



COLLABORATION

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The next generation of ERP is here. Modern software has evolved to become more mobile, social, and above all, collaborative – key ingredients for success in business today. Savvy manufacturers are already employing these new systems to push efficiency and productivity to new heights.

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ERP GOES

COLLABORATIVE

MOBILE

AND

SOCIAL



Since its beginnings in the early 1990s, enterprise resource planning (ERP) has been implemented by the vast majority of manufacturing firms. In the manufacturing community, ERP is as ubiquitous today as machine oil was in the 1950s.

By contrast with its predecessor application, materials requirements planning (MRP) which had a more limited scope, ERP embraced the major business aspects of the broader enterprise: financial management, manufacturing, and distribution. The idea was to enable an entire organization—sales, production, shipping, accounting, etc—to integrate data from separate activities into a single corporate-wide information system.

A key goal of ERP was to enable the sharing of common business data—information about products, customers, sales orders and the like—so that employees throughout the company could collaborate and make better-informed business decisions.

Much has changed since those early days. ERP has evolved to become more mobile, social, and above all, collaborative. Today's ERP may integrate with a manufacturing

execution system (MES), a product lifecycle management (PLM) and a customer relationship management application (CRM).

The ability to make information available to critical decision makers—inside the company as well as outside—when and how they need it is fast becoming less a vision and more a reality for manufacturers. “Both customers and employees now expect that information, services, and social media will be available to them—in context—on any device, at their time of need,” states a 2014 report by Forrester Research.



MOBILE BENEFITS OF ERP

An example of a company taking advantage of the collaborative power of this new ERP mobility is Schoeller Allibert, a manufacturer of reusable transport packaging based in Zwolle, the Netherlands. When the company shifted to totally global operations, it needed an ERP system to support a global sales force on the move. The company already was using Epicor iScala as its ERP system, so it chose to go with the fully integrated iScala® CRM.

Schoeller Allibert’s 250 sales people use the CRM during customer visits to access customer contact details and create quotes on site that can easily be converted into orders. “Our sales people work almost exclusively on laptops, smartphones, and tablets,” says Magnus Enocson, director of

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— Forrester Research.

business applications at the company. “They can create a quote on site and don’t have to wait days or weeks before they can get back to the customer. Now everyone, not just a few, has visibility into what we communicate with customers. I think the customers regard this as trust building and we understand their needs better.”

COLLABORATING WITH SUPPLIERS

According to a 2015 IDC report on “The Future of the Manufacturing Supply Chain—Networked, Mobile, and Collaborative,” collaboration, via traditional or modern social media tools, is a critical capability for the

future of the supply chain in manufacturing. “As outsourcing proliferates, and the importance of key partners grows, collaboration both within the manufacturing enterprise and outside of these key partners is critical to the success of the supply chain and of the business as a whole,” the report states.

Today, manufacturers are seeking greater visibility and collaboration with suppliers to enable their vision of an end-to-end supply chain capability. They want visibility in their business processes, not just into

production processes, but also across the supply chain to include materials procurement, customer ordering, shipping, and product warranty and return processes. In other words, this kind of visibility into the supply chain allows for greater coordination and collaboration with both customers and suppliers.

At leading timekeeping systems maker American Time, for example, the company went live with its ERP system in early 2013, enabling tighter connections with its business community of suppliers and customers. “Most importantly, Epicor ERP enabled us to tie together the triangle featuring the relationships among our company, contractors, and end users in one extremely accessible, easy-to-use reporting format,” says Roger Leung, purchasing manager at the Dassel, Minn.-based company. “This has allowed us to identify sales patterns that opened the door to new deals and sales opportunities.”

IMPROVING INTERNAL COORDINATION

Equally important is ERP’s improved visibility into a company’s internal operations which often enables greater opportunity for collaboration within the business. Not surprisingly, the IDC Manufacturing Insights 2014 Supply Chain Survey indicated that the greatest area of focus companies cited for collaboration was “within our business.”

