

EXAPTsolid

3D-Solid-models offer a maximum of realistic illustration. If you have part models already available as solids, it is obvious to use them also for the machining modelling with EXAPTsolid. Solid-objects of the machining environment like clamping devices, machine aggregates etc. can also be included for the NC programming with EXAPTsolid.

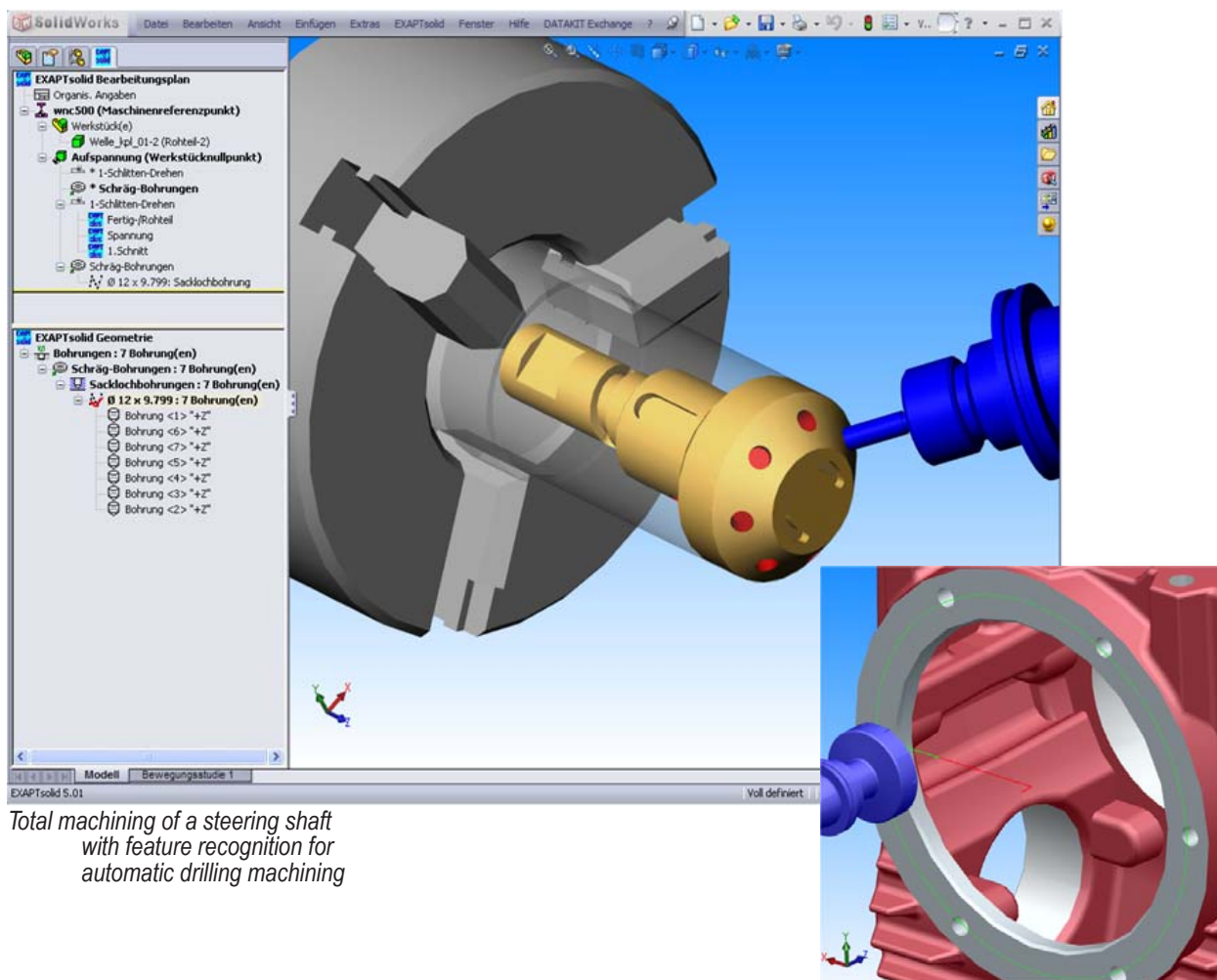
EXAPTsolid offers a powerful, reality-oriented visualisation and result simulation. The accompanying structure trees for the workpiece model and the machining plan allow in addition to give a better overview on one side, even if a workpiece is very complex, and on the other side it is very

useful to recognize all details relevant for manufacturing. The way from the part model up to machined workpieces in the shopfloor becomes faster, more reliable and therefore more profitable with EXAPTsolid. It is not only possible to generate model-determined but also freely-defined tool paths as it is often required for manufacturing reasons.

Feature-based operation planning is giving considerable potentials. The AFR-technique of EXAPTsolid can be used to automatically recognize features at a solid model - like different types of drill holes or pockets and so on - and simplifies the conversion process from the function-

oriented part model up to the manufacturing-oriented machining model. For cases not covered by the AFR-technique, the IFD-technique (interactive feature definition) is optionally available. Functions for the manufacturing-oriented reprocessing of features offer a plus in professionalism.

