharp-shooting game to match the precision of ZOLLER technology. Although they didn't win the tournament, it's clear that ZOLLER Shanghai will always stay on the ball.



# Z.innovation



## News from ZOLLER

Digitization, automation, a lack of trained professionals and consistently growing requirements for quality and efficiency – the machining industry is changing. Forward-thinking solutions that offer sustainable advantages and can be integrated effortlessly into existing processes and easily expanded if necessary are a must-have for manufacturing companies today. ZOLLER solutions for presetting, inspection, tool management and automation are the answer.

In this section of the Z.magazine, we'll bring all the latest ZOLLER products to you so you can learn how to increase efficiency in your production processes.

Presetting &amp; Measuring

## Hermle-Heidenhain Connection

### PERFECTLY NETWORKED WITH HEIDENHAIN

Simple and secure: Raw tool data are exchanged between ZOLLER presetting and measuring machines and the Heidenhain controller via a web service/ Tool identification is ensured via a DataMatrix code. Data is stored in the central z.One tool database.

### BENEFITS

- 1 Maximum reliability through unique tool identification (no danger of mix-ups)
- 2 No work to prepare data in line with controller requirements
- 3 Transparency regarding tool life



Presetting &amp; Measuring

## Tool Marker

### TRACKING MADE EASY

Tracked wherever they go: Once tool holders are assigned an identifying feature, the inventoried complete tool can be uniquely identified and tracked. Its components can also be assigned to it. This allows for systematic and traceable tool holder management.

### BENEFITS

- 1 Fast management of actual data for physical tools
- 2 Real time tracking of holder usage
- 3 Identification both via codes (bar, QR, DataMatrix code) and RFID chip possible



Bar code



QR code



DataMatrix code



ZOLLER Presetting and Measuring Machines



Central z.One tool database



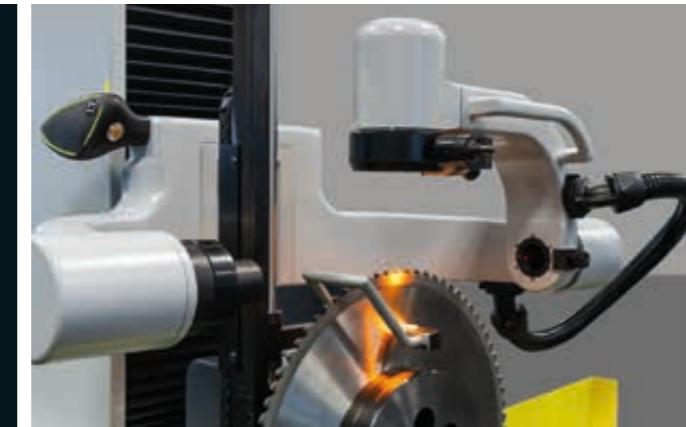
CNC machine tools

## Inspection &amp; Measuring

## »sawCheck«

**HIGHLY PRECISE, TOOTH BY TOOTH**

The new »sawCheck« can be used to measure precision saw blades tooth by tooth, in a fully automatic and user-independent process. It is the only measuring machine worldwide to clamp saw blades vertically to match their position in use.

**BENEFITS**

- 1 Fully automatic and non-contact measuring and inspection of teeth
- 2 Concentricity check with a measuring sensor
- 3 Easy to operate »pilot« software

**New Measuring Programs**

ZOLLER's extensive library of programs offers measuring programs for a wide variety of parameters and many different tools – including standard and specialized tools alike. With new requirements and tasks in tool measurement, we continuously develop new measuring programs alongside our customers to match their needs.



Measuring high precision tools in accordance with DIN 1829  
(Measuring programs 512 and 880)

## Inspection &amp; Measuring

## »μFocus«

**THE SPECIALIST FOR CUTTING EDGES AND ROUGHNESS**

The new »μFocus« not only measures cutting edge preparations for cutting tools, it also measures the surface roughness of their open and clamped surfaces. The latter can be described topographically using a graphic in grayscale, using measurement curves, or via tables.

**BENEFITS**

- 1 Standardized measuring procedures and evaluation algorithms
- 2 Non-contact measurement, including comprehensive graphical analysis
- 3 Quick and fine setting of the Z axis



## Tool Management

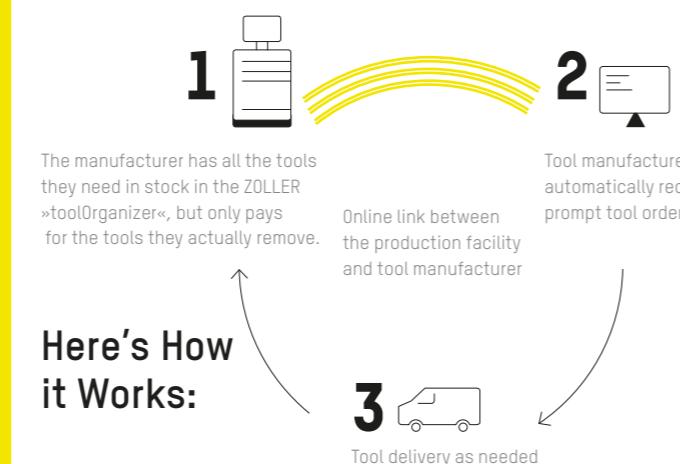
# Consignment Storage

**A WIN FOR ALL SIDES**

With consignment storage, production facilities always have the tools they need on site, without having to purchase them in advance. Tool manufacturers benefit from good planning reliability and can adapt their production to the company's needs thanks to the reporting service. The ZOLLER TMS Tool Management Solutions software automatically sends orders to the tool manufacturer once a tool's inventory reaches its warning limit.

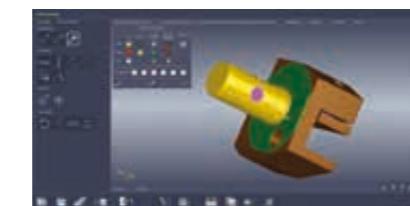
**BENEFITS**

- 1** Good planning reliability for tool manufacturers
- 2** Reduction in tool storage costs for the tool manufacturer
- 3** Availability of all required tools for the end user. Tools are paid for only after they are actually removed



## New Tools for Tool Management

2018 brought lots of new functions and innovations for even more efficient tool management.



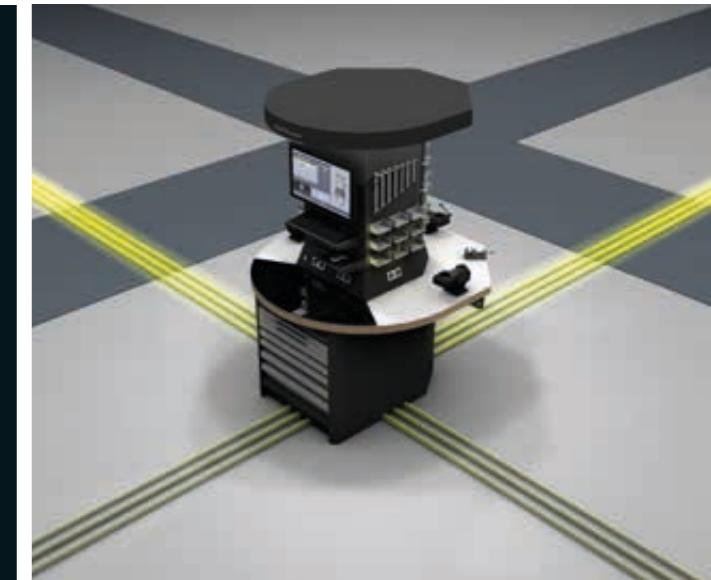
**Everything in 3D:**  
The new 3D editor and viewer in ZOLLER's tool management software offers even simpler and more comprehensive handling.

## Tool Management

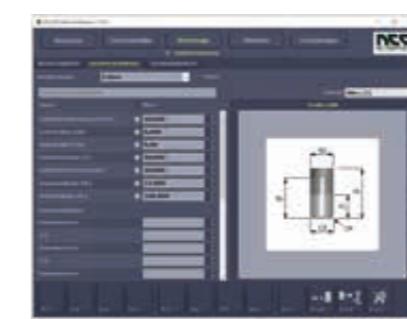
# »toolTower«

**OPTIMAL USE OF CENTRALLY LOCATED OPEN SPACES**

With a base area of less than 2,5 m<sup>2</sup>, the »toolTower« fits even in small open areas. It offers up to four comfortable, well-lit work stations for tool assembly. The fastening hooks on the back wall, in combination with the »toolOrganizer« tool cabinet, keep all tools organized and readily available.

**BENEFITS**

- 1** Optimal use of centrally located open space
- 2** Ideal workstation lighting and ergonomic tool assembly
- 3** All necessary components are available and in reach



**New for Connecting ZOLLER Solutions to CAM and Warehouse Systems:**

- NCG-CAM/DepoCAM-System
- CIMATRON-CAM-System
- Kennametal-ToolBOSS-storage system



**»idLabel«**  
Alternative to tool labeling: the robust »idLabel« tool label with DataMatrix code.

## Automation

## »cora«

## SUPPORT IN THE TOOL ROOM

Collaborative robotic assistant »cora« offers real support. It can handle everyday, routine tasks fully independently. This frees up skilled employees, giving them the time to tackle their most important tasks.