At the heart of this intra-company collaboration, plain and simple, is better information sharing, largely made possible through ERP. As the IDC survey report puts it, “The reality is that data exists somewhere to facilitate just about every decision—you just have to find it and share it! It is not just about what a business knows versus what a business doesn’t know; it is also about making information available to critical decision-makers when and how they need it.”

For instance, at Cox Industries Inc., a manufacturer and distributor of treated outdoor wood products, leveraging ERP’s unified technology platform has led to improved communication and coordination among various units and locations. “On Epicor® LumberTrack™, we have improved communication between sales and production by



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—Magnus Enocson, director of business applications, Schoeller Allibert

connecting all our locations so that employees have the realtime information they need," says Matt Yaun, chief administrative officer at the Orangeburg, S. C.-based manufacturing firm. "We produce to cover our open orders, and we make adjustments daily, taking inventories up or down in relation to realtime sales demand. It has really tightened inventory control."



EMBRACING SOCIAL MEDIA

Incorporating social media is another area where ERP is fast evolving, bringing new collaborative capabilities to manufacturers. For instance, Epicor Social Enterprise in Epicor ERP version 10 offers consumer-grade search anywhere capabilities, enabling users to do cross-company searches, drill down into live information, and call and return data from any application in context—all from their own view into the ERP system.

"With Epicor ERP version 10 we have the ability now to collaborate inside the system through Epicor Social Enterprise," says Anthony Gercar, plant accountant at Enpress LLC, a worldwide leading manufacturer of composite pressure vessels for water treatment based in Eastlake, Ohio. The company is running its business operations, from front office through production, receiving, and shipping, as well as order entry and cash receipts, on the new version. "We are very excited about this new capability."

INCORPORATING SOCIAL MEDIA IS ANOTHER AREA WHERE ERP IS FAST EVOLVING, BRINGING NEW COLLABORATIVE CAPABILITIES TO MANUFACTURERS.

