SUMMARY
At its core, SOLIDWORKS is simply a smarter approach. By unifying all electro-mechanical disciplines into one ecosystem, SOLIDWORKS® ECAD offers a powerful advantage in the designing, engineering and deployment of smart products.

SOLIDWORKS ECAD PARTNER SOLUTIONS

ECAD/CONNECTED PROCESS SOLUTIONS
When intelligent design matters

DESIGN
Hardware product planning
Visual design
SMT system modeling
Feasibility assessment
Simulations and prototyping
Multi-disciplinary collaboration
ECAD project management

DESIGN AND BUILD
Mechanical
Electrical
Software
Embedded software
Web applications
Mobile applications

MANAGE
Device management
Analytics
Data automation
Business system integration
Cloud service
Transport
Business enablement
Application enablement

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

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 220,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.

When intelligent design matters

SOLIDWORKS® IOT PARTNER SOLUTIONS

IDEATION
Hardware product planning
Visual ideation
IoT system modeling
Feasibility assessment
Simulations and prototyping
Multi-disciplinary collaboration
ECAD project management

DESIGN AND BUILD
Mechanical
Electrical
Software
Embedded software
Web applications
Mobile applications

MANAGE
Device management
Analytics
Data automation
Business system integration
Cloud service
Transport
Business enablement
Application enablement

INTEGRATED DEVELOPMENT PROVIDES A COMPETITIVE EDGE
Employing a set of integrated design tools to develop connected products and systems provides a variety of benefits. Users can leverage an integrated approach to shorten design cycles, improve quality and facilitate manufacturing, while simultaneously encouraging a multi-disciplinary, collaborative approach. When electronic design, electrical schematics, and wiring, motion control systems, mechanical housing and component design are completed in an integrated manner, it enables new ways of thinking and sparks innovation.

A CONNECTED WORLD
Every day, products are becoming more complex and features once the stuff of science fiction are now being offered in everything from cars to coffee makers. Smart products involve the marriage of many different systems, resulting in a variety of design and manufacturing challenges. Many SOLIDWORKS® customers are looking for integrated solutions to solve these challenges in order to meet the desires of today’s consumers and the needs of cutting-edge businesses.

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DESIGNING WITHIN A UNIFIED ECOSYSTEM
One of these challenges is the number of disciplines brought to bear on the process. Mechanical, electrical, electronic and network design are too often managed separately, and this siloed approach can hamper design and development from the start. To connect all these things, SOLIDWORKS’ partner solutions can be leveraged to help maintain a clear path to the final product. One of the biggest barriers to the process is siloed design and the lack of connection and clarity in the process. New tools can share data and ideas, quicker and easier than ever before.

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MICROSOFT BUILDING BLOCKS
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**SOLIDWORKS PCB**

Printed Circuit Boards (PCBs) are at the heart of smart design and industrial engineering technology and quality in their design and manufacture is critical.

SOLIDWORKS PCB powered by Altium is an electro-mechanical design solution (ECAD) that enables designers to work efficiently, enabling improved design reuse, streamlined help speed up the product development process, and reuse and development costs. CircuitWorks™ is a powerful electronics CAD/ECAD translator that enables engineers to create accurate 3D models of circuit boards in SOLIDWORKS 3D design software. As part of the SOLIDWORKS Electrical 3D design environment, CircuitWorks enables you to share, compare, update and track electrical design data to help you make more accurate, easier-to-use design changes affecting the design of the PCB. CircuitWorks efficiently promotes bidirectional data exchange. Design teams can work together to resolve Schematic integration problems and move faster to create innovative, higher-quality products.

**SOLIDWORKS FLOW SIMULATION AND ELECTRONIC COOLING MODULE**

As equally important aspects of the electrical-engineering process in the ability to manufacture performance in the final product, users can achieve the big using SOLIDWORKS Flow Simulation and its set of intelligent models to perform thermal analysis on PCBs and other electronics. The resulting data can be used to ensure the optimal performance of all components.

Similarly, the Electrical Cooling Module features to own set of intelligent models to enable a broad range of electronic cooling applications to be built quickly and accurately.

**SOLIDWORKS ELECTRICAL**

With SOLIDWORKS Electrical 3D and SOLIDWORKS Electrical Schematic software, users can create schematic-driven electrical design, within the SOLIDWORKS design environment. When coupled with SOLIDWORKS PCB, users will have a completely integrated mechatronics design suite.

