# CAD INTEROPERABILITY API

CORETECHNOLOGIE

3DKERNEL_IO

Embedding our API – makes all current CAD formats available in your application – Cost and time efficient.

INTEROPERABILITY SOLUTIONS

Today engineering software companies and their customers are looking for new ways to read a variety of 3D CAD data formats. 3D_Kernel_IO is the leading API with native readers based on the C ++ programming language. Allowing efficient, precise and independent access to all native and standard formats.
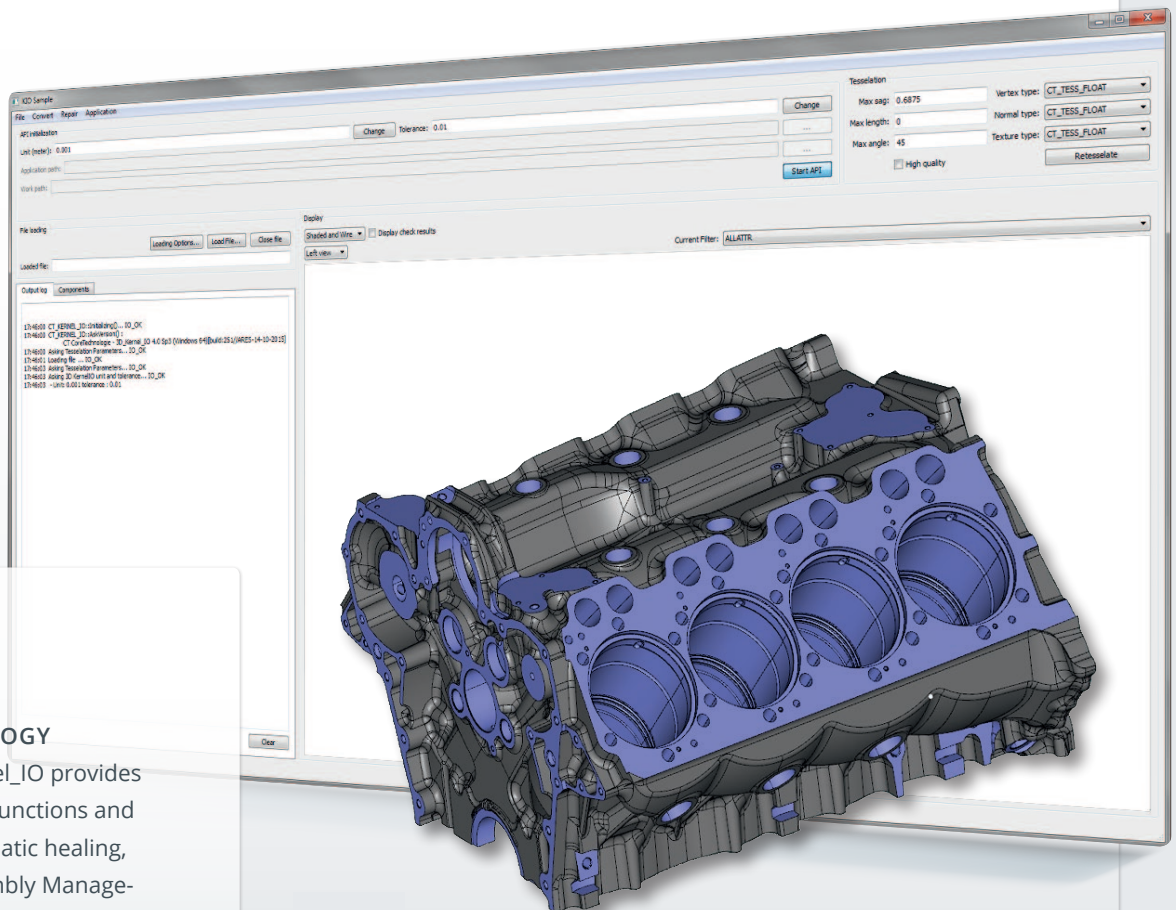
PROVEN TECHNOLOGY