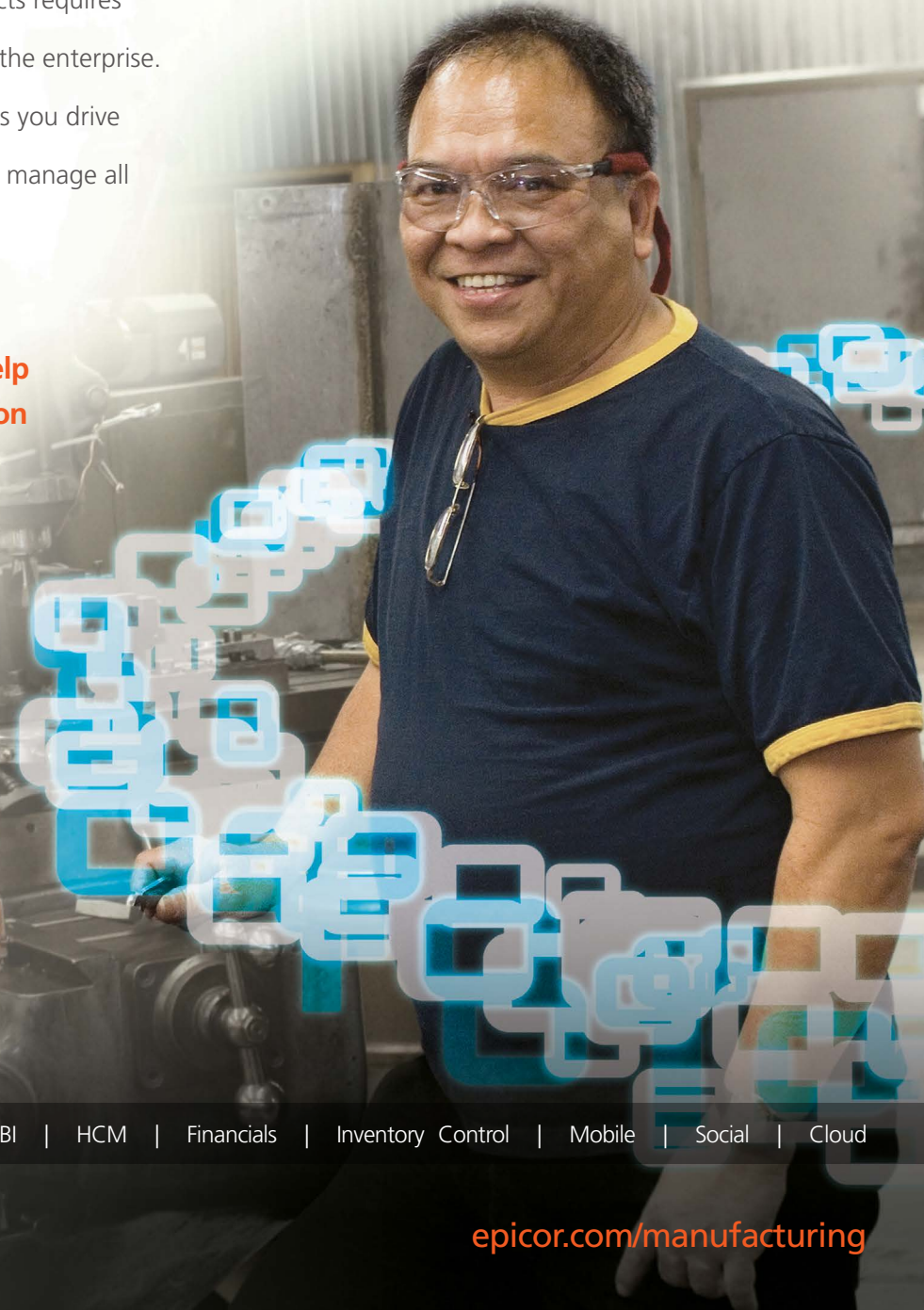


Clearly, the next generation of ERP is here. Manufacturers are taking advantage of its greater collaborative capabilities—both within the company, and with suppliers and customers. ERP will continue to evolve to support current and future business imperatives such as social collaboration, ease of use, and the expanded availability of realtime data for business users when and where they need it. ◆

Collaboration from **Shop to the Top**

Managing manufacturing projects requires open collaboration throughout the enterprise. Epicor ERP is the engine that lets you drive this integration and intelligently manage all levels of your operations.

See how Epicor ERP can help you increase communication across your enterprise.



ERP | SCM | CRM | MES | BI | HCM | Financials | Inventory Control | Mobile | Social | Cloud

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COLLABORATIVE MANUFACTURING CREATES VALUE

Companies operating in command-and-control mode pay a few people to think and pay everybody else to carry out orders. Ideas and information get stuck in silos, and we lose opportunities to develop better ideas, make better decisions, manufacture better products and create new markets.

and pay everybody else to carry out orders. Ideas and information get stuck in silos, and we lose opportunities to develop better ideas, make better decisions, manufacture better products and create new markets.

Despite new technologies and process improvements, collaboration is dead on arrival for many companies. This is because the structure of many organizations has barely changed since the Industrial Age. Command-and-control defined Industrial Age organizational structure, and remnants of this structure remain embedded in organizations.

Companies operating in command-and-control mode

My new book, [The Bounty Effect: 7 Steps to The Culture of Collaboration](#), focuses on how to shift the structure of an Industrial Age command-and-control organization to an Information Age collaborative structure. Based on the book, here are 5 ways a manufacturing company can adopt a more collaborative structure:



1) ESTABLISH ALL-ACCESS PEOPLE POLICY

Technology lets us interact with anybody on the fly regardless of level, role or region. But organizational structure and culture often lag behind this capability. Adopting an All-Access People Policy means everybody has immediate access to everybody else regardless of level, role or region. Plus team members have the organization's blessing to use this access whenever necessary. The technology enhancing this shift is unified communications. With UC, people can easily view each other's availability, see one another's location and connect spontaneously through instant messaging, voice, web conferencing, videoconferencing and telepresence.

