www.solidworks.com

THE POWER OF 3D



SolidWorks Corporation 300 Baker Avenue Concord, MA 01742 USA Phone: 1 800 693 9000 Outside the US: +1 978 371 5011

Fax: +1 978 371 7303 Email: info@solidworks.com

 \oplus

SolidWorks Corporation Penthouse Level Suntec Tower Three 8 Temasek Boulevard Singapore 038988 Phone: +65 6866 3885 Fax: +65 6866 3838 Email: infoap@solidworks.com

SolidWorks Europe Parc du Relais – Bât. D 201, Route de la Seds 13127 Vitrolles, France Phone: +33 4 42 15 03 85 Fax: +33 4 42 75 31 94 Email: infoeurope@solidworks.com

SolidWorks Corporation Avenida Cidade Jardim, 400 - 7º andar São Paulo, SP Brasil 01454-000 Phone: +55 11 3818 0980 Fax: +55 11 3818 0977 Email: infola@solidworks.com

SolidWorks Corporation



THE WORLD'S #1 3D DESIGN SOFTWARE FOR THE MAINSTREAM MARKET

SOLIDWORKS® SOFTWARE IS THE WORLD'S #1 3D DESIGN SOFTWARE FOR THE MAINSTREAM MARKET BASED ON THE NUMBER OF USERS IN PRODUCTION, CUSTOMER SATISFACTION, AND SALES.*



SolidWorks Corporation

CONTENTS

COMPANY	2
PRODUCTS OVERVIEW	2 - 3
3D DESIGN	4 - 7
3D modeling	
Design productivity	
Data management	
Design communication	
Routed systems	
2D DESIGN	8 - 9
DWGseries	
2D-to-3D transition tools	
Automatic 2D drawing	
DESIGN VALIDATION	10 - 11
COMMUNITY	12 - 13
CUSTOMER DESIGNS	14 - 16

COMPANY

MISSION

The mission of SolidWorks Corporation is to unleash the power of 3D for everyone in product development.

OPPORTUNITY

Globalization has increased pressure to get new products to market faster, accelerating the need for manufacturers to automate in order to compete. As a result, product designers around the world are transitioning from 2D CAD systems to 3D mechanical design automation software.

SolidWorks 3D design software allows you to create accurate 3D models that automate a full range of design and development processes, reduce costs, and improve product quality.

Average Customer Return on Investment

- 30% shortened product design cycle
- 32% reduction in prototypes
- 23% reduction in physical tests
- 21% scrap savings
- 29% decrease in engineering change orders (ECOs)
- 20% reduction in field failures
- 15% reduction in product recalls

HISTORY

Founded in 1993, SolidWorks Corporation was the first company to develop powerful 3D mechanical CAD software that was easy to use and affordable. Since then SolidWorks Corporation has established itself at the forefront of 3D CAD technology, achieving rapid growth through strong sales and strategic business partnerships and acquisitions. In 2002, SolidWorks Corporation acquired Structural Research and Analysis Corporation, a company specializing in powerful, yet easy-touse design validation software for testing 3D models under real-world conditions prior to building physical prototypes.

By focusing on the needs of mechanical designers, SolidWorks Corporation continuously raises the bar on powerful, innovative design capabilities and quality customer service, resulting in widespread adoption and a high level of satisfaction among users of the company's software.

CORPORATE ORGANIZATION

Acquired in 1997 by Dassault Systèmes S.A. (Nasdaq:DASTY, Euronext Paris:#13065,DSY.PA), SolidWorks belongs to a family of companies focused on 3D software development and implementation. Dassault Systèmes is the premier global software developer of Product Lifecycle Management (PLM) solutions.

PRODUCTS OVERVIEW

FREE DESIGN COMMUNICATION SOFTWARE

FREE, intuitive eDrawings[™] publishing and viewing software improves communication among coworkers, customers, and suppliers with accurate representations of design concepts that can be shared easily via email.

FREE SOFTWARE FOR AUTOCAD USERS

ONLINE

ONTENT

FREE data translation and viewing software for all AutoCAD[®] users.