**SOLIDWORKS ELECTRICAL PDM Connector**

Manages the configuration and version control to ensure design integrity and to provide the same level of design data management for electrical and mechanical designs that SOLIDWORKS users expect. SOLIDWORKS Electrical Professional products include the ability to tightly integrate into SOLIDWORKS PDM Professional with the same capabilities as SOLIDWORKS, with a stress-free interface crafted specifically for electrical users.

**SOLIDWORKS Electrical Schematic Professional**

To achieve rapid development of embedded electrical systems for equipment and other products, users need a powerful easy-to-use intuitive collaboration schematic design tools. SOLIDWORKS Electrical allows you to streamline and simplify the most complex design task with an array of easy-to-use features, from Programmable Logic Controller (PLC) and 3D terminal block, to contact cross-reference assignments, automated reporting and terminal drawing creation—all within a collaborative project management environment.

**SOLIDWORKS Electrical Schematic Standard**

A powerful, stress-free, easy-to-use single-user schematic design tools that helps users achieve the biggest impact of collaboration schematic design tools. SOLIDWORKS Electrical PDM Connector and the Electrical Schematic Standard provide common reusable intellectual capital design resources. This can streamline and simplify an array of tedious design tasks, from terminal block to contact cross-reference assignments, with SOLIDWORKS automated design and management tools.

**SOLIDWORKS Electrical 3D**

Integrate electrical schematic design data with the SOLIDWORKS Electrical 3D model of a machine or other product, bidirectionally and in real-time. SOLIDWORKS Electrical 3D enables you to place electrical components and use advanced SOLIDWORKS routing technology to prohibit electrical design elements within the 3D model. Determine optimal paths and routing paths for electrical systems, while maintaining design and Bill-of-Materials (BOM) synchronization between electrical and mechanical designs.

**SOLIDWORKS Electrical makes us more accurate and efficient in all facets of development—from design to collaboration to production.** — fingers, Project Engineer, GLID Inc.

**SOLIDWORKS ECAD SOLUTIONS**

Dramatically improve your throughput and minimize risk—no matter what the application—with SOLIDWORKS ECAD solutions. The suite of electro-mechanical design tools enable faster design, improved information and data sharing, and increased accuracy in the development of smart devices and other products requiring embedded electronics.

**INTEGRATED ECAD-MCAD TRANSLATOR**

CircuitWorks

Mechanical engineers (MCAD) and electrical engineers (ECAD) need to work closely in creating complex designs to help speed up the product development process, and reuse and development costs. CircuitWorks™ is a powerful electronics CAD/ECAD translator that enables engineers to create accurate 3D models of circuit boards in SOLIDWORKS 3D design software. As part of the SOLIDWORKS Electrical 3D design environment, CircuitWorks enables you to share, compare, update and track electrical design data to help you make more accurate, easier-to-use design changes affecting the design of the PCB. CircuitWorks efficiently promotes bidirectional data exchange. Design teams can work together to resolve Schematic integration problems and move faster to create innovative, higher-quality products.

**“With SOLIDWORKS and SOLIDWORKS PCB software, we’ve taken a board population process that was highly inaccurate—because of the rough nature of the components—and that took 15 minutes per conversion/import down to a 100 percent accurate process that takes three to five minutes in total.”** — Nate Callin, CEO, RedLED

*REPRESENTATIVE ELECTRONIC SOLUTIONS (SMART PRODUCTS)*

- Factory automation
- Connected devices
- TVs
- Consumer products
- Medical devices
- Robotics
- Electric vehicles
- Aerospace & defense
- Commercial vehicles
- Medical devices
- Automotive
- Electrical cabinets
- Electric vehicles
- Motor controls
- Industrial equipment
- Commercial vehicles
- Aircraft interiors
- Trains
- Heavy equipment
- Spacecraft
- Machine systems

*SOLIDWORKS ELECTRICAL* for design, simulation, technical communication and data management visit www.solidworks.com.

*REPRESENTATIVE ELECTRICAL SOLUTIONS*  

- Factoring automation
- Industrial equipment
- Robotics
- Medical devices
- Automation
- Electrical cabinets
- Electric wiring
- Power supplies
- Switchgear & switchgear
- Commercial vehicles
- Aircraft electronics
- Equipments
- Tools & equipment
- Trains
- Heavy equipment
- Spacecraft
- Weapon systems