Without an All-Access People Policy, information can get lost or buried—sometimes with devastating consequences. If NASA and its contractors had an All-Access People Policy, the space shuttle Challenger disaster might have been averted. Roger Boisjoly, an engineer at Morton Thiokol, warned in a 1985 memo to the company's vice president of engineering that seals on Challenger's booster rocket



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joints could fail. Despite the memo and other warnings, managers at Morton Thiokol gave NASA the okay to launch Challenger. Seventy-three seconds into its flight, Challenger broke apart and disintegrated over the Atlantic Ocean. All seven crew members died, because the seals on the booster rocket joints failed as Boisjoly had warned.

Suppose Roger Boisjoly had felt empowered to share his concerns with Morton Thiokol's CEO or NASA senior leaders without going through channels? What if senior leaders of Morton Thiokol had valued Boisjoly's input? Suppose key information had traveled beyond a silo? And what if there were a mechanism to share and access input and concerns spontaneously across the space

program? The results for the Challenger team may have been different.

2) DESIGN COLLABORATIVE WORKSPACES

Physical and cultural barriers provide lingering reminders of the Industrial Age during which command-and-control inhibited people from interacting across levels, roles and regions. One approach to breaking down barriers and enhancing collaboration is designing collaborative workspaces. Most change, though, requires a trigger—and that's where The Bounty Effect has an impact.

The Bounty Effect happens when exigent circumstances compel companies to change their structures from command-and-control to collaborative. For Boeing, the Bounty Effect occurred when a 6.8 magnitude earthquake hit Renton, Washington on February 28, 2001. With the building housing fourteen hundred 737 engineers nearly flattened, the company seized the opportunity to break down barriers. Boeing relocated the engineers to vacant space in the 737 plant. Traditionally, the plant was a “no-go zone” for some engineers who embraced their “white-collar” status.

Boeing worked with Steelcase to encourage cultural shift through design. Now Boeing engineers work in open spaces along the 737 plant's mezzanine. Mechanics, engineers, leaders and production team members interact

frequently and spontaneously on a wide “boardwalk” adjacent to mezzanine workspaces. So in redesigning the physical workspace, Boeing also redesigned relationships by breaking down Industrial Age barriers between engineers and manufacturing team members.

LEGO USERS HAVE COLLABORATED WITH TEAM MEMBERS TO CREATE NEW PRODUCT LINES AND DISTRIBUTION CHANNELS. LEGO ALSO USES REVENUE SHARING TO CREATE INCENTIVES FOR CUSTOMERS.

3) COLLABORATE WITH CUSTOMERS

Innovative companies collaborate beyond organizational borders. The Lego Group has created stickier products by engaging customers for co-creation. Before the late 1990s, Lego operated in command-and-control mode by refusing to accept “unsolicited” ideas. Then came Lego Mindstorms, which included software and hardware to create small programmable and customizable robots. More technically-savvy users hacked the

code and changed the products. Rather than sue these customers, Lego decided to collaborate with them. Since then, Lego users have collaborated with team members to create new product lines and distribution channels. Lego also uses revenue sharing to create incentives for customers.

4) COLLABORATE WITH COMPETITORS

Collaborating with competitors works best for eliminating redundancy in non-differentiating processes. These are typically under-the-hood processes that are not part of a company's market or product perception. Two companies that each make hot sauce might use the same bottling equipment. Two newspapers in the same market might use the same printing presses. Entire industries participate in consortiums for purchasing, saving each competing company substantial money. These shared, non-differentiating processes are invisible to the customer.

Engines are invisible to all but the most die-hard car enthusiasts, so collaborating on this process arguably fits the bill as non-differentiating. This year Toyota reportedly expects to sell 44,000 Verso compact minivans in Europe. These minivans include 1.6-liter diesel engines sourced from Toyota's competitor, BMW. The two automakers are also collaborating on developing fuel cell systems and lightweight vehicle body technologies among other projects.

