DS SOLIDWORKS

SOLIDWORKS PREMIUM
DESIGN WITHOUT LIMITS

COMPREHENSIVE 3D DESIGN SOLUTION

SolidWorks® Premium 2014 is a comprehensive 3D design solution that enables you to create, validate, communicate, and manage your product designs. By integrating powerful design tools, including industry-leading part, assembly, and drawing capabilities, with built-in simulation, cost estimation, rendering, animation, and product data management, SolidWorks Premium makes the development and sharing of design ideas faster and simpler, resulting in a more productive 3D design experience.

ONE PACKAGE TACKLES ALL YOUR DESIGN CHALLENGES

SolidWorks Premium 2014 gives you powerful, easy-to-use functionality that automates tasks, streamlines workflow, and helps you quickly define and validate the form, fit, and function of your design. Part of the SolidWorks product development solution—covering design, simulation, sustainable design, technical communication, and data management—SolidWorks Premium 2014 empowers innovative design with specific tools that help you work more efficiently and make better design decisions.

LEARN FAST, WORK FAST, BE MORE PRODUCTIVE

SolidWorks software combines ease of use with broad customization so that new users can learn fast, and experienced users can work faster. Companies of all sizes can use this simple but powerful package to bring their product vision to life.

Designed to make you instantly productive, the intuitive SolidWorks user interface is easy to learn and use. In-context menus present the right command at the right time. Toolbar commands are organized by design function for fast access. Automated Command Search takes you to any command instantly. And an extensive set of tutorials and support documentation keeps you progressing at a fast pace.

Easy customization of the SolidWorks user interface enables you to dramatically increase design productivity. You can customize toolbars, in-context menus, hotkeys, and environment settings. Mouse gesture capabilities give you fast access to commands, and you can automatically perform design functions through API and batch processing.

Intelligent design and detailing capabilities improve user productivity by automatically detecting and resolving modeling and detailing challenges that would typically frustrate new users or be considered tedious and time-consuming by experienced users.

## MOVE QUICKLY FROM IDEA TO REALITY

Advance your ideas from concept to market using rich 3D models as the foundation.

Part and assembly modeling

SolidWorks Premium allows you to design products for a broad range of industries and applications.

- **3D solid modeling:** create and edit 3D part and assembly models and create 2D drawings that automatically update with design changes

- **Conceptual design:** create layout sketches; apply motors and forces to check mechanism performance; import images and scans to use as a reference for creating 3D geometry

- **Large assembly design capabilities:** create and manage extremely large designs, and work in either detailed or simplified modes

KEY BENEFITS

- Visualize and communicate with photorealistic rendering and animation

- Quickly create any geometry including complex organic shapes and curve-continuous (C2) surfaces

- Easily create, share, and manage with large-design, collaboration, and data management tools

- Guarantee performance, manufacturability, and cost using built-in analysis

Speed up machine design and reduce manufacturing errors with specialized functionality for welded structure and sheet metal design, as well as automated interference and hole misalignment checks.
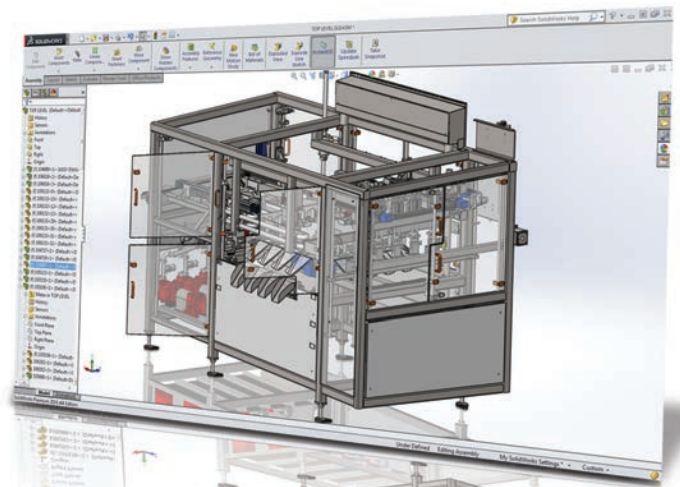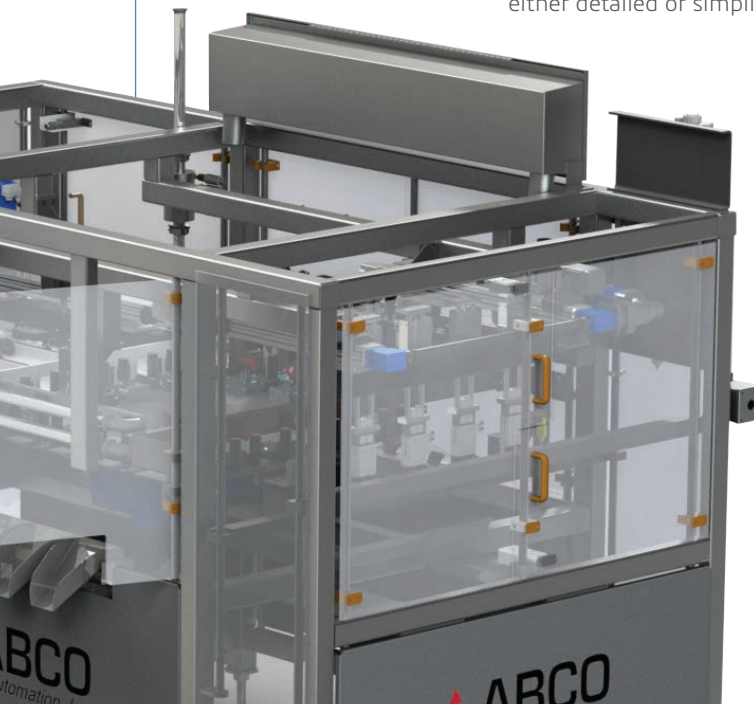
Packaging Machine | ABCO Automation, Inc.

