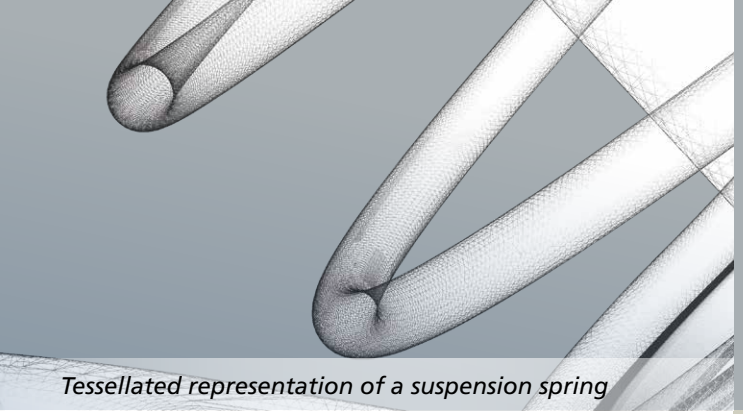

Tessellated representation of a suspension spring

Tessellation parameters

CAD2Vis offers various tessellation parameters, such as normal and surface tolerance. For easier usage of these parameters, the system offers four different pre-settings/ default settings for different requirements.

Extensions

CAD2Vis can be extended on request, for example with:

- additional input and output formats, e.g. 3DXML, Parasolid, Rhino, Solid Edge, XCGM
- additional elements in input and output formats, e.g. PMI, GD&T
- additional functionality like e.g. decimation of the generated triangular set
- additional output information (meta data)
- Visualization component for generated data

We implement these extensions customer-specifically. We will be happy to answer any questions you may have.

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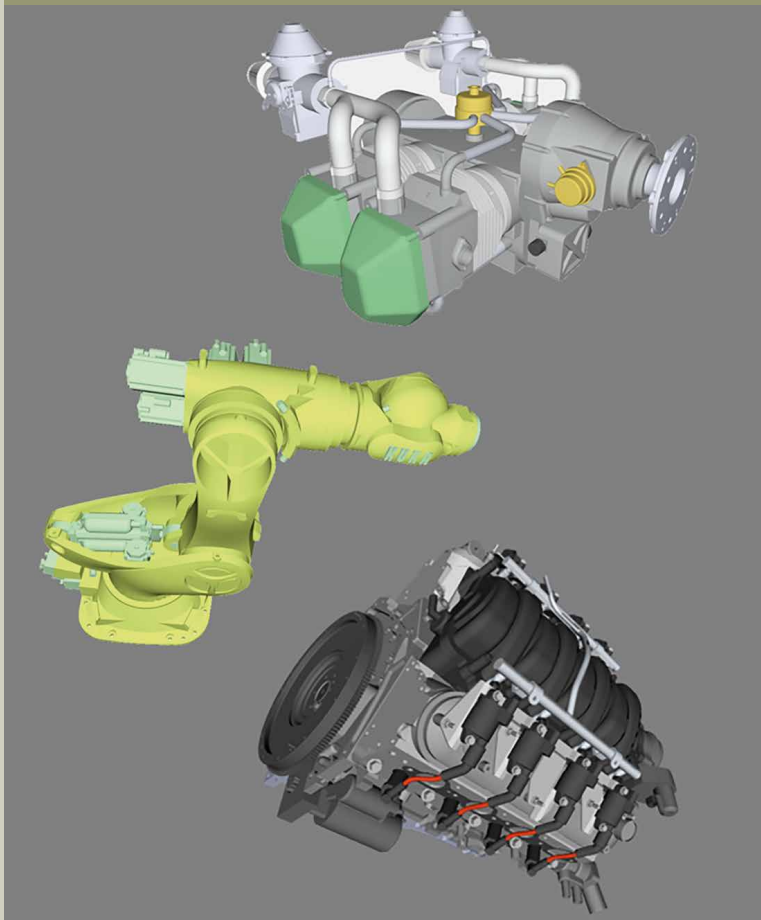
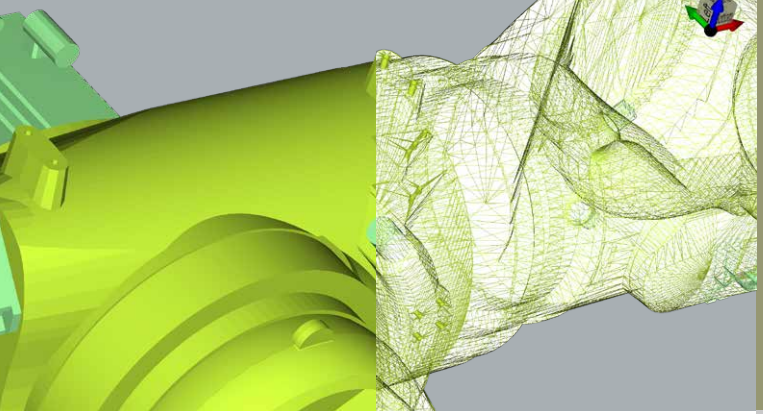
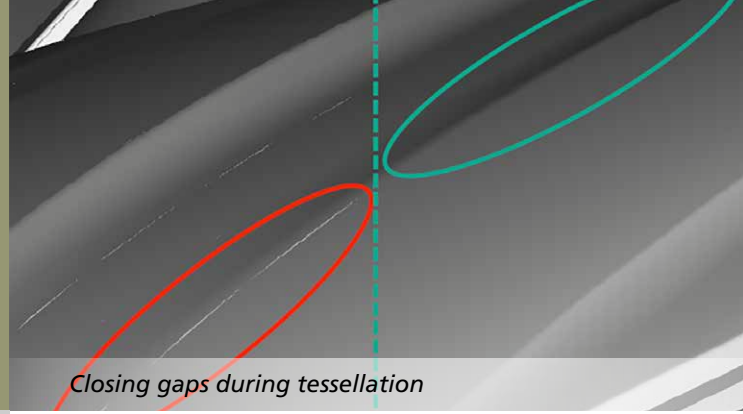
CAD2Vis

