3D Viewer

T24 STEP-Manufacturing
September 24 – September 25, 2009
University of Bath, UK
TDM Systems – your partner for Tool Data Management

- We supply software and data for organizing and managing tools, jigs and fixtures, inspection equipment, machine set-up and chucking devices as well as facilities and production equipment.
- We are the Sandvik Tooling Group's official Know-How Center for tool data management. Our unique pool of competence is reflected in our products.
TDM Systems – specialists for increasing productivity

- Headquarter: Tübingen, Germany
- Foundation: 1993 as WALTER Informationssysteme GmbH
- Employees 2009: 52 (plus 9 apprentices)
- Products: TDM V4, myTDM.com, MPO, TDM 3D, FMM
- Customers: approx. 650 worldwide
- User: 7,500 worldwide
- Markets: Europe, North- and South America, Asia
TDM Systems within the Sandvik Tooling Group

Sandvik Tooling

Coromant
Tobler MKTC Balidonit

Safety
Impero

WALTER
Titex Prototyp

Valenite

Dormer
Master

Precision
Triump Union B.

Hard Materials

TDM Systems – Kompetenz Center für Tool Data Management

Customers
Products & Services
TDM Products – Software Program

The software program which leads to higher transparency and increasing productivity

MPO
Management of Measurement Products

TDM V4
Modular system for Tool Data Management

myTDM.com
Internet based tool management system

TDM Data and Graphic Generator
Data Base which creates tool data, 2D and 3D graphics for over 40,000 tools

TDM Facility and Maintenance Management
Data Base which creates tool data, 2D and 3D graphics for over 40,000 tools
TDM – The Central Database

- Multiple possibilities for Integration
We guide you through all project phases

- Pre Sales Services of TDM Systems
  - Consulting
  - Specifications
  - Engineering
  - Cost Benefit Analysis
  - Project Management

- After Sales Services of TDM Systems
  - Software Training
  - Online Support
  - Technical Hotline
  - System Maintenance
Experience exchange and exclusive product information

- TDM Interessenenverband: User group for German speaking TDM user (Germany, Austria, Switzerland)
- TDMclub: User group for European customers
- NAUG: North American User Group
- Exclusive communication of news about the TDM software and the company
- Experience and information exchange
- Club members can influence the further development of TDM with their ideas
- Annual user group meeting
How can ISO 13399 improve the production process?

- Exchange of tool information between different partners (tool manufacturers, machine / control suppliers, CAD-/CAM suppliers, simulation systems, end users, ...) will be much easier, as it is the case now.

- **Expense:**
  One common format and accepted standard will reduce the expenses for data exchange.

- **Quality:**
  One common format and accepted standard will make sure, that no information is lost, when data are exchanged between different systems.
3D Viewer

Customers and suppliers

ISO 13399

Customer: Assemblies, rotated

ISO 13399

TDM Tool Data Management and related products

ISO 13399

Tool manufacturers: Items
TDM V4
- is an innovative system for manufacturing resources
- simplifies organization
- makes operating processes more efficient as well as in a better quality
TDM – Flow of Data

- Tool Manufacturer Catalogue
- Presetting
- Modified Data
- Data Catalogue
- NC-Programming
- NC-Programs
- Tool List
- Tool assembly
- Item
- Tool Crib / Production
ISO 13399

One common standard!

Different systems who support it.

Example:
TDM 3D Viewer
Functionality overview

**Basic solid viewer**

Open and view ISO10303-203 p21 file (stationary view for tool maintenance/information purpose).

**Extended solid viewer**

- Possibility to open an ISO13399 p21 files of an item and view ISO13399 to the left and 3D view of referenced ISO10303-203 p21 file to the right.
- Possibility to view the 3D model or the information tree only or both.
Functionality overview

**Assembly solid viewer**
- Possibility to open an ISO13399 p21 file of an assembly and view the step geometries of the items which are part of the assembly and are stored in the file. The step file contains also the position of the items and their orientation according to ISO.
- The possibility to fade in or out single items of the components list exists as well.
- The creation of the assembly can be done for example via an external software system like TDM.

**Profile solid viewer**
Possibility to build the rotated model of a stationary one.

**Translation solid viewer**
Possibility to open sat, IGES and STL based 3D components for items and assemblies and save it as an ISO 10303-203 p21 file.
Creation of a cut profile from the ISO data

Example:
Cutting area; tool with inserts

ISO-File

ISO-Parameters:
- IC
- L
- EPSR
- RE
- ANN
- S
- SC (Insert shape code)

TDM 3D Engines

Rotated 3D model
Creation of a cut profile from the ISO data

Example:
Cutting area; tool without inserts
Creation of a cut profile from the ISO data

Rotation axis

Stationary 3D model

Cut surfaces

Rotating point:
Point with the biggest distance from the rotation axis in the respective cut surface.