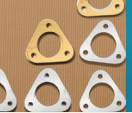


# Top 6 Technologies Small and Midsize Manufacturers Can't Afford to Ignore





### Abstract

Manufacturers today are looking for innovative ways to differentiate themselves in the competitive global marketplace. Understanding customers' needs in great detail is essential to positioning their company ahead of the competition.

One way to gain this understanding is to implement an enterprise resource planning (ERP) solution. ERP solutions consolidate business operations enhancing your businesses ability to be agile. Not only do these systems deliver on technology that you can boast about over coffee with a colleague, the business advantages are the ability to streamline your organization's processes to reduce waste, improve throughput, and ultimately meet your customer's value stream; improving odds for continued business in the future.

As we delve into the "Top 6 Technologies Small and Midsize Manufacturers Can't Afford to Ignore," you may see opportunities to reinvent the business processes you currently deploy with investment in new technology. You will also see the barriers to successfully competing in complex industries come down with the emergence of technology that bridges the gap for meeting the compliance requirements inherent to these industries and help your business cost effectively meet customer expectations. Epicor has experience in nearly all industries in manufacturing, including Fabricated Metals, Rubber and Plastics, Medical Devices, A&D, Industrial Machinery, Electronics, Energy, and much more. Epicor can help your business reduce risk and add industry diversity to its strategy.

Epicor is a technology partner with over 40 years of expertise in helping small and midsize manufacturers meet new challenges with agile technology. To this end, a report from Gartner names Epicor as a Visionary in Gartner's Magic Quadrant for Single-Instance ERP for Product-Centric Midmarket Companies.<sup>1</sup> Between the lines of functional and technology value that we will be discussing, our ultimate goal for your time investment is that you understand that you're not alone in executing on your manufacturing business strategies, Epicor can help.

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<sup>1</sup> Gartner Inc. "Magic Quadrant for Single-Instance ERP for Product-Centric Midmarket Companies" by Christian Hestermann, Nigel Montgomery, Chris Pang and Michael Guay, November 26, 2014.

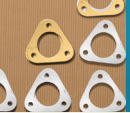


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**“We wanted the most current and future looking technology, and Epicor, with its roots in contract manufacturing, applications, as well its strong software as a service ERP solution, was a great fit.”**

Anthony L. Chirchirillo,  
CEO of Chirch Global

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### Technology for Small Manufacturers In Review

The last two decades have seen a dramatic shift in use of technology to drive improvements in manufacturing operations. Just twenty years ago, many small and midsize manufacturers relied on paper based systems to run their businesses. These systems offered little business-wide visibility to aide customer support and required duplication of manual effort many times over.

With the wide adoption of Windows® technology in the 1990s, we started to see many applications developed to improve manufacturers operations through the use of computers to specifically help them more accurately track costs, improve on time delivery with online scheduling, and improve business visibility. You might know these systems as shop management systems, manufacturing and financial systems, ERP, and more. The end goal was to integrate the functions required to estimate, procure, produce, ship, and service customers better for improved profit.

And then came the Internet and around the year 2000 we had the dot-com bust. The technology of these systems just wasn't ready for Internet availability at that time. We have a very different story today. Today applications are built using a service-oriented architecture (SOA) which feeds off the power of the browser to deliver applications that can run either at your shop or over the Internet. We call the latter cloud-based solutions and many times they are available in a new model, which is subscription based called software as a service (SaaS).

The business benefits in choosing cloud-based solutions include the ability to reduce the noise of deployment of new technology as the IT component of installation and ongoing management of the systems is done for you. Your time can truly be spent doing what you do best, which is focusing on your customers. In addition, the pricing model for these systems is very attractive to small and startup businesses that are cash conscious. An ongoing predictable monthly fee for use of the system with a small startup covers not only the cost of licensing the software, it covers the application server needed to run the application, the ongoing maintenance and support of the systems needed, and access to phone and online support teams that are available to help.

Whether your business chooses to leverage the technology of Epicor ERP on premise, at your business site, or use Cloud Deployed Epicor ERP, the technology and purpose of this document is to discuss leading technologies that today's manufacturers can't afford to ignore.

