

SOLIDWORKS SOLUTIONS

ENGINEERING AND DESIGN TOOLS
TO DRIVE INNOVATION



**POWERFUL,
YET SIMPLE
SOLUTIONS TO
HELP YOU GROW
YOUR BUSINESS**

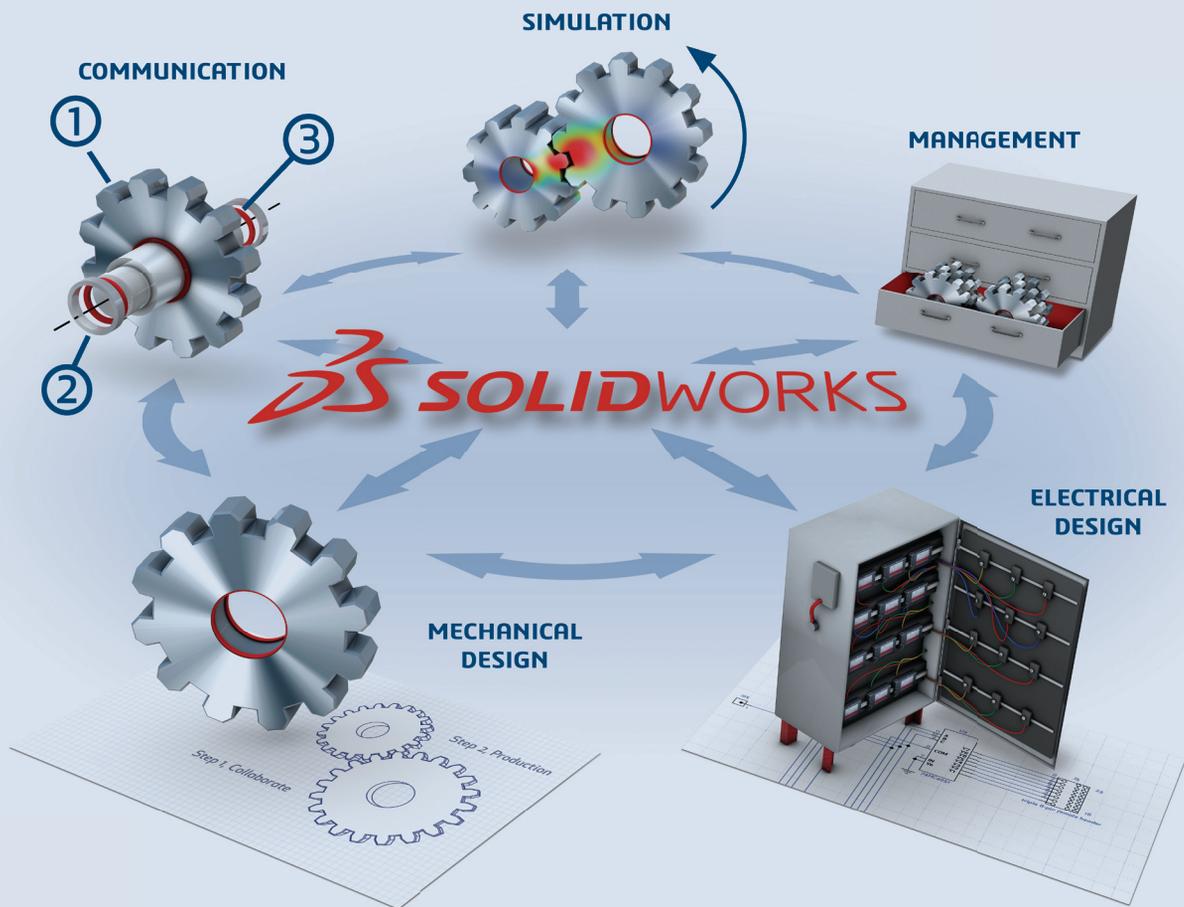
SOLIDWORKS® design solutions help designers, engineers, and manufacturers create and deliver great products. Our integrated, powerful, yet easy-to-use solutions help drive innovation while covering all aspects of your product development process with a seamless workflow that simplifies even the most complex designs. SOLIDWORKS helps you eliminate barriers to innovation so your team can work more efficiently, reduce development time and cost, and get the information you need at exactly the right time for making better design decisions.

ENGINEERING AND DESIGN SOLUTIONS FOR ALL ASPECTS OF YOUR DEVELOPMENT PROCESS

SOLIDWORKS covers all aspects of your product development process from start to finish, with integrated design, simulation, technical communication, and data management. Product Engineers can perform multiple development tasks with ease, shortening their design cycle, increasing productivity, and delivering innovative products to market faster.

