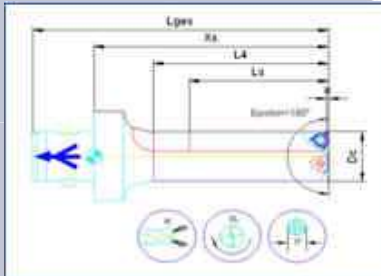


TDM4

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. .



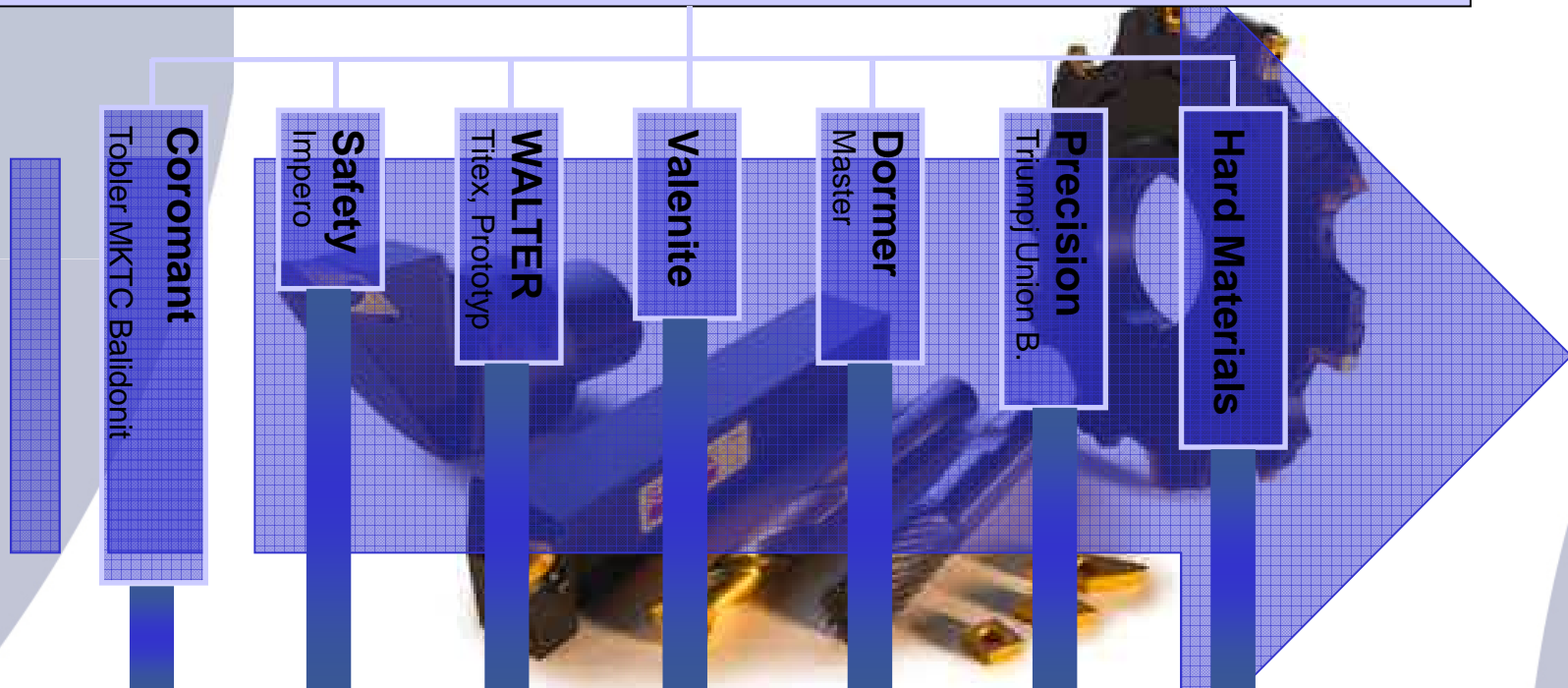


TDM Systems – specialists for increasing productivity

- 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



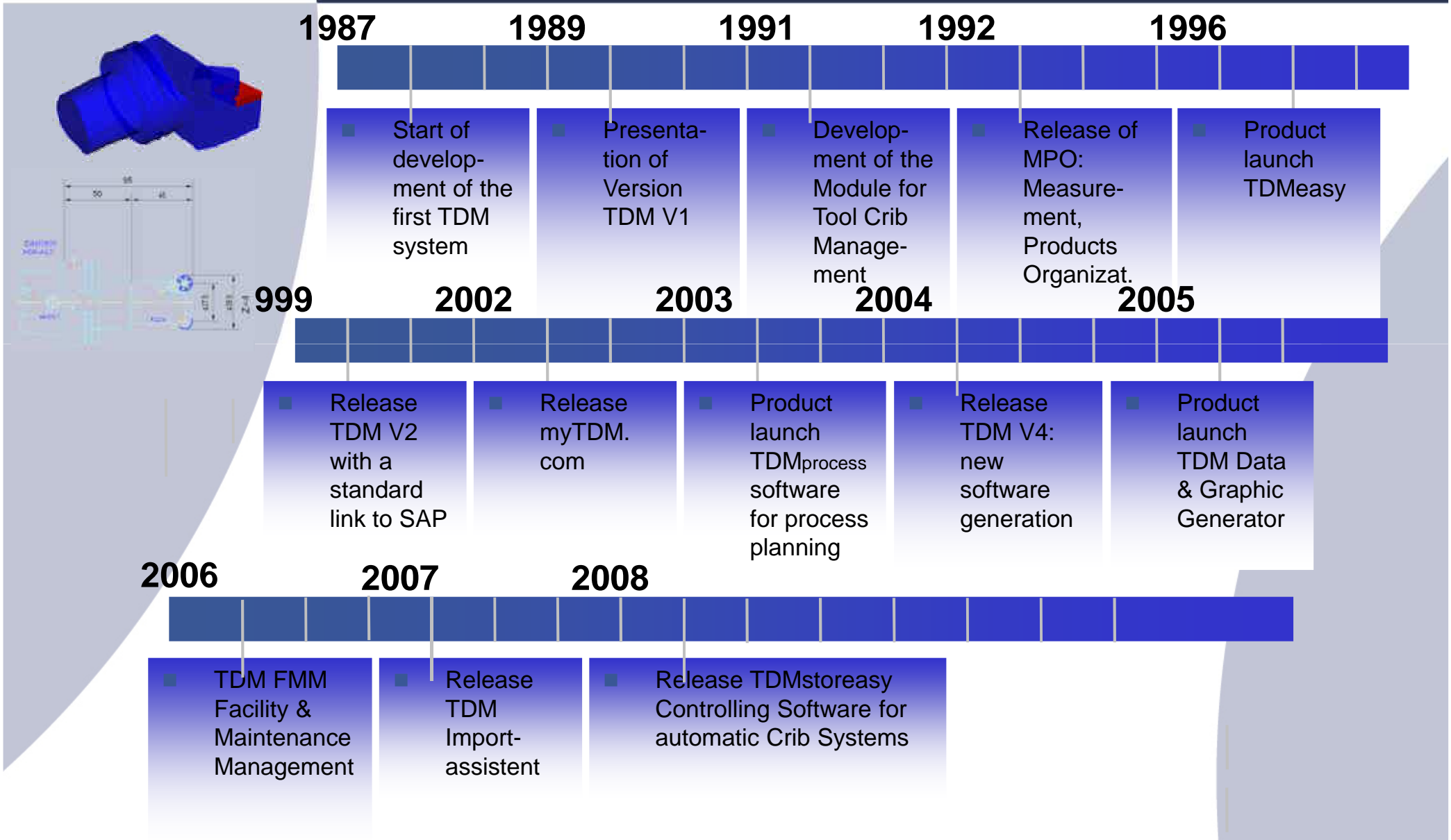
