

# SOLIDWORKS PREMIUM 2011

The complete 3D CAD solution for designing better products



Image courtesy of Holmatro N.V.

## One solution tackles all your design challenges

SolidWorks® Premium 2011 improves productivity and innovation with ease of use, powerful functionality, and world-class support in one package. Cut design time, improve collaboration across your entire team, and reduce manufacturing costs.

## Move quickly from idea to reality

Advance your idea from concept to market quickly using a rich 3D model as a foundation of the process.

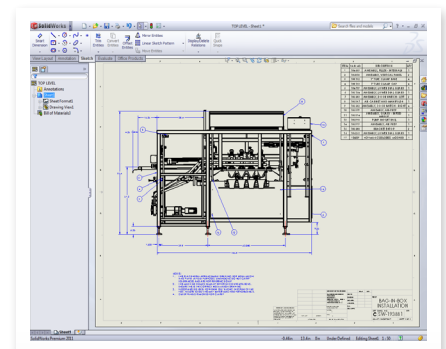
- **Part and assembly modeling** – SolidWorks Premium enables you to design the most advanced products
  - **3D solid modeling** – create 3D parts with complex geometries, assemblies, and associated drawings; drawings automatically update with part and assembly changes, to keep all your design data up to date
  - **Large assembly design capabilities** – create and manage extremely large designs and work in either detailed or simplified modes
  - **Advanced surfacing** – create and edit complex solid and surface geometry, including stylish, curve-continuous (C2) surfaces, using “push-pull” control points on the geometry
  - **Sheet metal** – design from scratch or convert your 3D part to sheet metal—flatten your design and document for manufacturing
  - **Weldments** – quickly design and fully document welded structures composed of structural members, plates, gussets, and other items
  - **Mold design** – design molded parts and the tooling to make them—including core and cavity, draft, parting surfaces, and mold base components
  - **Piping/tubing design** – generate and document 3D mechanical systems—including paths and a complete bill of materials (BOM)
  - **Electrical cable/harness and conduit design** – import electrical connection information, generate and document 3D electrical route path, and complete the BOM in your design

SolidWorks Premium 2011 is the ultimate tool to design, validate, communicate, and manage your 3D CAD models. It provides a complete suite of design tools with efficient part, assembly, and drawing capabilities, as well as built-in simulation, routing, and image/animation creation tools. Together, this powerful suite makes the management of product data and the sharing of design ideas faster, simpler, and smarter.

- **Design reuse and automation** – speed new designs by finding and reusing existing designs. Use SolidWorks design automation tools to speed the design process further
  - **SolidWorks Search** – enable users to search for any file—on their computer, network, SolidWorks PDM system, or Internet
  - **Design automation** – automate repetitive design tasks, including part, assembly, and drawing generation, using DriveWorksXpress
  - **Configurations** – automatically create multiple versions of parts and assemblies and save them in the same file for easy reference
  - **Design Library** – save frequently used parts, features, templates, and more in the Design Library for easy access
  - **3D models from suppliers** – reduce design time by using 3D models and 2D data of catalog components from 3DContentCentral.com and other manufacturers
  - **Smart Components and Smart Fasteners** – reduce assembly creation time, using smart hardware that create their own holes or size to existing holes
  - **Component Library** – SolidWorks Toolbox provides millions of hardware components and other items to add to your assembly



- **Animations and photorealistic renderings** – communicate your design intent with great visuals that explain your idea correctly the first time
  - **Photoview 360** – create photorealistic images and animations quickly, without being a graphics expert
  - **Walk-through/fly-through animations** – take a virtual walk through your design to explain it to others and record a video
  - **Assembly animation** – demonstrate basic operation of your design by applying motion, gravity, and component contact or by manually moving components—and save a video of the demonstration



- **2D drawings** – expedite the creation of production-ready 2D drawings to clearly communicate how your design should be manufactured and assembled
  - **Automatic Drawing View creation** – simply drag and drop the 3D model into a drawing to create views with hidden lines, hidden lines removed, wire frame, or even shaded views. Include all types of views such as isometrics, sections, partial sections, and detailed views
  - **Automated Drawing View updates** – changes to the 3D part and assembly models are automatically reflected in the drawing views that are in synch with the 3D model
  - **Dimensioning** – automate the generation and placement of dimensions, including geometric dimensioning and tolerancing (GD&T) standards
  - **Bill of Materials (BOM)** – generate automated BOM and cut lists with balloons that update with model changes. Output BOM from an assembly or drawing for printing or upload to ERP/MRP systems
  - **Annotations** – create a complete drawing by adding all necessary tolerances, symbols, notes, hole call-outs, and tables
  - **Standards checking** – compare your drawings to company standards to ensure consistency with SolidWorks Design Checker
  - **Drawing control** – control drawing revisions and compare drawings graphically to understand their differences

Speed machine design and simulation with built-in specialized functionality for creating welded structures, production-quality drawings, and other tasks.

*Image courtesy of ABCO Automation, Inc.*

## Ensure your idea will perform as designed

Virtually test your design in a simulated real-world environment to reduce physical prototypes, save money, and complete your product faster.

