

Case Study

RFID Enables Real-Time Visibility at Randa Fulfillment Center



Overview

RFID enables real-time visibility and delivers data allowing for real-time decisions. Businesses of all sizes struggle with the same problems, knowing where inventory is and the actual counts. Not knowing where items are or how much you have leads to wasted hours searching for inventory items, loss of revenue, chargebacks, and lost customers. It's possible to easily integrate RFID into existing business practices to solve many of these challenges that companies are facing.

The following white paper describes how MSM Solutions implemented RFID for inventory management at Randa, the world's largest men's accessories company spanning 11 countries with a portfolio of over 50 brands. MSM Solutions PortalTrack software combined with the latest RFID technology enabled Randa to Identify - Track - Count and Manage inventory in real-time without disrupting their business processes. The ROI was easily measurable, and the initial capital investment was recouped quickly due to the increase in accuracy and labor savings.

Randa Expanding the Power of RFID

In 2012, Randa called on MSM Solutions to assist them with meeting RFID item-level compliance tagging for select retailers. As pioneers in GS1 Electronic Product Code (EPC) Serialization, MSM Solutions' PortalTrack was able to provide Randa with the most cost-effective and flexible solution that was simple to operate, met the mandate for retail requirements and was easily adapted to their current processes. Randa's unique RFID tagging requirements also prompted the design of a new and smaller RFID accessories label designed by Smartrac. Randa successfully deployed the Smartrac RFID tag and MSM Solutions software in all its facilities worldwide to print, encode and verify millions of EPC labels for retail compliance.

In 2016, Randa Logistics approached MSM Solutions with an idea on expanding the use of RFID at one of their state-of-the-art 525,000 square foot Multi Fulfillment Centers in Reno, Nevada. The goal of the project was to identify, track, count, and manage pallet-level shipments headed to retail stores throughout the United States. With tens-of-millions of units of product moving through this facility annually, storage and prep space is limited.



Like many businesses, Randa Logistics was challenged with determining precisely where products were located and how much inventory was on hand at any given moment in time. While the systems Randa Logistics Center had in place were good, and their floor had well-defined shipping and storage lanes, they

did not provide the real-time visibility needed for the high demands of the peak seasons. During the peak season there was the need for additional storage areas due to increased demand. With the extraordinary number of orders and forklift drivers flowing through the facility, drivers would often be forced to find any available spot on the warehouse floor to store pallets while they waited to be loaded. Often pallets for a specific order would be stored in diverse locations compounding the problem.

The primary drivers for implementing RFID technology stemmed from the need-to-know, in real-time, where a pallet or pallets were staged, so that once a truck line arrived to collect the shipments, the orders could be picked quickly and loaded onto the trailer. The goal was to avoid mis-shipments, chargebacks, delays in getting the product to the customer, and the elimination of hours of wasted manpower searching for misplaced pallets in the 525,000 square foot facility.

Real-Time Visibility in the Randa Fulfillment Center

The first step involved MSM Solutions meeting with Randa's chief logistics officer, Randy Kennedy, and his management team at the Randa Reno fulfillment center for an initial site survey to review the current process and procedures in place. After the initial meeting, MSM Solutions and Randa Logistics developed a phased project plan which lead to the customized RFID solution that would provide the real time visibility that Randa Logistics needed.

Goals for Real-Time Visibility

1. Create a unique RFID pallet identifier for each pallet tied to Digital DNA
2. Define zones in the fulfillment center to automatically track product in real time as it flowed through the facility
3. Provide the forklift driver with the ability to drill down on the specific locations
4. Incorporate a search function on a mobile RFID reader that allowed the workers to locate a pallet within feet
5. Capture overflow items in outlying storage areas at key cross ways and intersections

Phase 1

The foundation to any successful RFID installation is insuring the accurate printing and encoding of the RFID label. The label creates the Digital DNA which is a unique identifier for the object. The Digital DNA consists of attributes and data which will be associated to the object throughout its life cycle. Examples of associated attributes and data are: color, size, past present and future location, country of origin, product type, PO number, etc.

The first step to enabling real time visibility at the Randa Fulfillment Center involved setting up the printing and encoding process for the unique pallet ID labels. This was accomplished utilizing MSM Solutions PortalTrack software. MSM created a customized web-based application to generate pallet labels allowing the user to key in a Customer Name, Destination Location, PO#, Date of order and the number of pallet tags required. Once the variable data is entered MSM assigns a unique ID, associates the variable data and then prints and encodes the pallet labels.