Sandvik Tooling

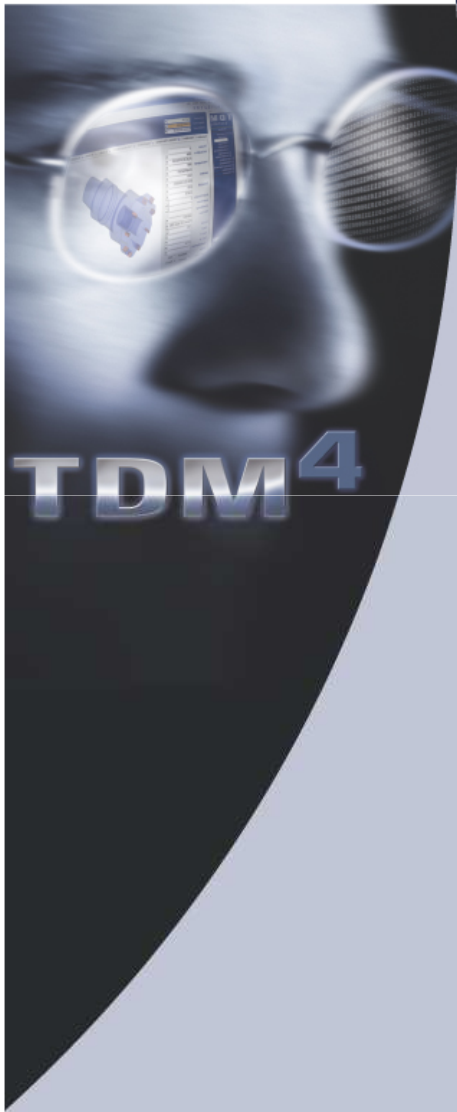


Customers

TDM Systems – Kompetenz Center für Tool Data Management

History - Milestones in the progress of TDM





TDM4

Products & Services

The software program which leads to higher transparency and increasing productivity

