

Wide-Area Passive RFID Integrates Supply Chains, Speeds W.I.P. and Eliminates Shipping Errors

Unique extended range tracking of passive RFID tags increases visibility, accuracy and control of inventory

In the global economy, manufacturing has reached unprecedented levels of competition. Lean manufacturing techniques are necessary to maintain competitiveness, particularly in countries where wage levels are high. Companies must eliminate wasteful buffer inventories and rely instead on just-in-time parts delivery systems.

This puts tremendous pressure on managers to keep track of parts as they move in real time from the receiving dock to storage bins, or from kits to the manufacturing line. In addition to parts, companies must also track assets such as tools, set-up components, and even employees. The inability to locate critical parts, tools or personnel can shut down an entire production line. This kind of disruption can cost thousands of dollars per hour.

Along with increased competitive pressure, there is a trend in manufacturing towards tighter supply chain integration. Adversarial relationships between companies and their suppliers are being replaced by cooperation, which often extends from the design phase all the way through to logistics.

The Wide-Area RFID Solution.

In all these areas of manufacturing – inventory management, supply chain integration and accountability, the Mojix STAR System delivers substantial benefits.

RFID technology is hardly new to the factory floor. Until recently, however, technology and economic limitations have restricted its use to high value assets such as tools, finished goods or major sub-assemblies. In order to track an item throughout a large factory, battery powered, active RFID tags are required, with a cost as high as \$50 per tag. When products went out the door, the tags needed to be reclaimed and recycled. Mojix has changed all that.

Wide-area RFID technology, now available from Mojix, provides the range of *active* RFID using *passive* RFID tags that can range in cost from 5 cents to a few dollars per tag depending on the asset class. This breakthrough enables a whole new realm of possibilities for tracking at the bin, and even the item level. Here are some examples.

Shipping and Receiving. “Source tagging” is the process of having second or third-tier suppliers tag components before they are shipped, either at the item or case/crate level. Such tagging enables automated receiving at the next step in the chain, where the actual goods, identified by a Mojix STAR System, can be compared to data in an ERP system. The result is a more highly integrated supply chain.



Staging. One of the core principles of lean manufacturing is to correct mistakes when and where they happen. With the Mojix STAR System, the entire staging floor is visible, not just the dock doors. If employees make a mistake – if they place goods in the wrong staging line, for example – the problem can be corrected before those goods ever reach a dock door or, even worse, get loaded onto the wrong truck.

Dock Door Discrimination. The Mojix STAR System radically improves the efficiency and functionality of dock door RFID readers. Due to a combination of factors, the reception of conventional dock door RFID readers is typically poor, which results in inaccurate data. Software applications exist that correct these inaccuracies with complex algorithms. However, this software is expensive and puts a burden on the enterprise system using the data. The Mojix STAR System excites and reads RFID tags in a way that eliminates this problem altogether, resulting in substantial CAPEX and OPEX cost reductions.

Work in Process. Work-in-Process (WIP) and Just-in-time (JIT) production go hand in hand to minimize inefficiency and waste while optimizing production. The Mojix STAR System is being effectively applied in WIP to identify each item in a process flow. Mojix's offering for WIP provides an ideal solution, acting as an instant business radar platform to provide key metrics and total visibility during the production process. Companies with global supply chains that integrate parts from multiple sources benefit greatly from the use of RFID in WIP to ensure that the right item is at the right place with the right quality, and to detect potential production problems prior to their occurrence.

Content Verification. In the case of high-value products that involve customization, such as an armored vehicle or a CNC machine, sub-components like special door panels or control modules can be tagged so that when a finished product leaves the line its configuration can be verified against the customer order.

Active Performance with Passive Economics.

Major global brands are using the Mojix STAR System for dock door discrimination of shipped goods, to track high value assets and to follow the flow of components from receiving dock to factory floor. However, these are only a few examples of the system's capabilities. Mojix is the only company that offers real time location sensing (RTLS) with passive RFID technology in a single system that can cover multiple business use cases across aerospace, automotive, and other industrial manufacturing supply chains. The combination of low-cost tags, extreme range, and compatibility with all major ERP and SCM applications makes the Mojix STAR System an ideal RTLS solution for manufacturing applications.

For more information....



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