## BENEFITS

1

Automatic removal, measurement and loading of tools

2

Reliability with automated processes

3

Suitable for flexible and mobile use



Presetting and Measuring Machine »venturion«

»keeper« tool cabinet for complete tools

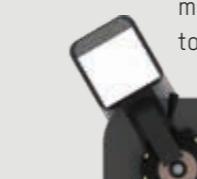


»cora« can work alongside humans in the workroom

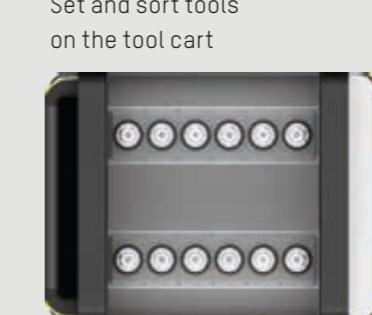
Mark tools



Clean tools



Set and measure tools



Set and sort tools on the tool cart

Remove tools from the tool cabinet



The image shows possible applications for »cora«. In the future, it is possible that »cora« will become mobile within the tool room.

With its connection to ZOLLER TMS Tool Management Solutions software, »cora« can pick, assemble, clamp, clean and label tools and get them out of the cabinet, insert them into the measuring machine and place them in the tool cart – all automatically.





← Practical: The set-up sheet provided from SolidCAM indicates which tool is required and needs to be measured in advance.

## ENORMOUS SAVINGS IN PRODUCTION PROCESSES THANKS TO TOOL MANAGEMENT SOLUTIONS

→ By implementing a smart tool management solution by ZOLLER, which provides interfaces to a variety of software providers and machines, SIM Automation GmbH in Heilbad Heiligenstadt has enjoyed six digit savings and established data consistency across its entire production process.



↑ Confident: Thanks to the graphic storage interface of ZOLLER Tool Management, workers know exactly where the tool is in the Hänel lift.

SIM Automation GmbH produces machined parts for customer-specific complete solutions using its machine fleet of 9 machines, 400 complete tools, and 1,800 single components saved in the system. The company's solutions include assembly equipment, feeding and sorting systems, and testing and inspection systems. Of course, using different third-party systems means the company needs to focus on eliminating redundant data systems, minimizing tool costs, and keeping an overview of its tool inventory and storage locations.

## SETTING GOALS AND CHOOSING THE RIGHT PARTNER

Because of this, SIM's goal was to "establish a tool management process that would be an integral part of our digital corporate landscape, allowing us to

integrate a variety of different machines and software manufacturers" says Michael Trebing, Area Manager of Production at SIM. The company was looking for a partner open to other systems and prepared to develop required interfaces together. In addition to outstanding advising, this is why the company chose to work with E. Zoller GmbH & Co. KG and its proprietary tool management system. Other competitors had a hard time opening up their systems to other system components. "In addition, SIM primarily produces highly complex single parts.

If you make an error at the outset, that part will turn into scrap. That's why it's important to have precisely measured tools to absolutely avoid scrap" Trebing continues. ZOLLER has stood out in the field of inspecting and measuring technology for over 70 years, developing from a presetting and measuring technology manufacturer to a global technology provider and system solutions specialist.

## DATA CONSISTENCY THROUGHOUT THE PRODUCTION PROCESS

ZOLLER TMS Tool Management Solutions is based on the central z.One database. All of the stations of the production process can be networked through this central database, from design to finished part: CAD/CAM, tool warehouse, purchasing, presetting and measuring machines, and production. Tool data recorded elsewhere is adopted into the system and missing tool data is added from the cloud. Thanks to the modular design of the tool management system, the scope of functions can be adjusted to current needs at any time. In SIM Automation GmbH's case, the ability to integrate third-party systems was the decisive criterion. Specifically, SIM needed interfaces to the CAM system SolidCAM, to a Hänel lift, and to the AMS ERP system. →

## SHIFTS OPERATION



2

## RELIABLE INTEGRATION OF THIRD-PARTY SYSTEMS

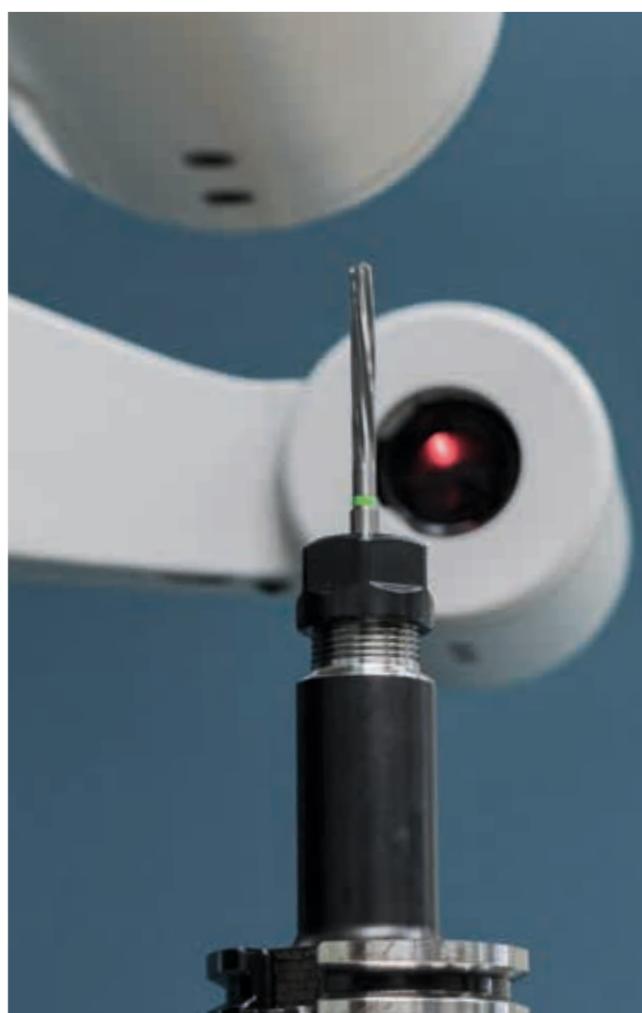
Cataloging and standardizing tools and creating central tool data in the ZOLLER database was the first step to ensure reliable data consistency across the entire production process. With the new interface to the CAM system SolidCAM, SIM employees can access all tool data through a direct connection, as well as installed components in 2D and 3D. The associated simulation system uses the same data as well. The tool list generated in the CAM system is also saved in the central z.One database. The required tools are measured on the ZOLLER presetter, and actual tool data is prepared by a post-processor appropriate for the machine controls, then transmitted to the machine.

In the past, every machinist at SIM had multiple cabinets where they stored their tools and components for each machine they operated. As you might expect, this made it easy to lose track of things and resulted in re-orders even if the necessary tools were available just a drawer over. In the meantime, using a Hänel lift has allowed SIM to gain additional space in machining.

The ZOLLER interface to the Hänel lift also allows for timely and efficient management of tools, components, and accessories. Thanks to control options via ZOLLER tool management software, SIM employees can quickly access different storage locations through a graphic storage interface. In addition, a more precise overview of inventory and tool stock allows the company to minimize tool costs. Every time a tool is removed or replaced, a request is transmitted automatically to the Hänel controller, which sends an answer back to the system.

The AMS ERP system used at SIM for order-based project manufacturing is specially designed to meet the requirements of single, order, and variation manufacturers. In contrast to SolidCAM and the Hänel interface, in the past there was no interface between the ZOLLER database and the AMS. It was specially developed by ZOLLER at the request of SIM. The ZOLLER database and AMS exchange data every fifteen minutes. ZOLLER Tool Management transmits stock level changes, inventory comparisons, and changes in master data to the AMS and receives incoming goods notifications

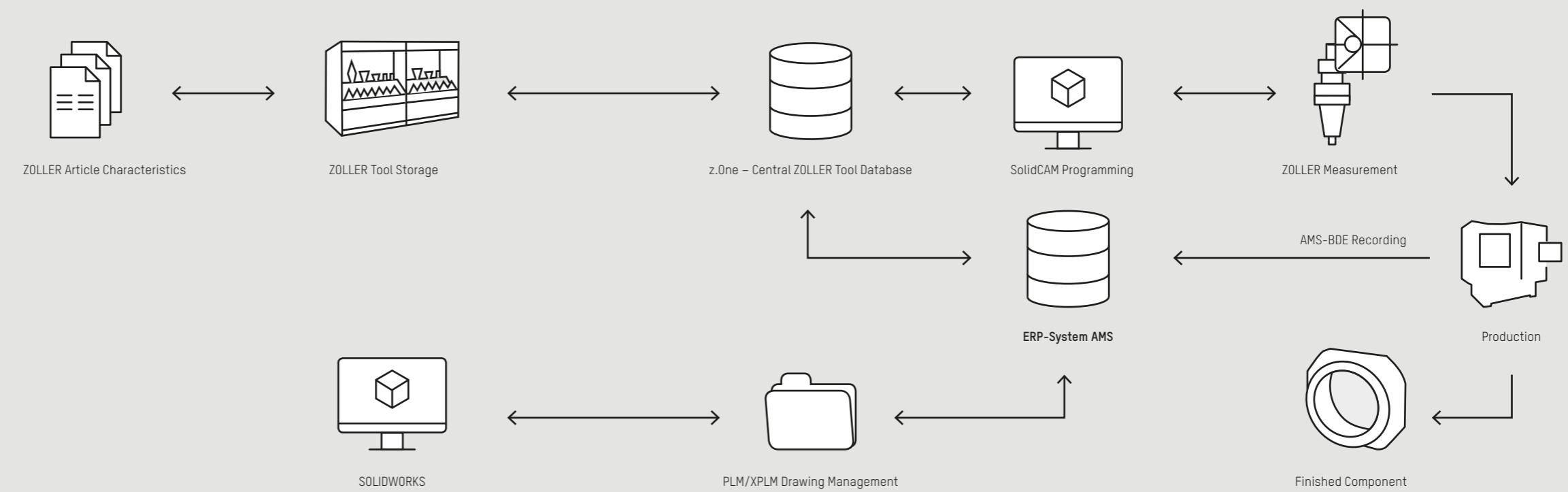
and new master data entries in return. Does the company have a principal system? Michael Trebing states: "ZOLLER has more booking options than AMS, so we've prioritized ZOLLER somewhat above our ERP system." In practice, this looks like the following: ZOLLER Tool Management receives all the work in progress bookings and tool bookings that go to machines or come back after use. A classic ERP system doesn't have this information. Because of this, when developing the interface the company ensured that when tools are entered into work in progress, ZOLLER tool management doesn't take them out of inventory. Only the lift is modified. The tool is only actually taken out of inventory when it is booked as scrap later after being returned. Only then are inventory levels corrected. That means ZOLLER tool management serves as the principal system for inventory determinations, reporting inventory levels to the AMS which, in turn, creates orders based on minimum order levels. →



→ Precise: Data measured on the ZOLLER presetting and measuring machine is precise – for guaranteed smooth processes.