TDM V4
Modular system for Tool
Data Management



MPO
Management of
Measurement Products



myTDM.com
Internet based tool
management system

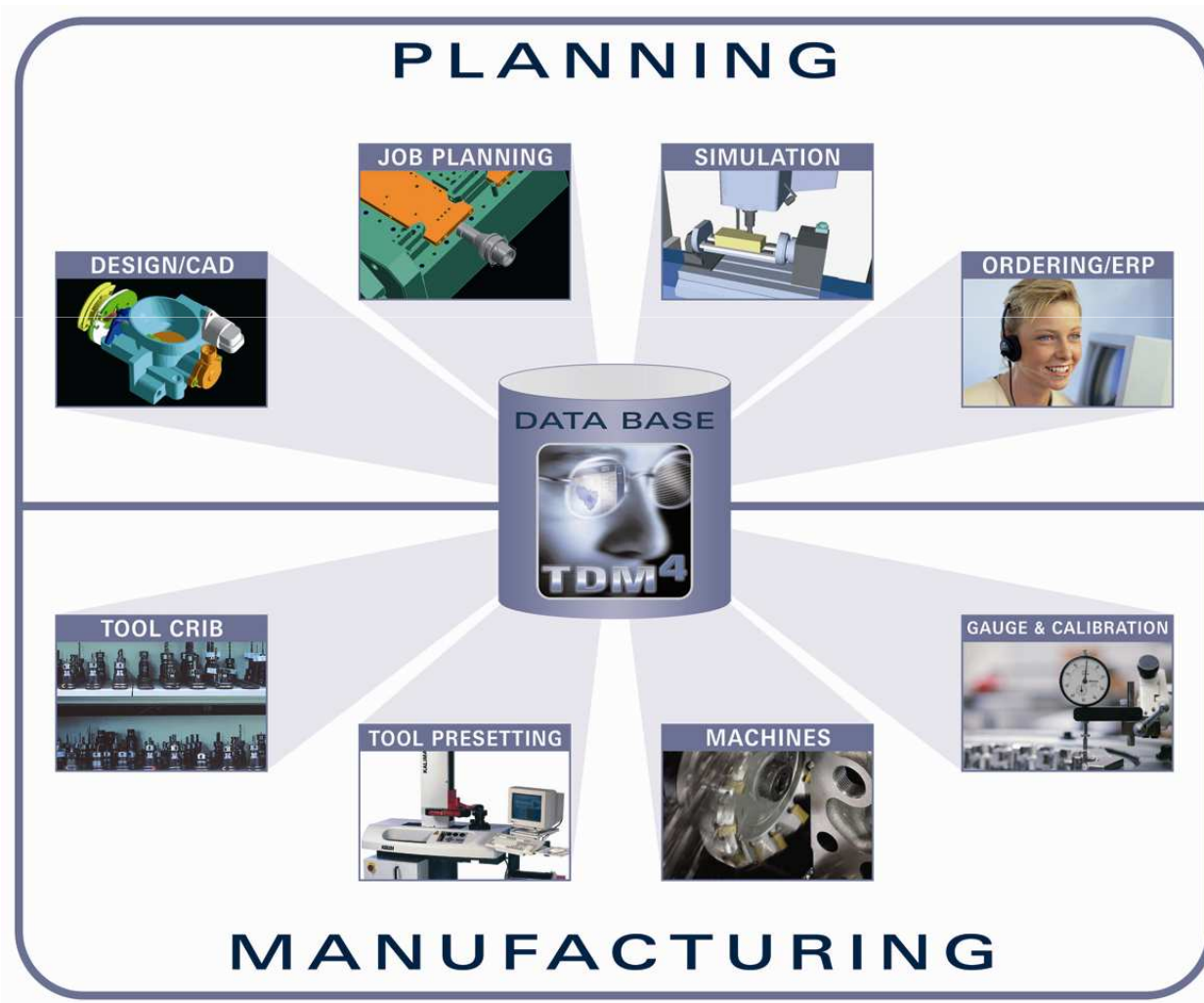


**TDM Facility and Maintenance
Management**
Data Base which creates tool data,
2D and 3D graphics for over 40.000 tools



TDM Data and Graphic Generator
Data Base which creates tool data,
2D and 3D graphics for over 40.000 tools

- 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 Interessenverband: 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?