DATA CONVERSION FOR VISUALIZATION AND CAD







Closing gaps during tessellation

Native CAD Formats

CAD2Vis is a software that enables users to convert CAD data into CAD and visualization data formats without the need for a license of the CAD source system.

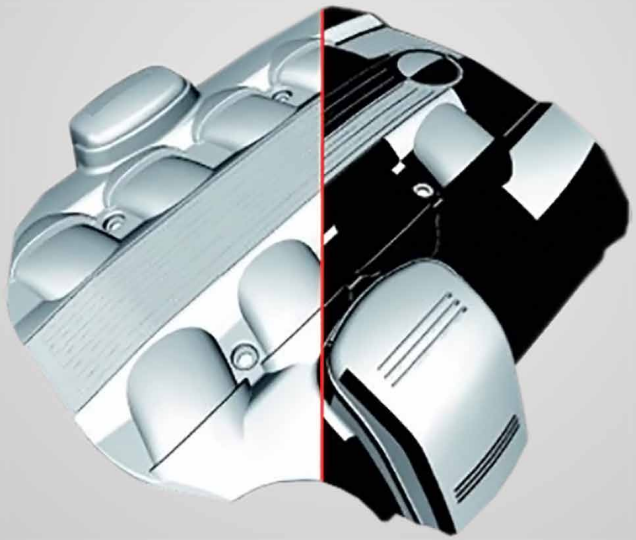
In particular, native CAD formats, such as CATIA, NX or even Pro/ENGINEER, can be converted.

CAD2Vis for software providers

Manufacturers of software products (ISVs) can integrate CAD2Vis as a library into their own software products and thus use (import, convert and export) the desired CAD formats.

High resolution down to the last detail

CAD2Vis offers the possibility of storing the geometry – contained in the CAD data – as NURBS in a visualization data format in order to create high-quality visualizations, e.g. by means of raytracing. This procedure avoids approximation errors and offers consistently good visualization quality even at high zoom factors.



Only data conversion with stitching achieves a gap-free tessellation and homogeneous alignment of surface normals (left) compared to standard methods (right).

Input formats (CAD)

CATIA V4 / V5	SolidWorks	NX	Pro/E
JT (BRep & tesselliert)	STEP	Inventor	IGES
VDA-FS	ACIS		

Output formats (CAD)

CATIA V4 / V5	STEP	IGES	VDA-FS	ACIS

Output formats (Visualization)

X3D (tesselliert)	OpenInventor 2.0 (tesselliert oder NURBS	VRML 2.0 (tesselliert)	OpenSG (tesselliert oder NURBS)

Filtering options

CAD2Vis allows filtering of certain information from the input file. For example, layer filters are widely common in CATIA files and can be used to suppress the conversion of auxiliary geometry. In addition, the user has the option of specifying which color information from the input file should be transferred to the output.

Repair of CAD data

An important feature of CAD2Vis is the seamless tessellation. Gaps existing in the CAD model can be automatically closed to a certain extent and surface normals can be aligned homogeneously (see Fig.1 and Fig. 2).