


10 Integrations Every Manufacturer Needs With Their ERP

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As manufacturing markets grow more competitive, the need to operate lean and eliminate inefficiencies has become more important than ever. In the past having a quality ERP system was enough to get the job done.

Today the best ERP systems incorporate all the new Internet of Things (IoT) technologies currently being developed. They integrate with these technologies to enable your business to cut costs, work more efficiently, and simplify your entire manufacturing process in ways that were previously only dreams. The ability to integrate with third-party IoT technologies has already become one of the most important criteria for selecting an ERP system – and a powerful competitive advantage.

Our list of the 10 integrations every manufacturer needs with their ERP includes some that are new and some that have been around awhile. If you don't acquire them soon, expect to be left behind – by your customers and your industry.

1

Nesting Interface

Operating lean requires reducing setup time and labor as well as material waste.

Nesting software handles all three by efficiently arranging part shapes on sheets or plates of stock material to produce the least amount of waste. It eliminates the time required to manually plan which parts to cut on a piece of metal, plastic, wood, etc. and reduces purchasing costs by minimizing unusable leftover materials.

A **nesting interface** enables your ERP system to share information with the nesting software, including work orders, inventory information, workcenter details, and other data. The nesting software uses this data to optimize material usage and sends cutlist details, material drops, scrap, and estimates for routing and work orders back to the ERP system.



**NESTING SOFTWARE HELPS
PRODUCE THE LEAST
AMOUNT OF WASTE**

2

RFID

Whether they're using barcodes, badges, or biometric scanners, employees typically have multiple processes for entering the building, unlocking doors, and logging into your ERP system.

Radio frequency identification (RFID) lets you consolidate all access procedures into your ERP system to eliminate multiple badges, barcoded employee lists, and human error.

In the process, RFID provides faster and more efficient log-ins, more accurate data, lower technology costs, and stronger security of your building and your data. It also facilitates more accurate payroll processing and tracking of job costs. As more manufacturers embrace this technology, RFID can also be used to trace inventory, improve scheduling by tracking idle equipment, locate lost or misplaced tools and equipment, monitor waste and shrinkage, and more. Some manufacturers are even using this technology to track material moving from an outside storehouse into the warehouse and through production on the shop floor.



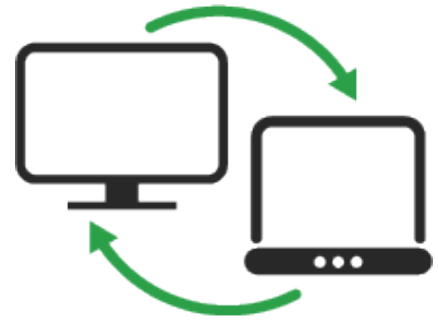
**RFID LETS YOU CONSOLIDATE
ALL ACCESS PROCEDURES
INTO YOUR ERP SYSTEM**

3 EDI

In the manufacturing world, small process improvements performed hundreds of times a day can add up to big savings.

Electronic data interchange (EDI) software saves time and money (for you and your customers) by facilitating the computer-to-computer exchange of business data across different platforms. This data can include purchase orders, invoices, inventory levels, shipping notices, and much more.

Using EDI to seamlessly integrate with your customers' business systems speeds up the order entry process by allowing them to send order data electronically. No phone calls. No faxes. No manual data entry. Just fast, accurate electronic data transmission that eliminates the need for a second entry on the other side of every transaction. The error-free transmission also eliminates the need for time-consuming reconciliations. You can view a [list of top EDI solutions](#) Global Shop Solutions integrates with.



EDI SOFTWARE SAVES TIME AND MONEY BY FACILITATING THE COMPUTER-TO-COMPUTER EXCHANGE OF BUSINESS DATA ACROSS DIFFERENT PLATFORMS

4 eCommerce/Web

When it comes to saving time and simplifying processes, **eCommerce** is like EDI on steroids.

Imagine if customers could place an order on your website, and your ERP system would automatically launch the sales and work order processes to get the job rolling. Then it would also automatically send an invoice or process payment with a credit card. How much time and effort would that remove from your order entry process?

All it requires is three basic elements:

- A SOAP (Simple Object Access Protocol) software program so that your website can communicate with your ERP system
- An experienced website vendor to build your eCommerce portal
- An ERP vendor willing to support the integration between their product and the eCommerce platform

Global Shop Solutions recently assisted one of our correctional institution customers in building an eCommerce website. Read the case study [here](#). Or better yet, visit their [website](#).