"SolidWorks Costing has helped decrease my time per day spent quoting from 5 hours to about 40 minutes."

— Dayne Peruzzi, President, PMS Manufactured Products

- **Advanced surfacing:** create and edit complex solid and surface geometry, including stylish C2 surfaces

- **Sheet metal:** design from scratch or convert your 3D part to sheet metal; includes automatic flattening of sheet metal parts with bend length compensation

- **Weldments:** quickly design welded structures composed of structural members, plates, and gussets; includes a library of predefined structural shapes

- **Mold design:** design molded parts and the tooling to create them, including core and cavity, draft, automated parting surfaces, and mold base components

- **Piping/tubing design:** generate and document 3D mechanical systems, including pipe/tube paths, pipe spools, pipe slope, and a complete bill of materials (BOM)

- **Electrical cable/harness and conduit design:** import electrical connection information, generate and document 3D electrical route paths, and complete the BOM for your design

Design reuse and automation

Speed up development of new designs by leveraging existing work using SolidWorks design automation tools.

- **SolidWorks Search:** search for any file—on your computer, network, SolidWorks PDM system, or the Internet

- **Design automation:** automate repetitive design tasks—including part, assembly, and drawing generation—using DriveWorksXpress

- **Configurations:** automatically create multiple versions of parts and assemblies and save them in the same file for easy reference

- **Design Library:** save frequently used parts, features, templates, and more in the Design Library for easy access; SolidWorks Toolbox contains over one million hardware components and other items to add to your assemblies

