XVL Studio Features and Benefits

XVL Studio is available in three versions: Basic, Standard and Pro.

- ***Basic:*** 3D authoring tools, including saving dimensions, generating cross-sections, annotations, colors.
- ***Standard:*** Adds to ***Basic***, the capabilities to author animations/processes and edit part attributes.
- ***Pro:*** Adds to ***Standard***, the capabilities to check interference and clearances.

Features	Benefits	Basic	Standard	Pro
Full featured viewing: Zoom, pan, rotate, measurement, annotation, texture mapping, cross-sectioning of your 3D data.	Rapidly access 3D data for additional authoring, measurement, etc. as a standard part of our engineering tools.	✓	✓	✓
Assemble parts from multiple CAD systems or files after conversion to XVL.	Easily handle multiple CAD formats from different CAD systems.	✓	✓	✓
Import and export the following formats as standard: 3D PDF, 3ds, DXF, IGES, OBJ, STL, U3D, VRML.	Import industry-standard neutral formats to enable immediate use of your 3D data in XVL Studio.	✓	✓	✓
Create parts lists and share them using XVL, Excel, PDF or HTML.	Build accuracy in parts ordering through the interactive use of 3D and related parts lists and BOMs.	✓	✓	✓
XVL - the industry's most compressed and accurate 3D format.	Be able to edit data in XVL Studio and view results on lower specification PCs, send 3D data faster and more efficiently.	✓	✓	✓
Automatic Update: After an engineering or design change, the new 3D data can be automatically updated in XVL Studio to repeat actions and changes made to the original data.	Decrease time spent on arduous changes and improve efficiency during engineering change order processes.	✓	✓	✓
Work Instructions: Create and Deploy Step-by-Step Work Instructions.	Clear, current and accurate instructions which are attached to the interactive 3D model – increasing understanding and reducing training time.		✓	✓

Animation Definition: Define keyframe animation, and automatic assembly/disassembly animations, with multiple camera views, part visibilities, and events.	Quickly understand the structure of 3D assemblies by rapidly exploring all elements to a design. Keyframe tools deliver greater flexibility and control over the results.	✓✓
Animations as AVIs: Save out animations as AVI files, as well as save as part of the 3D XVL model.	Provides another standard format for delivering 3D assembly animations	✓✓
Process Design and Verification: Comprehensively design manufacturing processes, calculate working time. Check each step using process animations and path authoring (see below). Check Human interaction.	Quickly and effectively design and test processes for production and manufacturing. Build productivity and efficiency by checking manufacturability early in the production process, long before prototype begins.	✓✓
* Add resources, dynamically check collisions between parts.		✓
Human Interaction: Add human models to test assembly and manufacturability with humans involved. Add tools and dynamically check reach, position and interference.	Check production assembly and repair operations with humans and tools involved.	✓✓
Process Animation: Create process animations which can be played interactively with the process tree, defined in XVL Studio. Dynamically check for collisions. (XVL Studio Pro only).	Delivering assembly instructions in 3D animation brings faster understanding and intuitive training of shop floor and assembly staff. Can be delivered in XVL, Excel and HTML.	✓✓
Path Authoring Tools: In Process Design, create and manipulate paths to avoid collisions between parts and check and define detailed movement of parts.	Build productivity and efficiency by checking manufacturability of the product and understand realistic movements of parts in process animations.	✓✓
Advanced visualization with multiple windows and snapshots.	Display multiple views simultaneously and save views for future reference and communication.	✓✓✓
Static and Dynamic interference checking and clearance analysis including individual parts or whole assemblies. Output interference and clearance results to spreadsheets.	Perform accurate design reviews on entire assemblies prior to the completion of design. Build highly accurate designs fast and effectively.	✓
Automatically create and save 2D profiles that update in real time.	View 2D profiles of 3D parts in real time to check part relationships or as part of a design review process	✓
Offset surfaces to modify existing geometry to thicken surface models.	Create realistic 3D models for advanced interference and clearance checking and simulation of design changes.	✓
Draft angle detection: detect and identify parts and faces with an insufficient draft angle	Increase accuracy by visualizing and identifying parts which could	✓✓✓

	cause a problem during manufacturing	
Sophisticated cross section control: Trace cross sections along any axis. Output cross sections as IGES or DXF. Measure and dimension in real-time.	Enhanced inquiry of details and inspection of digital mock-ups delivers fast comprehension of the assembly.	✓

Options

Option	Benefit
Annotation View	Add markups to multiple 3D views. Annotation view is usually used as a collaboration tool in design review process.
Electrical Routing	Add accurate electrical routing (including wires, cables, harnesses and connectors) in 3D. Including: Wires and Cables, Bundling, Connections, Measurements.
Geometry Difference	Rapidly compare different versions of the same design data and assemblies, with results delivered in visual color map and list formats
Human	Add human models and test interaction with manufacturing designs.
Illustration	Create technical illustrations automatically from 3D and export illustration files. Support for line types and formats including CGM and 2D vector formats.
Import - Catia V4	Direct import.
Import - Parasolid	Direct import.
Import - STEP	Direct import.
List Edit	(For Studio Basic only) Expands the functions of Studio Basic to allow editing of all lists (Parts, assemblies etc)
Import - Multiple CAD Formats	Integrate models from multiple CAD formats into a single XVL model
Process PDF Template	Publish interactive 3D work instructions in 3D PDF format using predefined template. The published document cross-highlights between 3D animation and other information.

XVL® (eXtensible Virtual world description Language), an XML-based, neutral format used for compression, conversion, and integration of 3D data.