PHOENICS Update June 2013
CAD to CFD
New features for DATMaker

PHOENICS DATMaker

DatMaker is now used by default when importing single or multiple CAD files, to translate the CAD to the .DAT format used by PHOENICS. The supported formats are, as before:-

- **STL** - Stereo lithography file available in many popular CAD programs as an export format.
- **DXF** - Drawing Exchange Format File (AutoCAD)
- **3DS** - Autodesk 3ds Max
- **WRL** - Virtual Reality Modelling Language file
- **DW** - Files generated by DesignWorkshop
- **AC** - Files generated by AC3D
- **IV** - Files generated by Open Inventor
- **DAE** - Files from Collada

Simlab Composer

Installations of PHOENICS created after May 2013 can utilise the **Simlab Composer** package from Simulation Lab Software Inc - www.simlab-soft.com.

PHOENICS checks if the Simlab Composer is activated and, if available, then uses this utility to convert any files falling outside of the standard list (shown above.) It does this, without the need for user interaction, first into 3DS format and then to the default .DAT format needed by PHOENICS.

The Simlab Composer is bundled with PHOENICS. All that is needed is an unlocking request to be made to CHAM, which holds a number of Simlab licence strings. There is a cost of $100 per licence which may (or may not) be passed on to the customer depending upon the circumstance.

The Simlab Composer can be used in two different ways: 'passive' or 'active'. DATMaker uses Simlab in passive mode for the direct conversion of 3D CAD files into the PHOENICS .DAT geometry format without user interaction.

All the file extensions listed can be converted automatically in this way.

When used in active mode, the user accesses Simlab via the PHOENICS –VR Utilities menu. Simlab can also be used, for example, to create 3D PDF files for emailing results or geometry to customers.

Format	File ext
3D Studio	.3ds
3DXML	.3dxml
ACIS	.sat
Collada	.dae
Inventor	.iam .ipt
Solid Works	.sldasm .sldprt
Rhino	.3dm
Solid Edge	.asm .par .psm
STEP	.step .stp
Wavefront	.obj
IGES	.iges .igs
PDF	.pdf
STL	.stl
DWG	.dwg
DWF	.dwf .dwfx
DXF	.dxf
SketchUp	.skp
Simlab Composer	.sim
Simlab Archive	.zim

Inivis AC3D

A further utility already built into PHOENICS' Utilities is called **AC3D** from Inivis®.

As well as creating shapes from scratch, AC3D can import a variety of additional formats that can be edited and/or exported in the native .DAT format used by PHOENICS.

AC3D from Inivis® has a range of output/input formats – taken from www.inivis.com/features.html. Prices start from $89.95. The interface is in-built into PHOENICS but the licence must be obtained directly from Inivis.

Format	File ext
3D Studio	.3ds
AC3D	.ac
Collada	.dae
DXF	.dxf
Inventor	.wrl
Obj (Wavefront)	.obj
STL (ascii)	.stl
VRML 1.0	.wrl
VRML 2.0	.wrl

Okino NuGraf

Alternatively, products such as Okino® **NuGraf** can also import, repair, convert and export a variety of formats, including the 3DS format readily accepted by PHOENICS.

NuGraf is a fast, powerful and comprehensive 3D CAD/DCC/VisSim data translation, optimization, 3D rendering and scene composition program for Windows. Prices start from $495 plus add-ons.

OKINO® NuGraf supports:

(See www.okino.com/conv/filefrmt_3dimport.htm for up-to-date details.)

Format	File ext
3D Studio	.3ds
3Ds max	.max
Alias triangle	.tri
Cinema 4d	.c4d
Collada	.dae
DirectX	.vr
Rhino	.3dm
DXF R12	.dxf
Inventor REVIT	.dwf .dwg
Wavefront	.obj
Solid Edge	.ldr
Solid Works	.dat
PRO Engineer	.mpd
STEP	.lwo
IGES	.massive
Parasolid	.txt

CAD to CFD SimScene

A stand-alone, special-purpose CAD to CFD PHOENICS SimScene has been created to demonstrate and facilitate the straightforward conversion of the file formats available within DATMaker and Simlab.