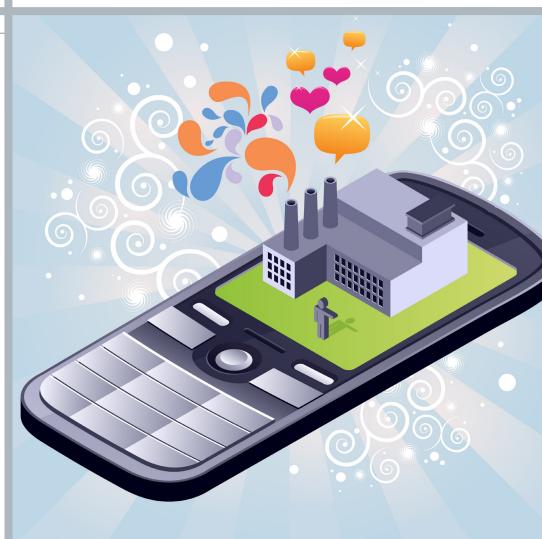# Mobility in Manufacturing: Optimizing Process and Productivity

Mobile technology can profoundly and positively affect the manufacturing environment, but you need a well-considered and well-planned strategy to make it work.

Manufacturing is more than an industry. It is a global engine of productivity and growth.

Yet, like almost every other industry in today's struggling economy, manufacturers are under a great deal of pressure from customers and competitors, as well as partners and suppliers, to increase their capabilities in terms of faster speed to market, customization and addressing emerging business opportunities. That's on top of continually searching for new ways of cutting costs in every aspect of their business operations.

Savvy CIOs in any industry realize that increased capability, cost control and extended reach can be derived from a successful synchronization of sophisticated technology implementation and improvements in business processes. One recent technology trend that lends itself to such an enterprise-oriented technology strategy is mobility.

Implementing a mobility strategy provides a way for manufacturers to address issues of productivity, capability, cost effectiveness and efficiency. But an enterprise mobility strategy is not easy or quick. Because it requires process change and the involvement of personnel, mobility in manufacturing must be addressed in terms of both enterprise strategy and organizational tactics. That's why an experienced partner can be an important asset in making a mobile manufacturing effort more effective.

MOBILITY IS A PEOPLE-DRIVEN TECHNOLOGY

Mobile technology is a populist, bottom-up phenomenon. In the United States alone, 232 million mobile phones are in the hands of people older than 13, according to Nielsen Media Research.[1] The fact that smartphones represent 43 percent of those devices means that a lot of mobile technology is meant for more than just talk.

Indeed, the proliferation of mobile phones in the work environment, smartphones in particular, is the epitome of the trend known as the "consumerization of IT." The increasing desire by employees to use their own personal mobile devices to aid them in their work has generated its own trend-related acronym: BYOD (bring your own device).

The fact that vast swaths of the population have embraced mobile technology means manufacturers will likely have a pool of cell-phone-savvy employees, as well as a ready-made platform for enhancing communication and data transfer throughout their organizations. With technology ranging from shop floor wireless systems to sales force support, mobile devices and applications can help manufacturers embrace agile production techniques and extended organizational communication and integration.

MANUFACTURING IS A PEOPLE-DRIVEN INDUSTRY

Despite its reputation for cutting-edge automation and robotics, manufacturing is still an industry driven by people. Employees — management, engineers and support personnel — are the life's blood of any manufacturing operation.

Manufacturing is also driven by data. Accurate, real-time views of operational data, both within discrete functions and across the corporate value chain, are critical. And it's manufacturing personnel who are responsible for the effective use — capturing, reporting, interpreting, synthesizing — of that operational data.

For example, American automakers are pushing hard against the boundaries of just-in-time manufacturing techniques. A Ford assembly plant in Wayne, Mich., has made flexibility an important element of its manufacturing strategy, implementing a production line capable of supporting several different vehicle types and designs. A large part of the success of that strategy depends on the close involvement of assembly line workers. According to one of the plant managers, "We are asking them to be problem solvers."[2]

When it comes to process manufacturing, there are two priorities: upgrading aging IT systems and addressing requirements imposed by new regulatory initiatives, such as the Food Safety Modernization Act. The first is a strategic opportunity, while the second is a matter of making accurate and timely manufacturing data a priority, which requires personnel to be diligent in process tracking and record keeping.