## THE DIGITAL PATHWAY FROM DRAWING TO FINISHED COMPONENT AT SIM

**Industry 4.0 in practice:**  
ZOLLER Tool management  
can easily be integrated into  
existing processes. That means:  
SIM benefits from full data  
consistency.



## ENORMOUS SAVINGS AND INCREASED PRODUCTIVITY

Introducing the ZOLLER tool management software and its efficient tool administration options, costs control, and transparency in the production process chain has allowed Production Manager Michael Trebing to see exactly which resources and cost centers bookings are distributed across the entire company. "We center tool costs by around 25,000 euros over the course of 2018, simply by leaving out certain components or standardizing them, allowing us to get a better purchase price." In addition, the company has enjoyed great savings throughout its purchasing process.

"In the past, every cutter order at SIM was a long process:

The machinist suddenly realized they needed a cutter, which the boss had to then request. In addition, someone else had to check the process in work preparation to ensure it was appropriate. Purchasing then ordered everything. We have now fully automated this whole process," Trebing reports proudly. By the end of 2018, SIM had already saved over 100,000 euros in its purchasing processes.

Tool availability and precise measurement, cost control and new machines have had another positive effect as well. SIM now produces almost twice as many parts per employee thanks to the conversion than it did two years ago, with no more missing tools.

→

→ Michael Trebing, SIM Production Area Manager

**"WE HAD SAVED  
OVER 100,000 EUROS  
IN THE  
PROCUREMENT PROCESS  
BY THE END OF 2018."**

→ Immediately ready for operation:  
Since data are transmitted directly to the machine via a network, tools are ready to use immediately after they are loaded into the machine.



## SIMPLE OPERATIONS ARE A BENEFIT WITH THE SHORTAGE OF SKILLED WORKERS

The simple operation of the ZOLLER tool management system made it easy to introduce. All of the employees are on board with the change, but it is especially impressive how quickly young employees and interns at SIM learned how to operate the system. Norman Hempe, Head of Quality Assurance and Operative Change Manager, has been happy with the transition: "I could train a holiday worker who had been there for two weeks so well in one afternoon that he could complete tasks using the ZOLLER system with no further training – even measure tools and handle and manage set-up sheets. He didn't need to be a professional machinist. In my opinion it's so simple to operate because the ZOLLER system reviews compliance with the tolerances saved in the system during measuring, ensuring a reliable process. You almost can't mess it up." In the past, these tasks were reserved for the most experienced employees, as they were the only ones able to repeatedly and accurately complete them. Today the application is simple and can be operated by any authorized employee.



↑ Visibly satisfied with optimized production processes: Michael Trebing, SIM Production Area Manager (r.), and Norman Hempe, SIM Mechanical Production (l.).

## ACHIEVING MORE THROUGH COMMON GOALS

When SIM was introducing tool management and developing the interfaces, one major benefit was that they didn't have to start with requirement specifications and manuals and define all the interfaces themselves. Instead, ZOLLER was able to use its past experience with different systems to present solutions right away. SIM was then able to adopt these directly, with very few exceptions. What does SIM plan to do next? The company wants to implement an RFID chip solution with ZOLLER to make login easier. They want to replace the login window on the screen, which requires the user to select their name and type a password, with an RFID chip login. This RFID chip solution can now control user rights for every employee, allowing the system to monitor and ensure certain tasks can only be carried out by authorized employees.



Special Machinery Operator  
Heilbad Heiligenstadt

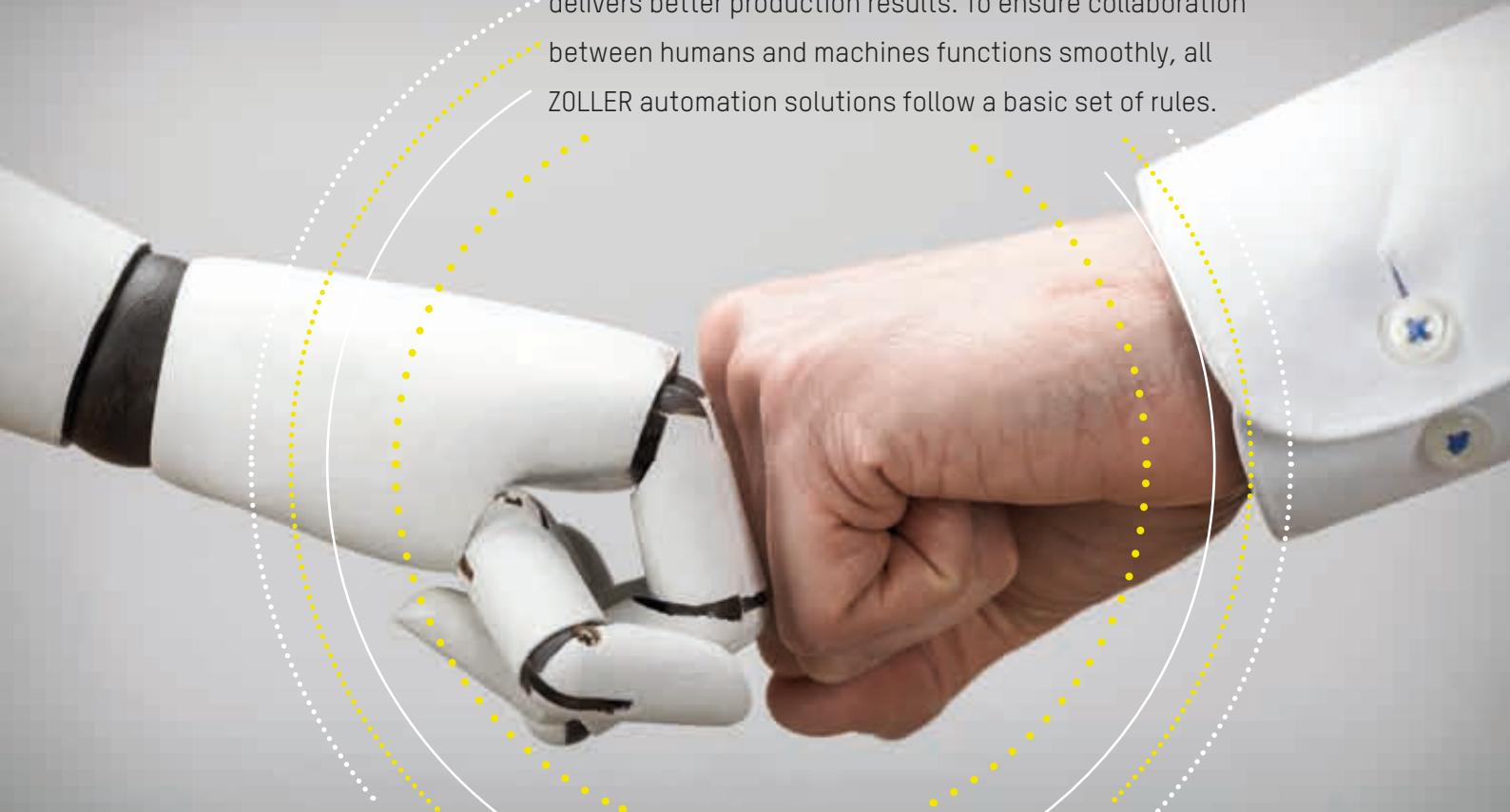
SIM Automation GmbH has manufactured special-purpose machines for 60 years, focusing on developing and manufacturing customer-specific and customized complete solutions. The company's services include process development, project management, and constructing turnkey ready assembly systems, handling, testing, and inspection systems, and complete production lines using highly modern production and testing technology and SIM's proprietary feeding and sorting technology.

Reliably providing and mounting even the smallest components with high speed and precision poses technical challenges only a few system manufacturers can consistently handle. Over 240 highly-qualified and motivated employees at the Heilbad Heiligenstadt location keep the company's customers satisfied.

[www.sim-automation.de](http://www.sim-automation.de)

# THE Z-EFFECT ROBOT RULES

Teamwork 4.0: More and more often, monotonous, difficult tasks are being transferred from human to machine, freeing up personnel to concentrate on more challenging work. The bottom line: this also delivers better production results. To ensure collaboration between humans and machines functions smoothly, all ZOLLER automation solutions follow a basic set of rules.



**simple**

All ZOLLER equipment and robotic systems are easy to operate and can easily handle a wide variety of different processes.

**uniform**

The uniform »pilot« user interface makes programming easier. This allows more and more tasks to be transferred to robots.

**clear**

Clear structures in processes, in tool management, and in operation simplify repeatable production processes.