- **Motion simulation** – use SolidWorks Motion to help improve the kinematics of your design, leading to improved reliability
- **Structural validation** – enhance product quality by identifying areas prone to failure and suggest changes to guide design optimization using tools built for designers and engineers who best know the design
- **Sustainability** – use SolidWorks SustainabilityXpress to assess the environmental impact of your design and optimize material selection, part geometry, and sourcing
- **Fluid flow simulation** – use FloXpress to provide initial fluid flow simulation and reporting

## Ensure your design can be manufactured correctly the first time

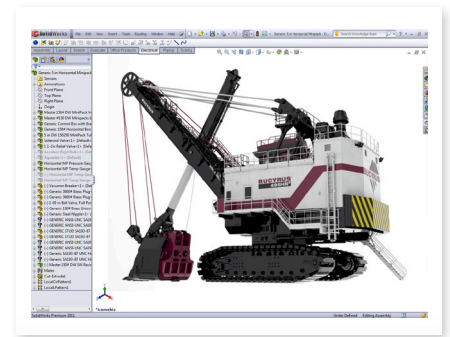
Use SolidWorks Premium tools to verify your design can be efficiently produced before it reaches manufacturing, significantly reducing waste.

- **Collision and interference detection** – check for proper relationships between the components in your design to ensure proper operation
- **Hole alignment checks in assembly design** – eliminate misalignments between components prior to manufacturing
- **Tolerance stack-up analysis** – use TolAnalyst to check the effect of tolerances on parts and assemblies
- **Design for manufacturing** – use DFMXpress to assess the manufacturability prior to production release
- **Output 2D manufacturing data** – send 2-axis DXF and DWG file information directly to production
- **Sheet metal flat pattern** – automatically flatten sheet metal parts, including bend compensation
- **Draft and undercut analysis** – streamline plastic/cast/forged part and tooling design to eliminate problems before manufacturing
- **3D for rapid prototyping** – SolidWorks directly outputs STL and other file formats to rapid prototype equipment
- **3D CAM output** – integration with the world's leading CAM packages. SolidWorks Certified Gold Solution Partner CAM products are fully integrated inside SolidWorks for maximum design efficiency
- **Automatic output of hole charts, weld tables, cut lists, and CNC pipe bending data** – streamlines production preparation
- **Harness-board drawings** – generate drawings and wire cut lists for electrical manufacturing

## Collaborate and communicate your ideas efficiently

Share CAD data and collaborate with others on product design quickly and easily.

- **Import/export** – convert CAD data into any format your audience needs (see side bar for list of import/export capabilities)
- **Existing 2D DWG data** – maintain these designs using SolidWorks 2D CAD tools



Built-in tools speed the design and documentation of extremely large assemblies.

*Image courtesy of Bucyrus International Inc.*

- **Feature Recognition** – automatically convert non-SolidWorks CAD data to preserve design intent and make future design changes faster
- **Protect your IP** – use Defeature technology to hide selected aspects of your design prior to sharing models
- **Import scanned data** – use ScanTo3D to convert scanned data to SolidWorks geometry to facilitate reverse engineering
- **ECAD-MCAD data exchange** – use CircuitWorks™ to provide two-way data exchange to reduce design errors in electronic packaging design
- **eDrawings®** – a compact, email-friendly file and viewing technology that lets you review your 2D drawing and 3D model data together. eDrawings supports viewing SolidWorks, DWG, and numerous CAD formats and enables the extended team to review the design, including rotate, zoom, measure, mark-up, section, and virtual disassembly
- **SolidWorks product data management (PDM)** – provides revision control, data security, and access control to components for use in new designs. Also finds existing designs so they can be reused in other products

### Learn fast, work fast

SolidWorks Premium combines ease-of-use features with the broadest range of support options in the CAD industry, ensuring both occasional and full-time users can become productive quickly.

- **Easy, heads-up user interface** – SolidWorks intuitive interface anticipates your next move which speeds the design process. Context-sensitive commands, mouse gestures, command manager toolbar, and direct geometry editing using Instant3D maximize productivity
- **Intelligent modeling** – SolidWorks Intelligent Feature Technology (SWIFT) improves user productivity by automatically detecting and resolving modeling challenges that would typically frustrate new users
- **Learning resources** – SolidWorks offers a broad range of tools for learning and support. Tutorials, online help, blogs, forums, the SolidWorks local user group (SWUG) community, and an extensive reseller network provide assistance to all users

Visit [www.solidworks.com/premium](http://www.solidworks.com/premium) or contact your local authorized SolidWorks reseller to learn more.

### Data exchange:

SolidWorks Premium 2011 features built-in translators that let you exchange CAD data created in a wide variety of software applications and file formats, including:

- PDF
- STEP
- IGES
- DWG
- DXF
- Parasolid®
- Pro/ENGINEER®
- IAM (Autodesk Inventor®)
- IPT (Autodesk Inventor)
- Mechanical Desktop®
- Unigraphics®
- PAR (Solid Edge®)
- CADKEY®
- Rhino
- IDF
- IFC
- SAT (ACIS®)
- VDA-FS
- VRML
- STL
- U3D (Universal 3D)
- TIFF
- JPG
- AI (Adobe® Illustrator®)
- PSD (Adobe Photoshop®)
- 3D XML
- CGR (CATIA® graphics)
- HCG (CATIA highly compressed graphics)
- HSF (Hoops)

### Supported standards:

- ANSI
- BSI
- DIN
- GB
- GOST
- ISO
- JIS

### System requirements:

Please visit:  
[www.solidworks.com/systemrequirements](http://www.solidworks.com/systemrequirements)



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LET'S GO  
DESIGN