5) CREATE MIRROR ZONES

Companies can create incredible value by exploiting time zone differences. Mirror zones are time zones



COMPANIES CAN CREATE INCREDIBLE VALUE BY EXPLOITING TIME ZONE DIFFERENCES.

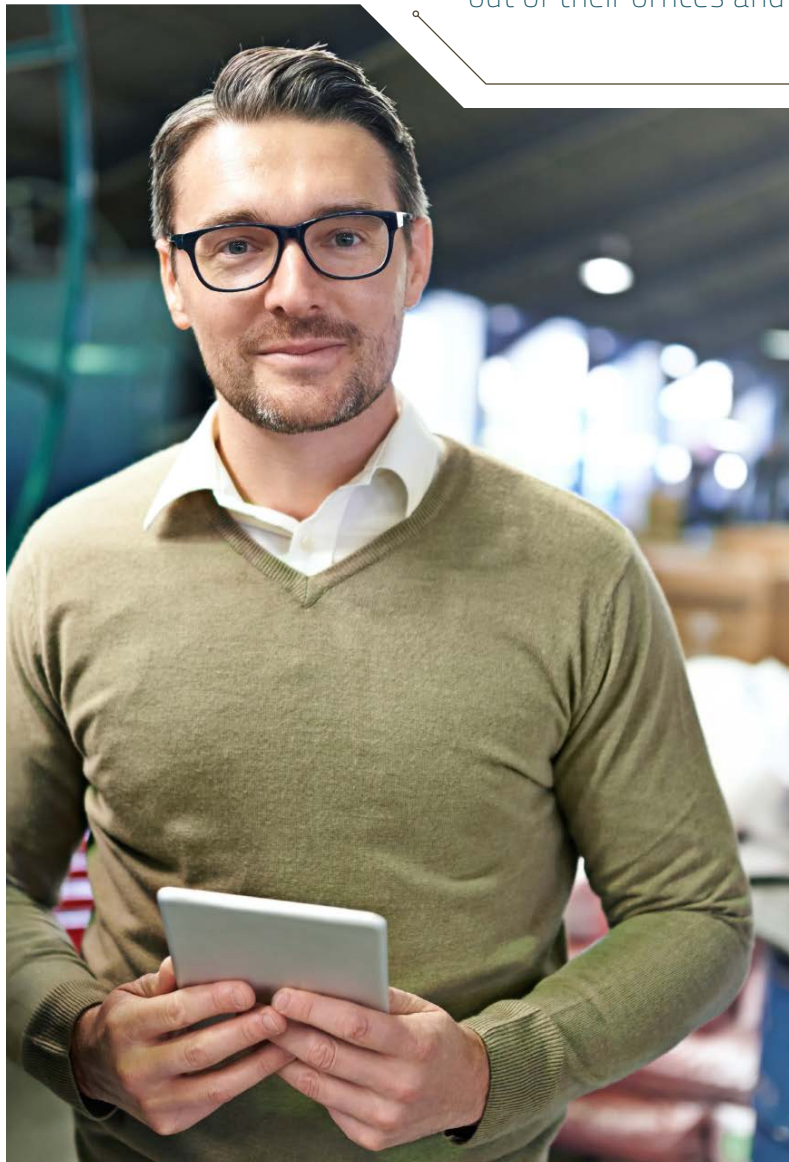


that are either opposite or nearly opposite. In collaborative manufacturing, a mirror team works in each mirror zone. Each team member on a mirror team shares a job with his or her counterpart on the opposite mirror team. When Mirror Team A sleeps, Mirror Team B works. This creates a near 24-hour product design and development environment. Schedules can be staggered so that shifts overlap by a couple of hours, giving counterparts an opportunity to collaborate in real time. The rest of the time, collaboration happens asynchronously. Mirror zones reduce time to market and time to goal in industries including aerospace, automotive, consumer products, healthcare, pharmaceutical, digital effects and many others. ◆

Evan Rosen is an internationally-recognized collaboration and communication strategist. He is author *The Bounty Effect: 7 Steps to The Culture of Collaboration*. He is also author of *The Culture of Collaboration*.

