

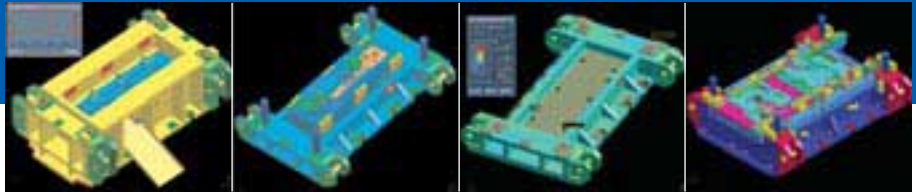
TEBIS Viewer



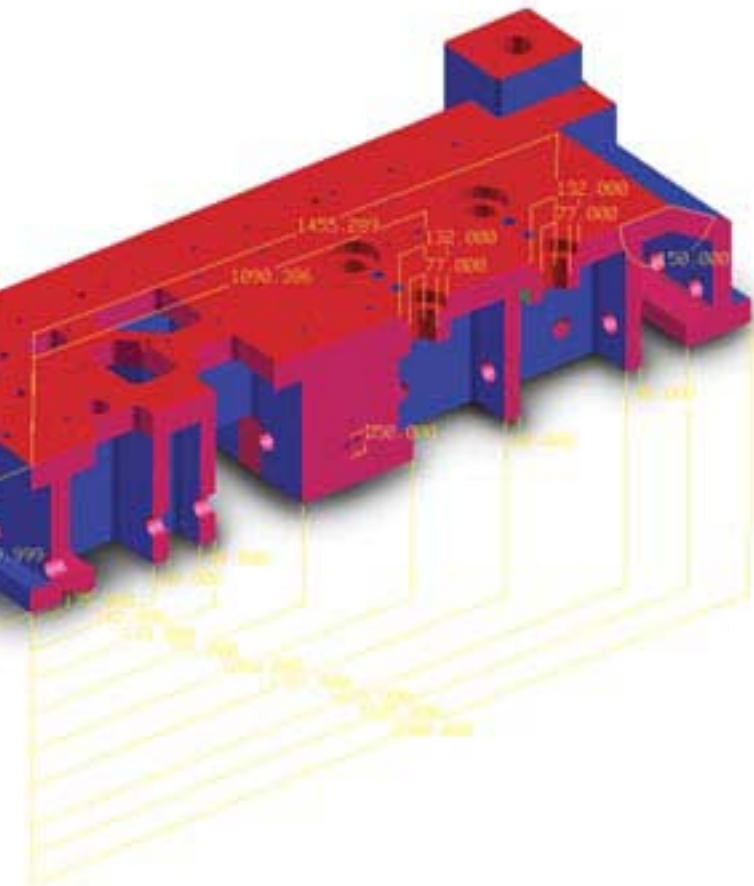
**ELIMINATE PAPER - BOOST PRODUCTION.
LET TEBIS VIEWER SYSTEMS REFLECT THE LATEST
INFORMATION YOUR EMPLOYEES NEED.**

Tebis Viewer systems visualize the entire body of information generated in a CAD model in the course of product development. Each and every detail you need for cost-estimation, process planning, production and assembly is right there on screen. Blue prints and work instructions are virtually unnecessary in most cases. All the facts can be lifted directly from the 3D data model as and when needed, so you save time right down the line. And you rule out the sort of errors that can occur when somebody, somewhere, accesses data that is no longer current.

The NC Viewer expansion option even supports the analysis, simulation and post-editing of toolpaths calculated beforehand and can output them in controller specific formats (postprocessing). This option extends your high-end 3D CAD/CAM process chain all the way to your shop-floor machine tools. You can dispense with conventional DNC stations. The PDM Interface option links your Viewer systems directly to an Product Data Management system, expanding your configuration to a fully integrated manufacturing information system.



TEBIS VIEWERS SUPPLY COMPLETE MANUFACTURING DATA. UP TO DATE, ALWAYS. FOR EVERYONE, ANYWHERE.



Import CAD and NC files

Tebis Viewer systems recognize the formats of all the mainstream design and production files and can place the information they contain at the fingertips of everyone involved in the process.

Convert CAD data from other formats to the Tebis format.

Native Catia® files, or files from Unigraphics, and standard formats such as VDA and IGES.

- Import NC data in accordance with DIN 66025 or APT, for example.
- Import production feature tables from VAMOS, Catia®, Pro/E and other systems.
- Show multiple CAD models of an assembly simultaneously (multi-model session).
- Import 2D drawing data in HPGL format.