The SOLIDWORKS suite of solutions covers:

- 3D mechanical design
- Embedded electrical schematic design and electromechanical design
- Simulation for analysis of structural, CFD, plastic injection molding, environmental, and motion parameters
- Data management for secure, efficient storage and search
- Technical communication applications and tools for creating dynamic graphical content, inspection documentation, and model-based 3D Product and Manufacturing Information (PMI)



“SOLIDWORKS has allowed us to reduce design cycle times significantly, which saves time and money, while simultaneously improving quality.”

– Mike Derus, Lead Engineer, THE OUTDOOR GROUP LLC



DESIGN

Inspiring innovation from concept through manufacturing

The SOLIDWORKS solution suite begins with design, from capturing and collaborating on concepts, to detailing parts and assemblies, through to manufacturing. Used by more than three million designers and engineers around the world, SOLIDWORKS helps drive smarter, faster product development.

SOLIDWORKS 3D Design helps designers, engineers, and manufacturers advance their ideas from concept to production faster through industry leading capabilities including:

- Powerful, yet easy-to use, 3D modeling and 2D drawing creation
- Ability to handle extremely large and complex designs—even hundreds of thousands of parts
- Bill of Materials (BOM) that automatically update with design changes
- Advanced surfacing tools that ensure you can create any shape
- Design reuse tools that save time by automating model and drawing creation
- Production-proven 2D drawing and 3D model import/export formats
- Advanced animation capture and photo-realistic rendering
- Fully integrated “Design for Manufacturing” (DFM) checks
- Built-in cost estimation to help hit manufacturing cost targets and speed quoting
- Specialized functions and CAD libraries that speed design of piping and electrical systems, molds, sheet metal, and weldments
- File management and collaboration tools built for use by everyone – colleagues, partners, and customers

SIMULATION

Advanced simulation that’s powerful and easy to use for both engineers and specialists

SOLIDWORKS Simulation helps product engineers ask—and answer—important and complex engineering questions throughout the design process. You can test your designs to ensure that product behavior will avoid failures, be reliable, and achieve design requirements, with analysis for:

- Structural—Finite Element Analysis (FEA)
- Fluid flow and heat transfer – Computational Fluid Dynamics (CFD)
- Plastics Injection Molding (PIM)
- Environmental impact
- Time-based motion

Powerful results visualization shows the structural forces affecting your design—displaying stresses, displacement, lifetime, and temperature. You can calculate measurements for any point, surface, or volume, and then graph and list results for all types of simulations.

Intuitive CFD simulation takes advantage of CAD integration, advanced geometry meshing, solution convergence, and automatic flow regime determination without sacrificing ease of use or accuracy. Product Engineers and CFD experts alike can predict flow fields, mixing processes, and heat transfer, and directly determine pressure drop, comfort parameters, fluid forces, and fluid structure interaction during design.

Now, every designer can answer the most complex “what if” questions, reduce the number of prototypes, ensure greater product accuracy, and get to market faster. Sophisticated and easy to use, SOLIDWORKS Simulation works seamlessly with SOLIDWORKS 3D CAD, so you can use it throughout the product design process.



DATA MANAGEMENT

Take control of your data to enhance collaboration and innovation

SOLIDWORKS Enterprise Product Data Management (EPDM) enables designers and engineers across your organization to quickly and efficiently find, share, and reuse data, helping improve quality and collaboration. Enterprise-wide version control and integrated workflows help automate your design processes. Easy to implement, SOLIDWORKS EPDM can scale from small and mid-sized installations to hundreds of designers and engineers in distributed offices around the world.

- Rapidly find and use data—Ensure your team always has the right version, avoiding costly mistakes
- Collaborate without boundaries—Give your teams and partners quick access, even across continents and time zones, while maintaining version control
- Access with mobile connectivity—Browse folders, view file information and thumbnails, search, and change files from any device
- Be productive fast—Experience a fast learning curve and ease of use with an intuitive Windows® Explorer interface, personalized menus, and quick-access features that remove desktop clutter
- Streamline processes—Simplify administrative steps like approvals and sign-offs, and minimize administrative work, while maintaining accuracy and accountability

TECHNICAL COMMUNICATION

Add a new dimension to all the technical communication deliverables you need to produce

SOLIDWORKS Technical Communication applications help you improve the creation of customer technical documentation, sales materials and presentations, and documentation for inspection, manufacturing, and service. You use your existing design data to produce your materials, helping you work faster and more efficiently.