- **Online libraries in 3D ContentCentral®:** reduce design time by using 2D and 3D catalog components provided by suppliers
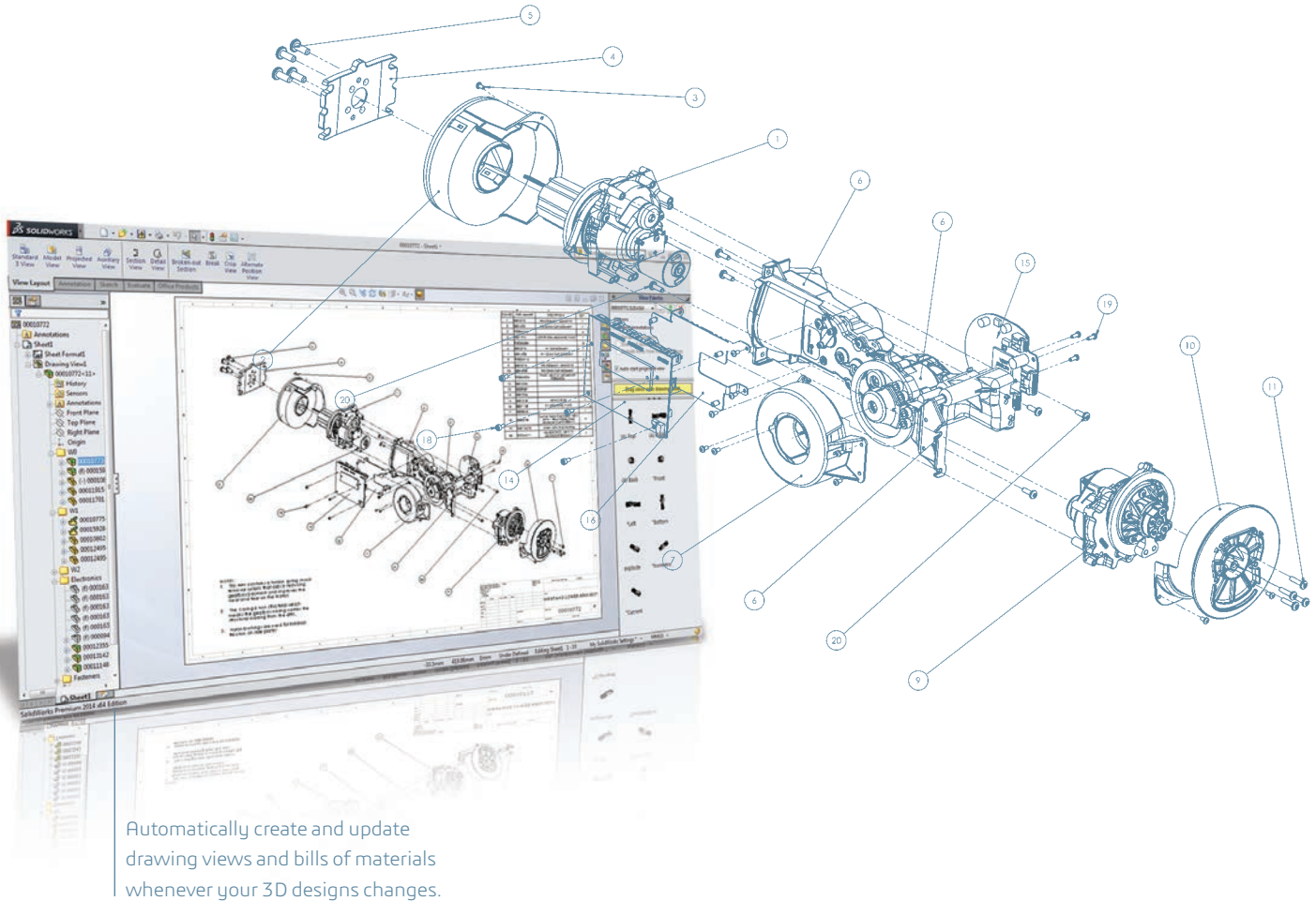
- **Smart Components and Smart Fasteners:** reduce assembly time and promote standardization with smart hardware that automatically assembles, sizes, and even creates mounting holes and clearance cuts in parts as needed

Animations and photorealistic renderings

Clearly communicate your design intent with powerful visuals.

- **PhotoView 360:** create photorealistic images and animations quickly, without being a graphics expert

- **Walk-through/fly-through animations:** take a virtual walk-through of your design or record a video to help explain it to others

- **Assembly animation:** demonstrate your design's basic operations by applying motion, gravity, and component contact, or by manually moving components; record and save a video

Photorealistic rendering allows you to share ideas without the need for physical prototypes.

Bicycle | Cycles Devinci

"Innovation has helped us gain a commanding share of our market, and SolidWorks software is one of the tools that helps us to innovate freely."

— Kai Birger Olsen, Engineering Director, Ramboll Offshore Wind

Automatically create and update drawing views and bills of materials whenever your 3D designs changes.

2D drawings

Quickly create production-ready 2D drawings that clearly communicate how your designs should be manufactured and assembled.

- **Automatic Drawing View creation:** simply drag and drop the 3D model into a drawing to create views that are either wireframe (with or without hidden lines) or shaded; automatically create any view type, such as isometric, section, partial section, or detailed

- **Automatic Drawing View updates:** keep drawing views in sync with automatic drawing view updates any time the 3D part and assembly models are modified

- **Dimensioning:** automate the generation and placement of dimensions and tolerances with industry-proven, production-ready, 2D drawing capabilities

- **Bill of materials (BOM):** generate automated BOMs with balloon note callouts and cut lists that update with model changes; output BOM to Microsoft® Excel directly from an assembly or drawing for printing or upload to ERP/MRP systems

- **Annotations:** create a complete drawing by adding all necessary tolerances, symbols, notes, hole callouts, and tables

- **Standards checking:** compare your drawings to company standards to ensure consistency using the SolidWorks Design Checker tool

- **Drawing control:** control drawing revisions and graphically compare drawings to understand their differences

VALIDATE DESIGN PERFORMANCE WITH VIRTUAL TESTING

Ensure your ideas will perform as designed with simulation tools fully integrated inside SolidWorks CAD and built for designers and engineers who know their design best. Take the risk out of innovation and reduce the number of physical prototypes, thereby saving money and reducing the time to product completion.