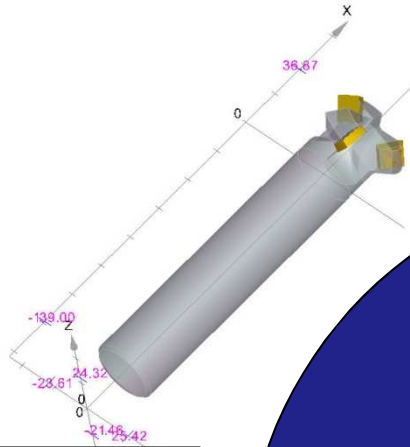
- **Exchange of tool information between different partners (tool manufacturers, machine / control suppliers, CAD-/CAM suppliers, simulation systems, end users, ...)** will be much easier, as it is the case now.
- **Expense:**
One common format and accepted standard will reduce the expenses for data exchange.
- **Quality:**
One common format and accepted standard will make sure, that no information is lost, when data are exchanged between different systems.



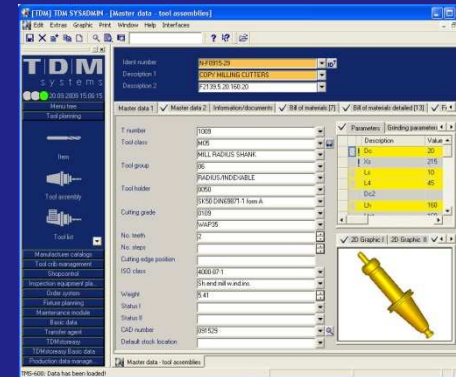
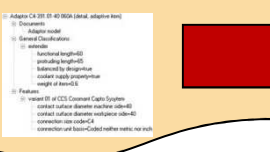
Customers
and
suppliers



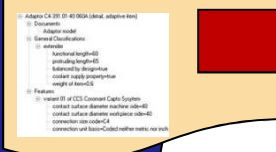
Tool manufacturers:
Items



ISO 13399

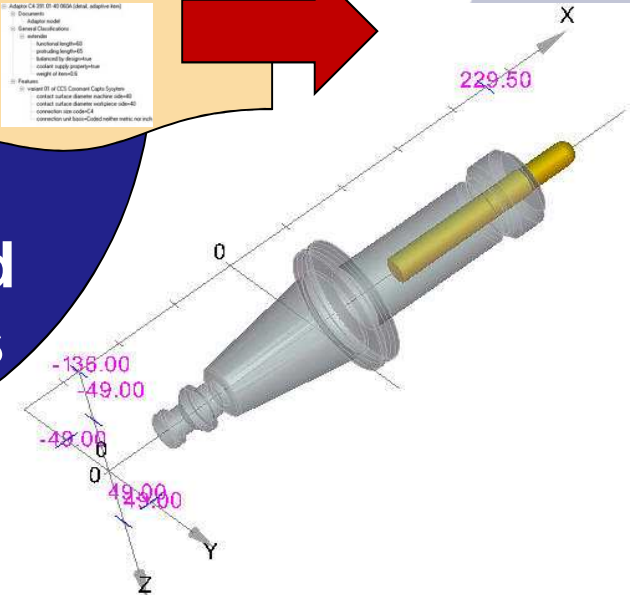
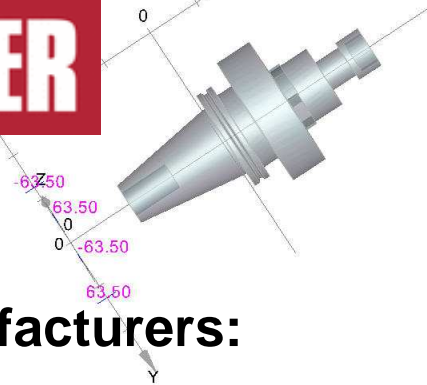