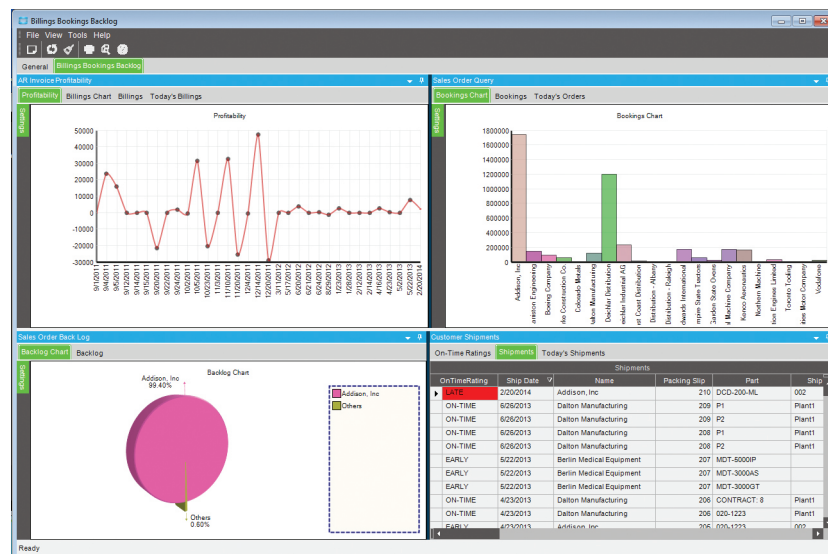
## Top 6 Technologies

Epicor has experience in working with over 4,000 manufacturers around the world. These technologies are what we see as real game changes for our customer's ability to stay agile in the face of change while executing on their business strategies.

### Respond Faster, Go Paperless

#### *User-based Dashboards*

Everyone in the business has them. Those watchdog reports that you run every night or morning, sometimes throughout the day that offer the status of production on the floor, purchases expected for delivery, quality events, and more. Without them, we are lost. What if there was a better way? What if we could have this information available to us online and have it live—with the latest information at all times. User-based exception dashboards enable us to do just that.



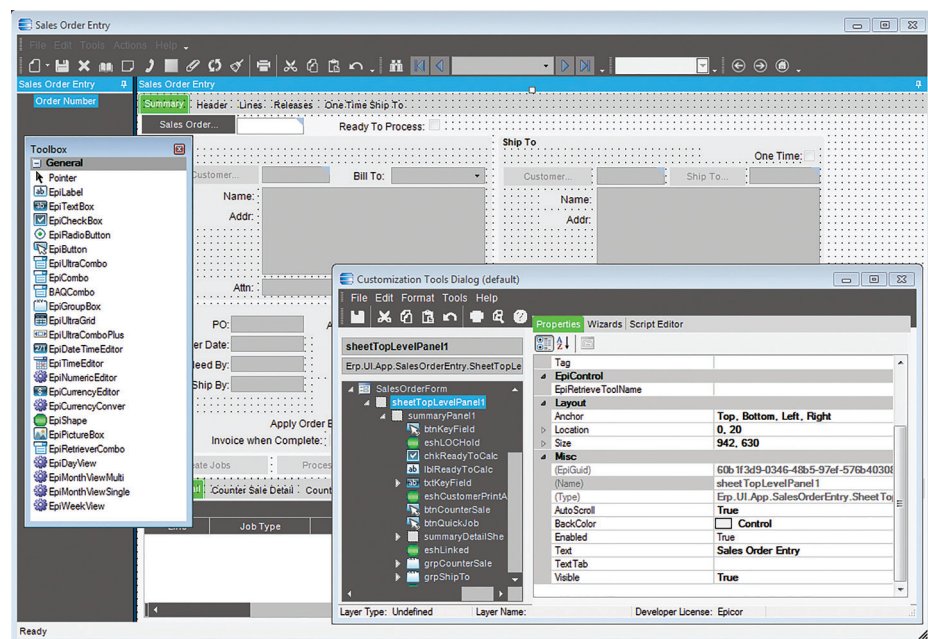
It's a slice of your data with your applied filters that remove the "data noise" and focuses on the problems so that you can focus on them too. It might be the "late jobs" or "purchases received today" or "quality incidents today, this week, this month." It's really up to you as you can easily configure the dashboards one time, using your data, and continue to use them on a daily basis.

*Instantly see the billings, bookings, and shipment status with the Billing Booking Backlog Dashboard.*

## Tailored Business Processes That Execute Your Value Stream

### *Embedded Customization and Personalization*

Each manufacturer has developed their own set of personalized business processes that make them unique, and in fact provide a competitive edge in their business. Some of these processes may be industry driven, customer driven, or driven from within the business based on the goals and strategies of your management team. For example, you might need to track on the order “new information” your customer needs and be able to include it in documentation that goes with the shipment of the order. This new information can be tracked in the system alongside the other data and used in printing, lookups, anywhere your data is accessed. In using embedded customization to tailor the system to meet your customer's requirements, not only are you able to easily fulfill their requirements for data, you can also respond quickly when their needs change. Perhaps they want more data?