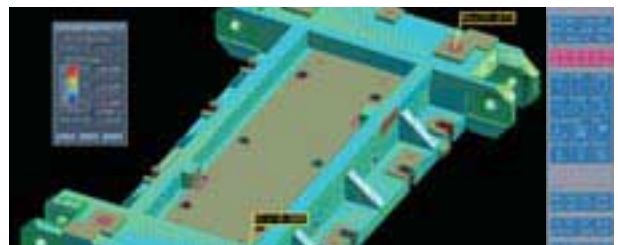


Entry-level users have pull-down menus to navigate directly to the functions they need.

Analyze CAD data

CAD data can be examined from any number of aspects, including:

- Surface quality
- Modifications by contrast with a previous model version
- Surface dimensions
- Volume (solid models)
- Special characteristics such as planar surfaces



Distance analysis shows right away just where the model differs from the previous version.



Surface quality often has an impact on subsequent costs in production. The Quality command shows up inadequacies in the mesh at the touch of a button.



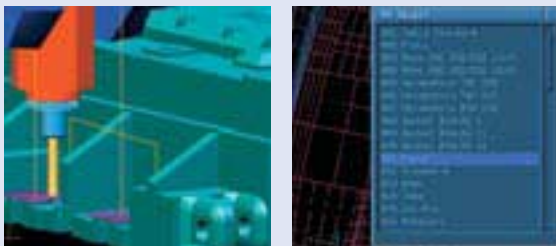
Everyone involved in the organizational and production process benefits from innovative Tebis Viewer technology.

Using Tebis Viewer systems makes sense economically

- Specialists in every department in the chain obtain the precise information they need quickly, conveniently and straightforwardly.
- With Viewer systems installed end to end there is virtually no need to generate blue prints and paper documentation, so a great deal of time is saved.
- The central network architecture means that up-to-the-minute information is available throughout the process chain. Enhanced process dependability is the result. Errors due to out-of-date version status are avoided.
- Change management is streamlined.
- Geometry data imported from Catia® retain their native ordered structure (colors, layers, filters) and element designations, so information losses are excluded and process dependability is enhanced.

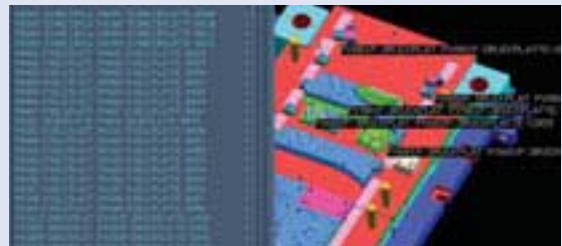
The NC Viewer configuration level

- Simulate toolpaths in advance of machining. For realistic and reliable collision avoidance.
- Edit toolpaths, for example change machining technology parameters or the machine tool spindle head.
- Postprocessing of toolpaths for conversion to the controller specific formats.
- Make available NC programs for the numerical control.



The PDM Interface configuration level

By interfacing with a Product Data Management system you upgrade your Tebis CAD and NC Viewer to the level of integrated information systems. At this level you have job-organizational and logistics information at your fingertips, along with the geometrical visualization and analysis tools.

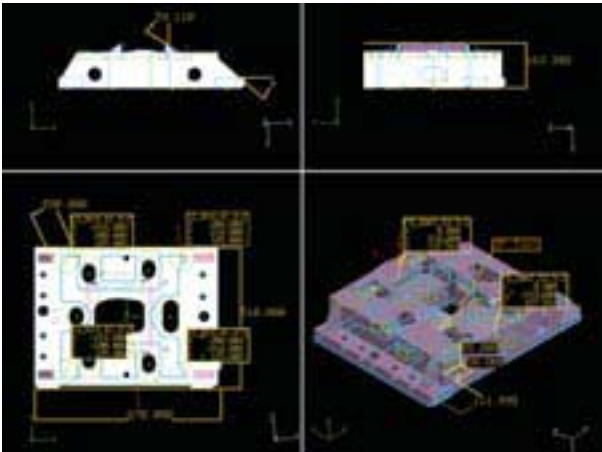




Views for information

The Tebis Viewer offers freely definable views that are just like conventional paper drawings: you can view and size the component or assembly from various perspectives and in a variety of sections.

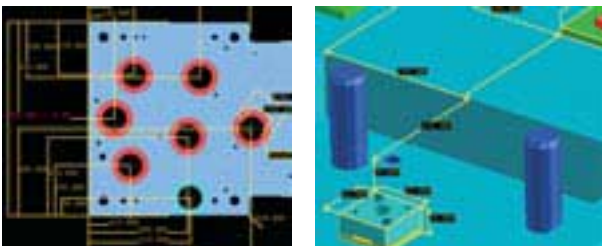
Leaving paper behind, however, the user can always decide exactly what information will be shown, and to what degree of detail. These views can be saved for re-use whenever necessary, for example to answer e-mail queries and for printing.