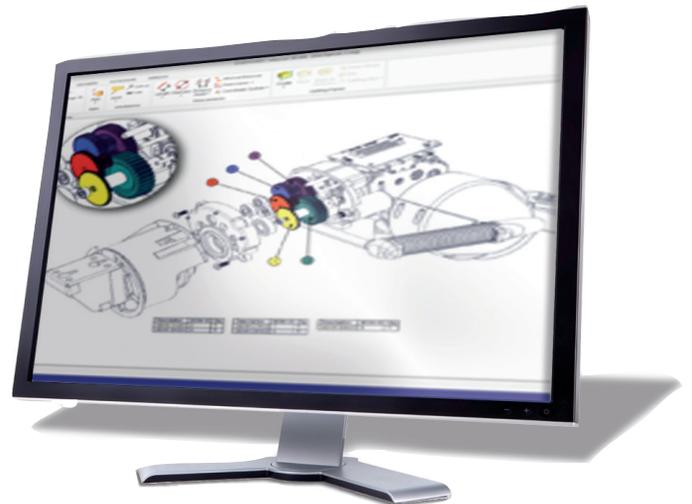
SOLIDWORKS software offers the tools to start creating product communication—such as high-quality graphics, illustrations, and interactive 3D animations—early in the design process, keep it updated, and deliver it on time. The easy-to-use software enables companies, including nontechnical users, to leverage existing 3D CAD data to create dynamic product images and animations that are linked to the 3D CAD data.

This helps you to clearly present even the most complex data and designs that are always up to date.

SOLIDWORKS can communicate PMI directly in 3D, including 3D model data in industry-standard file formats (such as SOLIDWORKS files, eDrawings®, and 3D PDF). This information guides the manufacturing process, helping to streamline production, cut cycle time, reduce errors, and comply with industry standards. By removing time-consuming 2D processes, companies using model-



Communicate with co-workers, manufacturing, customers and your entire supply chain knowing your data is safe, secure and at the right revision level regardless of your location.



based operation have reduced development costs by up to 90 percent, especially saving on rework, scrap, tooling, and fabrication.

For inspection tasks, SOLIDWORKS can automatically create inspection documents by leveraging existing 2D legacy data. Quality departments often require drawings with balloon callouts, reports for inspection, or additional deliverables for the inspection process. Designers, engineers, and quality inspectors are typically tasked with manually creating these documents. Now with SOLIDWORKS, this process is automated, improving productivity and accuracy.

“SOLIDWORKS Electrical makes us more accurate and efficient in all facets of development—from design to collaboration to production.”

— Ryan Helminen, Project Engineer, GLSV, Inc.

