



SEE MORE. DO MORE.



5 Ways the Internet of Things Adds Value to Manufacturing and Field Mobility

Manufacturers and mobile workers are the unsung heroes of invention and innovation. Their creativity builds stronger economies in their organizations, communities and around the world, and their services keep everything moving forward. But the landscape is intricate, and it's a constant battle to maintain profit margins, revenues and quality of service. With the vast opportunities for waste throughout global manufacturing supply chains, it's not surprising that enterprises are focusing on cost reduction and ways to improve efficiency and accuracy across their organizations.

With the increase of devices linked to manufacturing and mobility processes comes the increase in data available. However, much of this information is disjointed across the enterprise, making it difficult to obtain a real-time view of assets, people and transactions. When this decentralized scenario is replicated

across the enterprise, with countless devices running disparately, inefficiencies continue to mount. This leaves enterprise workers incapable of harnessing value from their data.

However, with the Internet of Things' (IoT) momentum growing, manufacturers and service providers are catching on to the value of using IoT solutions and cloud technology to manage their processes and become supply chain visibility nodes. Implementing these solutions helps build optimized, repeatable business models, minimize downtime and maximize productivity—all of which are key to reaching a new level of efficiency, accuracy and quality. By capturing data and turning it into actionable insight, companies gain **Enterprise Asset Intelligence™**—resulting in more informed decision making and more efficient and accurate performance.



By leveraging Enterprise Asset Intelligence, manufacturers and mobile workers can add value in the following areas:



I. Warehouse Inventory

The warehouse is the lifeline of a manufacturing enterprise, and its efficiency directly impacts the cost of doing business, level of customer service and the ability to compete. Mobile solutions and the ability to track inventory data can do wonders for performance. With these devices and an IoT solution in place, manufacturers can give their physical assets a digital voice by capturing and sharing the mission-critical data across the cloud. By doing so, manufacturers can ensure they have the right materials in the right place—ready to be delivered to the right location.

This asset intelligence helps improve efficiency by identifying areas where operator waiting time, defects and over-stocking or production waste can be reduced. Moreover, this intelligence enables manufacturers to know where to dedicate time to improving certain processes, whether it's related to stocking or fulfilling electronic orders to surpassing customer expectations. The ability to make these more informed, analytical decisions is how manufacturers drive productivity and improvement.

II. Asset Management

A manufacturer or service provider's materials and assets are their bottom line. And without a direct line of sight into their location and materials handling equipment, the potential for loss, delay and delivery error is vast. With solutions integrating mobile scanning devices and passive or active RFID tags, companies can quickly track the location, motion and state of their materials and assets, allowing them to devise plans to reduce this waste. And though mobile devices alone can track assets, it is the asset intelligence afforded by an IoT solution that puts this visibility into context at a faster, replicable and more accessible rate.

Sharing asset data across cloud-based applications allows manufacturers to have a centralized location that provides real-time insight into an organization's asset usage and needs. This helps keep the materials' handling, labor and energy costs to a minimum and helps manufacturers ensure they have the right materials in the right places to keep business momentum going.



SEE MORE. DO MORE.

III. Quality Proofing

Today's market is seeing increasing customer and business demands. From quality to delivery speed, everyone wants the best. With quality applications (deployed via mobile devices), manufacturers can improve the speed and accuracy of their quality checks. The capture of quality data is then automated, ensuring that customers receive the right products every time, improving customer satisfaction and retention. The ability to identify quality issues quickly helps manufacturers minimize wasted labor, materials and equipment, contributing to efficiency.

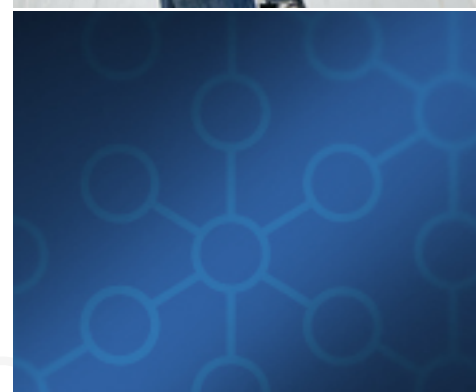
Furthermore, mobility improves the quality beyond the production line since product verification can be conducted virtually at every step of the process. This intelligence can then ensure inventory is readily available and all orders fulfilled correctly.

IV. Workforce Management

Whether responsible for inventory management or field service, you need access to real-time information in order to make real-time decisions that impact performance. Mobile solutions can provide this insight from anywhere, allowing you to communicate and facilitate processes no matter where you are. As a result, managers can be more productive throughout the day, with the ability to stay on the plant floor or central office as needed to ensure seamless operations but still have access to the information they need, when they need it. By using this asset intelligence, manufacturers will be better armed to optimize their use of the data.

V. Field Service and Sales

When it comes to delivering superior customer service, having the right route person or technician at the right place at the right time, with the right equipment is fundamental. Mobile devices alone have impacted service providers by providing a tool to better enable their service position as brand ambassador to the end customer. And as the IoT continues to expand, it's becoming a critical component, especially in regards to field mobility. With connected devices and IoT technologies, field personnel can gain actionable insights that enable them to better interact and communicate. For example, with these technologies, they can be more proactive by responding to traffic and weather conditions. This not only increases their safety but allows them to prepare for delays or take alternate routes.



SEE MORE. DO MORE.



With connected devices and the increased adoption of Mobile-to-Mobile (M2M) connectivity, field service personnel can quickly gain accurate and relevant insight into service inquiries and respond to them within an appropriate timeframe. For example, today in vending service, the sales person has a scheduled route to visit each machine. In large facilities, such as plants or hospitals, there could be 30 machines requiring service in one day, and the technician may have no idea how much product is needed to load onto their cart before making the rounds.

With an IoT-enabled vending machine, technicians can know what supplies need to be loaded before they start their route, instead of having to bring up to 40 percent back up due to lack of insight into what is sold. If a cash changer/

dispenser is jammed and sales transactions are not possible, the service person can respond proactively instead of waiting days until the next scheduled stop. Additional data such as temperature fluctuations, lights out, an unplugged machine, etc., could also be communicated ahead of time. This insight helps service technicians become more proactive, rather than simply reacting to the situations. With the ability to securely monitor customer equipment and environments in real time through M2M, in the future field service technicians will be able to take action before problems arise.

Advances in mobile technology and the IoT are dramatically improving manufacturing and field mobility. Utilizing the Enterprise Asset Intelligence delivered through these solutions is what enables manufacturers to pinpoint inefficiencies in real time and improve throughput—helping them build progressive plans to move toward innovation.

Share this.



MOTOROLA SOLUTIONS' ENTERPRISE BUSINESS is now part of Zebra Technologies.

We're bringing together real-time asset visibility, rugged mobility and cloud technology to lead the way in Enterprise Asset Intelligence™—changing the limits of what you can know about your business.



SEE MORE. DO MORE.



MOTOROLA SOLUTIONS