



## CADTranslator™

### Imported 3D Geometry Model

- IGES or Parasolid format

### CADTranslator

- Supports import and export definition of blade, hub, shroud, and edges
- Creates streamwise curves from any surface patchwork

### Agile Engineering Design System

- Turbomachinery-specific CAE and CAM tools that import external CAD geometries using CADTranslator

### Final Manufactured Part

- CADTranslator captures complex turbomachinery geometries such as exact leading edge definition

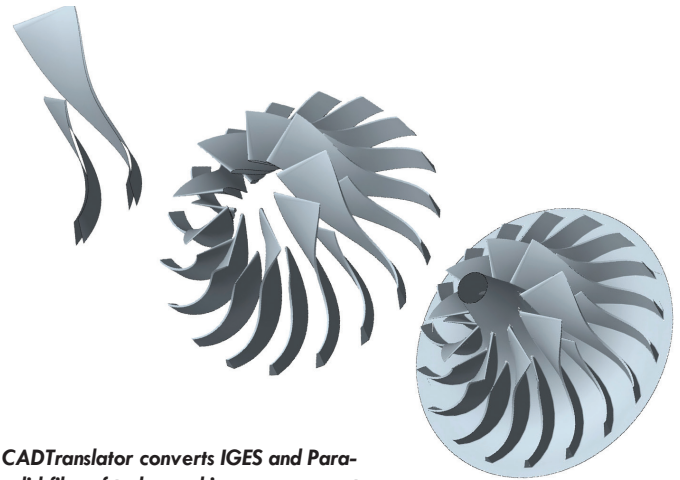
TRANSFORM IGES® AND PARASOLID® FILES into formats appropriate for use with AxCent® and MAX-PAC® with this easy-to-use geometry conversion tool. With CADTranslator, CATIA®, Pro/ENGINEER®, Unigraphics®, SolidWorks®, AutoCAD®, and SolidEdge® users can smoothly integrate the Agile Engineering Design System® into their individual design approaches. The result allows users to incorporate geometry modeling, fluid and structural analysis, and manufacturing into their larger turbomachinery development processes simply, quickly, and accurately.

### Benefits

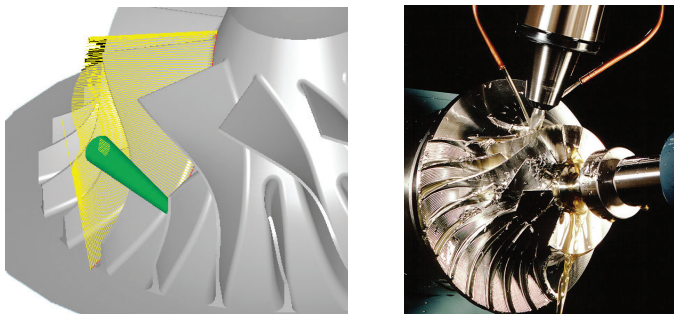
- Easy-to-use off the shelf solution that quickly fits into larger turbomachinery development processes
- Works with all CAD tools that export to IGES or Parasolid formats
- Eliminates the time and cost of developing a translator tool internally
- Increases confidence in geometry conversion accuracy for the Agile Engineering Design System, leading to additional confidence in CAE and CAM accuracy
- Utilizes Concepts NREC expertise in turbomachinery design, analysis, and manufacturing



AxCent is a design and geometry modeling application which prepares 3D turbomachinery models for further investigation within Concepts NREC's Agile Engineering Design System. These investigations may include fluid flow, structural, efficiency, and operational analyses. Within the Agile Engineering Design System, users can quickly and easily analyze designs and use AxCent to make geometry modifications that improve efficiency and operation. To prepare a CAD model that has been created outside Agile Engineering Design System for one or more of these operations, users can convert the 3D geometry data into the AxCent format using CADTranslator.



**CADTranslator converts IGES and Parasolid files of turbomachinery components and assemblies into formats that can be used with the design, analysis, and manufacturing tools available in the Agile Engineering Design System.**



**CADTranslator quickly and easily transforms 3D geometry models into data file formats for fabrication.**

As a turbomachinery-specific tool, the translator recognizes models of impellers, blisks, diffusers, and stationary vanes during import and export. During the conversion process, the user defines the axis of rotation; flow direction; and surface assignments such as suction surface, pressure surface, hub, and shroud. Once converted, the model is ready for use with AxCent and the other analysis applications available in the Agile Engineering Design System. Any design improvements to the geometry model that arise from

AxCent and analysis iterations can be exported for further use in external CAD tools as well, quickly and easily providing users with complex spline data as well as complete 3D models.

To prepare a model for fabrication, CADTranslator converts the model's geometry data into a coordinate-based flat text file. This conversion captures complex machining geometries, such as blade leading edge profiles. The converted data is then ready to use with MAX-PAC, CAM software specifically developed for use with turbomachinery components. Having tools that increase the accuracy of CAE and CAM results is essential to optimizing turbomachinery efficiency. Combined with the Agile Engineering Design System applications, CADTranslator offers an integrated solution that provides a competitive edge to those working with time and budget constraints.

**Agile Engineering Design System® Applications**

		Radial		Axial					
		Compressors	Pumps	Fans & blowers	Turbines	Compressors	Pumps	Fans & blowers	Turbines
Preliminary design	COMPAL®		✓						
	PUMPAL®			✓					✓
	RITAL™					✓			
	FANPAL™				✓				✓
	AXIAL™							✓	✓
Detailed design	AxCent®	✓	✓	✓	✓	✓	✓	✓	✓
CFD	Pushbutton CFD®	✓	✓	✓	✓	✓	✓	✓	✓
FEA	Pushbutton FEA™	✓	✓	✓	✓	✓	✓	✓	✓
Optimization	TurboOPT II™	✓	✓	✓	✓	✓	✓	✓	✓
CAM	MAX-PAC™	✓	✓	✓	✓	✓	✓	✓	✓

**CORPORATE HEADQUARTERS**

217 Billings Farm Road  
 White River Junction, VT 05001-9486 USA  
 Phone (802) 296-2321 • Fax (802) 296-2325  
 E-mail: sales@ConceptsNREC.com  
 Web: www.ConceptsNREC.com

**BOSTON OFFICE**

285 Billerica Road, Suite 102  
 Chelmsford, MA 01824-4174 USA  
 Phone: (781) 935-9050 • Fax: (978) 596-0622

**CONCEPTS NREC**

Agile Engineering Design System, AxCent, AXIAL, COMPAL, FANPAL, MAX-PAC, PUMPAL, Pushbutton CFD, Pushbutton FEA, RITAL, and TurboOPT II are registered trademarks or trademarks of Concepts ETI, Inc. Other company, product or service names may be trademarks of their respective owners.

**Concepts NREC design software is compatible with all commercial design packages.**