

User report

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Enormous Savings in Production Process Thanks to Tool Management Solution

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

SIM Automation GmbH produces machined parts for customer-specific complete solutions using its 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 system 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 that was open to other systems and was 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



Michael Trebing, SIM Area Manager of Production (r.), and Norman Hempe, SIM Mechanical Manufacturing (l.), in front of the company headquarters of SIM Automation GmbH in Heilbad Heiligenstadt



Since introducing tool management solutions from ZOLLER, the company has been able to precisely allocate consumable material costs each month to different cost areas



The digital pathway from drawing to product at SIM

to current needs at any time. In SIM Automation GmbH's case, the ability to integrate third-party systems was the decisive factor. Specifically, SIM needed interfaces to the SolidCAM CAM system, to a Hänel lift, and to the AMS ERP system.

Reliable Integration of Third-party Systems

Cataloguing 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 SolidCAM CAM system, 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 warehouse 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 the interfaces to SolidCAM and Hänel, the interface between the ZOLLER database and AMS did not exist before this project. ZOLLER developed the interface specifically at SIM's request. 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



Thanks to the graphic warehouse interface offered by ZOLLER Tool management, a SIM employee can remove the tool he needs efficiently from the Hänel lift tool storage system.



The set-up sheet provided from SolidCAM tells the machinist which tool is required for production and needs to be measured in advance.



Then measured data is transferred to the machine through the network via control-ready data output. After being read in, it is directly ready for use by the machine.

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 AMS which, in turn creates orders based on minimum order levels.

Enormous Savings and Increased Productivity

Introducing ZOLLER tool management and its efficient tool administration options, cost controlling, and transparency in the production chain has allowed Production Manager Trebing to see exactly which resources and cost centers bookings are distributed over across the company. "We can already see we've reduced tool costs over the year by roughly 25,000 euros, 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 would notice they were missing a cutter and the foreman would have to request the cutter. In addition, someone else had to check the process in work preparation to ensure it was appropriate. Purchasing then ordered everything. Now we've fully automated the whole process" Trebing states proudly. He believes SIM will have saved over 100,000 euros in its purchasing process by the end of the year if things continue as they have been.

Tool availability and precise measurement, cost controlling, 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 2 years ago, with no more missing tools.

Simple Operations a Benefit with Shortage of Skilled Workers

Tool management's simple operation 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 (who grew up using smartphones) learned how to operate the system. Norman Hempe from mechanical production is also happy to see this benefit: "I was able to train a temporary worker who was only there for 2 weeks so quickly one afternoon that he could handle tasks with the ZOLLER system with no problem. He was measuring tools and handling and managing 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 review compliance with the tolerances saved in the system during measuring, ensuring a reliable process. You almost can't mess it up." In the past, the most experienced employees had to handle these tasks. Today the application is simple and can be operated by any authorized employee.

Achieving More Through Common Goals

When SIM was introducing TMS Tool Management Solutions 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 a 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 a chip login. This 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.

About SIM Automation GmbH

SIM Automation GmbH has manufactured special-purpose machines for over 50 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.

Further information: www.sim-automation.de

About E. ZOLLER GmbH & Co. KG

E. Zoller GmbH & Co. KG., headquartered in Pleidelsheim near Stuttgart, has a passion for presetting and measuring technology, and has been developing innovative solutions for more economical production processes for almost 75 years. So far, we have installed over 38,000 presetting and measuring machines worldwide, with software solutions that are unmatched anywhere around the globe.

ZOLLER has developed from a presetting and measuring machine manufacturer into a global technology and system solution provider, and today offers everything companies need for efficient and reliable tool handling in the machining process. ZOLLER solutions are used to physically and digitally record, measure, manage, store, and inspect tools throughout the entire tool life cycle. An international network of branch offices and representatives guarantees the highest possible quality of service through personal customer advising.

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