In addition 3D_Kernel_IO provides unique and proven functions and modules with automatic healing, PDQ-Checker, Assembly Management, Precision Tessellation and Model Comparision to expand the capabilities of your software.
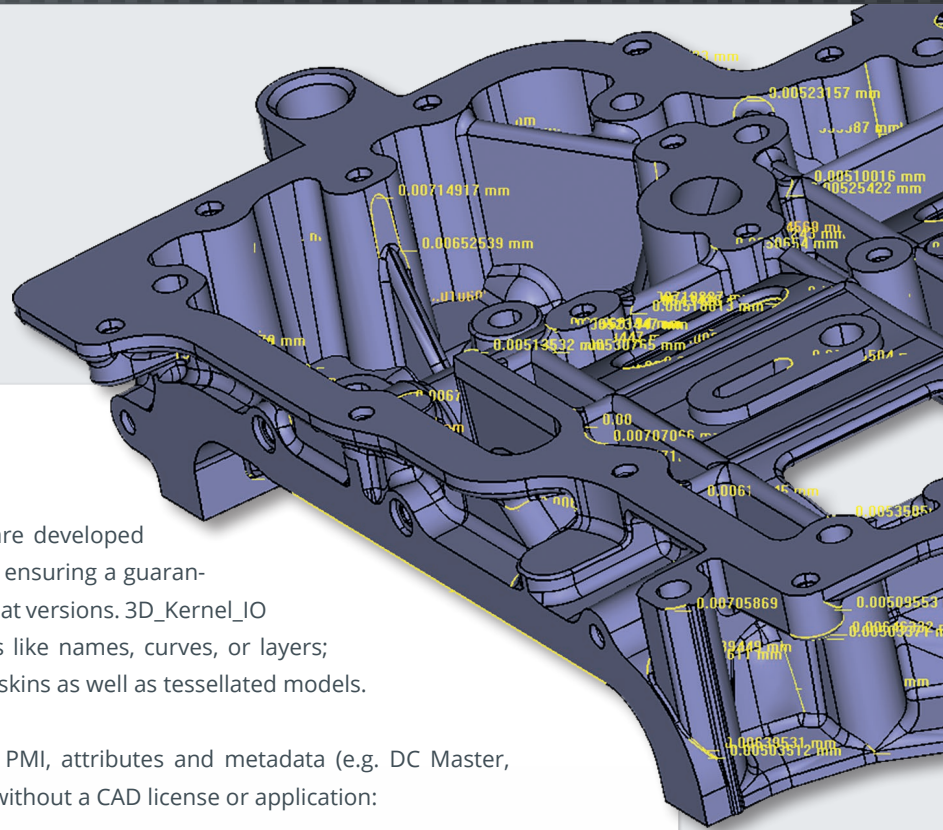
NATIVE INTERFACES

All standard and native interfaces are developed and maintained by CoreTechnologie ensuring a guaranteed support of the newest CAD format versions. 3D_Kernel_IO reads assembly structure, attributes like names, curves, or layers; entities like points, B-Rep solids and skins as well as tessellated models.
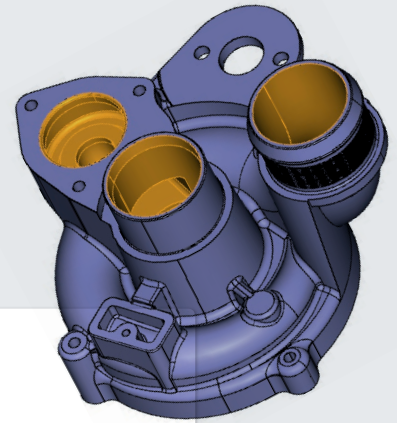
Furthermore, features with history, PMI, attributes and metadata (e.g. DC Master, publications) are directly accessible without a CAD license or application:

SUPPORTED FORMATS

- NX™
- CATIA®
- Creo®
- SOLIDWORKS®
- ProE®/Wildfire
- Inventor®
- IDEAS™
- JT-Format
- XT-Format
- STEP AP 203/214/242
- ACIS®
- IGES
- and many more

ADAPTIVE CONVERSION AND HEALING

During the conversion process, 3D models are adapted to the tolerance and mathematics of the target system to provide exceptional quality. Healing functions will automatically correct failures – such as gaps, overlaps – twisted and mini-faces. Even a set of single surfaces can be sewn together automatically into watertight solids with user-defined accuracy.

Available on Windows,
Linux and Mac for 64 and 32 Bit Platforms.

EASY TO INTEGRATE

The interrogation functions are standardized for all formats. Therefore, 3D_Kernel_IO can be embedded very easily and rapidly available in your application.

EASY TO USE

3D_Kernel_IO also includes a simple sample application, easy to use and useful to verify the results of your integration and test various options and commands that the API offers. It also comes with complete documentation as well as descriptive programming samples.