**reliable**

Just like people, robots have a learning curve. They become more reliable in their work processes over time and provide dependable support.

# DAILY LIFE OF MICHAEL HAAS



Selling capital goods is challenging – in particular for a product portfolio containing so many products requiring explanation, like those from ZOLLER. That makes it all the more important to present products to customers and stakeholders in the most simple, personal way possible. One of the 40 sales employees working at the Pleidelsheim headquarters is Michael Haas, Regional Sales Manager for the Baden-Württemberg Southeast sales region. Editors of the ZOLLER company magazine sat down with him to talk about his professional background, his work at ZOLLER, and his everyday duties.

Mr. Haas, let's talk about your personal background first. How did you come to us? What was your career background? After my training as an industrial mechanic at Bosch in Feuerbach, I worked in the same company as a "Setter" for assembly systems. Then I went into the German army for twelve months. Afterwards, I went back to work in maintaining large power plants at Neckarwerken Stuttgart. So I've always been in mechanical engineering, in a way. After I completed my Master craftsman training as a technician and management expert in night school, I worked in tool and mold making for four years. I was able to gain a lot of experience there on the machine in programming with complex injection and forming dies. Then, 15 years ago, I came to ZOLLER. I started here in service, traveled around the world, gathered lots of experience with our products and gained good insight into our customers' requirements. After four years, I finally moved to the "hotline." There as well, I was met with the new requirements and challenges facing our customers every day. Finally, I moved to Sales – I feel like I've "arrived" here.

**"POWER IN DEVELOPMENT, DESIGN AND IT, AND OUR ABILITY TO USE THE EXPERTISE OF OUR EMPLOYEES TO QUICKLY FULFILL OUR CUSTOMERS' REQUIREMENTS – THAT'S WHAT MAKES ZOLLER UNIQUE."**

I assume selling a capital good like a presetter is a little more difficult than selling a consumer good. Do you agree with that? What is your everyday work like in Sales?

Informing our customers about our product range and the products most interesting to individual customers – that is my primary duty. I have to identify the "needs," ask about framework conditions and learn about resources and capacities – only then can I create and present a package of solutions for the potential customer to precisely meet those needs. Of course, I also have to describe the benefits and added value our customers receive with ZOLLER solutions in a simple, easy to understand way – and I do all of it in the Baden-Württemberg Southeast sales region, which ranges from Stuttgart to Lake Constance. →



**“WE CAN PRESENT DIGITIZATION AND NETWORKING IMMEDIATELY, LIVE ON SITE.”**



**One service you offer is the concept of “ZOLLER on Tour.” What’s the idea behind it?** “ZOLLER on Tour,” or ZOT, is truly a success story. Many years ago, I packed a little »smile« device in a van so I could have mobile support for my field sales. I took our devices on site to the customer’s or stakeholders manufacturing, letting me prove what we communicate through our marketing every day – easily and quickly, and live on the device itself.

**Was this very personal sales approach received well right away?**

Absolutely! This concept was a great way to attract potential customers or customers for whom it was too difficult or too long to travel to us. You have to understand: Decision makers or foremen from small and mid-sized companies often can’t simply leave production and let the “store” run on its own. This allows us to be directly on site, directly in production, and their colleagues on the machines can see our devices and essentially see the benefits for themselves. The programmers also see our measuring machine software or tool management solutions and interfaces to CAM and other systems.

**Who are the typical potential customers for ZOT? Mainly small and mid-sized, or larger companies?**

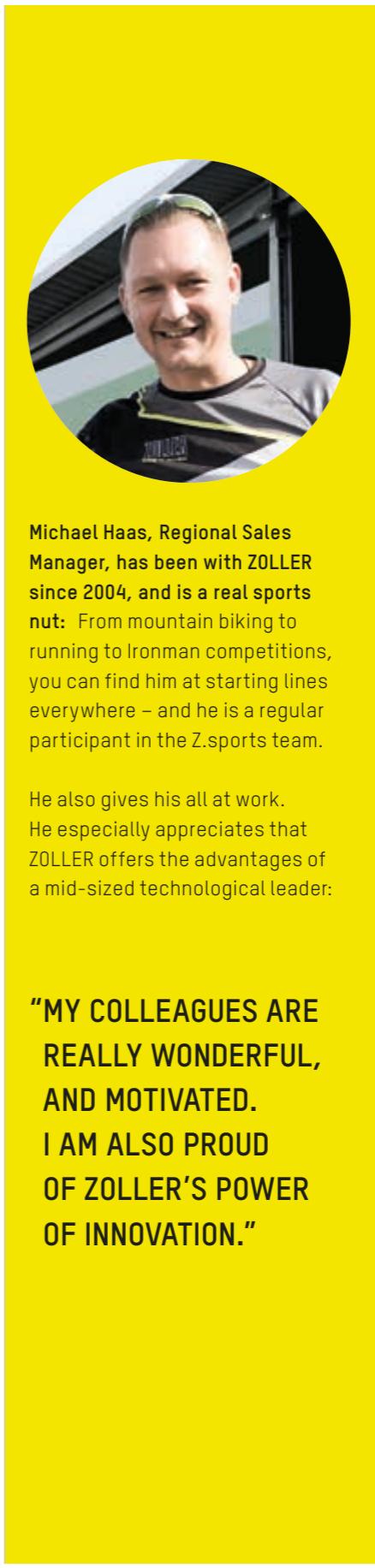
All across the board. From small and large companies to schools. Schools are very interested in the concept, because we do more than just present the hardware. Networking and digitization in production is very complex and difficult to understand for many people, especially for students who aren’t coming directly from manufacturing. We can present these concepts immediately and easily, live and in person, giving potential customers an overview of the different solutions ZOLLER offers for different kinds of manufacturing, and which of our many solutions is the best for them specifically.

**What do you need from customers for this kind of appointment?**

The customers I visit don’t have to do anything in particular. The only thing I need is a power connection, and a space of around 2 square meters. I bring the rest with me. The customer has almost nothing they have to do.

**How long does your presentation last? And what is the feature that most interests customers in your presentations?**

I just need 20 minutes for my presentation. During these 20 minutes, they learn everything important from me. What in-



**Michael Haas, Regional Sales Manager, has been with ZOLLER since 2004, and is a real sports nut:** From mountain biking to running to Ironman competitions, you can find him at starting lines everywhere – and he is a regular participant in the Z.sports team.

He also gives his all at work. He especially appreciates that ZOLLER offers the advantages of a mid-sized technological leader:

**“MY COLLEAGUES ARE REALLY WONDERFUL, AND MOTIVATED. I AM ALSO PROUD OF ZOLLER’S POWER OF INNOVATION.”**

terests people most are the different options ZOLLER offers. They know ZOLLER provides tool presetting. Everyone I visit is already aware of that. But that we offer the kind of portfolio we do today in digitization, networking, 3D data generation, technology data management, warehouse connection, and the list goes on and on – most of them only become aware of all these different layers when they view one of my presentations on site. And then, of course, the participants have many different interests: Employees on the machine want to operate the device right away, CAD/CAM programmers want information on interfaces, operational managers are there with completely different interests, other criteria our solutions need to fulfill. During the presentation, it becomes clear relatively quickly which area of competence ZOLLER can offer for whom, and we can answer questions from the different participants directly.

**What do you like best about working at ZOLLER?**

My colleagues are really wonderful. That is VERY important. Our colleagues are all motivated. It is clear that everyone wants to change things, to do something new and give you food for thought. Work is a lot more fun with this kind of spirit. Another thing I think is really great is that we continuously develop our products. There are always new innovations I can report back on proudly to my customers. And these innovations come quickly, as well. Often, I get input from customers – requests or optimizations that then make it to the agenda and don’t stay there long; instead, they are realized quickly. The product is a living thing, constantly developing, in particular thanks to our closeness to our customers. I think that’s great. Another thing: Software adaptations requested by customers can be handled by our IT department really quickly. It’s wonderful that we can deal with these types of requests and suggestions so fast. This is one of our strongest areas of expertise, any customer would agree.



"WE HAVE THE EXPERTISE  
IN HOUSE OUR ACADEMY  
AIMS TO PROMOTE."



**"ZOLLER ON TOUR  
IS TRULY A  
SUCCESS STORY."**

If they are unsatisfied or need changes, we react immediately and correct them as quickly as we can. This is one of ZOLLER's unique selling principles: Power in development, design and IT, and our ability to use the expertise of our employees to quickly fulfill our customers' requirements.

**Are shorter decision-making pathways a part of this?**

Yes. Short decision-making pathways are very important, of course. I have worked in large companies and often decisions might dry up along the way, like a river that dries up before reaching its destination. Here at ZOLLER, the connection we have to management is great. Our boss is open to any suggestion, and has an open ear to every employee. That's not always the case. And at ZOLLER, you

can talk to your colleagues if you have a problem. People outside ZOLLER are now aware that we have a ZOLLER academy. Our academy doesn't just offer our customers tailored training – it also provides further education for our own employees in their areas – from Sales to Service and Assembly. We have the expertise in house our academy aims to promote. Not many other companies can say that. It makes our employees valuable. Allowing employees to develop themselves day by day makes us successful – especially with us in Sales. We are selling a capital good with declaratory requirements. You need expertise to do that.