The screenshot shows a software window titled 'Job Status Maintenance'. It has a menu bar (File, Edit, Tools, Actions, Help) and a toolbar with various icons. Below the toolbar is a search bar containing 'MRP00000000011'. The main area is a grid with columns for Start Date, Res By, Prod Qty, Part, Description, Rev, Job, To Firm, Firm, Engineered, Released, Mass Print, Lock Qty, and Plan to Assembly. The grid contains 15 rows of data, each representing a different job or assembly step.

Start Date	Res By	Prod Qty	Part	Description	Rev	Job	To Firm	Firm	Engineered	Released	Mass Print	Lock Qty	Plan to Assembly
7/10/2014	7/10/2014	5.00	BCN-LENS-BLU	Beacon Configurator	A	MRP00000000011	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10/31/2014	8/29/2014	10.00	PEG-A3	Pegging Sub Assembly A3	1	MRP00000000012	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10/31/2014	8/29/2014	6.00	PEG-A3	Pegging Sub Assembly A3	1	MRP00000000013	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10/31/2014	9/5/2014	650.00	MRP100-SK	Machined Part Stocked	A	MRP00000000004	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10/31/2014	9/19/2014	500.00	MRP100-SK	Machined Part Stocked	A	MRP00000000005	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10/31/2014	8/29/2014	8.00	PEG-A1	Pegging Top Level Assembly A1	1	MRP00000000006	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10/31/2014	7/2/2014	10.00	MDT-2000MT	Metering Device for MDT-8000IP Ins	A	MRP00000000008	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10/31/2014	8/29/2014	8.00	PEG-A2	Pegging Sub Assembly A2	1	MRP00000000009	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10/31/2014	8/27/2014	10.00	M1000	MTO Order M1000	1	MRP00000000010	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11/7/2014	8/8/2014	400.00	MRP100-SK	Machined Part Stocked	A	MRP00000000002	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11/10/2014	8/23/2014	350.00	MRP100-SK	Machined Part Stocked	A	MRP00000000003	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12/1/2014	7/2/2014	500.00	DSS-1010-PA4	DSS Dish Plan As Assembly	A	MRP00000000007	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Another example of customization and personalization includes being able to tailor the environment your employees use on a daily basis. With so many manufacturers looking for ways to improve employee productivity and satisfaction at the same time, this is a win-win. To do this, we recognize that not every employee uses the system in the same way. Many times we see casual users “those that access and review information periodically” and power users “those that are heads down in data entry.” In general, it’s impossible to develop an interface that pleases everyone so some have to compromise. The compromise can be either one type of user giving up functionality to “keep things simple” or another user living with complexity they don’t need. Customization and Personalization provides a technology solution that can bridge the gap here by delivering a tailored interface that optimizes the time a user spends on the system. The user can tailor the tab stops (where the system stops as you tab through the application), hide fields, add fields, modify the colors and fonts of fields, even the positioning of windows so that you can maximize use of the interface to quickly see what’s needed and to get the job done.

*Users can modify any form to make it their own and optimize their day-to-day working in the software.*

## Highly Productive, Satisfied Employees

### Grid Access

There really was only one thing we gave up in the move away from “the green screen” and that was speed in entering and making changes to information. Back in the day, you could bring up a list of line items, make necessary changes to each line in a single grid and process it. You didn’t need to bring up each line individually to make the change, it just worked that way.

With accessibility back in grid entry, systems give productivity power to users by enabling them to make sweeping changes across multiple records more easily. We have furthermore enabled integration with Microsoft® Excel® to enable bringing in multiple rows of data from Excel spreadsheet sheets by pasting them into the grid—yes, no retyping.

Some great uses of this would include bringing in a material shortage list or schedule of jobs allowing the user a simple view to organize and prioritize their work.

