Autodesk Inventor Takes You Beyond 3D to Digital Prototyping

The Autodesk® Inventor® 3D model is an accurate 3D digital prototype that enables users to validate the form, fit, and function of a design; minimize the need for physical prototypes; and reduce the type of costly engineering changes that are typically discovered after the design is sent to manufacturing.

Inventor software includes comprehensive tools to generate accurate engineering and manufacturing documentation directly from the 3D model and makes it easy for AutoCAD® software users to realize the benefits of Digital Prototyping by taking full advantage of their investments in DWG design data and AutoCAD software expertise.

1. **Digital Prototyping**
   Digital Prototyping with Autodesk® Inventor® software gives you the ability to create and explore a complete product before it is built. Inventor software makes it easy for AutoCAD® software users to realize the benefits of Digital Prototyping by enabling them to integrate 2D AutoCAD drawings and 3D data into a single digital model. This single digital model creates a virtual representation of the final product that helps engineers to better design, visualize and simulate their product with less reliance on costly physical prototypes —thereby improving time-to-market, and increasing competitive advantage.

2. **AutoCAD® and DWG™ Interoperability**
   Inventor software helps AutoCAD users to quickly become proficient with Digital Prototyping workflows by offering a familiar design environment, AutoCAD-compatible shortcuts, and out-of-the-box user profiles for AutoCAD experts. And with true DWG™ file support, Inventor users can leverage their existing 2D drawings to build accurate 3D models. Inventor software provides direct read and write of DWG files without translators. So, you will be able to share critical design data securely, efficiently, and accurately with partners and suppliers who rely on AutoCAD software.

3. **3D Mechanical Design**
   Design better products using 3D. Inventor software offers a wide range of tools to simplify the transition to 3D design for AutoCAD software users and get them productive immediately. Breakthroughs in both assembly design and part modeling offer dramatically easier to use, easier to learn design tools. Intuitive AutoCAD-style sketching and direct manipulation modeling offer an uninterrupted workflow for quickly exploring and evaluating concepts. Specialized features accelerate the design of plastic parts and sheet metal. In addition, easy-to-use tools help to guide assembly creation, so that every part and component fits together correctly.

4. **Automatic Drawing Updates and Views**
   Change it once, change it everywhere. Inventor software associates drawing views to the original components, so a change made to any part or assembly is automatically reflected in all associated drawing sheets. Improve drafting productivity by automatically creating front, side, ISO, detail, section, and auxiliary views of parts and assemblies from the model. Quickly annotate drawings by retrieving the dimension information directly from the design. In addition, the digital prototypes you create in Inventor software can be used to quickly generate compelling 3D product documentation—from assembly instructions to operating procedures—using Autodesk® Inventor® Publisher software. Learn more at www.autodesk.com/inventorpublisher.

Go Beyond 3D

Learn how Autodesk Inventor software is helping AutoCAD users take advantage of Digital Prototyping to design and build better products in less time.

Visit www.autodesk.com/inventor.
5 **Design Automation**

Autodesk Inventor software features rules-based design and automation tools to accelerate design by automating common tasks, enabling engineers to focus on design intent rather than manually modeling geometry. Inventor software captures the functional requirements of a design to drive the automatic creation of intelligent components and accelerate design cycles. Fully integrated Inventor iLogic technology can dramatically simplify rules-based design to help any Inventor user—even those with little or no programming experience—to define complex product configurations, increase engineering productivity, and optimize designs.

6 **State-of-the-Art Visualization**

Quickly and easily create stunning renderings, animations, and presentations that improve communication with your design partners and customers. Autodesk Inventor software provides state-of-the-art visualization, illustration, and animation tools directly in the default workspace, giving you a realistic representation of your design at all times. Dynamic shading, precise lighting control, and the included library of high-resolution textures make it easy to create photo-realistic scenes of your final products in actual environments.

7 **Automatic Bill of Materials**

Create automated and associative parts lists and bills of materials (BOMs) that are developed specifically for manufacturing. Support is included for multiple parts lists per drawing, collapsible assemblies, and automatic recognition of standard parts. With automatic updating, changes ripple through the entire design to help keep everyone on schedule with accurate part counting, identification, and ordering. Features can be customized to match current company practices, and BOM data can be exported to a variety of enterprise resource planning (ERP) systems.

8 **Easy-to-Use Simulation**

Predict how your designs will work under real-world conditions before they’re built. Autodesk® Inventor® Professional software provides easy-to-use motion simulation and stress analysis tools to help you create better-quality parts and avoid field failures. A comprehensive simulation environment provides support for motion simulation and static and modal finite element analysis (FEA) of parts, assemblies, and load-bearing frames. Autodesk Inventor Professional also includes Moldflow® plastic simulation tools to validate the design of injection molds for plastic parts. And, because these tools are tightly integrated with the 3D design software, it’s practical and cost-effective to employ simulation throughout the design process.

9 **Pipe and Cable Routing**

Autodesk Inventor Professional software provides the power to quickly and accurately add routed systems, tube and pipe runs to 3D designs. Routed designs automatically comply with user-defined design rules to reduce errors and save time. In addition, the cable and wire harness routing functionality helps mechanical engineers to integrate electrical controls into 3D mechatronic product designs. As with all Inventor files, the assembly drawings automatically update whenever the routing model is modified.

10 **Integrated Data Management**

Autodesk Inventor software includes integrated data management with Autodesk® Vault software, a centralized application for workgroups that securely stores and manages work-in-progress design data and related documents. For additional functionality, such as revision control, file and folder security, and BOM and ECO management, learn more about the complete Vault family of products. [www.autodesk.com/vaultfamily](http://www.autodesk.com/vaultfamily).

Experience for yourself how easy it is to add Inventor to your AutoCAD workflow. Test drive Autodesk Inventor software and start realizing the benefits of Digital Prototyping today.

To order your free 30-day Trial of Autodesk Inventor Professional software, visit [www.autodesk.com/inventortrial](http://www.autodesk.com/inventortrial)