Plus DWG editing software that is **FREE** with the purchase of SolidWorks software.

2D-TO-3D TRANSITION TOOLS

Built-in tools for easing the transition from 2D to 3D design.

3D DESIGN SOFTWARE

Comprehensive, best-in-class 3D design software, providing a variety of unique functions that simplify design work and automate routine tasks.

DESIGN VALIDATION SOFTWARE

A full range of software products for simulating real-world conditions, testing multiple "what if" scenarios, and optimizing product designs prior to creating physical

ONLINE SERVICES FOR COMPONENT MANUFACTURERS

prototypes.

A unique set of services that enhance the websites of component manufacturers, 3D PartStream.NET[®] enables mechanical design customers to specify and configure components online and download timesaving CAD models.



SOLIDWORKS OFFICE PREMIUM

SolidWorks Office Premium is the complete 3D product design solution, providing your product design team with all the design engineering, data management, and communication tools they need in one affordable package:

SolidWorks 3D mechanical design software gives you best-in-class solid modeling and built-in 2D drawing capabilities. Design communication tools help you to demonstrate more effectively how products will look and perform. CAD productivity enhancements reduce design steps. PDMWorks[®] data management software allows your design team to control CAD file revisions and manage project data more efficiently and securely. SolidWorks Routing software automates and simplifies the design of piping, tubing, and electrical cabling systems. COSMOSWorks[®] Designer design validation software enables you to improve product quality and safety.

SolidWorks Corporation

3-D

3D MECHANICAL CAD - DESIGN QUALITY PRODUCTS FASTER

BEST-IN-CLASS 3D MODELING CAPABILITIES

SOLIDWORKS 3D CAD SOFTWARE'S MODELING CAPABILITIES PROVIDE THE POWER TO GET ANY MECHANICAL DESIGN JOB DONE EASILY. DESIGN DATA IS 100% EDITABLE, AND RELATIONSHIPS AMONG PARTS, ASSEMBLIES, AND DRAWINGS ALWAYS STAY UP-TO-DATE.

PARTS

Model parts rapidly and easily by creating features such as extrudes, revolves, thin features, lofts and sweeps, advanced shelling, feature patterns, and holes. 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.

ASSEMBLIES

Build and test assemblies intuitively. Reference parts directly and maintain relationships when creating new parts. Design and change components from within the assembly to ensure optimal fit. Speed the assembly process with snap-to-fit SmartMates and reusable Smart Components that size automatically to other design components. Avoid potential design flaws with unique Physical Simulation capabilities that accurately simulate motion and mechanical interaction between parts.

ASSEMBLY PERFORMANCE

Gain performance for designing large assemblies. Work on large assemblies with Lightweight technology, minimizing the computer resources required. Gain unparalleled performance for designing large assemblies consisting of tens of thousands of parts, without sacrificing design and detailing capabilities.

SURFACING

Generate complex surfaces easily. Capture and modify design intent with unique 3D sketching functions. Generate complex surfaces using lofts and sweeps with guide curves, drag-handles for easy tangency control, and an innovative fill surface feature. Trim, extend, fillet, and knit together surfaces intuitively. Translate, rotate, copy, and mirror surfaces for easier manipulation.

WINDOWS EASE OF USE AND HEADS-UP USER

Get productive fast. Get rapidly productive using familiar Windows® functions such as drag-and-drop, and cut-and paste. Reduce design steps, lessen visual clutter, and minimize fatigue with Heads-up User Interaction, a set of intuitive display and control functions.

CONFIGURATION MANAGEMENT AND DISPLAY STATES

Simplify design iterations. Generate multiple design iterations automatically by creating multiple design variations of a part or an assembly within a single document. Develop and manage families of parts and models with different dimensions, components, properties, or other parameters. Explore multiple product variations quickly and interactively with Display States, a function that lets you easily visualize different colors, textures, and other on-screen characteristics.

MACHINE DESIGN TOOLS

Design machinery faster. Make use of a full set of weldment design and documentation tools. Get best-in-class, fully associative sheet-metal capabilities that allow you to move rapidly from the design phase to final manufacturing drawings. Save time with a library of machine design features.