*Access and update multiple jobs with options to paste directly from Microsoft Excel.*

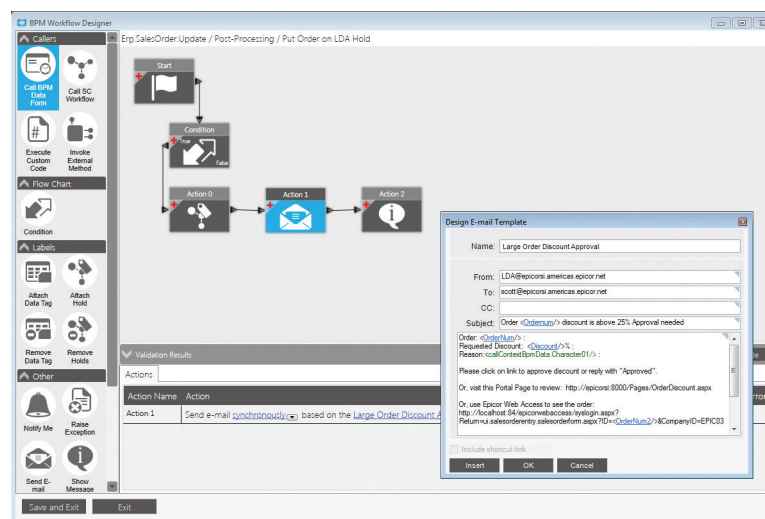
## Worker on the Go, Data on the Go

### Access to Your Data Anywhere

Access to your business data when you need it, where you need it, is a critical business advantage. It can help you respond quickly to business events and be able to communicate with a higher level of knowledge in front of customers, suppliers, and on the shop floor in contrast to "I'll get back to you on that."

In addition, the young workforce coming into the business today are tuned for mobility and expect that instant access to information is available. If creating an environment that is welcoming to these energetic and skilled employees is desired, Anywhere Access to Your Data can help. Below are just some of the scenarios where Anywhere Access can drive business value.

- ▶ Delivering a secure login for your accountant to review and report off hours, from anywhere in the world, when it is convenient
- ▶ Checking on a critical job while on vacation or before you go into work for the day—did 2nd shift complete what you needed?
- ▶ Using your business data to strengthen your knowledge of up-to-date business operations and be able to accurately communicate with customers while you are onsite



- ▶ Check the status of production flow and what's expected while out on the shop floor, and help quickly identify why a machine is not in production
- ▶ Being able to respond and have the information to execute plan b quickly when needed or to queue purchasing for a hot buy
- ▶ Check inventory status, perform cycle counts, use mobile workers to deliver what's needed to production, rather than have operators looking for material, etc.
- ▶ Perhaps you need to just keep a keen eye on cash and want to know what cash was received for the day—to the minute, hour, day





Epicor delivers Everywhere Framework, a unique technology that stores all client business logic as tagged XML metadata. This permits Epicor applications to run as smart clients or Web clients or on mobile devices, all from the same source code.

This framework also ensures that user customizations and personalization remain intact, whatever the UI. Web forms can be accessed from many different browsers, including Microsoft® Internet Explorer®, Mozilla® Firefox® or Apple Safari® and can run on most common operating systems, including Windows®, UNIX®, Linux®, or Mac®.

### Bowling with the Bumpers Up

#### *Business Process Management*

You don't have to leave it to chance. Your sales order person has for the fifth time now, accidentally chosen the wrong year for a release date, making you late once again. These are the types of things we can't predict, but perhaps we can control for the future. Business Process Management (BPM) allows you to put in a rule that can do one of the following things:

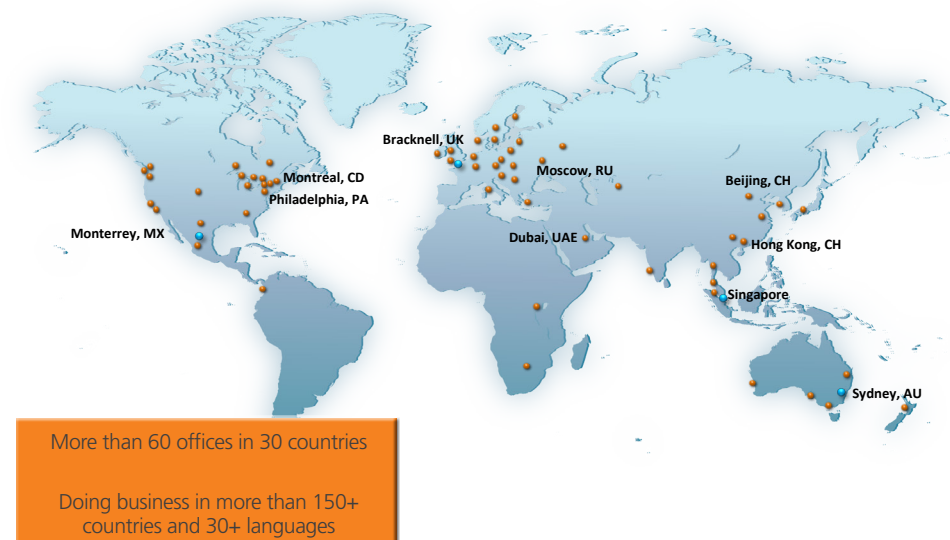
- ▶ Flash a warning message and ask if the operator really wants to do this
- ▶ Prevent the entry of an order release that far into the future
- ▶ Send an e-mail to a manager to confirm the order release date