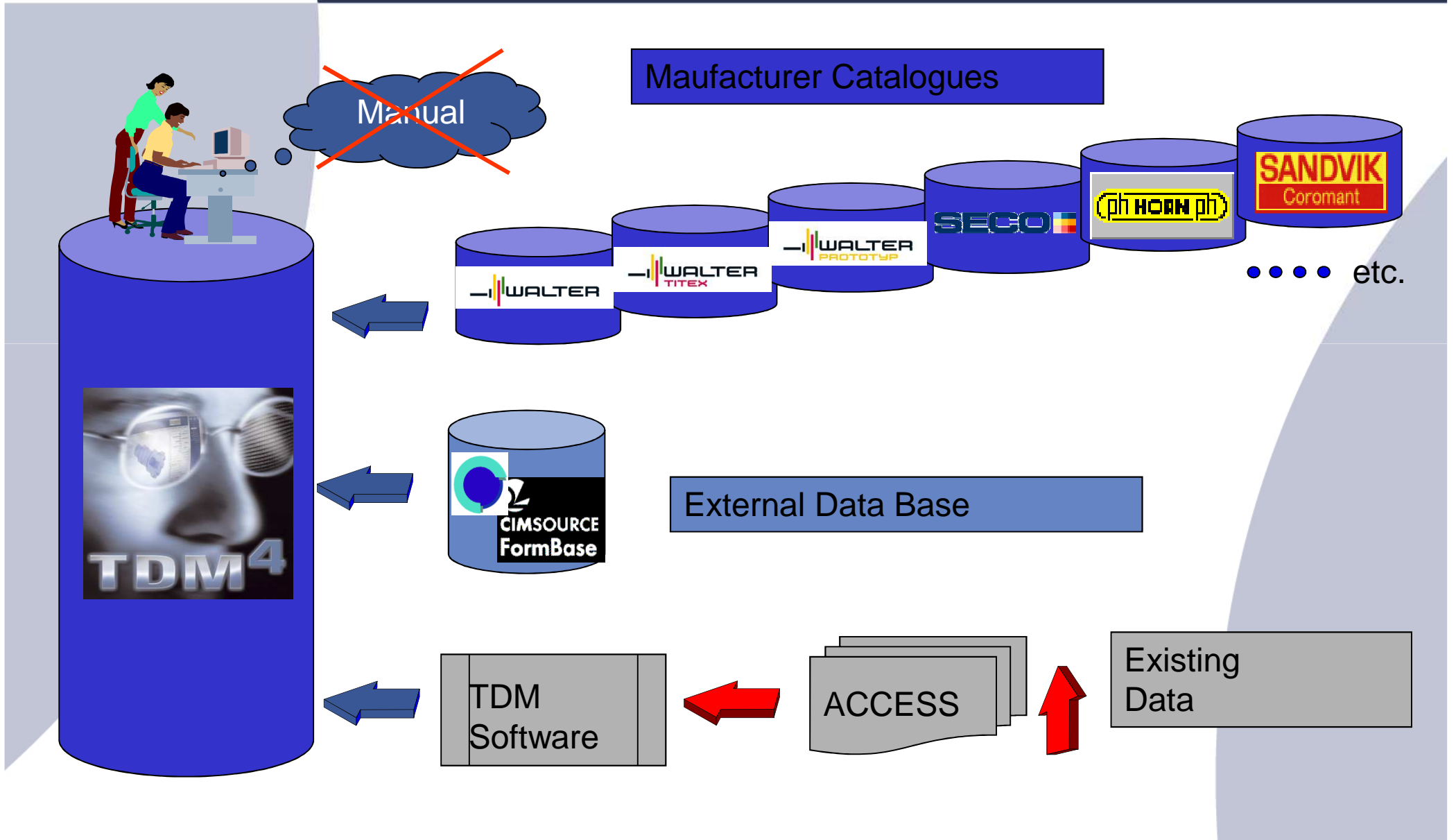
ISO 13399



TDM Tool Data
Management and
related products

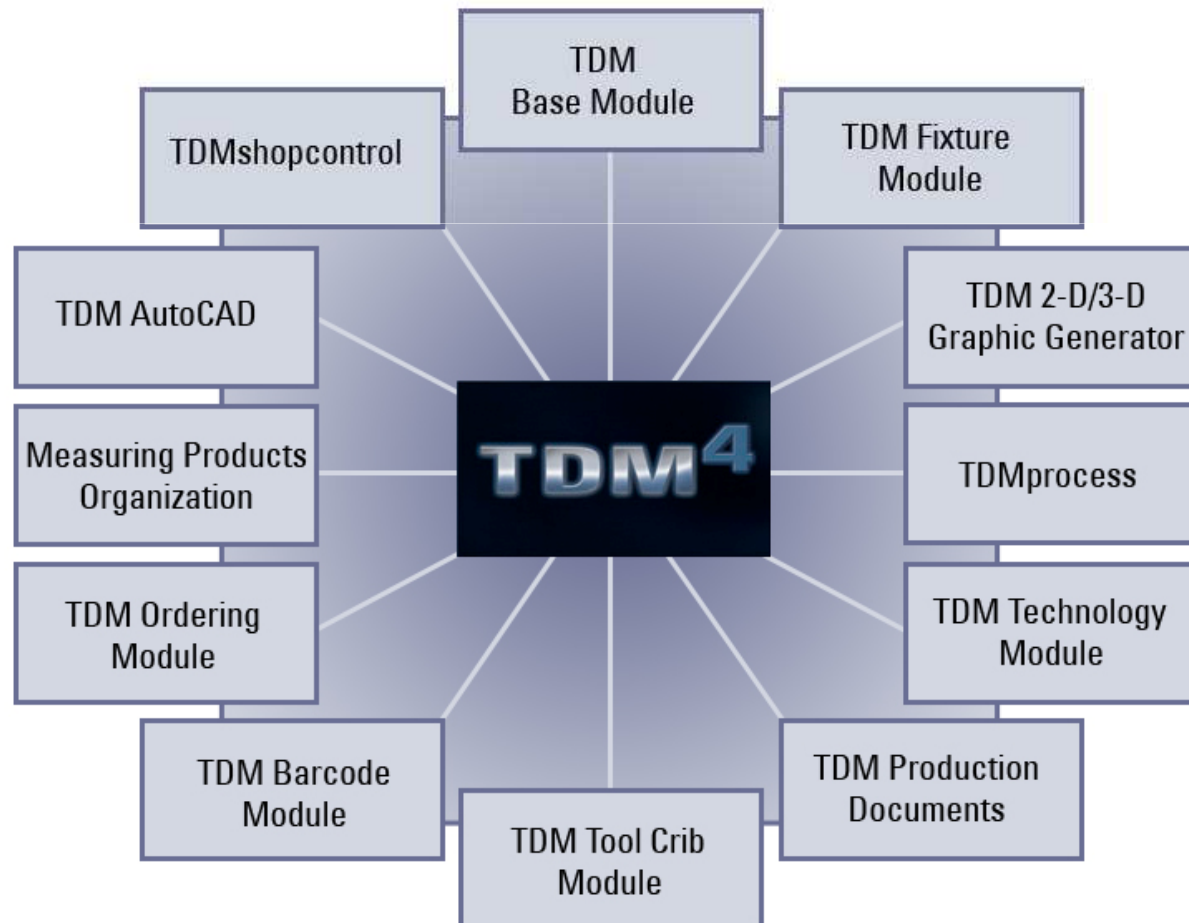
Customer:
Assemblies,
rotated