CONSUMER PRODUCT DESIGN TOOLS **Create more innovative products**. Speed design of consumer products with enhanced tools for manipulating surfaces easily. Automate the creation of frequently used plastic part design elements such as mounting bosses and snap hooks. Develop concepts into detailed designs more quickly with the ability to import Adobe[®] Illustrator[®] files.

MOLD DESIGN TOOLS

Automate mold design. 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.

3D CONTENTCENTRAL

Save time with online access to ready-made components.

3D ContentCentral[™] is a web resource that is integrated into the SolidWorks Design Library, providing you with a directory of leading component suppliers that offer the ability to view, configure, and download component CAD files.

BUILT-IN TRANSLATORS

Ease file-sharing and design reuse. Reuse legacy data and exchange files with customers and suppliers more easily using built-in file translators that let you import and export more than 20 different file formats.



PRODUCTIVITY, DATA MANAGEMENT, COMMUNICATION, AND ROUTING TOOLS

DESIGN PRODUCTIVITY ENHANCEMENTS

INCREASE EFFICIENCY BY AUTOMATING FREQUENTLY PERFORMED DESIGN TASKS.

LIBRARY OF STANDARD COMPONENTS

Save design time with SolidWorks Toolbox, a comprehensive library of standard components. In combination with SolidWorks 3D CAD software, SolidWorks Toolbox components automatically size to other design components. You can also automate the process of selecting and inserting standard bolts into holes, as well as adding washers and nuts in the correct sequence.

SOLIDWORKS UTILITIES

Simplify design work and reuse with SolidWorks Utilities software. It helps you identify problems with imported geometry and allows you to find the differences between two versions of the same part. It also makes it easier to locate, modify, and suppress features within a model.

FEATURE RECOGNITION SOFTWARE

Reuse imported 3D CAD data more easily with the help of FeatureWorks[®] feature recognition software. FeatureWorks lets you add intelligence to static 3D CAD data, making it fully editable and ready for use within SolidWorks software.

SOLIDWORKS TASK SCHEDULER

Conserve computing resources. Schedule computing-intensive design tasks during breaks and after hours with the SolidWorks Task Scheduler software utility. It lets you conveniently schedule tasks such as batch printing, creation of production-level drawings, and updating of project files.

SOLIDWORKS DESIGN CHECKER

Ensure completeness of designs by using the SolidWorks Design Checker to make sure that they adhere with your organization's standards.



PDMWORKS PRODUCT DATA MANAGEMENT SOFTWARE

ALLOW YOUR DESIGN TEAM TO CONTROL CAD FILE REVISIONS AND TO MANAGE ALL PROJECT DATA MORE EFFICIENTLY.

Manage documents and data more efficiently, including properties such as description, status, number, and costs. Reduce duplicated effort with the help of fast search capabilities that make it easier to find and reuse previously developed content.

Control revisions and maintain file histories automatically.

Avoid the accidental overwriting of files and time spent working on incorrect files by providing controlled access to all project files. Capture file histories automatically, allowing your product design team to access the desired files, determine who has worked on them, and see exactly when changes were made.

Enhance data security with administrative controls and

vaulting. Gain a higher level of security with easy-to-use administrative controls. Unlike common network or local folders, the PDMWorks vault protects your design information from unauthorized access as well as accidental overwrites and deletions.

Extend data access. Enable manufacturing and purchasing staff and other non-CAD users to access and add documents to the vault with the PDMWorks Standalone Version. Provide web-based viewing into the vault and enable integration of PDM data with other business systems with PDMWorks Advanced Server.

DESIGN COMMUNICATION TOOLS

Speed design and begin marketing activities early in the product development process.

EDRAWINGS AND EDRAWINGS PROFESSIONAL

Communicate product design concepts more easily. eDrawings publishing and viewing software offers highly innovative, unique capabilities. It lets you share designs with everyone in your extended product development team, including Macintosh® users. Collaborate more easily on product designs with eDrawings Professional software. Generate 2D and 3D eDrawings files that anyone can view, mark up, measure, and supply design feedback via email. You can publish eDrawings files at the click of a button from within SolidWorks 3D CAD software. Free eDrawings publishing software is also available for most other widely used CAD systems, providing a universal design communication tool.

