SOLIDWORKS 3D CAD

OBJECTIVE

SOLIDWORKS® 3D CAD product development solutions provide engineers, designers and manufacturers with the design, simulation/verification, manufacturing, file management and collaboration tools they need to develop and manufacture innovative products and equipment—all in one package. All SOLIDWORKS software products provide single-window, fully associative integration with SOLIDWORKS 3D CAD software. As a result, all SOLIDWORKS products work together using the same design data so each design change is updated automatically across all applications.

SOLIDWORKS is easy to use so engineers, designers and manufacturers get up to speed quickly, thereby allowing them to become productive almost immediately. In addition, SOLIDWORKS is powerful and industry-proven. It provides the depth of functionality needed to handle the most complex designs and largest assemblies.

With over 5.6 million users today, SOLIDWORKS has become a critical tool for streamlining the design and manufacture of products in all industries around the world. And with a matching worldwide network including online and onsite support, you can be confident that you will always find the help you need, when you need it.

OVERVIEW

As the foundation of the entire SOLIDWORKS suite of product development solutions—covering design, simulation/verification, cost estimation, manufacturability checks, CAM, sustainable design, technical communication and data management—SOLIDWORKS 3D CAD solutions provide easy-to-learn, extremely powerful functionality that shortens product development time, reduces costs and improves quality.

- Enable design and manufacturing teams to work concurrently in one seamlessly integrated system.
- Make design changes at any time that can flow quickly and easily to all downstream departments.
- Create designs faster and more accurately, including 3D models and 2D drawings of complex parts and large assemblies.
- Work more efficiently with application-specific tools for holes, fasteners, sheet metal, injection molds, plastic and cast parts, weldments, surfacing, mesh models, reverse engineering, piping and electrical routing.
- Output accurate Bills of Materials (BOMs) needed by manufacturing with the click of a mouse.
- Eliminate design errors and rework before designs get to manufacturing by using automatic interference checking and virtual testing of designs with integrated motion and stress analysis tools.
- "Design for cost" and "design for manufacturing" by using automatic manufacturing cost estimation tools and manufacturability checks.
- Automate CAM programming with embedded, easily customizable, rules-based machining strategies.
- Open and work with most 3D CAD data with the option to link to and work with the model in its original CAD format or convert it automatically to a SOLIDWORKS file.
- Communicate ideas more effectively using tools to create, publish and view lifelike, photorealistic images and videos of designs.
- Manage interactions between team members and control revisions using data management tools.

BENEFITS

- Streamlines product development process from design through manufacturing.
- Eliminates rework, the duplication of work and data translation errors.
- Significantly reduces costs associated with supporting multiple design and manufacturing tools by implementing one seamlessly integrated design-to-manufacturing solution.
- Enables fast and easy learning with online help and tutorials, live technical support and training.
- Works directly with CAD data created in any major 3D CAD system.
- Updates documentation and BOMs automatically when designs change.
- Uses estimation tools and manufacturability checks to "design for cost" and "design for manufacturing".
- Speeds the creation of 2D drawings, possibly eliminating the need altogether.
- Provides CAM programming for CNC machining with SOLIDWORKS CAM, powered by CAMWorks®.

CAPABILITIES

SOLIDWORKS Standard

Get up to speed quickly with SOLIDWORKS Standard and unlock the benefits of this powerful design and manufacturing solution.

- Share data directly with your suppliers and customers who also use SOLIDWORKS.
- Eliminate data translation which wastes time and can introduce design errors.
- Create any design, including the most complex parts and extremely large assemblies.
- Create 2D drawings with automated view creation, BOMs and all the capabilities needed to fully detail your drawings.
- Automatically check for interferences and misalignments before going to manufacturing.
- Automate design and drawing creation with built-in configurability tools.
- Render and animation capabilities to create images and videos of the designs in action.
- Work directly with non-SOLIDWORKS CAD data and eliminate the need to translate files using SOLIDWORKS 3D Interconnect.
- Save time and reduce rework by checking the manufacturability of your designs and instantly finding interferences before going to manufacturing.
- Create CNC tool paths using industry-leading CAM tools powered by CAMWorks that include an intelligent database of machining rules and even the ability to automatically create CNC programs for your design (with a SOLIDWORKS subscription).
- Dramatically simplify the path from SOLIDWORKS CAD to Augmented Reality (AR) and Virtual Reality (VR) with an export option (Extended Reality), powering an ecosystem of rich AR, VR and web viewing experiences created by our approved Partners.

SOLIDWORKS Professional

SOLIDWORKS Professional builds on the capabilities of SOLIDWORKS Standard to increase design productivity. SOLIDWORKS Professional offers:

- File management tools
- Advanced photorealistic rendering—SOLIDWORKS Visualize
- Automated manufacturing cost estimation
- eDrawings® Professional collaboration capabilities
- Reverse engineering tools
- Automated design and drawing checking
- Automated task scheduling and batch processing
- Tolerance analysis
- ECAD/MCAD collaboration tools
- Sophisticated components and parts library

SOLIDWORKS Premium

SOLIDWORKS Premium builds on the capabilities of SOLIDWORKS Professional and adds powerful simulation and design validation as well as advanced wire and pipe routing functionality, and advanced surface flattening capabilities:

- Motion analysis
- Structural part and assembly analysis
- Environmental impact analysis—SOLIDWORKS Sustainability
- Pipe and tube routing
- Electrical wire and harness routing
- Duct routing
- Advanced surface flattening

Our 3DEXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3DEXPERIENCE®** 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 220,000 customers of all sizes in all industries in more than 140 countries. For more information, visit **www.3ds.com**.

3DEXPERIENCE®

DASSAULT SYSTEMES | The 3DEXPERIENCE® Company

Americas
Dassault Systèmes
175 Wyman Street
Waltham, Massachusetts
02451-1223
USA

Europe/Middle East/Africa
Dassault Systèmes
10, rue Marcel Dassault
CS 40501
78946 Vélizy-Villacoublay Cedex
France

Asia-Pacific
Dassault Systèmes K.K.
ThinkPark Tower
2-1-1 Osaki, Shinagawa-ku,
Tokyo 141-6020
Japan