

# [Computer-based technology in the design process](https://assignbuster.com/computer-based-technology-in-the-design-process/)

Computer-based technology in the design process Identifying the key features of a CAD (computer-aided design) system What CAD (computer-aided design) system can do for an industry?   
Computer-aided-design (CAD) system is very useful for any business in producing better designs more efficiently than other competitive companies in an industry. According to Bozdoc, “ Productivity is much improved by a CAD program enabling you to easily draw polygons, ellipses, multiple parallel lines and multiple parallel curves. The speed is increased by the use of automatic fillets and chamfers […] CAD can enable companies to produce better designs that are almost impossible to produce manually and to eliminate dubious options during the conceptual design phase; for example in area of complex surfaces and Finite-element analysis.”   
2. Evaluating software that can assist the design process between Inventor/AutoCAD and Electronics Workbench   
Consider costs, compatibility and function   
Considering the cost of AutoCAD LT 2009 ranging to 1, 000+ USD or 650+ EUR, it is very affordable “ 2D CAD software that is 100 percent compatible with AutoCAD.” AutoCAD LT 2009 claims to be “ the best-selling 2D drafting application in the world” for increased productivity, drafting efficiency, shared design data security, and affordability (Novedge). On the one hand, Electronics Workbench costs from 76+ USD to 6, 900+ USD or 49+ EUR to 4, 400+ EUR. National Instruments introduces Electronics Workbench Educational Software compatible with printing and reports, and simulation, with “ schematic capture, simulation (i. e. SPICE, VHDL and patented co-simulation), PCB layout, autorouting and CAM tools. Electronics Workbench dramatically reduces time-to-market by enabling the development and production of PCBs faster and more accurately than any other board layout system.”   
3. Comparison between Inventor/AutoCAD and Electronics Workbench.   
Inventor/AutoCAD   
Electronics Workbench   
Cost   
1, 000+ USD or 650+ EUR   
76+ USD to 6, 900+ USD or 49+ EUR to 4, 400+ EUR   
Compatibility   
Autodesk applications such as Autodesk Architectural Desktop; AutoCAD 2006, and AutoCAD–based software (Novedge. com)   
NI LabVIEW; ED ELVIS; Breadband View; FPGA/CPLD; SPICE; VHDL (electronicworkbench. com, p. 1-4)   
Function   
Through the optimized DWG file format for faster file operations; in-place text editing with tabs and indents (Novedge. com)   
reduces time-to-market by enabling the development and production of PCBs faster and more accurately than any other board layout system (National Instruments)   
Special requirements   
Windows XP SP2/Vista;   
Intel Pentium 4 2. 2MHz or higher; 550 MB Hard drive; 512 MB RAM (Novedge. com)   
Windows NT4 Sp6/200/XP/XP Professional; Pentium III/4; 128/256 MB RAM; CD-ROM; 800x600 screen resolution (National Instruments)   
Features   
Through the lightweight view-and-plot-only DWF (Design Web Format) file format that provides the same viewing and to-scale plotting fidelity as a native DWG file; and by applying a digital signature to a DWG file to guarantee the authenticity, origin, and unaltered state of your drawing (Novedge. com)   
Electronics Workbench products contain all the functionality and power needed to easily teach even the most advanced level courses while using industry standard SPICE in the background. Also, Multisim’s drag-and-drop interface makes circuit drawing,   
wiring and analysis simple and easy-to-use. And while   
ease-of-use is critical (electronicworkbench. com, p. 1-4)   
Expandability   
Access to predrawn content through the DesignCenter™ and the DesignCenter Online; as well as new tool palettes that free up screen space and conveniently store everyday content (Novedge. com)   
Internet Design Sharing enables real-time, point-to-multipoint internet/intranet broadcasts (electronicworkbench. com, p. 1-4)   
Works Cited   
Bozdoc, Marian. “ Introducing CAD.” The History of CAD. 2000. Mb Solutions. 14 May 2008 < http://mbinfo. mbdesign. net/CAD-Intro. htm> electronicworkbench. com. “ Electronic Workbench Product Overview.” 2005. Electronic Workbench Corporation. National Instruments. “ Privacy and Security.” National Instruments Corporation. 14 May 2008 Path: Help; Privacy & Security.   
Novedge. com. “ Privacy and Security.” 14 May 2008 Path: Help; Privacy & Security.