



Walter AG uses TDM-Software for Planning and Production

Tool Data for Tool Experts

Walter AG relies on TDM software in its planning activities and integrated tool data management in its new production facilities in Tübingen, thus ensures smooth-running processes. No one knows tools better than a tool manufacturer, and no one is more aware than Walter AG of the importance of reliable tool data for NC programming, in the tool crib, and in the production area.

This leading manufacturer of precision tools is known the world over for its innovative, high-performance tools. In Tübingen, where the company has just finished building a new production plant for Walter tool bodies, it has also installed the new TDM Systems Version 4 software. „Our aim in installing TDM is to have a centralized database that supports planning activities and production processes with tool data,” says Uwe Sauer, Manager of Projects & Engineering at TDM Systems and the man in charge of this software installation project at Walter AG. To this end, Walter not only installed the TDM software base module but also integrated it into the CAM system of NX. The additional use of TDM’s Crib and Ordering Module and the TDM Presetting Module ensured optimum tool preparation and tool logistics.

Order Entry, Tool Preparation, and Permanent Setup

Walter’s new plant for tool bodies features machining centres for turning and milling stations. Here a multitude of tools circulate



Perfect Presetting: also the Sirius-Presetting Systems from KELCH are using tool data from the TDM data base. From left to right: TDM-Project Team: Rolf Rist, Manager Production Systems, Guido Wachendorfer and Rainer Roßkopf, both are coordinating the production

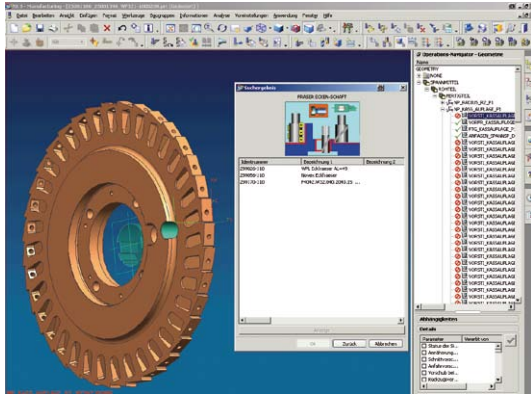
every day, and more than 4,000 tool items and tool assemblies are located in three Hanel tool lifts. „We ourselves produce high-quality precision tools,” says Alexander Bayerlein, Production Manager for tool bodies at Walter Tübingen, „and we understand the need for high-quality tools and reliable tool data - and always at the right time.” To be honest, this was also achieved in the past with Version 2 of the TDM software. But with the new production plant the tool preparation changed and called for a new software solution. And TDM provided it.

Walter aims to operate its machining stations in future with a so-called „permanent setup” in which a standard set of tools is available at every machining station. „This makes us much more flexible in organizing production jobs. It makes us independent from any single machine,” Rainer Roskopf sums up the benefits. And Guido Wachendorfer, who is in charge of tool organization, adds, „Our TDM software gives us the transparency we need for our working procedures. TDM tells us which tools to prepare.” At Walter, the TDM software automatically generates detailed lists of all tools and assemblies required for every job.

Information on the status of each production job comes from FACT (Factory Automation Control Tool), the central control system, which is linked in turn to SAP’s ERP software.

Precision in Tool Selection and Planning

Precision processes at Walter start with the very first planning steps. Walter realized the integration of TDM into NX, this gives the company's NC programmers direct access to all geometric and technical data stored in the TDM database. Walter's NC programmers benefit from TDM's professional tool selection features (selection according to manufacturing methods,



Search results are imported from the TDM data base and displayed in NX.

geometry, or technical data). They also have the option of defining tools and tool selection processes in NX: the CAM software procures geometric parameters and technology data directly from the TDM database and uses this information to perform calculations for the individual machining steps. „This data exchange is only possible thanks to the TDM database, which provides us with complete data for the tools and items we use,” says Rainer Roßkopf.

The key, of course, is the „online”

integration of TDM into the NX CAM system. It gives each CAM user direct access to the contents of the TDM database and ensures that the data are real and up-to-date. What's more, the user can also transfer information back into TDM, such as tool lists.

The TDM database currently contains complete tool data, including 2D and simulation-ready 3D graphics.

„Whenever we add a new tool, it takes no time at all for us to generate data for it with the TDM Data and Graphic Generator and to store this information in TDM. And creating tool assemblies is more than easy: TDM needs only a few parameters to put the various items together into a adequate assembly - in 3D as well,” says Guido Wachendorfer.

Multiple Sets of Technology Data per Tool

TDM V4 also improves the quality of tool data by the powerful feature to attach multiple sets of technology data (materials, access levels, different cutting parameters) to only one assembly in advance. The data can also be defined according to the intended application, for example roughing, finishing, or spot facing, thus enabling the NC programmer to make detailed preparatory decisions. „This feature maximizes comfort in use and makes every search a „find”,” is how Rainer Roßkopf sums it up. „And it also lets us see right away how we can use one and the same tool for different types of machining applications in an optimal way.”



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Virtual Reality

Walter uses eM-RealNC from Tecnomatix to simulate machining processes during the planning phase. It starts by sending the 3D tool graphics in STL format to the em-RealNC software. This has a major advantage: the TDM Data

and Graphic Generator can generate 3D tool images in STL format, meaning that simulation-ready 3D graphics can be generated from the moment that tool data is input into the database.



Access to real tool data via CAM-Integration TDM - NX Unigraphics.

Lifting Drill Bits and Milling Cutters

„Tracking and managing tool data calls for care and attention,” points out Rolf Rist, meaning that TDM software performs best when data for new tools are regularly added to it. In this way, NC programs and CAD/CAM simulations always work with the latest, most accurate data. Also important is the reliable logging of tools into the lifts. „This lift is our „black box”, says Rainer Roßkopf; „we put everything into it in active-chaotic fashion.” TDM's Crib Module then takes over the task of logging tools into the crib (it automatically suggests the best crib location) and bringing them out again.

The experts at Walter sum up:

„TDM has established a centralized tool data management system. Our tool data is always completely up-to-date and transparent in the TDM database. Our NC programming, our simulation activities, and our tool preparations have gained in processing accuracy, meaning that in the long run our productivity has risen too.”

Company Close-up

Walter AG: The company group, originally founded in 1919 and converted to a public limited company in 1990, is one of the leading companies world-wide in the metal machining industry. It develops, manufactures and markets tools with exchangeable carbide cutting edges for metal chipping, in particular drilling, milling and turning.

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