

Press release

July 2013

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"Clean-up week" in the tool cabinet

Keeping order spells hard cash

Optimization of set-up times and tool life are objectives in any manufacturing operation. This usually focuses on machines, less often on lacking organization of tools. The GMN Paul Müller Industrie GmbH & Co. KG in Nuremberg, Germany, has created order in its tool management by introducing a ZOLLER solution, consisting of a tool presetter machine and the TMS Tool Management Solutions, a solution which has paid off: search times and corresponding longer machine operating times have been reduced, as have the costs for multiple stocks.

GMN Paul Müller Industrie GmbH & Co. KG, is a long-established and renowned Nuremberg-based family business with approximately 450 employees, and a worldwide established manufacturer of machine spindles, high-precision ball bearings, freewheels and seals. The initial contact with ZOLLER was made during an event in the Siemens TAC Center where the demonstration of a 3D scanner resulted in an enthusiastic response. The idea of making production more cost-efficient then grew together with ZOLLER. "In fact, this is how we were first made aware of the opportunities", says project manager Harald Distler.

A number of restructuring measures were carried out in GMN's CNC department to improve the cost situation and lower throughput times of the parts: these included external programming, a centralized tool crib, and external tool presetting. A year ago, TMS Plus was finally installed on site, the tool presetter and measuring machine »venturion 450« together with the SILVER package of the TMS Tool Management Solutions.

Step one: defining the system

"Of course, this is an enormous personnel and financial investment to start with", states Johannes Singer, who is responsible for implementation. "The system behind the Tool Management Solutions needs to be created first - such as defining standards and guidelines - so that the software can be used sensibly and profitably afterwards.



The ZOLLER solution for GMN Paul Müller Industrie GmbH & Co. KG: tool presetter machine with TMS Tool Management Solutions



Order at last in tool management. The ZOLLER TMS Tool Management Solutions cuts down on search time and reduced tool circulation



The GMN implementation team Harald Distler and Johannes Singer together with ZOLLER's Markus Röttgen

A necessary but tedious step, and we were given great support by Philipp Mahr, the ZOLLER TMS application engineer."

Demonstrably less machine down-time

But once the time has been invested to set up the organization system, it definitely pays off: "We have an average of 90 minutes less machine downtime per order to our HSK-100 machines with savings on the small machines being somewhere between 25 - 30 % per order", confirms Harald Distler. And the tool costs can now be ascertained in detail.

Stepwise set-up

The tool management was set up in steps, starting with the HSK-100 tools. To move ahead with the tool presetter machine and to create the tool catalog as quickly as possible, the ZOLLER »elephant« technology for fully automated measurement of standard tools at the push of a button, proved a great help. Summarizing the first year, Johannes Singer states: "We finally have order in our tool system. Until now, everyone was doing their own thing on his machine." Now we have documented proof from the individual component to the order.

Chaos costs money

Harald Distler on the potential huge time losses due to lacking, systematic tool management: "Prior to the introduction of the ZOLLER solutions, each machine had its own tool cabinet. "Pinching" tools from one machine to another was common practice - and the next operator often had to find his tools first before starting work. Thanks to the ZOLLER TMS everything is now centralized, the tools are disassembled after use and the fasteners are stored sorted according to their holding fixture. Only a small part remains clamped". This not only saved on search time - which in itself already saves costs - but the large number of circulating tools was also reduced considerably.

Easier tool assembly

Tool assembly has also become considerably easier as this work step is already programmed for every order and does not need to be created again for each set-up process, thanks to the specifications and tool parameters, as well as the assembly list, being available for call-up via Tool Management Solutions.



The ZOLLER TMS Tool Management Solutions are open for subsequent linking to a 3D-CAM system and offers interfaces to all commonly available systems on the market



Order in tool management pays off: an average of 90 minutes less machine down-time per order on the HSK-100 machines



"On a good road to increased efficiency", Marcus Schmidt, Production Manager at GMN. On the right Markus Röttgen, ZOLLER

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Programming no longer necessary

Two other benefits are the complete dispensing with programming time - external tool presetting at GMN is now fully automated at the push of a button. After selecting the setting sheet, the system delivers all the tools required. Control-specific data output to the machine is via the Tool Management Solutions, this avoids time-intensive entry of measuring data to the machine controls, which are also prone to error. By introducing the ZOLLER solution, consisting of the tool presetter machine and Tool Management Solutions, ahead of the manufacturing order, the downtimes of the large CNC machines were reduced drastically, confirms Erich Stecher, the foreman of the department.

"It is a very time and personnel-intensive process to transfer tool presetting from the machine operator to a tool management system which manages all tools, devices, setting sheets and clamping specifications in a single unit. In addition, machine programs need to be standardized as well as making preparations for the 3D world of CAM programming. This is all very tedious at first - but there is no real alternative if we want to achieve our ambitious aims in increasing efficiency. I think we are on the right road here", as Marcus Schmidt, Production Manager at GMN, summarizes the project.

Organization = gaining time = lowering costs

Restructuring and the introduction of the ZOLLER tool presetter and measuring machine together with the TMS Tool Management Solutions, achieved simultaneous savings at several levels: next to the highly efficient interplay between tool management, measuring machine and data output, one can add the optimized - and thus lower - tool stocks in the stores. This reduced set-up time considerably.

Systematizing tool management - or to put it into the local language of the Swabian-based world leader ZOLLER - "Clean-up week in the tool cabinet" - pays dividends in more ways than one. No more searching for tools, reduced machine downtime, and an overview of tools. It pays to invest in order - also for tools.

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