ECOMMERCE IS LIKE EDI ON STEROIDS

5 CAD Interface

Do your engineers still spend hours every week writing lengthy BOMs and **comparing them against the BOMs** in your ERP system?

A CAD Interface solution can eliminate this wasteful manual entry by seamlessly importing the BOM into your ERP system. Your engineers can then use the imported BOM to ensure sufficient materials are on hand to complete the job on time and on budget. With a CAD interface you can:

- Reduce engineering time and costs
- Eliminate manual data entry to update BOMs, and the human error that goes along with it
- Ensure everyone on the shop floor has the latest document rev
- Create jobs faster

It used to take one of our packing industry customers four man days to create jobs. Since implementing a CAD Interface solution, it now requires only a couple of clicks to build 100+ routers in a few seconds. Global Shop Solutions offers **CAD Interface solutions** with SolidWorks®, Solid Edge™, Autodesk Inventor®, and other leading design programs.



ELIMINATE WASTEFUL
MANUAL ENTRIES BY
SEAMLESSLY IMPORTING
THE BOM INTO YOUR
ERP SYSTEM

6 Tool Cribs and Vending Machines

To improve the accuracy of tooling costs, more manufacturers are employing tool vending machines.

Workers scan their badge and job number into the machine and press a button for the tool they need. The vending machine dispenses the tool and automatically applies the cost of the tool to the job, thereby increasing accuracy for the overall **job costing process**.

The key with this integration is seamlessly transporting the costing data to your ERP system. Global Shop Solutions recently wrote a program for one of our aviation design and build customers which passes tool usage and tooling requirements to Global Shop Solutions ERP software.



THE VENDING MACHINE
DISPENSES THE TOOL
AND AUTOMATICALLY
APPLIES THE COST OF
THE TOOL TO THE JOB

7 Employee Efficiency

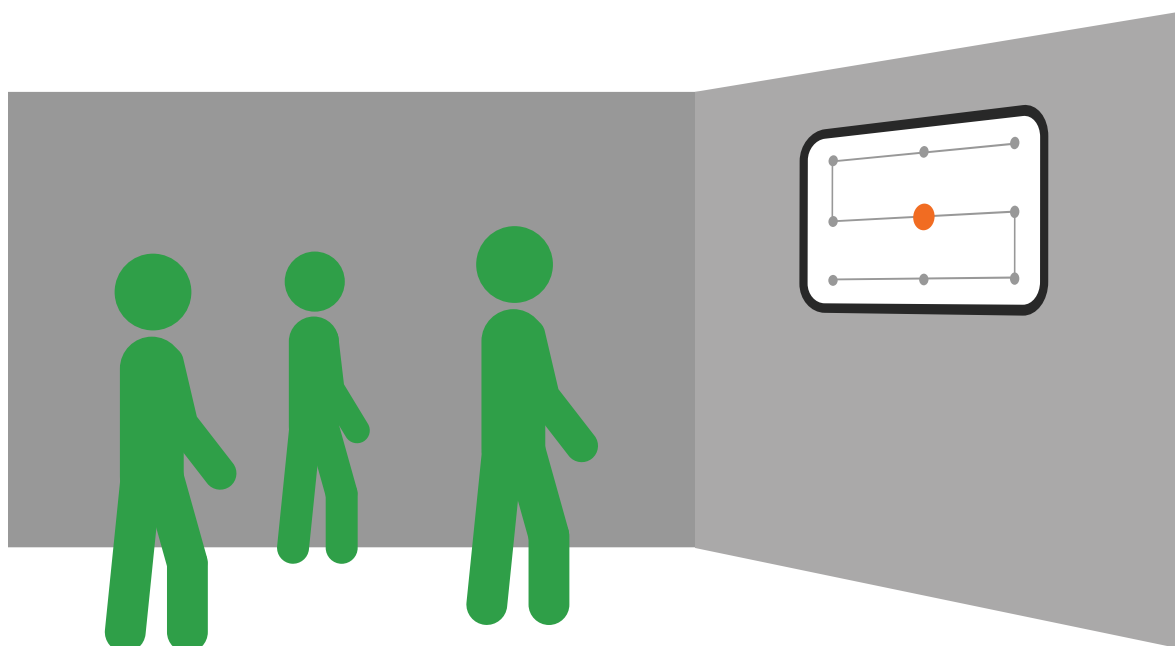
You can't afford to have employees standing around wondering what to do next. Integrating Internet-capable TV screens and displays with your ERP system can significantly reduce employee red time.

