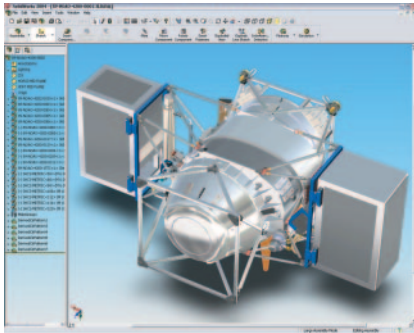# SolidWorks 2005 Overview

THE WORLD'S #1 MAINSTREAM 3D DESIGN SOFTWARE

SolidWorks® mechanical design software offers unmatched performance, ease-of-use, and time-saving capabilities. It delivers leadership innovations and hundreds of customer-requested enhancements that allow you to get product design work done more quickly and accurately.

Gain unmatched performance for designing large assemblies.
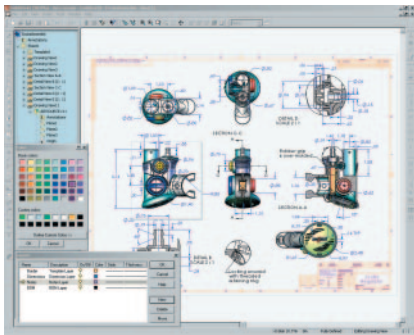
Create production-level drawings, complete with component layers, colors, and automatic bills of materials.

Work faster through unmatched performance and familiar Windows® functions like drag-and-drop, point-and-click, and cut-and-paste. With SolidWorks 2005 software, design data is 100% editable, and relationships between parts, assemblies, and drawings always stay up-to-date.

Ease-of-use. Reduce design steps, lessen visual clutter, and minimize fatigue with Heads-up User Interaction, a set of intuitive display and control functions.

2D-to-3D transition tools. Edit and maintain DWG files in their native format with DWGEditor, an editing tool that provides an interface familiar to AutoCAD® users. Preserve the value of legacy data with the best available transition tools, including: extensive Help documentation for AutoCAD users; the ability to drag 2D drawings into SolidWorks drawings; support for reusable 2D geometry including external references (xrefs); and view folding, a tool that lets you build 3D models more easily from DWG data.

Unique capabilities. Take advantage of a full range of built-in tools and innovative functions offered only by SolidWorks mechanical design software:

- Built-in part analysis – Analyze design integrity easily with COSMOSXpress™, the first built-in analysis tool available for testing part designs quickly and easily within a 3D mechanical design system.

- Design communication – Share design concepts easily with eDrawings™, the first email-enabled tool that dramatically eases the communication of 2D and 3D design information.

- Machine design tools – Make use of a full set of weldment design and documentation tools. Get best-in-class, fully associative sheet-metal capabilities and easy access to a library of machine design features.

- Mold design tools – Automate the creation of cores and cavities with built-in mold design tools. Use MoldflowXpress, a wizard-based design validation tool, for quickly and easily testing the manufacturability of plastic injection-molded parts.

- Consumer product design tools – Speed design of consumer products with enhanced tools for manipulating surfaces easily, maintaining curvature continuity in designs, and creating indentations in thin-walled parts.

- Online access to ready-made components – Save time with 3D ContentCentral℠, the first built-in web resource that supplies 3D CAD system users with access to ready-made components via leading online catalogs.

- Configuration Management – Simplify design reuse and iterations by creating multiple design variations of a part or assembly model within a single document.

Part modeling. Create designs easily with extrudes, revolves, thin features, advanced shelling, lofts and sweeps, feature patterns, and holes using unique feature-based part modeling capabilities.

- Speed part modeling with unique, feature-level control over multiple bodies.

- Make real-time design changes with drag-and-drop ease through dynamic editing of features and sketches.

SolidWorks

Help. SolidWorks 2005 has an HTML-based Help system, complete with hyperlinks and animations, online tutorials, a design portfolio with how-to instructions, and a glossary.

Data exchange. SolidWorks 2005 provides file translators to and from nearly all mechanical CAD products on the market today.

- CGR (CATIA® graphics)
- HCG (CATIA highly compressed graphics)
- Pro/ENGINEER®
- IPT (Autodesk Inventor®)
- Mechanical Desktop®
- Unigraphics®
- PAR (Solid Edge®)
- CADKEY®
- IGES
- IDF
- STEP
- Parasolid®
- SAT (ACIS®)
- VDA-FS
- VRML
- STL
- DWG
- DXF™
- TIFF
- JPG
- PDF
- Viewpoint
- RealityWave
- HSF (Hoops)

Supported standards

- ANSI
- ISO
- JIS
- BSI
- DIN
- GOST
- GB

Local language support

- Chinese
- Czech
- English
- French
- German
- Italian
- Japanese
- Korean
- Polish
- Russian
- Spanish

System requirements

- Microsoft® Windows XP Professional or Windows 2000 recommended
- Intel Pentium®- or AMD Athlon™- class processor
- 128 MB RAM or greater (512 MB to 1 GB or greater recommended for assemblies exceeding 1000 parts)
- Pointing device
- CD-ROM drive
- Microsoft Office XP or Microsoft Office 2000
- Internet Explorer version 6.0 or later recommended

Assembly modeling. Reference other parts directly and maintain relationships when creating new parts. Gain unmatched performance for designing large assemblies with tens of thousands of parts. Drag and drop parts and features into place.

- Design faster with mirrored components, which provide the ability to create new parts and assemblies based on existing design symmetry.

- Speed assembly design with snap-to-fit SmartMates, locate conflicting mate relationships easily with unique Mate Diagnostics, and repair entities easily.

- Simulate true motion and mechanical interaction between solids with unique physical simulation capabilities.

- Simplify repetitive tasks with Smart Part Technology, an innovation that automates assembly tasks such as selecting and inserting standard bolts into holes and adding washers and nuts in the correct sequence.

2D drawing. Develop complete, production-ready engineering drawings without drawing a single line or arc. Construct fully associative drawings – drawing views and bills of materials update automatically each time that you modify the part or assembly design.

- Create drawings automatically from 3D models, including multiple views, dimensions, and rich-text annotations. Save time with predefined drawing views.

- Compare drawings easily to understand differences and see what changes have been made from one version to another.

- Generate bills of materials for an entire project with a single click, listing part quantities for multiple configurations. Automatically add balloons to every component in a drawing view and control orientation and alignment easily.

Surfacing. Generate complex surfaces using lofts and sweeps with guide curves, fill-in holes, and drag-handles for easy tangency control. Trim, extend, fillet, and knit together surfaces intuitively. Scale and pattern surfaces. Translate, rotate, copy, and mirror surfaces for easier manipulation.
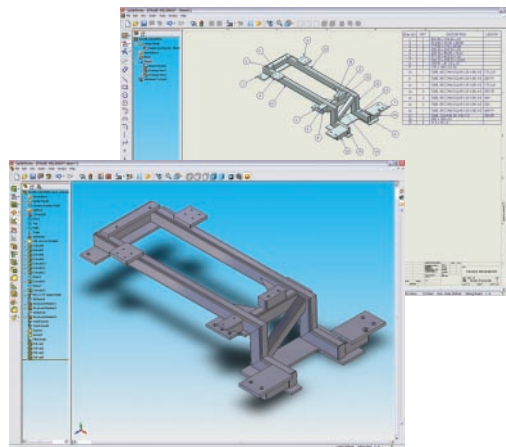
Improve machine design with built-in capabilities, including a full set of weldment design and documentation tools. **ABOVE**

Speed design of consumer products with enhanced tools for manipulating surfaces easily and intuitively. **RIGHT**

3DS SolidWorks