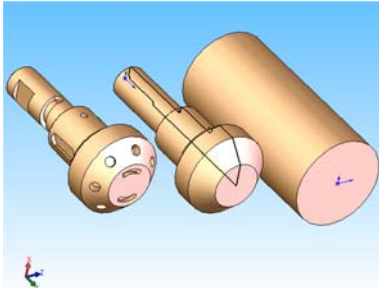
The manufacturing feature technique available in EXAPTsolid supports the user to define machining operations interactively to store them as specific knowledge and to use it during the NC programming for a selected feature in an automated way. Such flexible standardizable machining processes offer a high efficiency potential.



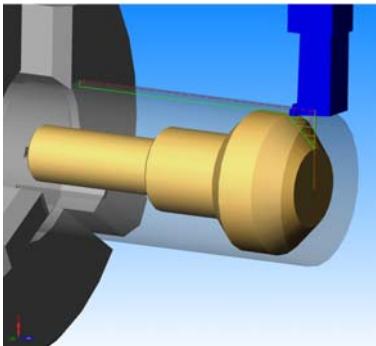
Total machining of a steering shaft with feature recognition for automatic drilling machining

Multi-side machining of a housing with automatic tool path- and process data-determination

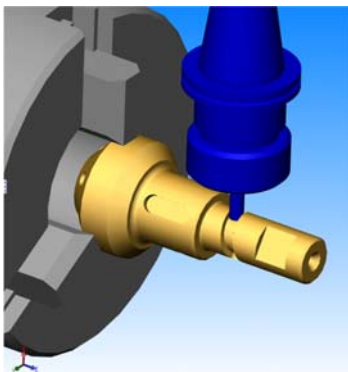
Performance characteristics



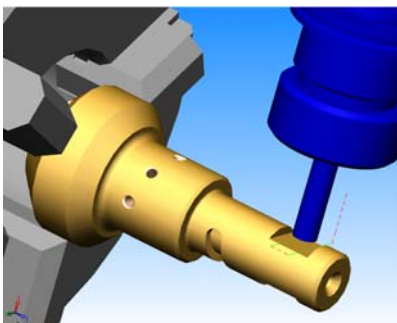
Modelling of the steering shaft graduated in finished, turned and unfinished part



Turning operation automatically determined after derivation of the cutting area between the solid-models unfinished part and turned part



Operation steering groove milling



Operation two-flats-area milling

System modules

- EXAPTSolid Kernel OEM (Art.-no. 20313) basic version for solid modelling
- EXAPTSolid Basis (Art.-no. 19865) basic version for the transfer, preparation or generation of solid models for the NC program generation in connection with EXAPTplus
 - connectivity over standard formats or system-dependent formats of merchantable CAD-systems
 - consideration of conditions of the micro-geometry
 - efficient determination of model-unlinked tool paths
 - structured machining plan bi-directional to the model
- EXAPTSolid AFR Bohren (Art.-no. 19866) extension level for the NC planning with automatic feature recognition (AFR) for drillings and interactive manufacturing-oriented preparing/completing of CAD-feature-information
- EXAPTSolid BO Bohren (Art.-no. 19957) extension level for the assignment and dimensioning of machining objects for the manufacturing-oriented drilling also when using technology tables
- EXAPTSolid NDI Bohren (Art.-no. 20396) extension level for the automatic transfer of geometry-accompanying additional data from the model or tables to complete CAD-drilling-feature (depending on data source adaptations are needed)
- EXAPTSolid IFD Fräsen (Art.-no. 19956) extension level for the interactive process-oriented selection and preparation of geometry areas into feature for milling
- EXAPTSolid BO Fräsen (Art.-no. 19958) extension level for the assignment and dimensioning of machining objects for the manufacturing-oriented milling machining also when using technology tables.
- EXAPTSolid IFD Drehen (Art.-no. 20397) extension level for the process-oriented selection of geometry areas for feature definition or for the automatic derivation of turning profiles from a solid models (suppression of form feature for other manufacturing processes)
- EXAPTSolid SIMU (Art.-no. 19868) extension level for the solid-oriented, manufacturing-close NC-planning simulation
- EXAPTSolid TR-CATIA V4/V5 (Art.-no. 19887/20435) Transfer Interface CATIA V4/V5 EXAPTSolid with extension levels for model analysis, selection of parts/part areas and model repair
- EXAPTSolid realSimu-Basis (Art.-no. 20290) Basis level with general functions for machining simulation with material removal and process peripherals
- EXAPTSolid realSimu1 (Art.-no. 20291) extension level on the basis of an internal neutral EXAPT NC control format and model with a standardised kinematic machine model for display of workpiece, clamping device and assembled tools
- EXAPTSolid realSimu2 (Art.-no. 20292) extension level with additional arithmetical collision control between workpiece/clamping device and assembled tool
- EXAPTSolid realSimu3 (Art.-no. 20293) extension level with additional possibility for configuration of kinematic models and arithmetical collision control in the whole kinematic chain: tool with carrier, workpiece with carrier and machine with aggregates