These examples help show how mobile technology and manufacturing have a natural working relationship with regard to communications, operations and data. "Workers in the manufacturing industry are mobile in nature," points out Roopesh Bangalore, practice head for manufacturing for Wipro Technologies. Leveraging that mobility with an effective mobile technology strategy must be a priority for manufacturers.

THREE AREAS OF OPERATION

In general, three areas in most manufacturing operations offer the best chance to affect business outcomes by implementing mobile technology. These are areas where workers are not bound to desks but operate relatively independently. However, because these workers are not "desk-tied," the potential arises for communication disruptions, lost productivity, and especially for latency in the capture and reporting of real-time data.

- The Shop Floor: Shop-floor workers and engineers manage and assemble items on the production line or monitor process specifications. They typically record production and process data manually, leading to data latency and inaccuracy.

- The Warehouse: Warehouse personnel are responsible for inbound shipments, inventory tracking and traceability, and replenishment of goods. Accurate, real-time logistical and inventory data is critical for just-in-time manufacturing, efficient supply chain operation and quality of service.

- The Field Force: Field-force personnel interact with customers, partners and suppliers directly. They require the most accurate and up-to-date data regarding products and

"Mobility involves a comprehensive study of the business processes that you want to take mobile."

ROOPESH BANGALORE, WIPRO TECHNOLOGIES

services. And accurate, real-time capture of demand and inventory data will provide the manufacturing organization with valuable insight for production scheduling.

Mobile technology, whether cell phones, smartphones, tablets and/or electronic pads, can effectively address these "desk-less" data requirements — but not without a well-planned and well-executed mobile technology strategy.

A COMPREHENSIVE APPROACH

Although mobility in manufacturing seems suited to a targeted approach, that does not mean it should be limited in scope or strategy. "Mobility involves a comprehensive study of the business processes that you want to take mobile," says Bangalore.

Such a comprehensive study would incorporate an internal assessment of enterprise strengths and pain points related to worker mobility and data entry, notes Bangalore. That internal study should be complemented with a benchmarking study of the mobility deployments of competitors and organizations in related industries. Also, feedback from mobility experts and potential vendors would be invaluable.

An effective manufacturing mobility strategy goes beyond implementing a few simple policy changes and a suite of mobile IT applications. Automating role-specific transactions through a user-friendly display with easily identifiable icons for tasks such as data entry, support calls, barcode scanning, etc., will help workers make a hassle-free jump from manual operations to device-based execution.

Device ergonomics, such as form factor, features and ruggedness, are an important consideration. Tablet devices are on their way to becoming part of the manufacturing mainstream, and it's exciting to see how manufacturers will leverage the limitless possibilities of such tools for maximum advantage in the value chain.

Overall, manufacturers must realize that a mobile technology implementation is much more than a tactical change — it is a strategic effort intended to directly affect business processes profoundly, positively and for an extended period of time. Such an effort requires careful planning and implementation.

THE PARTNER IMPERATIVE

That's why manufacturers planning a mobile technology strategy would do well to consider enlisting the help of an experienced and knowledgeable partner. An outside associate can provide valuable expertise in terms of technology and trends, as well as objective insight regarding an organization's critical processes and problem areas.

To help a manufacturer optimize a mobility strategy, a service provider must have experience and expertise in two areas. First, knowledge of the manufacturing sector at large, across diverse markets and segments — discrete, process and batch — provides valuable perspective. Second, depth of skill and talent in mobile technology, both at the individual-device level and the infrastructure level, are a must for a servicer in such a fast-moving, highly evolving area of IT.