Retrieve dimensions and tolerances

Use the sizing functions as a quick and easy way to obtain all the geometric dimensions within a component or an assembly: lengths, clearances, diameter and angles. The information about geometric and positional tolerances is equally accessible.

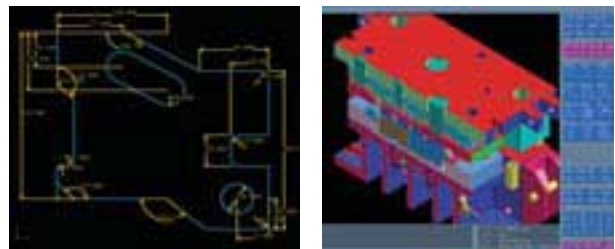
More details can be added subsequently, as required or desired. The intelligent cursor recognizes sizing-relevant objects when it touches them and the sizes are immediately shown on the screen.



Comprehensive functions for drawing and wireframe models

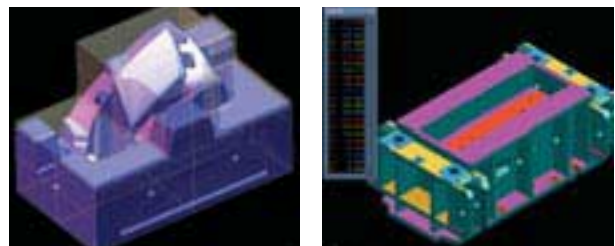
There is an entire toolset of functions for adding extra information and text comments. The GUI is intuitive and very closely modeled on the lines of the Tebis CAD/CAM systems, so users are soon familiar with features such as:

- Easy-to-use drawing and wireframe-model functions
- Convenient real-time section function
- Comprehensive editing options for wireframe model geometries
- Text tags that can be attached to any element in the 3D model



Visualized production processes are a big help in planning and cost-estimation

The high-performance, comprehensive visualization options are a big help even at the early stages of any production process - for example, to define the machining sequences, or order the necessary materials, or specify the steps required and the order in which they will have to be performed (milling, spark erosion).





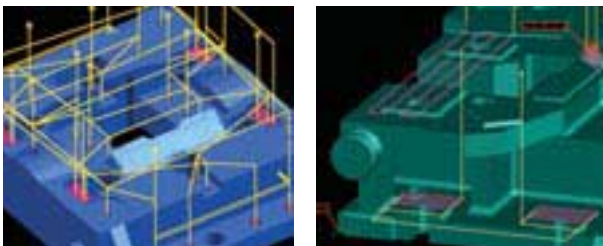
The online sectioning functions produce sections through complex components and assemblies in real time. Useful for obtaining sizes inside the component or for generating a sized view (see illustration on far left).

Rapid, end-to-end communication at the highest visualization level

Viewer technology from Tebis means the flexibility and speed of modern communication routes. Streamlining instead of time-consuming paper documentation and the outlay involved in their compilation, updating, management and distribution.

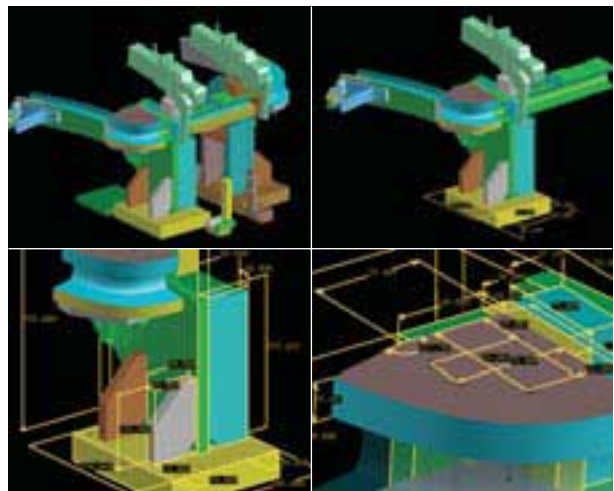
NC programmers generate clamping sketches, document datum points and allowances directly in the CAD file. Their communication with the downline production facilities is along the shortest channels imaginable. No more tedious tracking of NC program documentation on paper.

Assembly workers see exactly what everything should look like, from the entire subassembly down to the individual component parts. They can extract all the assembly and tolerance information they need without one single search through the usual library of conventional paper documentation.