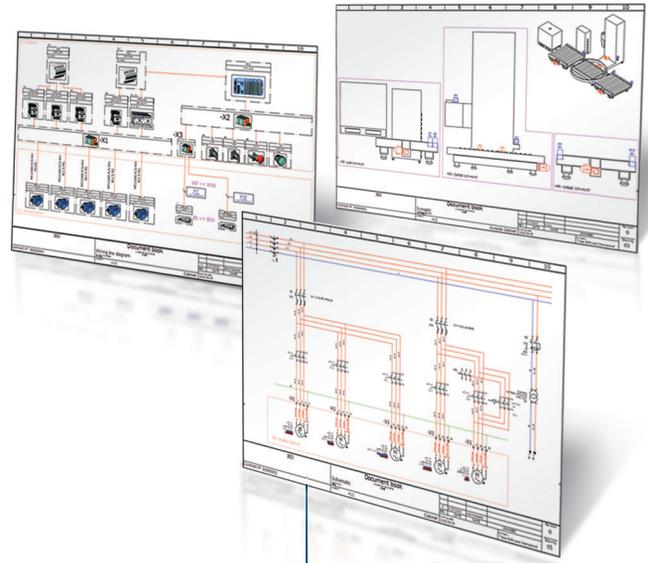
ELECTRICAL DESIGN

Simplify electrical schematic creation and integrated electrical system design

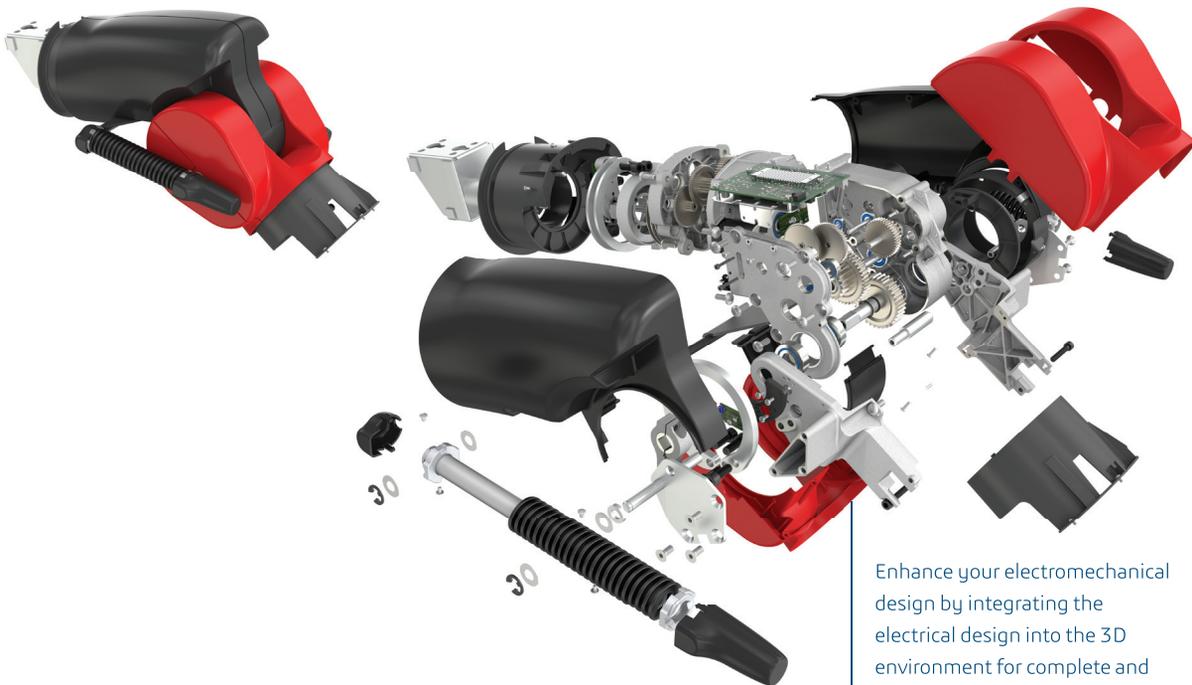
In electromechanical design, linking to Electrical CAD (ECAD) to combine your Printed Circuit Board (PCB) designs, creating design elements, and defining the electrical interconnect of wires, cables, and harnesses is often a laborious and error-prone process. SOLIDWORKS offers a range of intuitive electrical schematic and 3D design functionality to meet the needs of electrical engineers and help simplify your electrical schematic creation.

Bidirectional integration in real time between electrical and mechanical designs helps improve collaboration and productivity for fewer product delays, more consistent and standardized designs, lower costs, and faster time-to-market. Powerful, easy-to-use schematic design tools help drive rapid development, with built-in libraries of symbols, manufacturer part information, and 3D component models providing common, reusable materials that help optimize design reuse.

You can use advanced SOLIDWORKS routing technology to automatically interconnect electrical design elements within the 3D model. Then, determine optimal lengths for wires, cables, and harnesses, all while maintaining design and BOM synchronization between electrical and mechanical designs.



Create electromechanical projects quickly with powerful yet easy to use Electrical Schematic design tools.



Enhance your electromechanical design by integrating the electrical design into the 3D environment for complete and accurate Bill of Materials (BOM) including wires, cables, harnesses and electrical components.

VISUALIZATION

Fast, easy, and fun photo-quality content creation

SOLIDWORKS Visualize provides a suite of standalone software tools that combine industry-leading rendering capabilities with visual design-oriented features and workflows that enable easy and fast creation of visual content that communicates a design's vision, passion, and emotion.

SOLIDWORKS Visualize has been created for anyone who needs to create professional photo-quality, images, animations, and other 3D content in the fastest and easiest way possible. SOLIDWORKS Visualize is hardware-agnostic, which means designers, engineers, and content creators who use SOLIDWORKS or other CAD creation tools (such as Rhino®, Autodesk® Alias®, 3ds Max®) for product, architectural, yacht, mechanical, and other designs can produce an enhanced 3D decision making experience in a fast, easy, and fun way.

SOLIDWORKS PRODUCT DEVELOPMENT SOLUTIONS

SOLIDWORKS software provides users with an intuitive 3D development environment that helps maximize 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, technical communication, and data management at www.solidworks.com/products2016.

LEARN MORE

To learn more about SOLIDWORKS SOLUTIONS, visit www.solidworks.com/solutions.



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 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.



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