

Press release

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Smart Storage & Inventory Management of Cutting Tools for Reduced CPP & Profitability

Today, in order to remain profitable in the metal machining industry, it has become essential for manufacturers to keep a check on the tooling cost which is rather neglected because of the overshadowing effect of capital equipment costs. But, one has to understand that the tooling cost is a continuously recurring element of the organization's total expenditure, and reducing that through effective inventory management is going to help the manufacturer reduce



CPP (Cost Per Part), improve profitability, and price the final product more competitively. This involves effective management of incoming inventory & used inventory, traceability, elimination of search time, and replacing manual record keeping process with a systematic software based tool management solution.

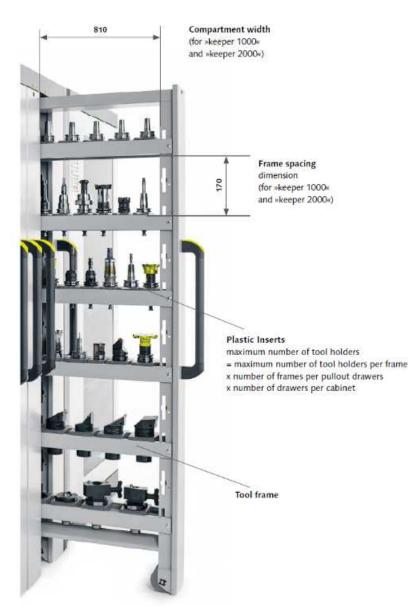
The major pain points in managing the tools for machining

- Effort and Errors in Manual Record Keeping
- Operator Irritability and Loss of Productivity due to High Search Times
- Lack of Traceability of Cutting Tools on the Shop Floor
- Under-Utilization of Used Inventory
- Ineffective Management of Scrap Tools
- Absence of Comprehensive Stock Analysis Reports
- Poor Space Utilization in the Tool Room due to Conventional Racks
- Resultant High Tooling Costs & Downtime

ZOLLER Solutions for Smart Storage of Cutting Tools

ZOLLER offers a plethora of custom hardware and software combinations to address these issues and help save overall costs associated with tools used in a metal machining facility and bring in a sense of discipline and order in the tool management process flow. There are many smart cabinet hardwares along with software with multi functional programs to manage your cutting tools, saving time and improving productivity.

Smart Cabinets: ZOLLER »keeper«



The »keeper« cabinet is a vertical storage system that replaces conventional space-consuming open racks and offers room for up to 240-480 tool holders and /or assemblies (depending on holder styles and sizes) within a compact footprint of just about 1x1 sqm. It consists of two height variants (1000mm and 2000mm) and two drawer variants (3 drawers and 5 drawers).

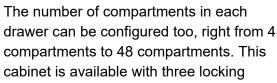
The shelf structure inside the vertical drawers is fully adjustable depending on the height of the holder/assembly. Each drawer has a weight capacity of 1000kg. The 5-drawer variant has a diameter limitation of 150mm for the stored items whereas the 3-drawer variant can accommodate diameters up to 300mm. A variety of plastic inserts for holding the

items to be stored can be provided based on the style of holders (BT40, HSK63, Capto C4, etc.).

The »keeper« cabinet is available in two locking configurations – manual and electronic. In the electronic configuration, the drawer locking is controlled by our TMS Cabinet Control software. Safe storage, good weight capacity, and excellent space utilization are some of the key benefits of this cabinet.

ZOLLER »toolOrganizer«

This cabinet uses a horizontal drawer structure with endless configurations available to suit the needs of the manufacturer. The »toolOrganizer« is best suited for cutting tools (inserts and round tools) along with related accessories. Height wise, there are three main variants – 600mm, 900mm and 1225mm. The individual drawer heights can be varied from 50mm to 300mm according to the manufacturer's requirements.









configurations – Mechanical, Drawer Locking (Drawers are electronically locked and controlled by the software but compartments are open), Compartment Locking (Individual compartments or pockets are electronically locked and controlled by the software). Safe storage, greater control, and accurate categorization of inventory are a few of the key features of the »toolOrganizer« cabinet.

ZOLLER »twister«



The »twister« cabinet is nothing but a vending machine for cutting tools. Just like the ones you find at airports or office buildings vending out beverage bottles or snack items, the »twister«vends out new cutting tool inventory! It comes in three size variants - »twister« L (Large), »twister« S (Small) and »microtwister«.

The cabinet makes use of 4 to 10 helixes per tray and 6 to 7 trays depending on the variant chosen.

This allows the manufacturer to store up to 24 varieties of tools in the »microtwister«, 42 in the »twister« S and 70 varieties in the »twister« L. Depending on the configuration selected, there are 10 to 24 storage locations per helix.





This software-controlled cabinet enables users to dispense the required items one at a time and provides total control over your new tool inventory. This cabinet is ideal for round tools, insert boxes, and individually boxed inserts. Single unit vending, fool-proof inventory control, and safe storage are the key characteristics of the »twister«cabinet.