RENDERING AND ANIMATION SOFTWARE

Bring product designs to life. Demonstrate how products look and perform with SolidWorks Animator, easy-to-use animation software that allows you to capture parts and assemblies in motion. Combine with PhotoWorks[™] photorealistic rendering capabilities to make design presentations more compelling.

WEB PUBLISHING SOFTWARE

Create and publish webpages instantly. Share your 3D product designs easily using 3D Instant Website, web publishing software that lets you create and publish interactive webpages instantly.

ROUTED SYSTEMS DESIGN SOFTWARE

AUTOMATE THE DESIGN OF ROUTED SYSTEMS.

Speed the creation of piping, tubing, and electrical cabling and harnessing systems. Streamline the design process with drag-and-drop placement, automatic sizing, auto-routing, and auto-insertion of components. Generate electrical cabling and harnessing manufacturing drawings easily with a complete set of specialized documentation tools. Save time with a library of ready-made tubing, piping, and electrical cabling and harnessing components.



FREE SOFTWARE FOR AUTOCAD USERS

DWG series FREE SOFTWARE TOOLS CREATED FOR CURRENT AND FORMER AUTOCAD® SOFTWARE USERS WHO NEED TO OPEN, EDIT, CREATE, AND SHARE DWG DATA MORE EFFECTIVELY WITH OTHERS

utoCAD Message

Drawing file was created by an incompatible version OK.

Open and edit any DWG file using any version of AutoCAD software and save the file to any version of the software with the DWGgateway" data translation plug-in.

DWGgateway

FREE DATA TRANSLATION PLUG-IN

Open and edit any DWG file using any version of AutoCAD - DWGgateway gives AutoCAD users universal DWG compatibility, reducing the need to upgrade AutoCAD licenses just to be able to share work and collaborate with other AutoCAD users.

DWGviewer

FREE TOOL FOR VIEWING NATIVE DWG AND DXF FILES

View native DWG and DXF[™] files and share AutoCAD design **concepts** – Also known as eDrawings software for AutoCAD users, DWGviewer is a free tool for viewing native DWG and DXF files and sharing of design concepts with others.

DWGeditor

FREE WITH THE PURCHASE OF SOLIDWORKS SOFTWARE, A STANDALONE EDITING TOOL FOR MAINTAINING 2D LEGACY DATA

Maintain legacy data – DWGeditor[™] meets the needs of SolidWorks users and their colleagues who occasionally need to create, share, and edit native DWG files, enabling them to maintain legacy 2D data without having to upgrade to the latest version of AutoCAD.

BUILT-IN SOLIDWORKS 2D - 3D CAPABILITIES



2D-TO-3D TRANSITION TOOLS

Get productive faster with 2D-to-3D transition tools Preserve the value of your legacy DWG data with the best-in-class tools for converting data and enabling a smooth transition from 2D to 3D, including extensive Help documentation for AutoCAD users.



AUTOMATIC 2D DRAWING CAPABILITIES [3D-T0-2D]

Produce 2D drawings automatically (3D-to-2D)

Construct production-ready, detailed drawings automatically, without drawing a single line or arc. SolidWorks eliminates time-consuming drawing view creation, manipulation, and maintenance.

Revise drawings easily

Each modification that you make to a 2D drawing or 3D model created with SolidWorks software is reflected accurately throughout all associated views, sheets, and drawings. All drawing views, dimensions, and annotations update automatically.

Eliminate guesswork with associative dimensions

Adding, referencing, or changing a dimension value in a drawing or part model is easy with SolidWorks software. The geometry updates automatically to accommodate each change, eliminating inconsistencies, so you can always be confident in the accuracy of SolidWorks drawings.

Generate bills of materials instantly

Speed the development of drawings for designs that contain hundreds or thousands of parts by generating bills of materials (BOMs) and balloons automatically.



