



## +CAD Module Technical Datasheet

The +CAD module allows the import and interactive positioning of CAD models within image data. The resulting combined models can then be exported as multi-part CAD models or, using +FE, converted automatically into multi-part finite element or CFD meshes.

### Import formats

- » Images and surface models from ScanIP
- » STL
- » IGES
- » STEP/STP
- » 3DS

### Export formats

- » To ScanIP (for meshing)
- » STL

### User Interface

- » User controlled view layout and dockable toolbars
- » Conversion of CAD and STL from a surface to image data by voxelisation, three methods:
  - › Accurate for manifold objects: when converting watertight object
  - › Accurate for non-manifold objects: when converting non-watertight object
  - › Robust: Less accurate but failsafe option for poor quality objects
- » CAD primitive generation:
  - › Cuboid
  - › Cylinder
  - › Sphere
  - › Cone
  - › Tube

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- » Manipulate CAD objects both interactively and by absolute position:
  - › Transform
  - › Rotate
  - › Scale: aspect ratio preserving or along specified axis
- » Use global, local or defined axis for object manipulation
- » Image resampling
- » Interactive clipping box for section views
- » Range of visualisation and rendering settings:
  - › Blending functions: Ray casting, texture mapping
  - › Colour mapping
  - › Opacity mapping
  - › Lighting controls
  - › Vertex line visibility
- » Wizard tool allows shelling and adding a range of internal structures flexibly to any object

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#### About Simpleware Ltd.

Simpleware develops world-leading software solutions for the conversion of 3D image data into high-quality CAD, Rapid Prototype, CFD and Finite Element models. Simpleware customers range from international blue chip corporations to research institutes and universities world-wide.