

SOLIDWORKS SOLUTIONS

THE POWER YOU NEED TO DRIVE INNOVATION

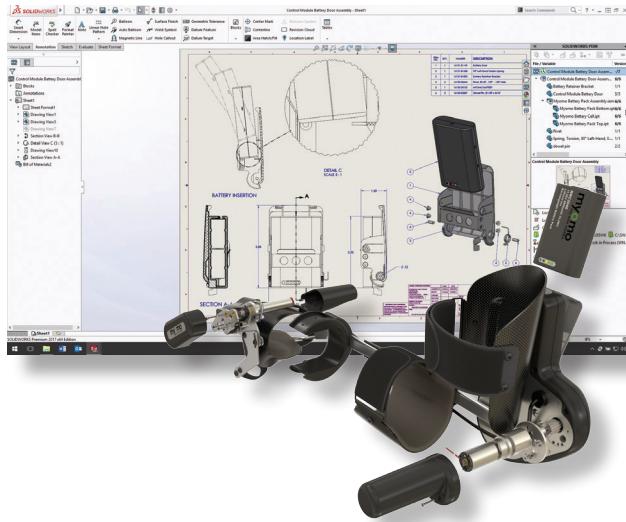


**POWERFUL,
YET SIMPLE
SOLUTIONS TO
HELP YOU GROW
YOUR BUSINESS**

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.

"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

Comprehensive results visualization shows the structural forces affecting your design—displaying stresses, displacements, lifetimes, and temperatures. You can determine 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 Simulation helps product engineers ask - and answer - important and complex questions throughout the design process. You can virtually test your designs to ensure products performance and reliability with an easy to use powerful analysis portfolio:

- 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



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.

TECHNICAL COMMUNICATION

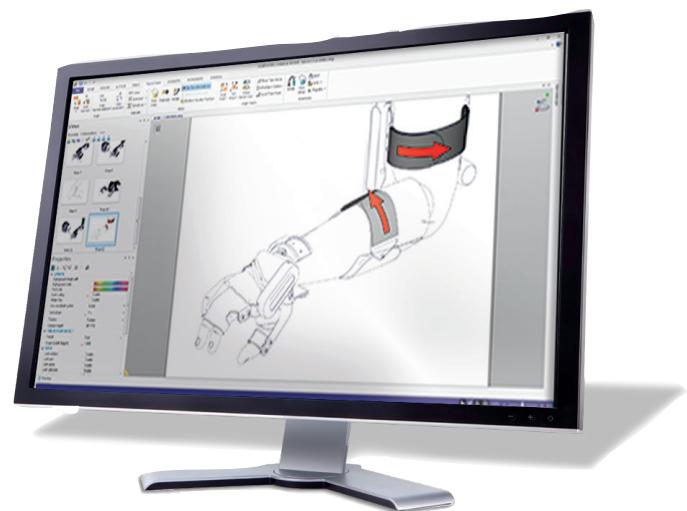
Add a new dimension to all the technical communication deliverables you need to produce

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-based operation have reduced development costs by up to 50



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.