When considering outside help, look for a service provider that partners with best-of-breed

Mobile technology and manufacturing have a natural working relationship.

technology vendors to help furnish and support a comprehensive, cutting-edge mobile technology solution. In addition, look for a servicer with a track record in enterprise-oriented technology solutions — one that can show you verifiable case histories and customer recommendations.

Experience should equate to data. Actionable data from benchmarking real-world mobile solutions should be an important element in a mobile service strategy.

CONCLUSION

More and more, employees are shifting computing tasks from traditional devices, such as desktops and laptops, to mobile devices, such as smartphones and tablets. Manufacturers must protect data that's being sent back and forth between the corporate network and these users' devices. They must also manage and secure the proliferation of diverse devices — employee-owned and company-owned — that are running on different platforms.

A mobile technology strategy can help both discrete and process manufacturers create new and better efficiencies in their organizations. Mobile technology can help address key problem areas within the manufacturing environment, including production workload, wait time, latency, loss of productivity, unnecessary motion, defects, asset utilization, logistics and inventory accuracy. Addressing these areas will help manufacturers reduce costs, increase speed, and extend flexibility and reach.

Most importantly, a mobile technology implementation can help manufacturers leverage their two greatest assets: personnel and data. By making employees more productive, and data more accurate and timely, a manufacturing organization can realize significant process change and competitive advantage.

But creating an effective mobile strategy and technology isn't quick or easy. Manufacturers would do well to seek out experienced advice and support to aid in this vital, future-oriented effort. ∎

[1.] "Report: Consumer Media Usage Across TV, Online, Mobile and Social," Nielsen Media Research, Jan. 6, 2012

[2.] "Ford Focuses on Flexibility at Its Factories," USA Today, 2/28/2011

THE WIPRO MOBILITY ADVANTAGE

Wipro Technologies has redefined enterprise mobility with a complete solution that protects and supports the manufacturer's information assets — on the widest range of devices, wherever they are — while also simplifying the management process every step of the way, from one-click deployment to intelligent access control to immediate locks and wipes.

Wipro's Enteprise Mobility Management solution provides a comprehensive approach to all employee- and company-owned mobile devices — including BlackBerrys, iPhones and other smartphones, iPads and other media tablets — within an organization, unifying the support and policy enforcement for all these mobile devices and extending the standard ITIL processes used in traditional desktop management services.

Enterprise mobility management in manufacturing combines two areas of strength for Wipro. In terms of manufacturing, Wipro has accumulated a wealth of experience by serving several hundreds of manufacturing clients — discrete, process, and batch — across diverse markets and segments. In terms of mobility, Wipro has created a service infrastructure incorporating an army of engineers and experts, along with a list of innovative vendor-partners.

"By partnering with some of these best-of-breed technology vendors we can help design and deploy a comprehensive mobile technology solution," says Roopesh Bangalore, practice head for manufacturing for Wipro Technologies. In addition, Wipro has deep expertise and a long history in enterprise-oriented technology services. "That expertise can help us to provide a mobility solution right from the shop floor to top floor," he says.

In addition, providing both expertise and actionable data is a hallmark of Wipro Technologies' services. Leveraging best practices and replicating successful initiatives in real-world mobile solutions is an important element in Wipro's mobile service strategy. "Best practices data should be the first consideration set for manufacturers going mobile," says Bangalore. "They will have a good idea what certain processes have already been made mobile in similar industries. That way manufacturers can draw from the learnings—rather than burning their hands." ■

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ABOUT WIPRO TECHNOLOGIES

Wipro Technologies, the global IT business of Wipro Limited (NYSE:WIT) is a leading Information Technology, Consulting and Outsourcing company, that delivers solutions to enable its clients do business better. Wipro Technologies delivers winning business outcomes through its deep industry experience and a 360 degree view of "Business through Technology"– helping clients create successful and adaptive businesses. A company recognized globally for its comprehensive portfolio of services, a practitioner's approach to delivering innovation and an organization wide commitment to sustainability, Wipro Technologies has 130,000 employees and clients across 54 countries.

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