**Mr. Haas, thank you very much for your time and for this exciting look behind the scenes. We wish you lots of continued success!**



# ROBOTIC BALLET IN PRODUCTION

»cora« still has seven components on her set up sheet: Three complete tools and two tool holders, each with a matching tool. She snaps into her tool cart and purposefully activates the »keeper« tool cabinet. There, she opens the second drawer from the left. Two complete tools are in spaces 18 and 19. »cora« checks them using the built-in RFID chips and the reader, then places them all the way to the right at the free spaces in her tool cart. These two tools are ready to insert into the machine tool as they are; they are already measured, and the tool data has already been entered into the database. The third complete tool she removes from the »keeper« still needs to be measured, so »cora« places it at the far left of the tool cart. Then she opens a drawer in the »keeper« beside it, grabs two tool holders and places these on the tool cart as well. She takes the two tools she still needs from the »toolOrganizer« tool cabinet. On the way to the workbench, she skillfully moves to avoid a robot.



Networked: Thanks to a connection to the z.One database and TMS Tool Management Solutions, »cora« can independently store and provide tools.

CORA

## »CORA«, THE COLLABORATIVE ROBOTIC ASSISTANT

Even though making »cora«, the collaborative robotic assistant, mobile is still a project for the future, the technical requirements for the scenario we've described above are already a reality today. The goal is to assign standard tasks to robots, which will complete them alongside humans in production. This is one way to counteract the lack of skilled professionals that is already affecting the manufacturing workforce.

With tool management software like ZOLLER TMS Tool Management Solutions in conjunction with Smart Cabinet storage systems, tools can already be assigned permanent positions today.

This allows robots – and people as well – to move directly to this location to remove the tool or component. Each removal and each booking can be tracked from any work station, and the current storage location of every tool is known. Integrated tool identification, in conjunction with a reader unit, verifies the selected tool. This allows associated tool data to be accessed from the z.One database.

Today, »cora« can already operate a presetting and measuring machine as a static system. Tools are placed on a rack or tool cart. »cora« removes one tool at a time and identifies it using the RFID chip. Then she places it in the presetting and measuring machine. Thanks to networking, tool data are already loaded, and the measuring procedure is saved.

The measuring procedure then starts automatically. Afterward, »cora« removes the measured tool and places it in the tool cart or back in the rack. The tool data are saved in the database and available for subsequent processes. When the measured tools are inserted into the machine, the tool is once again identified via its RFID chip, and tool data can be read in by the machine controller.

During the next step of its evolution, »cora« will not only grip, insert, remove and transport tools, but align them as well. Screw-fitting stations and other supplies on the workbench are the foundation for transferring these tasks to the robot as well.

Heat shrinking tools is a process that can already be handled fully automatically today by a robot.





## AUTOMATICALLY HEAT SHRINK TOOLS PRECISELY TO LENGTH

Heat shrinking and unclamping tools is an especially complex process, and one that is especially easy to automate. The CNC controlled axes on the »redomatic« presetting, measuring and heat-shrink machine make this application possible.

The complete tool or single components are delivered to a transfer station. The robot grips the complete tool and identifies it using an applied code or an integrated RFID chip. The tool data are accessed by the database and available to the system. The robot inserts the tools into the unclamping station. Clamping the tool, setting the induction coil and lowering the coil are all handled fully automatically based on the read in tool data. Now the robot only needs to remove the tool after heating, then the tool holder is approved.

The heat shrinking process is more complex, but can also be handled automatically. The robot selects a tool holder and places it in the spindle of the »redomatic«, where it is clamped. Using the »masterPiece« setting adapter inserted into the tool holder, the tool height is measured and a limit pin is moved to the target height. After inductive heating, the robot inserts the tool into the tool holder. It drops to the limit pin. After cooling, the tool will be exactly the correct length.



↑ Fully automatic setting and measurement: »roboSet« guarantees consistent tool parameters and excellent planning capabilities in production.

← Docked: Once the tool cart has arrived at the docking station, it is loaded by »roboSet«.

# ROBOSET



These kinds of open solutions are typically part of a complex production process where individual steps are integrated together. They are characterized by a large number of interfaces and transfer stations. With »roboSet«, ZOLLER has created an open system that can be integrated into any automation solution or transfer line – optimally adapted to the specific interface or transfer station, and expandable with modules. This means a cleaning and marking station, for instance, can be added to the shrinking process.

## AUTOMATIC TOOL CONTROLLING

What works for the tool user needs to work for the tool manufacturer as well: thus, an automatic solution for tool inspection was developed. The »roboSet 2« robotic solution is specially designed for round-the-clock tool controlling at tool manufacturers. In this solution, the robot and all of its interfaces are connected to the »genius«, »threadCheck«

or »titan« universal measuring machine. Tools are positioned on pallets inside the robot cabin. The robot grips a tool from the pallet and places it into the tool holder.

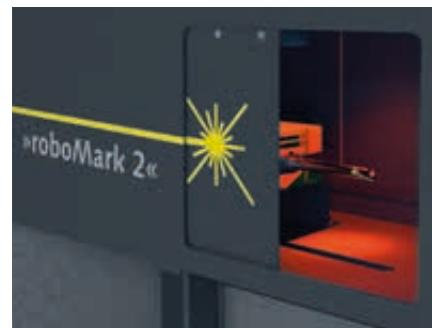
The measuring procedure starts automatically – either as a complete controlling process, or for selected parameters. Then the robot removes the measured tool and inserts the next tool into the spindle.

When the measured tool is removed, its measuring results are also available. The robot can also sort tools by quality and place them on the pallets using the pre-defined tool tolerances. Here as well, a specific tool is assigned to each space on the pallet – facilitating tracking. This means each individual tool can be assigned a test report and, if necessary, a certification later on. In addition, it is possible to output a batch protocol depending on the customer's requests and requirements. It is even possible to stipulate a custom layout for the protocol, with the customer's own logo and with graphics and tables prepared according to requirements. →



→ Plenty of space: Up to 1,800 tools can be housed on eight pallets on two levels, sorted according to their condition.

↓ Automatic labeling: »roboMark 2« is used to directly label tools measured by »roboSet 2«, if necessary even with the measured data that was just generated.



## AUTOMATIC TOOL CLEANING AND LABELING

To be certain during automated measurement that dirt particles are not being measured as well, ultrasound cleaning can be completed before the measuring procedure. The robot dips the tool into the ultrasound bath, removing any chips on the tool. Thanks to the oil separator integrated into the bath, the tool is removed from the bath clean and without any deposits – ready for measurement.

Frequently, tools are labeled using a laser for later identification. This station can also be integrated into the production process. After tool inspection, the robot positions the measured tool under the laser's focal point. They can then even be labeled with previously calculated measured values, which are already available.

## INSPECTING A VARIETY OF TOOLS

While tool manufacturers have many tools of the same type in mass production scenarios, regrinding and sharpening companies typically deal with many different kinds of tools. However, these tools can also be stored on pallets and inserted on the robotic station. Here as well, each tool is assigned a defined position on the pallet. This is done by filling the pallet with the reground tools. The tool data are saved for each pallet position.

When the robot removes a tool from the pallet, the system knows immediately which tool was removed. The presetting and measuring machine then calls up the relevant measuring program and measures the tool according to specifications.

The robots can even handle different tool shank diameters: Depending on the shank diameter, the robot may first insert a reducing sleeve into the tool holder. It holds the tool securely, with a perfect fit. If the tool diameter changes, the system is aware of this. The robot first exchanges the reduction sleeves, which are also on a pallet in the robotic cabin. Then the tool with the different shank diameter can be measured.



ROBOSET 2



## IN USE AROUND THE WORLD

Many companies make an international focus a key part of their corporate image. At ZOLLER, it's more than just an image. Why is staying close to our customers around the globe so important? It's simple: While the underlying mechanisms governing production facilities are the same everywhere, there are key differences when you get down to the details. Which controls are in use, which machine types are used in the company's work, and what industries are booming in each specific country are important factors to consider. The only way to understand these details and offer solutions for each company's specific needs is to be on site. It's one good reason ZOLLER is continuously investing to expand our international presence – and create jobs in each of the different countries where we work.



## GRÜEZI, ZOLLER

Colleagues from our new branch in Switzerland enjoyed the pure ZOLLER air when they visited our headquarters in Pleidelsheim. Stefan Bühler, Managing Director of ZOLLER Switzerland, Andreas Künzli, Head of Service and Applications Engineering, and Anita Hardegger, Office Manager (from left to right) also enjoyed gaining some knowledge from their colleagues at the ZOLLER hub.



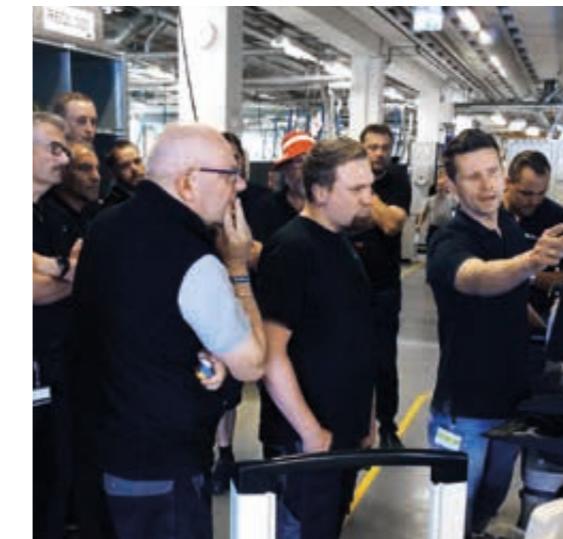
## FLYING HIGH WITH ZOLLER

Filippo Perletti from Multicontrol, ZOLLER's Italian branch, actively searches out the highest ground. The peak of Mont Blanc, for instance – with ZOLLER at his side of course!



