


# SPEED PRODUCTION WITH ERP Integration of CAD Software

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CAD (Computer-Aided Design) technology has revolutionized the engineering design process for today's manufacturing companies, enabling them to generate significant labor cost savings while moving jobs through the shop floor faster and more efficiently.

Are you spending valuable time manually entering data in your ERP system after building a bill of material (BOM) in CAD? With a CAD interface, quickly integrate your CAD built model with your ERP system. With a few short clicks, you can create a full assembly BOMs and inventory part numbers in your ERP system. This will give you the ability to speed up creating quotes for your customers, eliminate the errors from manually entering data with incorrect materials and quantities to prevent last minute shortages, and quickly release BOMs to the shop floor to order materials and start production earlier.

**DESPITE THESE ADVANTAGES, DELAYS CAN STILL OCCUR DURING THE DOCUMENT CHANGE PROCESS THAT SLOW DOWN PRODUCTION, LEAD TO COST OVERRUNS, AND CAUSE MISSED DUE DATES.**

Fortunately, these delays can now be eliminated with [a software integration](#) between your ERP software and your CAD design software. Designed to simplify the process of building BOMs while improving accuracy, the CAD interfaces enable the electronic creation of BOMs and BOM updates seamlessly transferring that data directly to the shop floor via your ERP system. In doing so, this software provides many important benefits, including:

- Saving engineering time and costs
- Improving project time ratios
- Eliminating multiple data entry to update BOMs
- Increasing return on investment
- Reducing the human error can that occur with manual data entry



## Fast, Accurate Data Transfer To The Shop Floor

CAD programs make it quick and efficient to create and update bill of materials (BOMs). With sophisticated 3D modeling programs like SolidWorks®, AutoDesk® Inventor and Solid Edge™, engineers can dramatically speed the process of creating the drawings and designs required to manufacture complex parts and products. When those drawings need to be changed, or created, CAD programs can simultaneously update every view of the drawings, thereby eliminating the time and expense of entering the data multiple times.

Transmitting new or updating BOMs from engineering to the shop floor in a timely manner is where the delays, errors and additional costs typically occur.

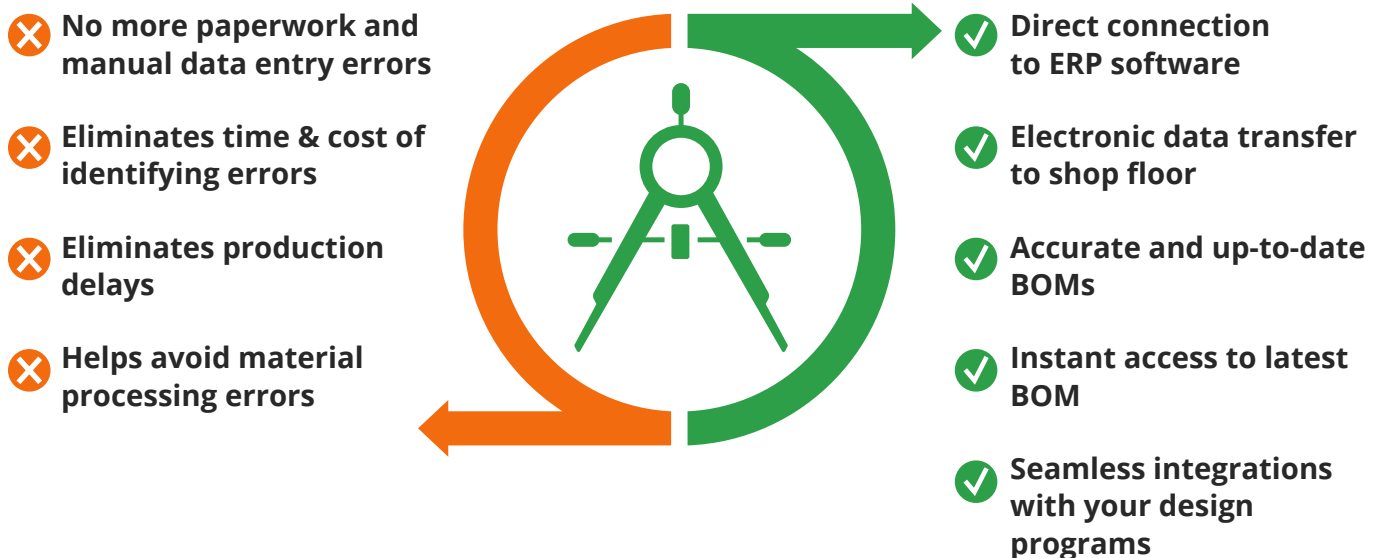
First, changed BOMs related to the job have to be manually updated by engineers to match the current version of the drawing being distributed to the floor. Considering that engineering time is typically the most expensive of all labor costs, this can add significant cost to the project.

Additionally, new plans need to be printed and distributed to everyone working on the job – another inefficient and time-consuming process. Delays can also occur when engineers make data entry mistakes while manually updating the BOMs. If even one operator ends up working with an outdated version of the drawing, it can seriously delay or even derail an entire project.

A CAD integration that connects directly to your ERP software eliminates these problems by electronically transferring the data to the shop floor. Once engineers complete the changes to the drawing and associated BOMs, or finish creating new BOMs, all the new information can be easily exported to the shop floor via the ERP system with just a few clicks of the mouse. No more waiting for manual bom data entry. Just a fast, seamless, accurate process for implementing drawing changes throughout the shop floor.

When everyone on the shop floor has instant access to the latest BOM, the human error associated with paper documents and manual data entry goes away. It eliminates the time and cost of having engineers sort through the paperwork to identify the mistake. Orders move the shop floor quicker and more smoothly. Keeping the BOMs accurate and up to date helps avoid material processing errors. And engineers can use the imported BOM to compare the material and inventory located in your ERP system to decide whether or not additional material needs to be ordered.