FLEXIBLE LICENSING

3D_Kernel_IO allows software editors to satisfy all their interoperability needs, dealing with only one vendor, one API and one predictable and affordable annual licensing fee or per license cost. The licensing system can be adopted as an open library with code protection, or optional locked API based on Codemeter License manager.
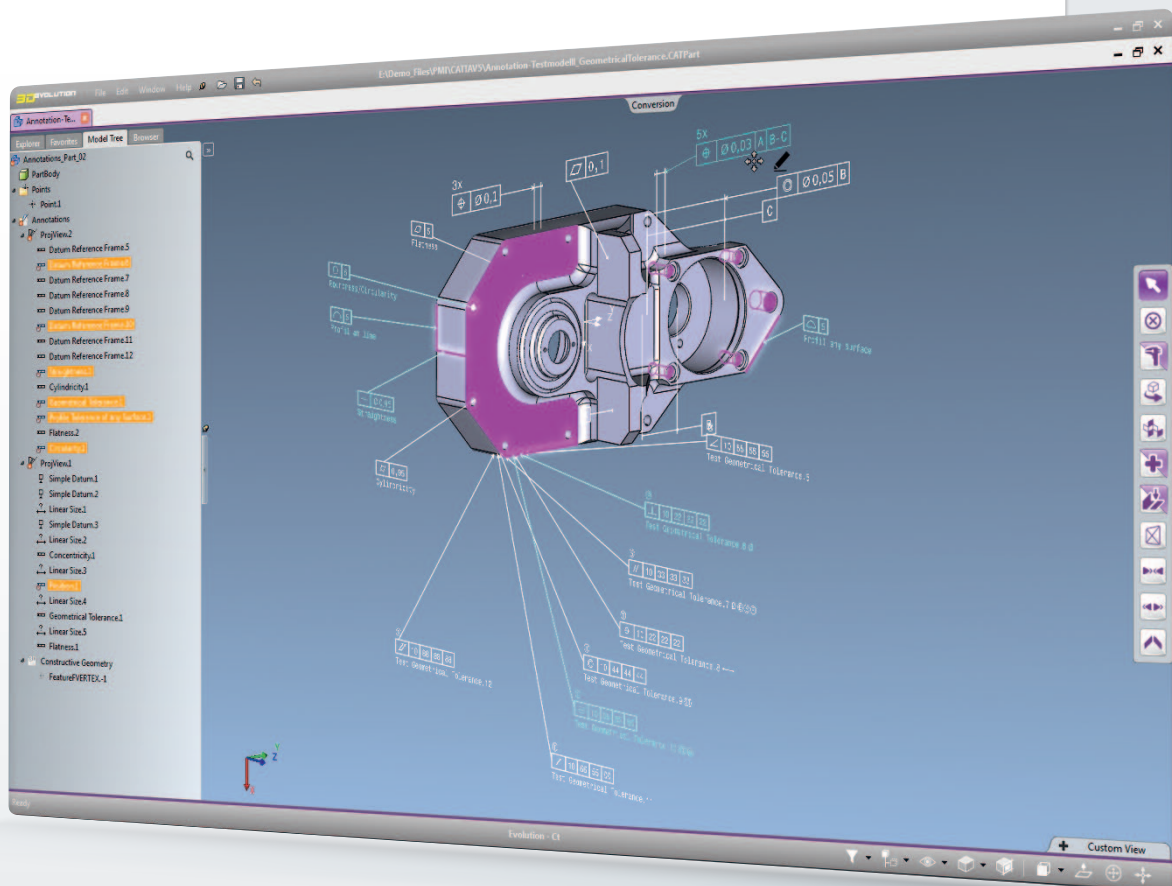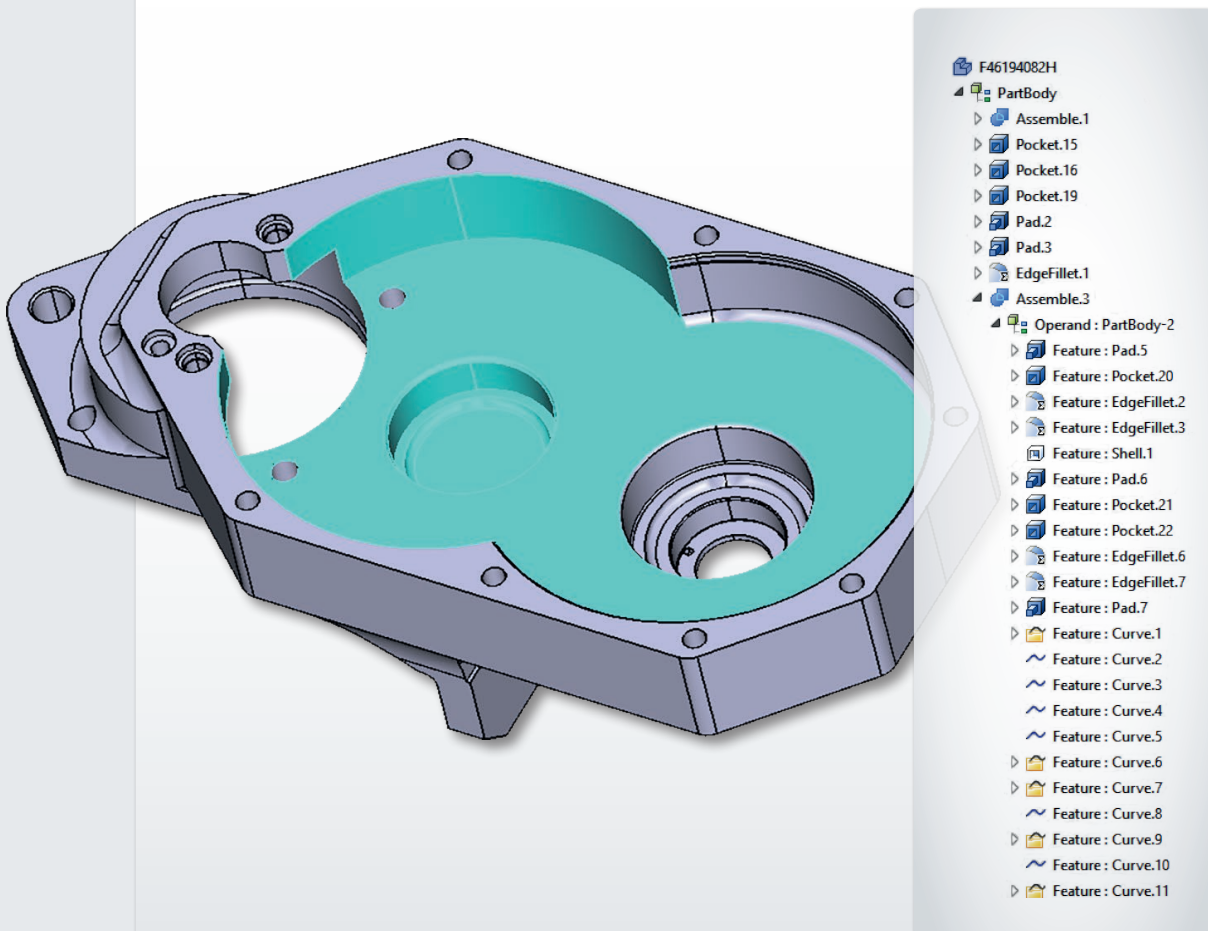
PMI INFORMATION