CONSUMERIZATION OF IT INCREASES COLLABORATION EFFORTS

Mobile technology, with all of its applications, is leading people to move out of their offices and into media rich collaborative space.



As the line between work life and home life becomes blurred due to mobile technology, the repercussions bode well for business. “Millennials are very comfortable using applications on their mobile devices and desire the same tools to navigate the workplace,” explains John Paul Williams, director of enterprise solutions for PolyCom. “It’s almost a ‘bring your own’ favorite device to work type of environment.”

The advance in technology dovetails with the current needs of business as manufacturing becomes increasingly complex across the board. From machinery that is more complex, to product development processes that are carried out by multiple groups across the globe, mobile technology enables the current needs, explains Williams. “If these devices existed ten years ago no one would have used them.”

While manufacturers have been



using dashboards to secure information, now the information can be accessed in a variety of ways. “We see companies that have set up rooms that have CAD drawings, detailed work process flows and videos,” says Williams.

Video is turning into an efficient way to transfer knowledge, Williams explains. “It places problems in a context. Millennials, especially, are used using video to relay and understand information.”

But it’s not only the younger generation that is adapting to the new technology. Williams finds that workers of all ages that are employed in fast moving industries such as chip, pharma and aerospace are quick to embrace the technology.

Many large companies are creating innovation rooms that include video components. Companies are bringing suppliers into the area as well. One large aerospace company requires its key suppliers to be on a video network in order to qualify as a supplier. Kaizen events are also conducive to using video which allows other parts of the company to participate in the events.



“THIS TYPE OF ENVIRONMENT IS ESPECIALLY EXCITING FOR THE YOUNGER WORKFORCE. AS IT INCORPORATES THEIR PREFERRED METHOD OF WORKING IN TEAMS.”

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Video can also be used to capture intellectual knowledge. Williams cites a client in the oil and gas industry and has a formal program to videotape retiring employees. It is often easier to capture and understand the specific skills that longtime employees have acquired in a video format.

A fast growing trend in technology, according to Williams, is that people are moving out of their office into media rich collaborative spaces. Instead of operating from separate work spaces, designers or manager in various geographic locations are in a dynamic situation where information is right in front of them. “This type of environment is especially exciting for the younger workforce. as it incorporates their preferred method of working in teams,” says Williams. ◆

RESOURCES



[Ray Wang Video: Collaboration](#)

Ray Wang of Constellation Research addresses how ERP collaboration is essential to modern business.



[Case Study: Enpress, LLC](#)

Enpress improves operational efficiencies, collaboration and rapid implementation.



[Aberdeen Infographic](#)

Aberdeen examines how social ERP can help solve collaboration challenges.



[Collaboration eBook](#)

Connect. Collaborate. Innovate. The business benefits of social ERP.



[Video: Enpress Case Study](#)

Enpress, LLC leverages Epicor ERP 10 to increase collaboration, innovation and efficiency.

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INNOVATION THAT INSPIRES

Epicor Software delivers an entirely new approach to business software. We inspire businesses by offering choices and unprecedented flexibility. Epicor solutions free our customers from focusing on technology to focusing on what they do – their core, revenue-generating activities. Designed for the unique needs of the manufacturing industry, Epicor provides end-to-end solutions coupled with the technology expertise you need to increase operational efficiency and drive competitive advantage. With more than 40 years of experience in delivering innovative, award-winning solutions to our customers, Epicor is a visionary and stable partner you can rely on now and in the future.

Manufacturers today understand the importance of an innovative, flexible, and skilled workforce that is enabled by technology to make fast and efficient decisions and that can recognize and take advantage of new opportunities. Fostering this culture of innovation can be aided by ERP system architectures that put new power in the hands of employees by uniting social, mobile, and analytic capabilities. Employees can then raise the individual and collective performance within the company by leveraging real-time shared access to the same repository using a set of tools that meet the business requirements of each user.