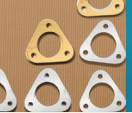
*Match your business processes with a rules based design tool for Business Process Management (BPM).*

This is one example of use of a BPM to control your business processes. Anywhere within the system, when an event occurs, you can put rules around the event that do a check and have an action. Other examples of BPM include:

- ▶ Once a shipment is "shipped," the customer and salesperson are automatically sent an e-mail
- ▶ Orders over a certain dollar amount or at a high discount percentage are put on hold, pending management approval
- ▶ Jobs in production are automatically released to the floor once the material is received
- ▶ Quality non-conformance event triggers an email to the production manager or quality manager

There are so many uses of BPM, this is a key feature that Epicor customers have deployed in their business and is helping to drive out wasted processes and improving accuracy in the business.





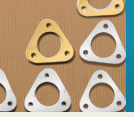
### Opportunities Drive Business Growth—Be Ready

#### *Platform to Support Business Growth*

As your business grows and changes, you need a solution that can grow and change with you. Epicor can be deployed on premise, hosted, or in the cloud, providing unprecedented flexibility. It is important that the technology you deploy is agile and scalable to move to what you need. With today's latest technology, editions of functionality provide easy transitions from one level of functionality to the next and provide a seamless experience for end users; same interface, same terminology. For example, if your business has limited IT resources you may opt to initially deploy the solution in the cloud. As your business changes you may subsequently opt to redeploy Epicor ERP on premise. If your company has multiple sites or establishments, Epicor is one of the few vendors to have architected a full multitenant software as a service (SaaS) and on-premise version out of a single product. Within each of the offerings, is a highly configurable module set so that you can not only scale your investment in licenses, also the implementation effort can be scaled as well.

In addition, many manufacturers today are looking outside the box to markets and geographies that offer enhanced profitability. Whether your business is interested in doing business in Medical Device, Aerospace & Defense, Automotive, Industrial Machinery, Fabricated Metals, Electronics, and many more manufacturing industries, knowing the technology you deploy can help you meet the needs of the new industry is critical, and can reduce risk and profitability in a new venture.

Alongside this, many manufacturers are looking to geographically place themselves closer to their customers; to do this may take locating a plant in a new geography. This could be a scary initiative and perhaps cause anxiety over not only will my technology work in this geography but will I have support for my employees there, and will the software be in their native language? Will I lose visibility of my operations in an extended enterprise? Furthermore, will the software comply with the local requirements for taxation and reporting? Epicor support multiple deployment methodologies from an IT perspectives and can manage the processes needed to build in one plant and sell in another, perform interplant transfers and manage inventories in multiple locations. These robust multi-plant and multicompany operational features mean that whether it is more cost effective to add on to your current operations, purchase a competitive shop in another location, or simply build across the street, Epicor can support your operational needs for information. In addition, Epicor has localized and translated its award winning technologies in over 150 countries with over 30 different languages and has development and support offices around the world.



### Conclusion

If your current solution isn't keeping pace with technology on your behalf or if you have simply outgrown the solution; Epicor can help. Many manufacturing business like yours have partnered with Epicor as they look to leveraging technology to improve profitability and serve customers better.

Epicor with its single manufacturing functionality coupled with deployment choices that manufacturers need to be successful.

It's a new day. Perhaps it's time for new technology. Epicor as a leader in technology innovation for manufacturers has the power to inspire your business and its leaders to see a new future.

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RheinBrücke focuses on offering consulting technology, outsourcing solutions and services that enable clients to stay competitive and achieve quick growth and profitability. With operational headquarters in Cologne, Germany, the company has a strong focus on the SME Market, with a deep understanding of what it takes for SMEs to succeed. RheinBrücke helps clients adapt to a changing marketplace by ensuring their IT ecosystems are relevant, efficient and perfectly tuned.

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