Time Based Motion

SolidWorks Motion uses assembly mates, part contacts, and a robust physics-based solver to accurately determine the physical dynamic movements of an assembly under load to verify you have met your design goals throughout the operating cycle.

Linear Static Simulation

Calculate stresses, deformations, and factor of safety of geometry under loads to intuitively identify areas prone to failure or over-dimensioned areas and evaluate design changes to enhance quality and performance.

The comprehensive SolidWorks Simulation packages offer more extensive capabilities that are fully integrated in the design environment.

See www.solidworks.com/simulation for more information.

3D Design tools for entry level environmental impact analysis and air or water flow analysis
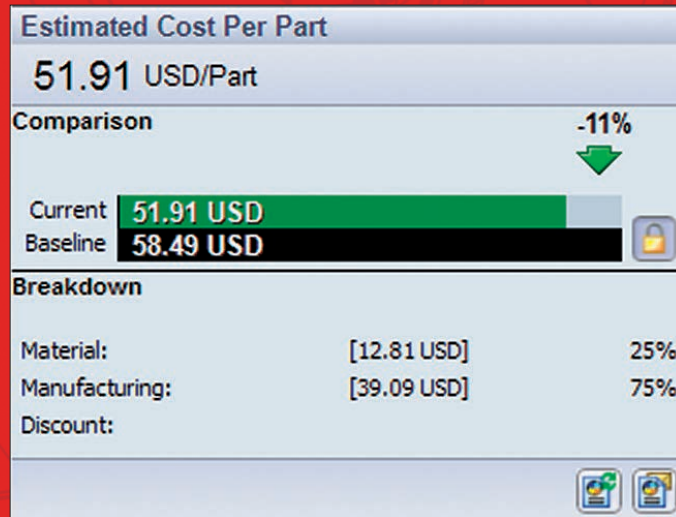
SustainabilityXpress

Use SolidWorks SustainabilityXpress to assess the environmental impact of your design, and to optimize material selection, part geometry, and sourcing.

FloXpress

SolidWorks FloXpress provides initial fluid flow simulation and reporting.
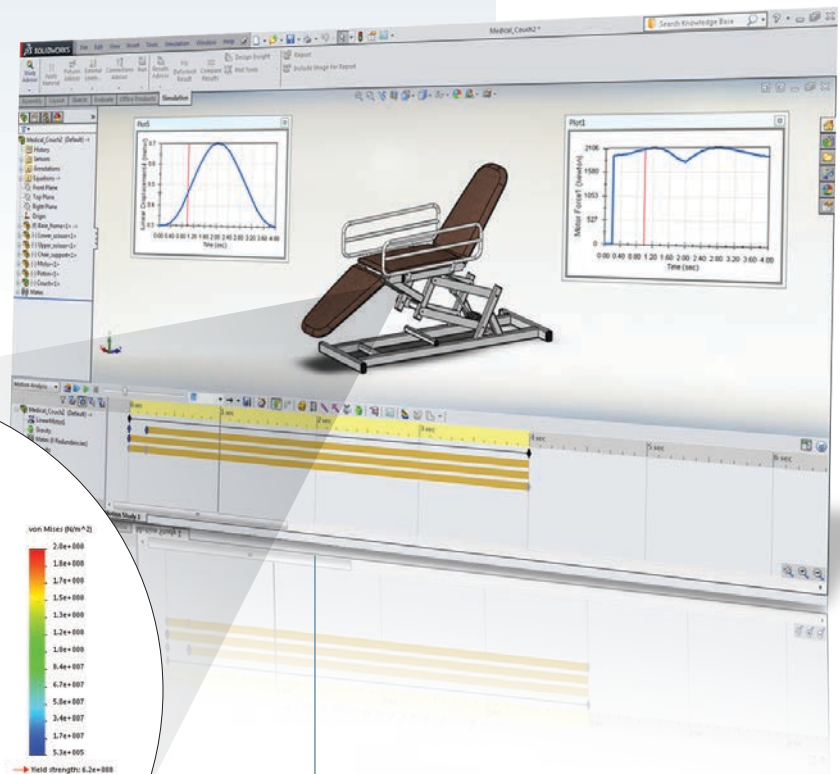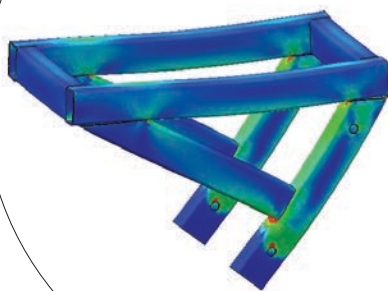
Intuitively evaluate how your product moves throughout its operational cycle and how it will perform using SolidWorks Premium.