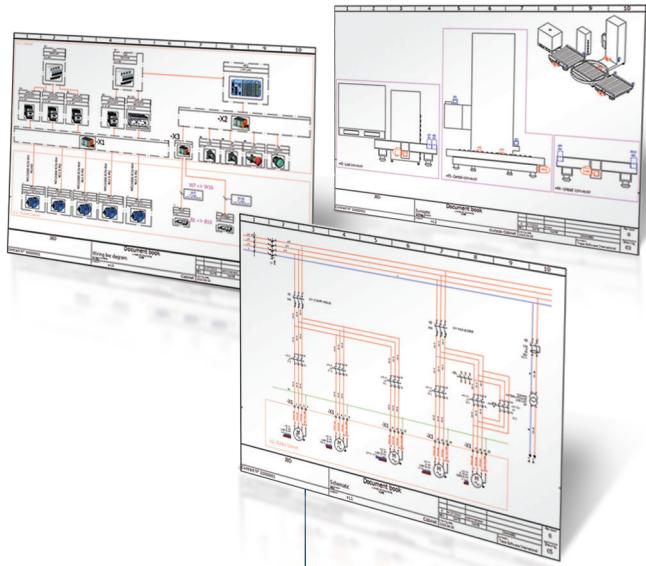
ELECTRICAL DESIGN

Simplify and integrate electromechanical system design

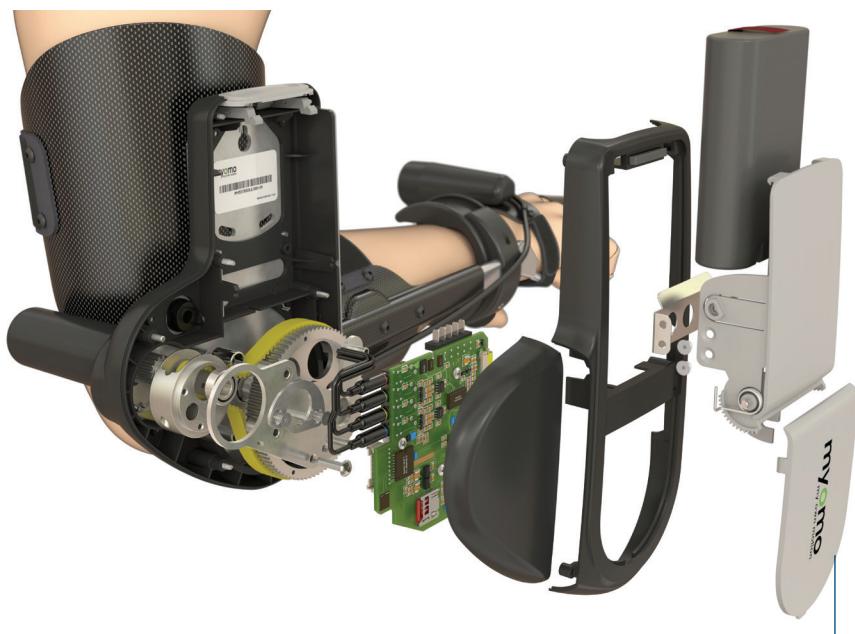
SOLIDWORKS Electrical solutions are integral parts of the SOLIDWORKS design and simulation portfolio that helps design engineers reduce the risk inherent with innovation and get their products to market faster and with less physical prototyping helping decrease costs. A consistent, powerful, intuitive set of Electrical Design capabilities enables designers to establish an integrated design early in the design process and avoid costly rework.

Designers and engineers can quickly define the electrical interconnect of complex electrical systems with our easy-to-use solutions in SOLIDWORKS Electrical. Utilizing intelligent single line or traditional multiline schematics and a library of thousands of electrical schematic symbols and parts, you can develop embedded electrical system designs in a real-time in a collaborative multi-user environment that connects mechanical and electrical engineering.

SOLIDWORKS PCB provides Altium® electronic design power and usability and SOLIDWORKS® 3D expertise to unite the electrical and mechanical worlds, one design at a time. You can integrate electronic design seamlessly with SOLIDWORKS CAD utilizing your trusted mechanical workflow. Designs come to life with integrated design data, managed ECO processes, and greater analysis capabilities. SOLIDWORKS PCB is focused on bringing together the best of both worlds. Do what you do best with SOLIDWORKS, and let SOLIDWORKS PCB handle all of your electronic design needs.