These screens, strategically placed around the shop floor, can display a variety of real-time data pulled from your ERP system. This includes the status of work orders in progress, work orders scheduled to begin, and hot jobs that need immediate attention.

In addition to keeping employees on the job, this integration eliminates the need for reams of paper work orders and shop floor schedules. It also prevents confusion on the shop floor because employees can always see what needs to be worked on and when – without having to leave their machines or workcenters.

Global Shop Solutions offers this capability via Dashboards. Within 30 days of implementing this integration, one of our precision metal fabricator customers, generated productivity improvements of 20% to 25%, while a manufacturer of washing machines and drying cabinets uses this integration to **properly sequence upcoming jobs at each workcenter**.

Another example comes from a wood product and component manufacturer. Despite averaging nearly 500 hours a month of indirect time, company management thought they were at full capacity – until they placed 18 TV screens connected to Dashboards around their shop floor. Dashboards were used to display the names of employees not on a job for more than four minutes and notify their supervisors. Indirect time plummeted to 50 hours per month, and the company now has the capacity to schedule more jobs, increase margins, and pay their employees more.



**INTEGRATING INTERNET-CAPABLE TV SCREENS AND DISPLAYS WITH
YOUR ERP SYSTEM CAN SIGNIFICANTLY REDUCE EMPLOYEE RED TIME**

8

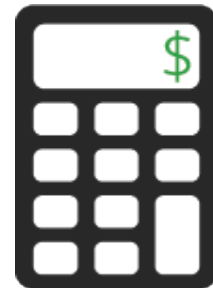
Payroll

Accounting & **payroll** are complex, time-consuming processes.

Managing all the data in one system makes the entire process quicker and easier while reducing administrative costs. Integrating your payroll system into your general ledger and shop floor data allows you to:

- Eliminate redundant data entry
- Easily distribute payroll accounting by department
- Simplify tax reporting
- Manage your employees better than ever
- Complete end-of-month closing in less time

Global Shop Solutions seamlessly integrates with ADP®, ABRA, Paychex® and other leading payroll solutions.



**EASILY DISTRIBUTE
PAYROLL ACCOUNTING
BY DEPARTMENT**

9

Taxes

Making efficient use of sales tax data has also taken a big step forward by integrating with ERP software.

Manufacturers can now link sales tax data directly from their ERP software to their state sales and property tax software programs. They can also simplify other tax-related tasks, such as R&D tax credit tracking. For example, one our customers uses this integration to set up tasks on their work orders. This allows the Project Manager to instantly review the percentage of work on a job that can be attributed to R&D for tax credit purposes.



**LINK SALES TAX DATA
DIRECTLY FROM ERP
SOFTWARE TO STATE
SALES AND PROPERTY TAX
SOFTWARE PROGRAMS**

10 Business Services

Tracking employee expenses – meals, gas, tools, etc. – on installations, repairs and other service calls has long been a thorn in the side of financial personnel.

Even with today's sophisticated software programs, expenses can still get lost. Or they don't get applied to the job until the employee returns to the office. Either way, it interferes with your ability to track job costs in real time.

Now you can enjoy cost, compliance, and visibility by integrating expense-reporting software with your ERP system. Global Shop Solutions easily integrates (using one of our **free, downloadable ARC programs**) directly with Concur and other popular expense-tracking programs. Using a smartphone app, your field service teams can tie expenses directly into a work order in Global Shop Solutions ERP software the minute they happen. Job costing has never been so simple or timely.



**USING A SMARTPHONE APP,
YOUR FIELD SERVICE TEAMS
CAN TIE EXPENSES DIRECTLY
INTO A WORK ORDER**

As IoT transforms the manufacturing industry at breakneck speed, success increasingly depends on your ability to connect with real-time data from anywhere at any time. As a global leader in ERP solutions, we believe it is our responsibility to help you do that. If you're not taking advantage of the ERP integrations outlined in this whitepaper, call Global Shop Solutions today at 800-364-5958. You'll be amazed at how a few simple integrations can exponentially increase the power, functionality, and return on investment of your ERP software.



ABOUT THE AUTHOR

Daniel Carranco is the Director for the Continuous Improvement Department for Global Shop Solutions. He leads a department comprised of teams that deal with existing customer projects including consulting and custom development. A Global Shop Solutions team member for more than a decade, Carranco holds a master's degree in international business, and is a frequent speaker to manufacturing executives and industry groups on maximizing ROI with ERP software.

To learn more about the 10 Integrations Every Manufacturer Needs With Their ERP, call 1.800.364.5958 or visit www.globalshopsolutions.com.