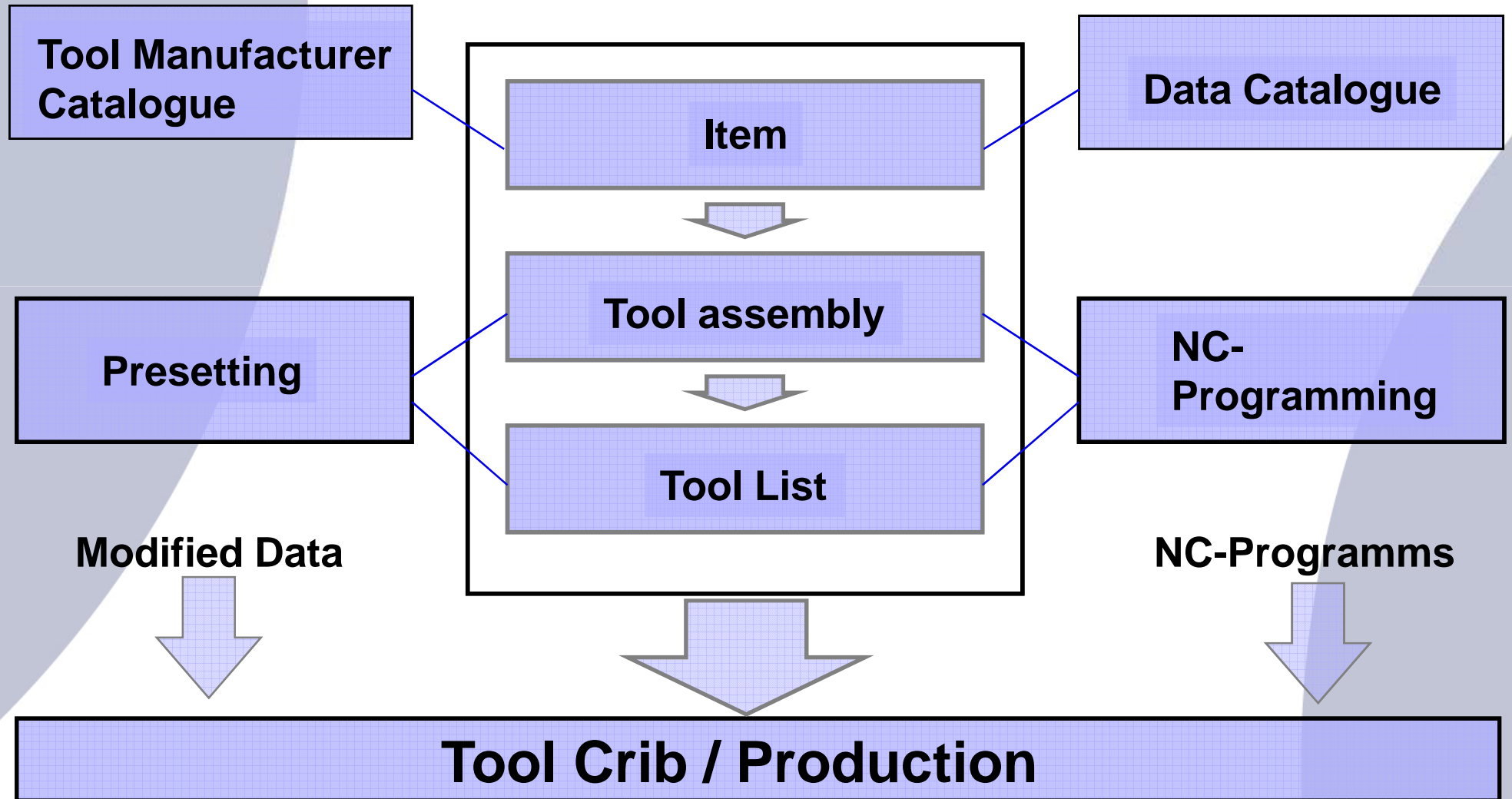




TDM V4

- is an innovate system for manufacturing resources
- simplifies organization
- makes operating processes more efficient as well as in a better quality