ZOLLER Tool Management Solutions Software: Cabinet Control

The ZOLLER TMS (Tool Management Solutions) Software forms the backbone of the manufacturing process by providing a platform for information transfer between multiple departments with the help of a common database that is accessible to all the concerned personnel involved in the process. When we talk about 'Industry 4.0' the first word that comes to our mind is 'information' but managing it in the correct way for making our manufacturing process smarter becomes a challenge.

The ability of ZOLLER Tool Management Solutions Software to interface with multiple systems including but not limited to CAD/CAM and ERP along with its ability to manage stock and handle inter-departmental information flow makes it easy for any organization to make the manufacturing process smarter and inch towards what we call as a 'smart factory'. In this article, I am going to talk only about the Cabinet Control software package which is an important part of Tool Management Solutions.

Warehouse Management

The 'Store' module of the Cabinet Control software allows the manufacturer to create a diagrammatic representation of physical cabinets, and assign storage locations in the software according to the physical arrangement. You can create and assign storage locations for all of your smart as well as conventional cabinets/racks in the software. This helps in organizing the entire tool inventory and eliminating the search time.



It is a general observation that in a conventional setup, the storage location for each and every item does not remain consistent and that leads to confusion, increase in search time, loss of productivity, and operator frustration. This is addressed by the Tool Management Solutions software which ensures that the storage locations are consistent every time. Maximum and minimum quantity values can be assigned to each item so that any drop in quantity to the reorder point

can help generate the necessary intimation for restocking.

The »quickPick« Module





On the operator side of things, it is essential to provide a simple user interface in order to make the software less intimidating to use and to take away the stress of finding the right tools. This is achieved by the 'quickPick' module by offering only a handful of

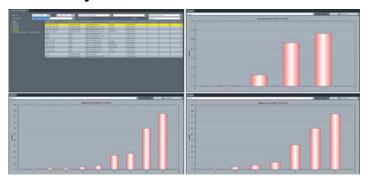
buttons on the screen and a guided logical progression for checking in or checking out tools or accessories.

As traceability is an important aspect that needs to be kept in mind to serve the primary purpose of Tool Management Solutions software, and in order to achieve that a query page needs to be populated with the correct details like the name of the person in need of the tool, the corresponding machining centre, cost centre, department, etc. Without entering these details the software does not allow one to proceed with the check-out process.

If paired with the ZOLLER smart cabinets, the combinations offer greater control by locking/ unlocking compartments or drawers through the software alone. In order to provide maximum process security, each and every individual designated to use the Tool Management Solutions software for checking out tools gets his/ her unique ID and Password combination so that the person-wise activity is tracked in the software and only selective access is granted depending on the role of that person.

While checking in items, the user is given categorical options like (general/ new/ used/ refurbished/ rework/ scrap) for correct segregation and maximum utilization of tools. This is a feature that actually drives the cost-saving ability of the TMS software. Different storage compartments/areas can be assigned a different category for effective segregation. It also adds another layer of control by monitoring all the tools that are in circulation (out on the shop floor) and ensures that no one checks out new tools without a valid reason and without depositing the old ones irrespective of their condition.

Stock Analysis



Any tool management software is incomplete without a comprehensive stock analysis function. The ZOLLER Tool Management Solutions software provides with a plethora of options when it comes to stock analysis and allows you to analyse person-wise, cost centre-wise, machine-wise, department-wise, and store-wise

consumption of tools to name a few.

This enables the tool room manager to see a clear picture of what is happening on the shop floor and perform a root cause analysis of an issue for example - overconsumption of tools due to a machining centre issue or a personnel issue. This in turn helps the organization rectify problems, reduce consumption, and save tooling costs.

Final Word: Make your Factory Smarter

Effective tool management, and tooling cost reduction to improve overall profitability is non-negotiable in today's competitive world. Technology to achieve that is available. An open mind, passion to adapt to the changing advancements in manufacturing, and a long term vision is all that is needed! If you want to experience our smart cabinet systems and the Tool Management Solutions software, do plan a visit to our showroom in Pune. We would be happy to assist you in making your factory smarter. For more details, visit www.zoller-in.com

ABOUT AUTHOR



APOORV V NENE

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E. ZOLLER GmbH & Co. KG

With enthusiasm for inspection and measuring technology, E. ZOLLER GmbH & Co. KG. based in Pleidelsheim near Stuttgart, have been developing innovative solutions for greater efficiency in manufacturing processes for more than 75 years. More than 40,000 presetting and measuring machines with worldwide unrivalled software solutions have been installed to date.

ZOLLER offers everything for efficient and process-reliable cutting tool handling in the manufacturing process. With ZOLLER solutions, tools are digitally and physically recorded, measured, managed, stored, and inspected throughout the entire tool life cycle. An international network of subsidiaries and agents ensures the highest level of service quality with personal customer care.

ZOLLER India

ZOLLER India is headquartered in Pune, providing sales and service to its customers for tool presetting, tool measuring and inspection machines, tool management software, heat-shrink systems and balancing machines. ZOLLER India was founded in 2004 and runs outside offices in Ahmedabad, Bangalore, Chennai and Delhi.

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