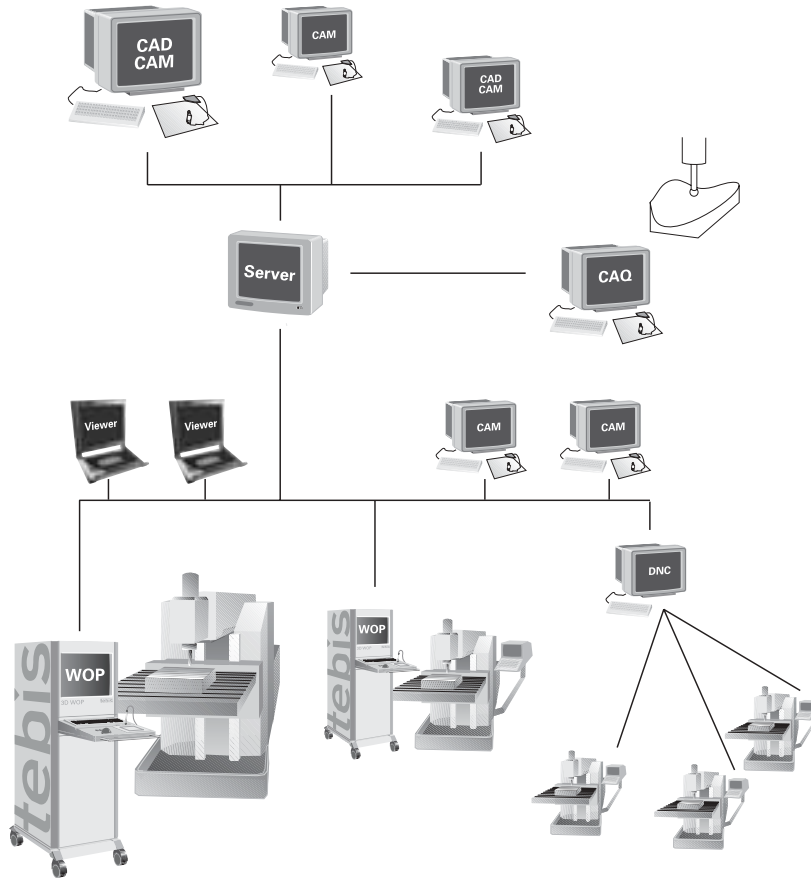


Machine operators on the shop floor observe and simulate the toolpaths provided by the NC programming department and check out the geometries of the blank and the finished component, the clamping arrangements and the tools they have to use. They use the sectioning and simulation options to optimize tool lengths.

The integral commands for postprocessing are there for exporting the toolpaths in whichever controller specific format is required.



TEBIS WORKPLACES IN THE PROCESS CHAIN



Models, molds and tools have to be of outstanding quality, and costs have to be kept down. That calls for methods to keep the entire process trim and efficient, from design through machining.

The Tebis family of products does just that. It links stand-alone CAD and NC workstations into a synchronized process chain. Everyone concerned can work better in a team, because the software integrates their tasks and provides end-to-end support.

The TEBIS CAD software has geometry interfaces to other CAD systems so that surface and solid models can be imported, analyzed and integrated into design processes. With minimum operator intervention, TEBIS CAM modules compute NC programs for three-axis and five-axis milling. TEBIS WOP systems, TEBIS VIEWER and TEBIS DNC stations seamlessly extend CAD/CAM all the way to the machining centers.

TEBIS systems are custom-configured and matched to process requirements, so that companies benefit instantly from higher productivity and cost efficiency.

CAD, CAD/CAM AND CAM SYSTEMS

CAD MODULES:

- 3D MODELING
- EXTENDED SURFACE DESIGN
- DIGITIZED DATA PROCESSING
- REVERSE ENGINEERING
- GEOMETRY INTERFACES

CAM MODULES:

- 3-AXIS MILLING
- RESIDUAL STOCK MACHINING
- ROUGHING IN LAYERS
- 2.5D DRILLING AND MILLING
- 5-AXIS MILLING
- 5-AXIS LASER CUTTING
- POSTPROCESSORS

IN ANY CONFIGURATION

WORKSHOP FRONTENDS

FOR VIEWING AND ANALYZING CAD DATA

- TEBIS VIEWER STATION

FOR TRANSFERRING; VIEWING AND EDITING NC PROGRAMS

- TEBIS DNC STATION

FOR NC PROGRAMMING IN THE WORKSHOP

- TEBIS WOP STATIONS

CAQ STATIONS

FOR IMMEDIATE NOMINAL/ACTUAL COMPARISONS ON COORDINATE MEASURING MACHINES

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