DESIGN VALIDATION - IMPROVE PRODUCT QUALITY AND SAFETY

BEST-IN-CLASS COSMOS DESIGN VALIDATION TOOLS

SIMULATE REAL-WORLD CONDITIONS, TEST MULTIPLE "WHAT IT" SCENARIOS, AND OPTIMIZE YOUR DESIGNS EASILY FROM WITHIN SOLIDWORKS 3D CAD SOFTWARE.

COSMOSXpress

BUILT-IN PART VALIDATION WIZARD

Validate design integrity easily with COSMOSXpress[™], a built-in, point-and-click stress analysis wizard that lets you test part designs quickly and simply within SolidWorks 3D CAD software. COSMOSXpress guides you step by step through the design validation process.



COSMOSWorks Designer Software

TEST 3D CAD MODELS UNDER REAL-WORLD CONDITIONS

Improve product quality and lower costs with COSMOSWorks Designer software, the first powerful and affordable design validation software created for nonspecialists. Identify areas prone to weakness and failure. Trim excess material and minimize the need for physical prototypes.

Evaluate design alternatives with part and assembly analysis

Compare multiple alternative configurations easily by studying stress, strain, and displacement for both parts and assemblies. Perform shell analysis on sheetmetal parts or SolidWorks surfaces.

Automate the analysis process

Save time by automating tedious tasks such as the meshing of parts and assemblies. Simplify routines with reusable analyses that you can share with others. Compare multiple designs automatically using the Design Scenario tool.

Simulate real-world conditions

Apply known displacements and a variety of loads and restraints, including forces and pressures, torque, bearing loads, and fixed or directional restraints. Simulate the effects of gravity and centrifugal forces. Save time by accessing nearly 200 materials from a built-in library that you can expand by adding your own materials.

Understand component interactions within assemblies

Specify how different assembly components will interact using virtual assembly connections, such as pins, springs, and bolts. Avoid failure by testing contact forces and stresses for parts that may come into contact during operation.

Visualize validation results

Interpret validation results with a full range of powerful, intuitive visualization tools, offering valuable insights that help you evaluate design alternatives more quickly and easily. Study 3D distribution of results, such as stresses and displacements. Animate part and assembly deformations.

Communicate and compare validation results

Generate customizable HTML reports with a single mouse click. Publish and share eDrawings files containing results visualization. Save results plots in standard formats, such as VRML, XGL, bitmaps, and JPEG. Import physical test results at a specified location and compare them to analysis results or export analysis data at critical locations for physical testing.

COSMOSWorks Professional

PREDICT PART AND ASSEMBLY BEHAVIOR UNDER
PRACTICALLY ANY CONDITION

Perform extensive virtual testing and analysis of your SoildWorks parts and assemblies. COSMOSWorks Professional includes all of the design validation capabilities of COSMOSWorks Designer, plus enhanced analysis functions, including design optimization, drop-test simulation, and thermal, frequency, buckling, and fatigue testing.

COSMOSWorks Advanced Professional

SOLVE CHALLENGING ENGINEERING PROBLEMS

Solve challenging engineering problems with COSMOSWorks Advanced Professional software. It offers a comprehensive set of capabilities for experienced design analysts. Perform nonlinear analysis on plastics, rubbers, polymers, and foam. Observe the behavior of composite materials and study design performance under dynamic loads.

COSMOSMotion

STUDY ASSEMBLY MECHANICS IN DETAIL

Use COSMOSMotion[™] software to study assembly mechanics in detail. Obtain data needed to accurately size motors, generate cam profiles, simulate motion control systems, and determine power consumption. Perform stress analyses seamlessly by transferring loads from COSMOSMotion to COSMOSWorks.

COSMOSFloWorks

SIMULATE THE FLOW OF FLUIDS AND GASES EASILY -

Use COSMOSFloWorks[™] software to analyze the flow of a wide range of fluids and gases. Analyze flow through valves, regulators, ducts, and porous media, as well as around objects.



COMMUNITY

MORE THAN 3D DESIGN SOFTWARE - A GLOBAL COMMUNITY

THE SOLIDWORKS COMMUNITY OFFERS A WEALTH OF RESOURCES AND EXPERTISE TO HELP YOU ACHIEVE A HIGH RETURN ON YOUR INVESTMENT.