**Product
example:
TDM 3D
Viewer**

ISO 13399

ISO 13399

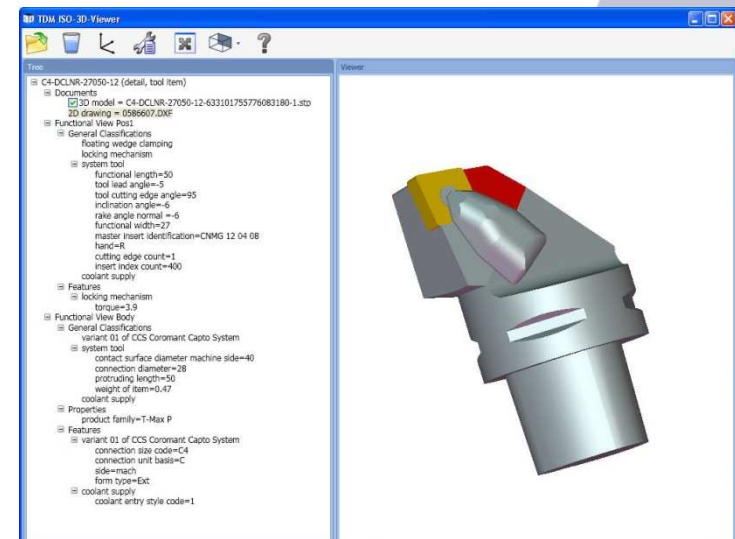
```

Adaptor C4 291.01.40.050A (detail, adaptive item)
├── Documents
│   └── Adaptor model
│       ├── General Classifications
│       │   ├── subfinder
│       │   │   ├── functional length=60
│       │   │   ├── protruding length=65
│       │   │   ├── balanced by design=true
│       │   │   ├── coolant supply property=true
│       │   │   └── weight of item=0.5
│       │   └── Features
│       │       ├── variant 01 of CCS Coronant Capto System
│       │       ├── contact surface diameter machine side=60
│       │       ├── contact surface diameter workpiece side=60
│       │       ├── connection size code=C4
│       │       └── connection unit basis=Coded neither metric nor inch
    
```

One common standard!

