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User report

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Pioneers – also for "hard" cases

Ceratizit is both a pioneer and global player in hard material solutions. The products, for example, hob cutters, reversing plates or cutting inserts, are used in a host of markets and industries - such as in the automotive industry, the petrochemical industry, in mechanical engineering, energy technology as well as wood and stone machining. The permanent further development of the product portfolio called for new solutions, including the production periphery and the process procedures. At the Empfingen facility, which mainly manufactures products for the metal processing industry, the development of new tool shapes and the need for tool data organization provoked ideas as to how production could be organized more cost-efficiently.

With ZOLLER, CERATIZIT has an innovative partner with whom appropriate solutions were found and developed further to meet these new challenges.

The department "Line for forming round and flat workpiece blanks" at the Empfingen facility currently uses approximately 3300 individual components and close to 2300 complete tools, many of them special tools, for the production of the special carbide products.

To-date, stock control of the tools was not possible

The corresponding tool data were to-date saved on various systems with the consequence that logging errors occurred again and again. "The data were spread over several systems, such as the storage cabinet and various Excel files. With the current capabilities we were neither able to link the stored tool components with the complete tools nor control the stocks", is how Mr Elmar Schweizer, CNC programming and CNC management, describes the initial situation.

No further development of the existing system

"Our existing system had not really advanced, there were no new functions which led to progress", adds Mr Elmar Schweizer, "and in addition stock control of the tools was not possible although in dire demand." The complete tools which came in the stores could not be logged with the existing system. The detailed storage location had to be entered manually - a time-consuming and error-prone process.

Production of special carbide products at Ceratizit's Empfingen facility

Bernd Gruber, Head of Marketing Services at Ceratizit, discusses the manufacturing process with Markus Röttgen, Head of Tool Management, Zoller. In the background, the curing oven for special carbide products

Due to the ZOLLER TMS stock management it is immediately clear which tools are located in which drawer of the Kardex cabinet

A second major reason for considering the purchase of a tool management system was the lacking data consistency of the existing solution. The tool data could not be transferred either to the Kardex storage cabinet or the 30 lathes that needed feeding, nor the CAM system or the measuring machine. Instead the data had to be prepared by hand as a paper document for tool presetting. An unsatisfactory situation for an innovative company with pioneering spirit that has to compete at a global level.

Welcome opportunity for inventory

The decision to purchase a Tool Management System was also a welcome opportunity for taking an inventory. "First we cleaned up the existing data base which contained some 10,000 tools at the time. The updated current data were then transferred to the TMS data base with the assistance of ZOLLER", is how Mr Simon Schumacher from Process Technology describes the procedure. The contents simply had to be read out from the Kardex cabinet system and re-entered - the tedious task of manual entry could be dispensed with. Only the contents in the drawers had to be entered once by hand.

Graphic stock management

The team is particularly enthusiastic about the graphic stock management. "The ZOLLER TMS stock management immediately tells you which tools are stored in which drawers“, says Elmar Schweizer.

Graphic generation according to DIN 4000

A development which took somewhat more time, was the graphic generation according to DIN 4000. This has now led to having graphics available for all DIN tools. "But this process is not yet completed as we have a large number of special tools and turning tools in use", says Simon Schumacher. Markus Röttgen, Head of Tool Management Software at ZOLLER, adds: "This is where our in-house development department worked closely together with Ceratizit and we are in the process of reproducing DIN 4000 in its entirety."

Outlook: Extension of 3D modeling

The people at Ceratizit are very interested in the upcoming TMS Version 1.14 - and looking forward in particular to the extension of the 3D modeling. "So far we were only able to prepare models for CAM systems, but now it will be possible to provide 3D models of the tools with highly accurate details", is Markus Röttgen's prognosis.

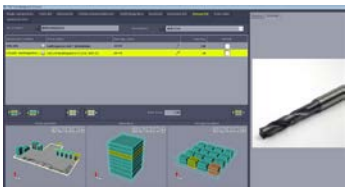
The benefit of graphics for purchasing

The purchasing system is a major advantage for tool scheduling. Mr Schweizer states it will facilitate easier purchasing, the logging of suppliers and prices, as well as saving all ordering data and item numbers.

"Today, the design department only needs to provide the drawings for turning and special tools. With the aid of the graphics provided by the system it is easier to order drilling tools, for example!", is how Mr Schweizer describes the benefits for tool scheduling.

Production of hob cutters - carbide blanks at CERATIZIT

Elmar Schweizer, Simon Schumacher (both Ceratizit) at the tool presetting and measuring machine with Philipp Mahr, ZOLLER ToolManagement application technician



Module stock management TMS Tool Management Solutions: graphic display of the storage locations

In front of the CERATIZIT Deutschland GmbH building – from left to right:

Philipp Mahr, Markus Röttgen (both ZOLLER), Simon Schumacher, Elmar Schweizer, Bernd Gruber (all CERATIZIT)

"Of course the introduction of the Tool Management Solutions took time", summarizes Mr Schumacher, "but it certainly paid off."

Designing processes with maximum requirements cost-efficiently

Designing processes with maximum requirements cost-efficiently - this is where Ceratizit and ZOLLER play a pioneering role every day - and together we have made this claim come true in the "hard material league".

Seamless link to the ZOLLER »phoenix« measuring machine

The reason for purchasing a new measuring machine was the necessity for inspecting the carbide tool line precisely and verifiably between the centers as well as presetting and measuring all manner of tools. To-date this was carried out in a time-consuming manner, partly by hand and partly with auxiliary means. We were looking for a cost-efficient solution. The ZOLLER »phoenix«, a modular premium class presetting and measuring machine with tailstock, met these criteria and has been in use at Ceratizit since 2012. In addition to documentation and easy handling, data consistency has proven to be a real added value. This is ensured throughout the entire manufacturing process via centralized management in a joint ZOLLER data base. ZOLLER offers the solution from a single source, from procurement over warehousing to assembly of the components into the complete tools. The next step at Ceratizit is the linking to a CAM system.

Checking a hob cutter blank between the centers on the ZOLLER toll presetting and measuring machine

About CERATIZIT

Carbide expert CERATIZIT stands for "hard material matters" CERATIZIT S.A. is a pioneer and global player for demanding hard material solutions. The company operates from Mamer in Luxembourg. The international group with a presence in over 50 countries is the world leader for unique, consistently innovative hard material products for wear protection and metal cutting in selected industrial fields. Among others, this benefits customers in the automotive industry, mechanical engineering, the petrochemical industry, medical engineering, electronics as well as tool and mold making.

www.ceratizit.com

About E. ZOLLER GmbH & Co. KG

With enthusiasm for testing technology and metrology, E. ZOLLER GmbH & Co. KG., based in Pleidelsheim near Stuttgart, have been developing innovative solutions for greater cost-efficiency in manufacturing process for nearly 70 years. More than 30,000 presetting and measuring machines with worldwide unrivalled software solutions have been installed to date across the globe. ZOLLER is developing more and more from a manufacturer of presetting and measuring machines to a globally operating provider of technology and system solutions. An international network of subsidiaries and agents ensures the highest level of service quality with personal customer care.

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