SolidWorks Corporation

Founded by mechanical engineers, SolidWorks is a company 100% focused on mechanical design. In addition to developing software that extends the capabilities of designers and engineers, the company offers programs such as the 3D Skills Program and the Certified SolidWorks Professional (CSWP) program to help designers and engineers advance their careers.



User Groups, Events, and Online Forums

There are nearly 100 independently organized SolidWorks user groups worldwide and more than a dozen popular online user forums. In addition, SolidWorks Corporation and its resellers host annual user events around the globe. Participating in these activities provides you with the opportunity to meet and compare experiences with other product designers and engineers. It provides you with new ways to approach design challenges, save time, and reduce costs.

Seldwork.

41224 34

3D Produ

SolidWorks Users

SolidWorks users are at the core of the SolidWorks Community. More than 425,000 users worldwide spend over 135 million hours a year designing products with SolidWorks software. These users specify more than 90% of the enhancements that SolidWorks Corporation delivers with each new release of the software.

Manufacturing Network

The SolidWorks Manufacturing Network is an online directory that provides information about local businesses offering services to the SolidWorks User Community.

SolidWorks Resellers

The global network of authorized SolidWorks value-added resellers (VARs) provides the local service, support, and training you need to become rapidly productive with the software. From its beginnings, SolidWorks Corporation has partnered closely with its VARs, resulting in one of the strongest support channels in the industry. Benefits for SolidWorks customers include a high level of technical expertise and dependable service worldwide.

SolidWorks Solution Partners

The SolidWorks Solution Partner Program delivers the widest choice of best-in-class, production-proven software solutions available for all aspects of the design process. SolidWorks collaborates with over 600 innovative software and hardware vendors to meet customer requirements throughout the entire product design and manufacturing process. SolidWorks Certified Gold Products offer fully integrated and associative solutions that are certified by SolidWorks to ensure ease of use and interoperability.

Educators and Students

The SolidWorks Education Program provides valuable learning resources and affordable software licensing options for educators and students. More than 80 percent of the world's top-ranked academic institutions use SolidWorks software as part of their education programs. The combined value of SolidWorks 3D CAD and integrated design validation software provides unique advantages in the classroom. The SolidWorks Education Program helps engineering and industrial design students prepare for success in a job market where SolidWorks experience is preferred.





Commercial users of SolidWorks software

Schools offering SolidWorks coursework

SolidWorks Subscription Service

THE SOLIDWORKS SUBSCRIPTION SERVICE IS A SOFT-WARE SUPPORT PLAN PROVIDING THE SOLIDWORKS USER COMMUNITY WITH TECHNICAL SUPPORT, AUTO-MATIC SOFTWARE UPGRADES, AND A FULL RANGE OF RESOURCES TO HELP YOUR ORGANIZATION ACHIEVE A HIGH RETURN ON ITS INVESTMENT.

Member benefits:

- All major SolidWorks software upgrades released during the subscription term.
- Telephone support services provided by your authorized SolidWorks reseller.
- Access to the *SolidWorks Implementation Guide*, a comprehensive set of tools and materials that supply a consistent, proven methodology and best practices to ensure successful deployment of SolidWorks.
- Access to a collection of technical documents, articles, and tips that provides you with industry-standard best practices as well as in-depth knowledge of the features and capabilities of SolidWorks software.
- Access to priority enhancements and an online interactive knowledge database, including a state-of-theart shareware model library.





VARs offering training and support

CUSTOMER DESIGNS



CUSTOMER DESIGNS



 $- \bigcirc -$

is a registered service mark of SolidWorks Corporation. DWGgateway is a product of SolidWorks Corporation for AutoCAD users. marks, 30 ContentCentral is a service mark, and FeatureManager is a jointly owned trademark of SolidWorks Corporation. COSMOS FloWorks are trademarks of Structural Research and Analysis Corporation. AutoCAD is either a registered trademark or trademark trademark of Geometric Software Solutions Co. Limited. All other company and product hames are trademarks or registered tradeved. The information in this document is subject to change without notice.