## MARATHON THROUGH DENMARK

One week, twelve companies: ZOLLER employee Michael Hertel took a speedy trip with partners from Danish ZOLLER branch KJV in Denmark with the ZOLLER-on-Tour bus. Truly sporty performance for more efficiency in Danish production warehouses.



## BELLA BIMU

In Milan, good design is a must. No wonder our Smart Cabinets enjoyed such a warm reception at the BIMU, the Italian trade fair for machining and tooling machines. After all, our smart storage cabinets aren't just functionally strong, but they also look excellent! Multicontrol helped ensure a stylish presentation of all the latest ZOLLER solutions.

## WORKSHOP CLASSICS ON TOUR

Z.connect On the Go: We will be organizing workshops at our partner companies for anyone who hasn't yet been able to attend a workshop at a ZOLLER branch. These will include a workshop at Danish company DAMRC (Danish Advanced Manufacturing Research Center), where participants will learn about the advantages of ZOLLER TMS Tool Management Solutions over two days.





## EVERYTHING UNDER CONTROL!

ZOLLER also made a splash at the "Control" in Stuttgart, the international exhibition for quality assurance. With the extensive options ZOLLER's high-end measuring machines offer in this area, it's no wonder.

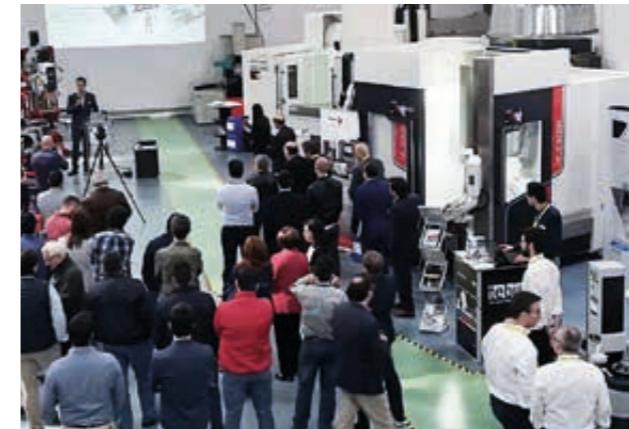
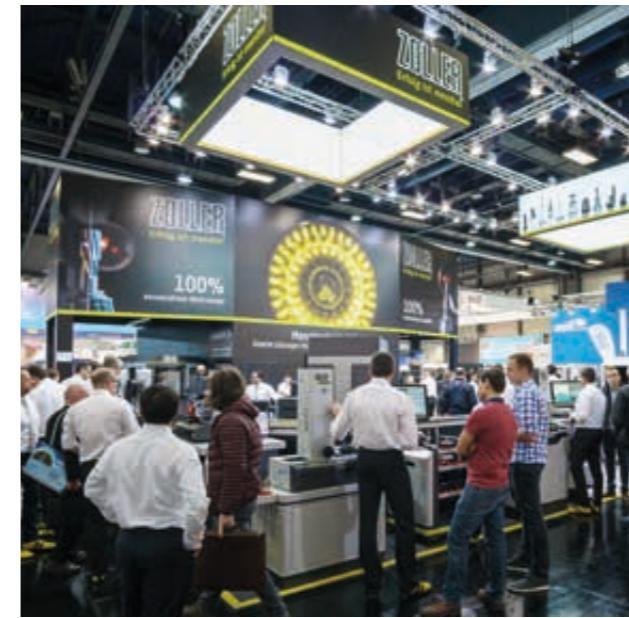
## VIVE LA PRÉCISION

The international exhibition "Industrie Paris" focuses on everything to do with production technology – of course, a company with the broad product portfolio like ZOLLER has to be on site.



## STRONG SHOWING AT MAKTEK

ZOLLER Turkey had a successful time at Maktek Eurasia in Istanbul, the international exhibition for metalworking machinery – especially thanks to the highly motivated team behind General Manager Mustafa Kaynakci.



## THE LAST TOUCH

Once again, there was plenty going on at GrindTec, the world's largest exhibition for grinding technology – especially at the ZOLLER stand. No wonder – with two robots, 15 setting and universal measuring machines, and smart cabinets, we had plenty of products on offer. Attendees were especially interested in new and expanded interfaces to grinding machines, and in the consignment warehouse option for tool manufacturers.

## ENORMOUS TIME SAVINGS

With the »smile 420«, MRT Castings saves around 15 minutes during every conversion process – productivity at the company, which is located in Hampshire, GB, has grown accordingly. Managing Director Phil Rawson explains: "There was an immediate effect, because the machines keep running while tools are being set. By connecting the presetter to the CNC machine, we don't need to manually transmit any data. The »smile« is also unbelievably simple to operate. Now we have perfect production, even with a batch size of 1 – scrap is a thing of the past."

## VISITING TEBIS IN PORTUGAL

CAD/CM supplier Tebis has been partnering with ZOLLER for quite some time. ZOLLER took part in an open-house event at Tebis in Portugal. Also along for the ride: The »venturion 450«, so that potential buyers could observe the smooth interactions between the CAM and presetter station in the production process.



## 4 WINNERS AT THE AMB

120,000 square meters of space, 91,016 professional attendees and 1,553 exhibitors: The international exhibition for metalworking in Stuttgart broke all records in 2018, clearly establishing itself as the most important mechanical engineering exhibition on the German market. ZOLLER also set new standards at this AMB with its motto "4 wins," for the areas of presetting, inspecting, tool management and automation. The company presented some highlights from its portfolio.

### Live Data Consistency

The unique feature of system solutions from ZOLLER is their uniform software basis with the central z.one tool database. Thanks to multiple options for connection to third-party systems, the user benefits from consistent data from order receipt to delivery. Visitors could watch the entire process live at the booth.

### Everything from a Single Supplier

The trend towards complete providers for tool handling is a clear one. ZOLLER is a great choice for customers, as was clear at the AMB: From warehouse to tool management to measuring solutions, everything you need to handle tools efficiently is here.

### Premiere of »cora«

There was also a special run of our new "colleague" in the tool room: »cora« (collaborative robotic assistant) was presented at the AMB for the first time, gaining lots of attention (find more information about »cora« on page 50 and starting on page 58).



↑ Showing what she can do:  
the new collaborative robotic assistant, »cora«





↓ Impressive: The true dimensions of the new headquarters become visible on an aerial photograph – ZOLLER solutions are presented, developed and sold here in a 4,100 square meter facility.



## ZOLLER INC. BORN IN THE USA

ZOLLER Inc. was founded 21 years ago – for a good reason, as Managing Director Alexander Zoller explains: "We wanted to offer our North American customers solutions for fast, reliable and reduced cost production from a single source. With the precision and user-friendliness typical of ZOLLER, tailored specifically to on site requirements." This kind of commitment has been well received – so well received, in fact, that the company has grown continuously since its founding, ultimately requiring a larger facility – the new headquarters was completed in 2018.

Since that time, over 100 employees have been working here every day to gain decisive competitive advantages for their customers.



## GRAND OPENING

Family Business: Alexander, Christoph and Eberhard Zoller (from left to right) were extremely proud to be at the ceremonial ribbon cutting at the Grand Opening of the new ZOLLER Inc. Headquarters.



## FIT FOR FUTURE

In the modern Industry 4.0 Tech Center of the new ZOLLER Inc. headquarters, customers can get an impression of processes using ZOLLER devices – from receipt of the order to the finished part.



↑ Family Business: Alexander, Christoph und Eberhard Zoller (from left to right) at the company's ribbon cutting ceremony.

← ToolMax, the ZOLLER mascot, was also in attendance at the big grand opening celebration: much to the satisfaction of fans big and small alike, especially the littlest ZOLLER fans.



## OKTOBERFEST

At a family company like ZOLLER with over 70 years of history, tradition and innovation naturally go hand in hand. This is clear from our first Oktoberfest, held at our brand new ZOLLER Inc. Headquarters. The party offered traditional Bratwurst, Schnitzel, and beer, alongside innovative ZOLLER system solutions and, of course, a great atmosphere.



↑ Popular interview partner: Alexander Zoller and Michael Stepke spoke to IMTS TV and engineering.com

## IMTS 2018

IMTS 2018 was a complete success: Over 2,000 attendees came by the ZOLLER stand at the world's largest tool machining exhibition. Thanks to interviews, anyone who couldn't make it to the exhibition can learn about the benefits of setting and measurement, challenges in the machining process and the newest ZOLLER innovations.