**Different systems
who support it.**

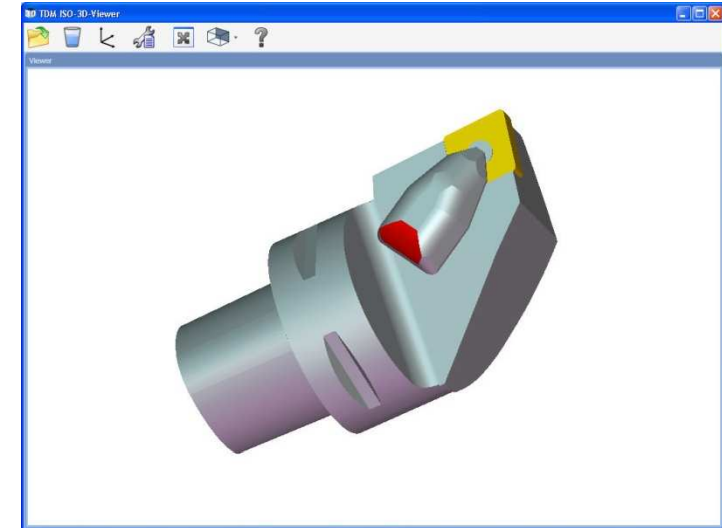
**Example:
TDM 3D Viewer**



Functionality overview

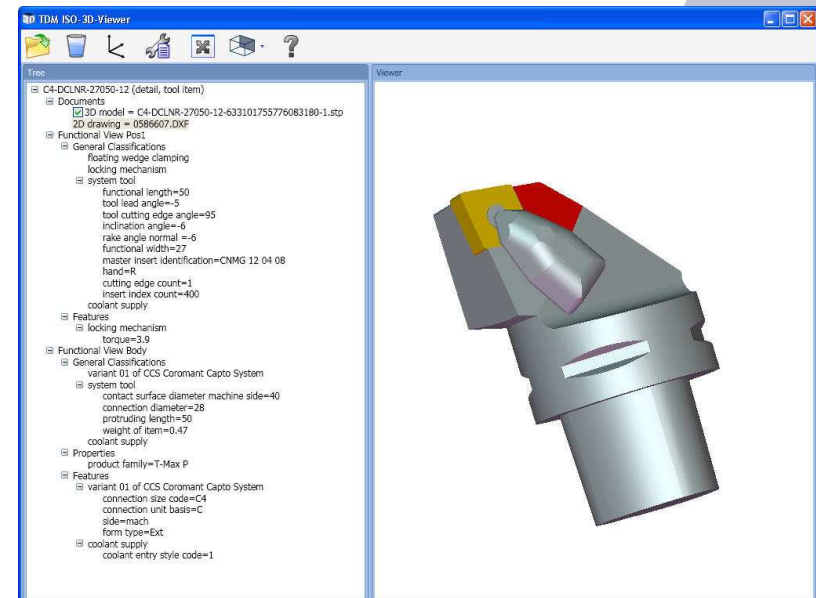
Basic solid viewer

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

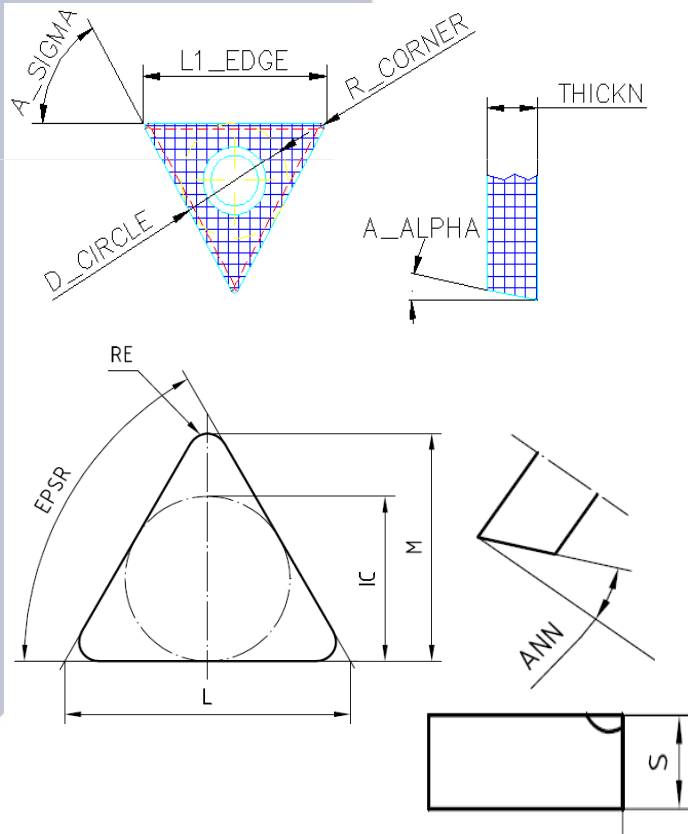
Possibility to build the rotated model of a stationary one.

Translation solid viewer

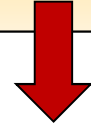
Possibility to open sat, IGES and STL based 3D components for items and assemblies and save it as an ISO 10303-203 p21 file.

Creation of a cut profile from the ISO data

Example:
Cutting area; tool with inserts



ISO-File

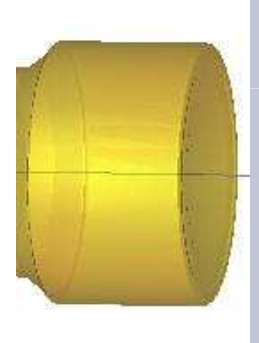


ISO-Parameters:

IC
L
EPSR
RE
ANN
S
SC (Insert shape code)



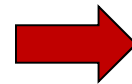
TDM 3D Engines



Rotated
3D model

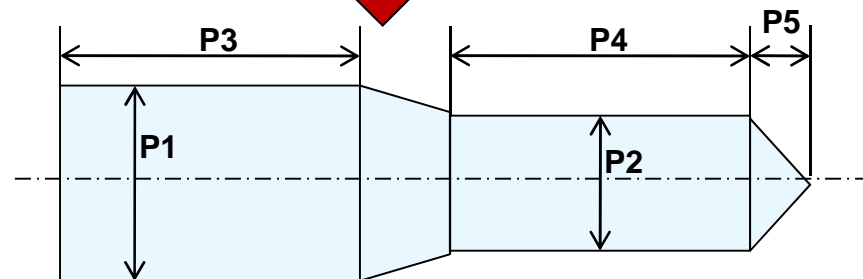
Creation of a cut profile from the ISO data

Example:
Cutting area; tool without inserts



- P1
- P2
- P3
- P4
- P5

Object type, for example step drill



Rotated 3D model

Creation of a cut profile from the ISO data