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



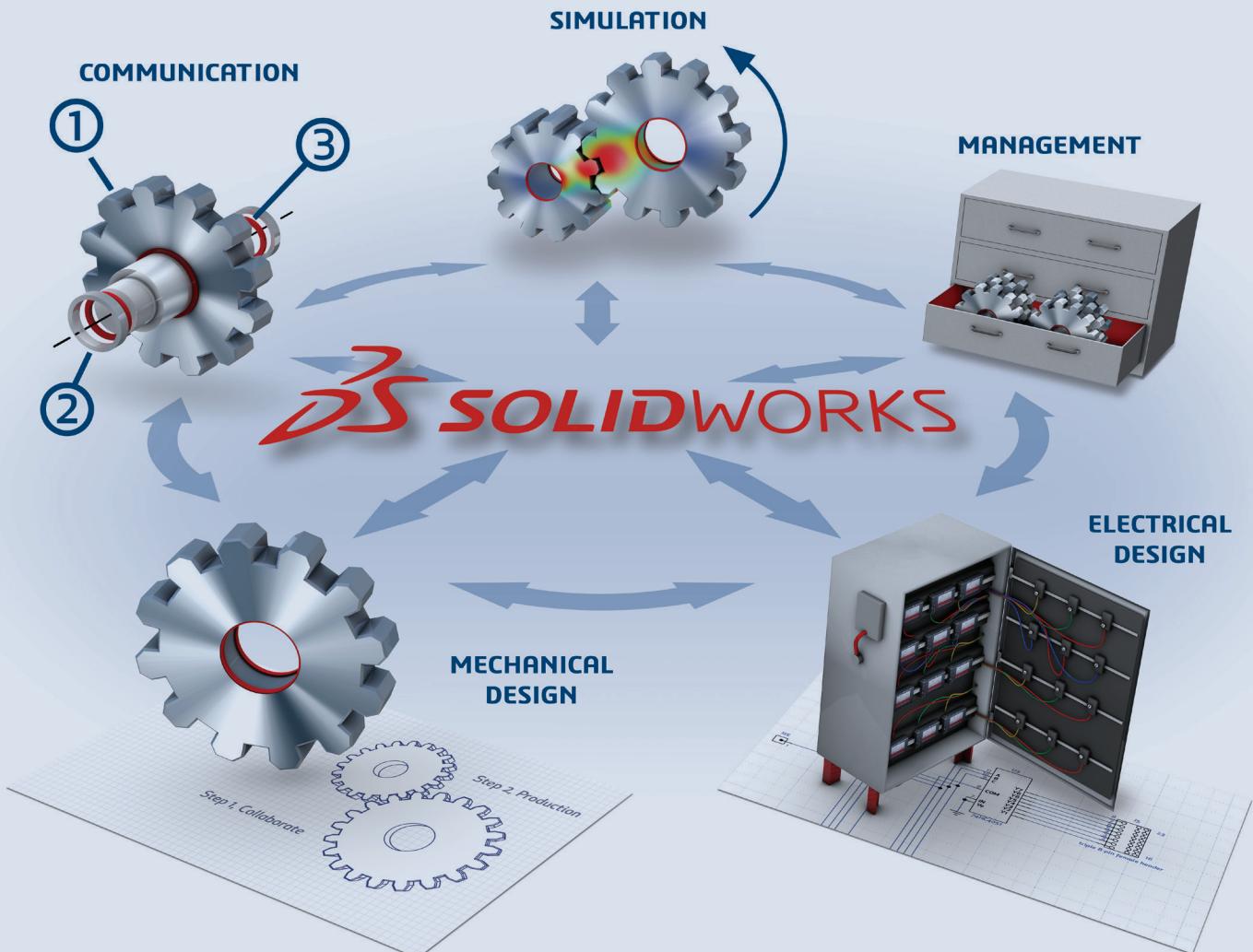
Enhance your electromechanical design by integrating the electrical design into the 3D environment for complete and accurate Bill of Materials (BOM) including wires, cables, harnesses, and electrical components.

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 and drawing creation
- Embedded electrical schematic , routing, PCB, 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)



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 is made 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/products2017.

LEARN MORE

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

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