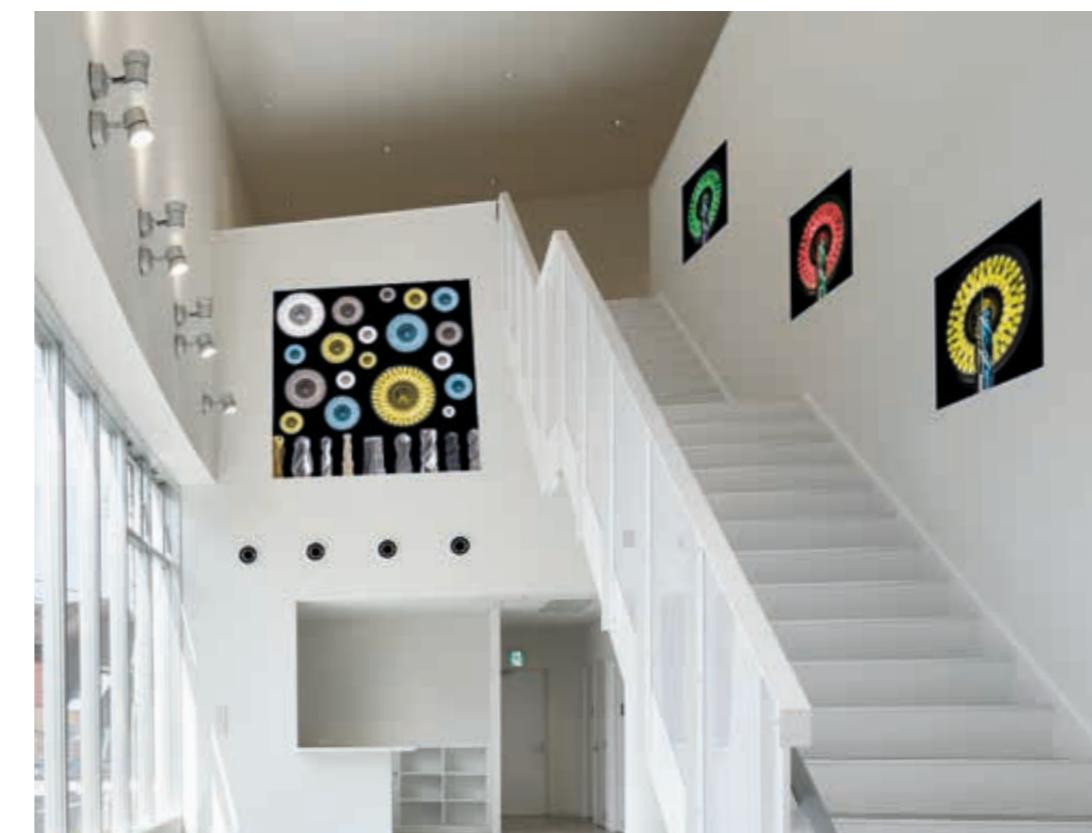
## OPEN HOUSE

Hands down, the biggest highlight at the first open house event in the new ZOLLER Inc. headquarters was the Industry 4.0 Tech Center with Smart Factory Solutions. Over 150 attendees used the opportunity to learn about and discuss the newest ZOLLER highlights.



## BIG IN JAPAN

1,800 square meters, 3 stories: The new Industry 4.0 presentation center by ZOLLER in Osaka, Japan is an example of efficiency in and of itself. Just like the comprehensive Smart Factory solutions you can experience live while you are there.



↑ It started to take shape after just a few weeks: The new presentation center for ZOLLER Japan was constructed in just five months.

## RECORD-BREAKING

The JIMTOF 2018 (Japan International Machine Tool Fair) was absolutely record-breaking: not only the number of attendees at 150,000, but interest in ZOLLER solutions grew exponentially as well. No wonder – after all, the trend in Japan is moving towards automation. ZOLLER offers optimal solutions for integration into existing production.





## OUTING TO THE POTATSO NATIONAL PARK

Just like it does every year, the team at ZOLLER China did something very special for their company outing. This time, they visited the Potatso National Park in Shangri-La County, in the Yunnan province of the People's Republic of China. The park serves as a refuge for almost a hundred species threatened with extinction.



↑ CEO Christoph Zoller was on site during the outing, of course.

## CONNECTED TO CHINA

Z.connect events at ZOLLER remain highly popular – even internationally. In Changzhou, China, in 2018, TMS Tool Management Solutions is a great way to get a handle on tools!



→ Z.connect-Event in Changzhou, China.



## 1000 MARK PASSED

ZOLLER system solutions are very popular in India as well. Last year, we sold the one thousandth ZOLLER device here. A great success! And since the focus in India is more and more on producing very high quality products, in the future more ZOLLER devices will likely be gracing Indian production hall floors.



## ZOLLER PRECISION FOR THAILAND

ZOLLER has had a representative in Thailand since 2018. From Amphur Muang Chonburi in the eastern region of central Thailand, colleagues on site ensure they can achieve the precision customers expect from ZOLLER in the region even more quickly. Z.magazine wishes you lots of success!

# THE BEST THING FOR HEALTH

## SOFTWARE AND HARDWARE SOLUTIONS FOR MORE EFFICIENCY IN MEDICAL TECHNOLOGY

Whether you are using bone screws, implants, prostheses or medical devices – no matter the discipline, medical technology demands excellent quality every time. After all, errors can have wide-reaching consequences. It's not something any of us want to imagine: a bone screw breaking, an implant splintering, or a prosthesis wearing out after just a short time. That's why nothing about the machining process can be left to chance. It's also why ZOLLER is such a trusted partner to the industry. ZOLLER system solutions not only make the path to the perfect workpiece more secure and more reproducible, they also make it faster and more economical as well.



## ECONOMICAL, FROM A BATCH SIZE OF 1

In medical technology, small batch sizes or individual designs are common. In addition, components used in medical technology are often highly detailed. Imprecisely set tools run the risk of manufacturing unusable components. Everything has to be right, from the first part on. This is what ZOLLER systems can offer: In order to ensure smooth processes, simulations are completed first using actual tool data generated on ZOLLER devices – thus eliminating any potential for machine crashes. Tools are set in a precise and efficient process outside of the CNC machine, reducing set-up times to a minimum. This allows companies in the medical industry to save a huge amount of time and costs, while ensuring they can manufacture a good part even during the first run.

## A VARIETY OF TOOLS, PRECISELY SET

Correctly set tools are the foundation for excellent quality. In medical technology, a wide range of tools are used – microtools, turning tools, whirling tools, tools for difficult to machine materials or for highly detailed components. The ZOLLER product portfolio offers the right measuring machine for any kind of tool. For the Swiss-style lathes often used in medical technology, ZOLLER offers a practical solution with its horizontal presetting and measuring machine »hyperion«: Whirling tools can be aligned easily and quickly, and the center height of all turning tools can be set. »venturion« makes an excellent vertical presetting and measuring machine: Contour accuracy, concentricity and axial run-out are key parameters that can be measured precisely. There are a wide range of options to ensure the secure transfer of actual tool data from the presetting and measuring machine to another machine – from scanning 1D or 2D codes

to attaching an RFID chip to preparing the data via post-processors for direct transmission, or via a higher level computing system. Any size of company and any type of production will find the solution they need.

## VERIFIABLE QUALITY THROUGHOUT THE ENTIRE PROCESS

Especially in medical technology, components need to hold their dimension down to the micron. Frequently, buyers need seamless documentation of the manufacturing process for these detailed products for product liability reasons, in particular in the USA. With ZOLLER measuring machines, measuring results can be tracked and logged throughout the entire process, while comprehensive test protocols can be generated at the push of a button. This makes consistent precision in part production verifiable.

## PLAY IT SAFE

Once a tool is worn, this can quickly become notable with highly complex components. Because of this, companies must ensure only optimal tools are used in production. Tools reground by the grinding machine must likewise be in optimal condition before they are ready for machining once again. Of course, ZOLLER offers solutions for controlling tool parameters before and after sharpening. Some of these are specially designed for measuring microtools. For a quick check directly in the production process, for instance, we offer the compact table device »pomBasicMicro«. For fully automatic complete controlling, our »genius micro« and »titan« universal measuring machines are ideal. Thanks to simple operation of »pilot« measuring machine software, precise results are guaranteed independent of the specific user.



↳ Detailed microtools can be measured easily, down to the  $\mu\text{m}$ , with ZOLLER devices.

← »hyperion« can be used to measure and set turning tools for Swiss-style lathes in a flash.

← From bone screws to implants – miniature sizes are standard in medical technology.

## PRESETTING & MEASURING



»hyperion«



»venturion«



»pomBasic«



»genius micro«



»titan«

## INSPECTION & MEASURING

## A SUCCESSFUL FUTURE WITH CONSISTENT DATA

Only when all relevant data for the entire machining process are known and up to date can companies expect to manufacture error-free, highly precise components. With the central ZOLLER z.One tool database, all tool data are always updated – from work preparation to CAD/CAM, the warehouse, setting, measurement and inspection devices and through to the machine, guaranteeing maximum process reliability. With ZOLLER solutions, medical technology companies are perfectly primed to meet the unique challenges of this industry and secure their advantage over the competition. No matter what challenges may come – with ZOLLER, companies are guaranteed the right solutions for the medical technology of the future.



## ALL TOGETHER NOW

Around 400 ZOLLER employees from Germany, Austria, France, Italy, Israel and Turkey in one place is a rarity. But that's exactly what happened at the end of 2018, as employees were invited to a company meeting, followed by a Christmas party. Since even the ZOLLER headquarters at Pleidelsheim would have been full to bursting with so much concentrated employee power, the event took place in the "K," the Kultur- und Kongresszentrum Kornwestheim near Stuttgart. A sweeping review of the year and outlook from CEO Christoph Zoller, delicious holiday dishes and party music helped create a relaxed mood.

## A TROPHY FOR WORLD CUP MASTERS

The winner of the World Cup bracket at ZOLLER had three reasons to celebrate: First, because his bracket launched him to the top of the rankings, second because of the prize he won for that first place finish, and third for the brand new ZOLLER World Cup challenge trophy, awarded for the first time in 2018, that will stay in his possession until the next World Cup.