3D_Kernel_IO native interfaces also reads PMI information like dimensions, tolerances, annotations, datum's and text. All links to the geometry provided; is mandatory to use PMI in Metrology and CAM applications. Generalized interrogation functions allow easy access to PMI data of any CAD format providing important information for a seamless PLM process.

Providing specific functionalities
for CAD, CAM, CAE, VR and Metrology.

UNIQUE FEATURES

3D_Kernel_IO is worldwide the unique tool for history and features. The extraordinary tool maps the construction history and parameters directly from the binary file without requiring access to a license of the source CAD system. Additional 3D_Kernel_IO native interfaces read featured information and PMI of threads, holes, chamfers, filets, patterns, drafts, pockets, extrusions, other feature types as well as assembly features. The data structure represents all feature types used by today´s CAD systems.


HISTORY AND PARAMETRIC INFORMATION

The associated faces of each feature on the B-Rep model will be indicated by 3D_Kernel_IO and can be traced easily. Threads information is provided, which is important for annotations and PMI that reference construction elements like sketches, planes or datum axes.

GEOMETRIC COMPARISON

3D_Kernel_IO can find geometric differences between two objects. The Kernel conveniently allows for comparison of objects to part solid, body or face; while setting minimum distance detected. The parameters can be set for the comparison of distance of minimum and maximum color variance by the type of part solid, body or face.
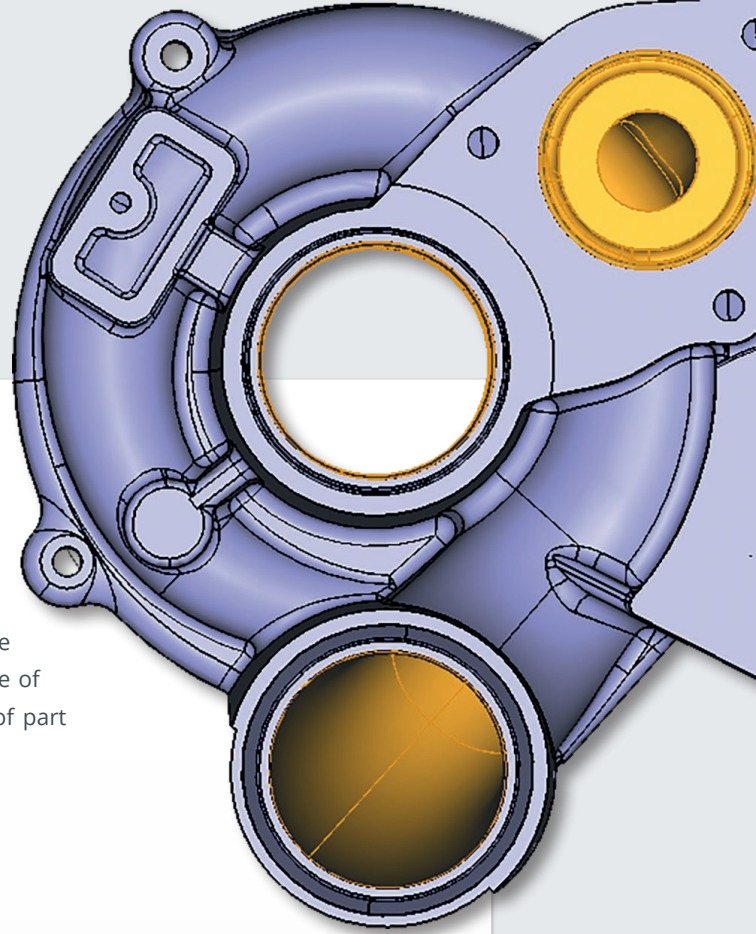
TESSELATION

The accurate and fast tessellation of 3D models as well as healing functions for triangulated models optimize CAD data for digital mock-up, virtual reality and high-end rendering. Parameters for maximum chord deviation, triangle size, and the angle between adjacent triangles are used for B-Reps or the recalculation of triangulated models. VRML, JT and STL are available.
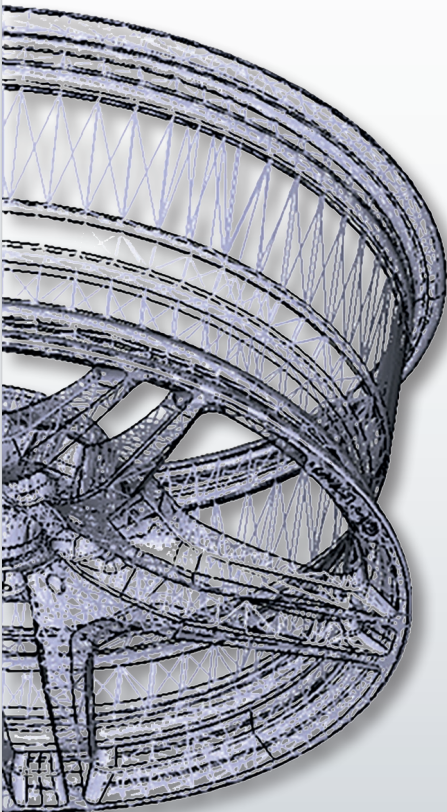
CORETECHNOLOGIE

ABOUT CORETECHNOLOGIE

CoreTechnologie is an international software developer with locations in Germany, France, USA, Italy, Japan, India and Great Britain. In the CAD interoperability universe, CoreTechnologie is the leading global producer of the most comprehensive 3D conversion and collaboration software tools available today. Our goal is future-oriented development and customer centric technology to optimize interoperability, thus helping organizations to streamline their Product Life Cycle management. We work with highly professional automated processes and we are always one step ahead from the latest technology. The top priority for us is that our software has the possibility to adapt to all customer requirements.

The customer portfolio by CoreTechnologie comprises more than 400's customer from several sectors like automotive-, aerospace-, mechanical engineering- and consumer goods industry.

Detroit   Dublin   Frankfurt
Lyon   Turin
Seoul
Tokyo
Casablanca
Bangalore   Shanghai

- Subsidiary
- Development Center
- Main-Reseller

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