Estimated Cost Per Part

51.91 USD/Part

Comparison   -11%

Current   51.91 USD
Baseline   58.49 USD

Breakdown

Material: [12.81 USD]   25%
Manufacturing: [39.09 USD]   75%
Discount:

SolidWorks Costing helps designers make faster and more repeatable decisions based on manufacturing costs and helps manufacturers automate their quoting processes.
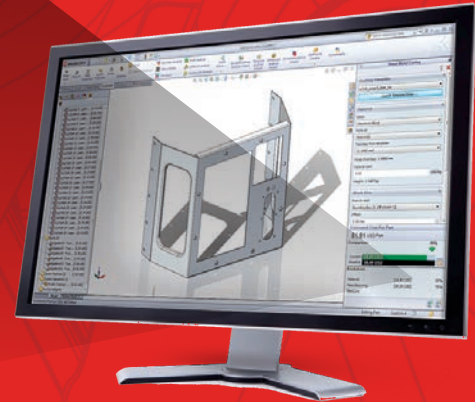
MEET COST TARGETS AND GET MANUFACTURING RIGHT THE FIRST TIME

Use SolidWorks Premium tools to verify that your design can be produced prior to manufacturing and significantly reduce waste and cost.

Cost estimation

- **Automatic cost estimation:** estimate part manufacturing costs automatically using built-in cost templates; designers can make faster, repeatable, and more informed design decisions based on cost; manufacturers can automate their quoting processes

- **Customizable manufacturing settings:** customize templates to enter specific manufacturing costs and data, such as material, labor, machine speed and feeds, and setup costs

Eliminate interferences

- **Collision and interference detection:** check for interferences, collisions, and clearances between components to ensure proper operation

- **Hole alignment checks in assembly design:** eliminate misalignments between holes in mating components to ensure proper fastener fitment prior to manufacturing

- **Tolerance stack-up analysis:** use SolidWorks TolAnalyst™ to automatically check the effects of tolerances on parts and assemblies and ensure consistent fit of components at assembly

Routed systems

- **Electrical harness manufacturing:** automatically flatten wire harnesses to generate pin board drawings and wire cut lists for electrical manufacturing

- **Piping and tubing:** design complete pipe networks, including spools, for better manufacturability or transport; generate flexible or rigid tubing systems

Design for manufacturability

- **DFMXpress:** use SolidWorks DFMXpress to check manufacturability and cost aspects

- **Compare parts and drawings for changes:** use part and drawing comparison tools to graphically show differences between two versions of a part or drawing whenever updates occur

- **Draft, undercut, and wall thickness checks:** automatically check for draft, undercut, and wall thickness issues in molded, cast, and forged parts and tooling

- **Sheet metal flat pattern:** automatically flatten a sheet metal design and document it for manufacturing; includes bend compensation to ensure proper blank sizing for manufacturing

Data output to manufacturing

- **3D for rapid prototyping:** output STL and other file formats for rapid prototype equipment directly from SolidWorks 3D models

- **2D manufacturing data:** automatically export CNC-ready DXF™ and DWG file information directly from SolidWorks 3D models

- **Streamline production prep:** automatic output of hole charts, weld tables, cut lists, punch tool tables, and CNC pipe bending data

- **3D CAM partner integration:** automatically update NC toolpaths directly inside SolidWorks without the need for data translation using Certified Gold Partner CAM products

> "We are now using SolidWorks EPDM software both for revision and electronic data control, enabling us to have the electronic backups needed for meeting FDA* requirements."
>
> — Patrick Brown, R&D Engineer, Berchtold Corporation
>
> * U.S. Food and Drug Administration

COLLABORATE AND COMMUNICATE YOUR IDEAS FASTER

Share CAD data with others, and collaborate quickly and easily on product designs.