## EVENTS AT THE NEW BRANCHES

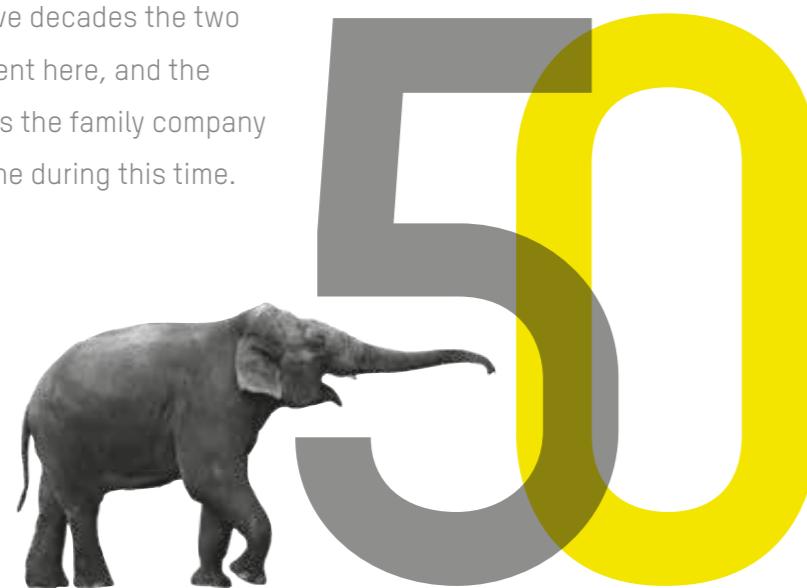


Starting now, customers and stakeholders from all over Germany can attend popular Z.connect events from ZOLLER even easier than before. New branches ZOLLER East in Leipzig and ZOLLER West in Langenfeld provide everything they need: The right ZOLLER equipment and motivated employees with plenty of expertise. The first event has already been held in Langenfeld – a complete success, as you can see.

# 50 YEARS TIMES TWO

In 2018, ZOLLER had two reasons to celebrate: first, for the 50th anniversary of Eberhard Zoller's time with the company, and second for Christoph Zoller's 50th birthday.

Z.magazine has taken a closer look at the five decades the two men have spent here, and the developments the family company has undergone during this time.



Eberhard Zoller, headed to Chicago for the first time.



Christoph Zoller joins the company in 1994 after graduating university.



The ZOLLER team at the EMO 2001 – including Eberhard and Christoph Zoller.



Christoph Zoller in 2014 – passion for his work for 20 years.



Eberhard Zoller personally serves guests at the 2017 Christmas celebration.

1968 –  
1978

At 27 years of age, **Eberhard** Zoller joins his father's company in Ludwigsburg after completing his mechanical engineering studies and working for several years. His son **Christoph** is born that same year, on November 12th. The ZOLLER company takes part in the first EMO, launching the first presetting and measuring machines with NC controls on the market in 1976.

1978 –  
1988

The company headquarters are moved from Ludwigsburg to Freiburg am Neckar. The company mainly handles series production, but also manufactures special solutions. The International Industrial Design Prize and the award "Die Besten der Besten" (Best of the Best) for their ergonomic design. The first tool management software, "Tool Brain," is presented at the second EMO in Hanover. **Eberhard** played a key role in its development. ZOLLER adds more and more stakeholders and customers, who serve as creative and innovative partners in new developments.

1988 –  
1998

**Christoph** joins the family company after studying mechanical engineering. During this time, ZOLLER devices win the International Industrial Design Prize and the award "Die Besten der Besten" (Best of the Best) for their ergonomic design. Alongside his brother Alexander, **Christoph** Zoller works to modernize the company – they introduce a Kanban warehouse system in 1995, and DIN EN ISO 9001 certification follows in 1996. At the same time, **Eberhard** drives simple and intuitive operations for ZOLLER devices with ZOLLER image processing technology ZOLLER-AVV (automatic tool measurement).

1998 –  
2008

The »toolManager« is launched on the market as the first stand-alone tool management solution in 1998 – including a graphic user interface and direct data transmission to the ZOLLER presetter. **Christoph** founds ZOLLER Inc. in the USA and ZOLLER Shanghai in China, helping to further internationalize the company. In 2004, he and his brother join **Eberhard** in ZOLLER corporate management.

2008 –  
2018

Expansions of the product portfolio require more production space. **Eberhard** initiates the relocation of the headquarters to Pleidelsheim in 2008. The new facility offers space for new developments like »genius 4«, »titan« or »hobCheck«. At the same time, **Christoph** works with his brother to further develop international markets in the USA, in China, and all over Asia. Networking and software become more and more important over the decade. The **Zoller family** ensures customers can use the newest technologies to secure and expand their competitive advantage both now and in the future.

# Zcalendar

## STAY IN TOUCH!

Whether at an exhibition, practical forum, or workshop – ZOLLER is here for you in many different venues.

Visit us at one of our highlight events and experience innovative ZOLLER solutions live.

We're looking forward to seeing you there!

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## >>> JULY

07/02-07/05

### MTA

Ho Chi Minh, Vietnam  
Visit ZOLLER at the international MTA trade fair in Ho Chi Minh, Vietnam.

07/05

### Z.CONNECT

Pleidelsheim, Germany  
Ready for 4.0: Workshop Tool Management for Intelligent Production. Experience practical solutions live for efficient tool organization in today's networked manufacturing.

## >>> SEPTEMBER

09/16-09/21

### EMO 2019

Hanover, Germany  
At the world's leading exhibition for the metal industry, ZOLLER will be presenting the future of measuring and solutions for efficient, tool-based production organization. Experience the unique combination of leading measuring technology and unparalleled software live (hall 3, booth D 29).

09/24-09/26

### WESTEC

Long Beach, CA, USA  
Experience ZOLLER products at one of the largest international professional exhibitions (booth no. 2051).

09/30-10/03

### CMTS

Toronto, ON, Canada  
Experience ZOLLER products at Canada's leading exhibition for machine engineering (booth no. 3411).

## >>> OCTOBER

10/01-10/03

### TOOLEX

Sosnowiec, Poland  
Visit ZOLLER Austria at the TOOLTEX professional exhibition for tooling machines, tools and process engineering in Sosnowiec. Further information is available on the exhibition website at [www.toolex.pl](http://www.toolex.pl)

10/07-10/11

### MSV BRNO

Brünn, Czech Republic  
At the international mechanical engineering exhibition in Brünn, ZOLLER Austria will be presenting interdisciplinary, leading solutions for tool presetting, measuring, inspection and tool management. Further information is available at [www.bvv.cz/de/msv/](http://www.bvv.cz/de/msv/)

10/08-10/10

### METAVAK

Gorinchem, The Netherlands  
ZOLLER will be telling attendees about leading presetting and measuring machines and TMS Tool Management Solutions at the industry's leading exhibition for metal, cutting, and molding tools at the Laagland stand.

10/08-10/10

### WMTS

West Allis, WI, USA  
Experience ZOLLER products at the Wisconsin Manufacturing & Technology Show WMTS (stand no. 630).

10/15-10/17

### MOTION AND POWER TECHNOLOGY (GEAR EXPO)

Detroit, MI, USA  
Visit ZOLLER Inc. at the Motion & Power Technology (Gear Expo), the exhibition for all manufacturers, suppliers, purchasers and experts in drive technology.

## >>> NOVEMBER

10/22-10/24

### SOUTH-TEC

Greenville, SC, USA  
Experience ZOLLER products at one of the largest international professional exhibitions (booth no. 1739).

10/22-10/24

### 2<sup>ND</sup> ZOLLER OKTOBERFEST

Ann Arbor, Michigan USA  
Blending German hospitality and a road map to efficiency success with ZOLLER solutions, Experience it all at the ZOLLER Oktoberfest! ([www.zoller-usa.com](http://www.zoller-usa.com))

10/23-10/26

### MECT 2019

Nagoya, Japan  
Visit ZOLLER Japan at Japan's leading exhibition for tooling machine construction.

10/24

### Z.CONNECT

Pleidelsheim, Germany  
Ready for 4.0: Workshop Tool Management for Intelligent Production. Experience practical solutions live for efficient tool organization in today's networked manufacturing.

10/30-10/31

### ADVANCED ENGINEERING

Birmingham, Great Britain  
Experience ZOLLER UK live at Advanced Engineering, the largest annual event in the Advanced Engineering and Production field in Great Britain.

# 2019/20

## >>> JANUARY 2020

01/21-01/24

### NORTEC

Hamburg, Germany  
Ready for 4.0: Workshop Tool Management for Intelligent Production. Experience practical solutions live for efficient tool organization in today's networked manufacturing.

## >>> MARCH 2020

03/10-03/13

### METAV

Düsseldorf, Germany  
ZOLLER shows new industry 4.0 solutions at METAV, to support the networked Manufacturing process from the design stage to the finished component on the tool side.

03/18-03/21

### GRINDTEC

Augsburg, Germany  
Top-class exhibitors and a competent specialist audience: At the leading forum for grinding technology in Europe ZOLLER presents new testing and measuring technology.

## >>> MAY 2020

05/05-05/08

### CONTROL

Stuttgart, Germany  
At the leading international exhibition for quality assurance ZOLLER presents a comprehensive product portfolio for tool measuring and testing technology.

## >>> JUNE 2020

06/16-06/19

### AUTOMATICA

Stuttgart, Germany  
Experience the automation solutions of ZOLLER on the world's leading marketplace for the automated, intelligent production.



Always on site for you: ZOLLER participates in all of the major exhibitions to provide optimal, live support to you.



Highly motivated: The international ZOLLER team adds more productivity to manufacturing warehouses around the world.



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ARE AVAILABLE ON OUR SOCIAL MEDIA CHANNELS



# ZOLLER Solutions

More speed, higher quality, safer processes – with ZOLLER you can get more out of your production.

We combine hardware, software and service to give you optimum system solutions for setting, measuring, inspection and managing tools.

**Everything from a single supplier.**

**Everything for your success.**

**Everything with ZOLLER solutions.**



Discover all of the ZOLLER Solutions at [zoller-usa.com](http://zoller-usa.com)

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expect great measures®