CAD integration quickly pays for itself in terms of reduced costs, less rework due to human error, and faster production time. And in some cases, a CAD interface is included in your ERP software for instant savings.

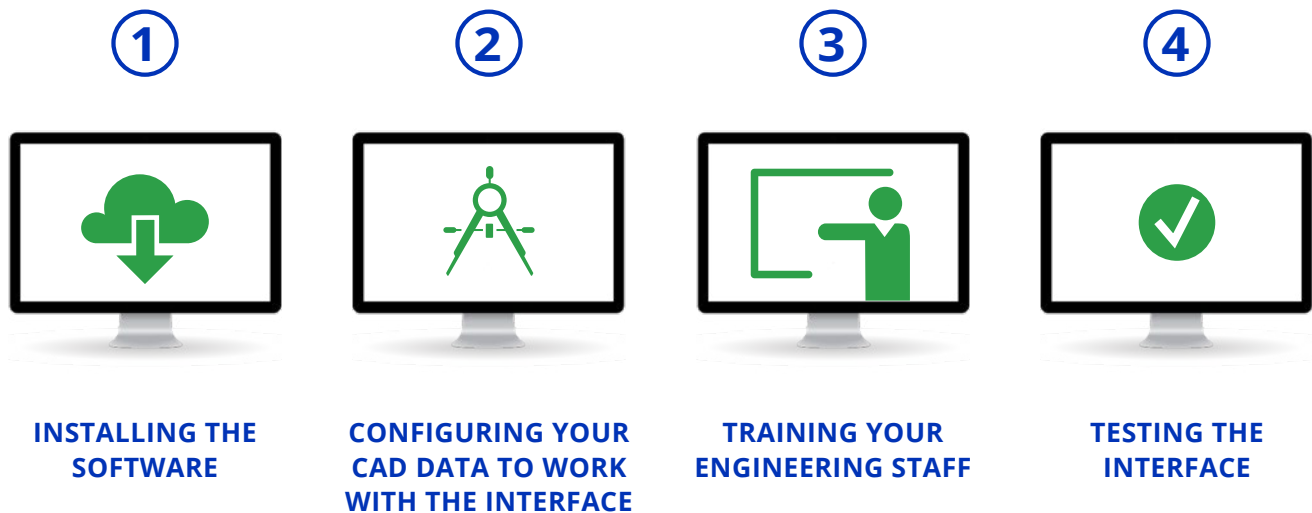


# How It Works

CAD interfaces are specifically designed to work with today's manufacturing ERP systems. However, the process can vary depending on the type of CAD program being used.

For example, with SolidWorks and AutoDesk Inventor, the integration is a one-way process that uses the CAD program as the primary driver. Users build their BOM assembly in SolidWorks, and the CAD integrations are then used to export the BOM directly into the ERP software.

**ONCE YOU HAVE SELECTED A CAD INTEGRATION SOFTWARE FOR YOUR BUSINESS, IMPLEMENTATION OF THE SOFTWARE REQUIRES FOUR BASIC STEPS:**



For most companies, installing the software should be relatively easy. If you don't have experienced IT personnel on staff, the vendor can do the installation for you.

Next, allow plenty of time for the vendor to educate your engineers on how to configure the data, structure the routers and BOMs within your ERP system, and use the CAD interface software. In particular, be sure to configure your CAD data so that it models your assembly files in the same way the product gets built on the shop floor.

**Finally, testing is critical to ensure the data flows correctly from your CAD system into your ERP system. Working closely with your vendor, implementing a CAD integration can usually be accomplished in just a few hours.**



# Lean Your Production Process

Some ERP vendors offer built-in CAD interfaces as part of their ERP package. If your ERP system does not include the interface, you will need to use a third-party package. When evaluating CAD interface vendors, ask the following questions:

**1 DOES THE CAD INTERFACE SOFTWARE WORK WITH OUR CAD PACKAGE?**

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**2 DOES THE VENDOR OFFER THOROUGH TRAINING AS PART OF THE IMPLEMENTATION PROCESS?**

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**3 DOES THE VENDOR HAVE A TRACK RECORD OF SUCCESSFUL CAD INTEGRATION IMPLEMENTATIONS?**

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**4 DOES THE VENDOR OFFER FAST, RESPONSIVE TECH SUPPORT WHEN PROBLEMS ARISE?**

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**5 DOES THE VENDOR OFFER A FREE DEMO OF THE SOFTWARE?**

In today's highly competitive global manufacturing markets, time is money. Specifically using Global Shop Solutions' CAD Interface can save both by modernizing and simplifying your manufacturing process. It reduces the amount of engineering time and expense in each job. It eliminates errors and rework due to data entry mistakes. And it simplifies the document rev process while making it more visual. Investing the time in implementing a CAD Interface to get data to your shop floor faster and more accurately can generate a significant return on investment while helping to lean your entire production process.



## ABOUT THE AUTHORS

Logan Hoover is a Consultant at Global Shop Solutions, a leading provider of ERP software for small- and mid-size manufacturers. He has a degree in mechanical engineering with a background in manufacturing. Currently, he has almost 10 years of working with CAD and CAM programs as well as a SolidWorks Certification. Today, he helps simplify CAD Interfaces for Global Shop Solutions' customers.

Alvin Moore is a Senior Operations Consultant at Global Shop Solutions. He has a degree in Business Administration with a Specialization in CIS. He has over 20 years of experience working in manufacturing.

To learn more about How To Speed Production With ERP Integration of CAD Software, call 1.800.364.5958 or visit [www.globalshopsolutions.com](http://www.globalshopsolutions.com).