Data exchange

- **Import/export:** convert CAD data into a format that meets your needs, including IFC file import/export to interact with AEC design software

- **Existing 2D DWG data:** maintain designs using SolidWorks 2D CAD tools

- **Automatic Feature Recognition:** automatically convert non-SolidWorks CAD data into easily modifiable SolidWorks models

- **ECAD-MCAD data exchange:** use CircuitWorks™ to provide two-way data exchange between mechanical and electrical designers

- **Import scanned data:** use SolidWorks ScanTo3D to convert scanned data into SolidWorks CAD geometry to facilitate reverse engineering

Collaboration tools

- **Large Design Review:** quickly open, navigate, walk through, measure, section, and create snapshot views with comments on massive assemblies to clearly communicate your design to your team

- **eDrawings® Viewer:** directly view and mark up SolidWorks files in the eDrawings Viewer, a compact, email-friendly file format; supports SolidWorks CAD, DWG, and numerous other CAD formats; enables rotate, zoom, measure, markup, section, and virtual disassembly; supported on mobile devices

- **Protect your intellectual property:** use SolidWorks Defeature Technology to hide selected aspects of your design before sharing models

SolidWorks Product Data Management (PDM)

- **Manage your data:** manage your design data with automatic revision control, data security, and access control

- **Find your data:** search components for use in new designs, and find and leverage existing designs for re-use, saving development time and cost

Quickly open massive assemblies to view and interrogate using Large Design Review, which includes complete component listings, measurement, sectioning, and walk-through.

Image courtesy of P&H Mining Equipment

LEARNING AND SUPPORT

A worldwide community of learning and support

SolidWorks users can access a broad range of tools and resources—tutorials, online help, blogs, forums, the SolidWorks User Group Network (www.SWUGN.org), and an extensive worldwide network of local resellers. Tap into a global community to share best practices, refine tasks, and rapidly work through design challenges. Our value-added resellers are based around the world and work to make you instantly productive. With an average of over 10 years of experience in the CAD business and a primary focus on the SolidWorks product development solution, our resellers deliver world-class support, continuous training, and personalized service to always ensure your success.

SOLIDWORKS PRODUCT DEVELOPMENT SOLUTIONS

SolidWorks software provides users with an intuitive **3D**EXPERIENCE development environment that maximizes the productivity of your design and engineering resources to create better products faster, and more cost-effectively. See the full range of SolidWorks software for design, simulation, sustainable design, technical communication, and data management at **www.solidworks.com/products2014.**

LEARN MORE

Visit www.solidworks.com/premium or contact your local authorized SolidWorks reseller to learn more.

DATA EXCHANGE

SolidWorks Premium 2014 features built-in translators that let you exchange CAD data created in a wide variety of software applications and file formats:

- 3D XML
- 3DS
- AI (Adobe® Illustrator®)
- ASC
- Autodesk® Inventor®
- CADKEY®
- CGR (CATIA® graphics)
- DWG
- DXF
- HCG (CATIA highly compressed graphics)
- HSF (Hoops)
- IBL
- IDF
- IFC
- IGES
- JPG
- Mechanical Desktop®
- NZIP
- NXM

- OBJ
- Parasolid®
- PDF
- PNG
- PLY
- PLY2
- Pro/ENGINEER®
- PSD (Adobe Photoshop®)
- Rhino
- SAT (ACIS®)
- Solid Edge®
- STEP
- STL
- TIFF
- TXT
- U3D (Universal 3D)
- Unigraphics®
- VDA-FS
- VRML
- XYZ

SUPPORTED STANDARDS

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

SYSTEM REQUIREMENTS

- Windows® 7 (32- or 64-bit) or Windows 8 (64-bit)
- 2 GB RAM (minimum)
- 5 GB disk space free (minimum)
- Certified video card and driver
- Intel® or AMD® processor with SSE2 support
- DVD or broadband Internet connection
- Internet Explorer 8 or later
- Microsoft Office® 2007 or later

For additional details, visit www.solidworks.com/systemrequirements.

Our **3D**EXPERIENCE Solutions powered by our brand applications serving 12 industries

Dassault Systèmes, the **3D**EXPERIENCE Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 150,000 customers of all sizes in all industries in more than 80 countries. For more information, visit www.3ds.com.

Visit us at 3DS.COM/SOLIDWORKS

3DEXPERIENCE

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