Unique
Customer PO
RFID Pallet
Label



Phase 2

Phase two of the project involved providing visibility to the main shipping and staging areas in the Randa Fulfillment Center. This area contains 8 zones with each zone comprised of 10 shipping lanes with each lane holding up to 10 double stacked pallets. MSM Solutions divided the Fulfillments Center's main shipping and staging areas into 50' x 50' zones which were naturally created by the support beams in the facility with the goal of reliably reading any pallet entering at 1 of the 10 lanes within a zone.

MSM Solutions tested two different engineering designs to determine the most reliable and accurate solution. Design 1 tested overhead reading of the zones and proved not to be reliable for picking up pallets entering all 10 lanes within a zone due to the height at which the antennas had to be mounted to avoid damage from double stacked pallets. Design 2 did prove to be successful and accurately captured every pallet entering at any position between lanes 1-10. The final solution utilized Zebra FX7500 readers evenly distributed in the area with 4 connected antennas. The antennas were mounted in pairs to the support beams, spread 50' apart and facing inward towards the respective lanes to capture the pallets location.



Zebra FX7500 Fixed RFID
Reader

Phase 3

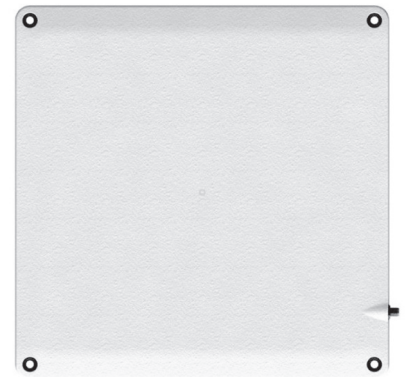
The third phase consisted of providing additional detail for a pallet location within a specific zone. In order to enhance visibility MSM Solutions equipped each fork lift driver with a tablet enabling them to assign a pallet to a specific lane and bay within a zone. Utilizing PortalTrack on the mobile device a driver can see their current zone location and if the driver chooses they can tap to confirm the zone which then presents them with visual image of the shipping lanes allowing them to simply tap the lane and bay for which they are placing the pallet. This feature provides additional detail allowing Randa to not only know the Zone in which a pallet was placed but the exact location within a zone that could contain up to 200 pallets.

Phase 4

The fourth phase enhanced the identification of pallets within a zone when they are not assigned a specific lane or bay. MSM Solutions added a search function on a Zebra MC3190-Z mobile RFID reader. In this case a user will identify the zone in which a pallet is placed, proceed to the zone and type in the PO number for which they are searching, once the reader has identified the pallet the mobile reader provides them with audible beep alerting them that the pallet is close by.

Phase 5

After completing the set up for the primary staging and shipping lanes, MSM Solutions was tasked by Randa to add additional readers that would capture data for outlying storage areas at key cross ways and intersections. The overflow areas are not as well defined as the main shipping and staging areas and product flows from four different directions. The goal was to read moving pallets and report the last known location and track the movement within a specific zone. MSM Solutions and Randa engineers developed an overhead chandelier type reader box. The overhead RFID reader consisted of a fixed Zebra FX7500 RFID reader and four Times-7 A5010 antennas in the shape of a cube that overhangs key cross points in the facility. In other areas of the fulfillment center Randa and MSM Solutions engineered single lines of antennas overhead to track product flow in specific areas. The overhead readers capture product coming from all directions and gives Randa Logistics the real time visibility and location feature needed for tracking pallets which are dropped anywhere outside of the main staging area during peak season.



Times-7 Slimline A5010
Circular Polarized Antenna



Utilization of PortalTrack

MSM Solutions tailored its PortalTrack Software solution to provide a real-time web-based reporting system for Randa Logistics. The reporting features provided Randa with real time visibility to the present location of any pallet in the fulfillment center, Randa Logistics can login to any web enabled device and see all available pallets for shipping by customer PO and Retailer with the added functionality to search and sort by other variable data. MSM Solutions also provided a mapping feature that is an exact replica of the 525,000 square foot Randa fulfillment center that will pinpoint any pallet within a zone or show all available pallets within a selected zone. The mapping feature was an easy method for the seasonal employees to locate items with little or no training. Other features include the ability to easily select an order and delete it from the system; this process will eventually be automated once readers are placed at the shipping doors where pallets will be read and removed from the system as they are loaded onto the truck. A pick list function was also included listing every pallet by PO with a date/time stamp and the last location the pallet was read.

Utilizing PortalTrack, Randa Logistics eliminated hours of searching for products, ensured that shipping dates were on target, eliminated chargebacks for late or incomplete shipments from retailers, and carrier fines for having to reschedule trucks or making drivers wait. Locating products is done reliably and accurately using the push of a button from any device anywhere.

Randa Solves Key Industry Issues

Because RFID integrated into existing workflows, Randa didn't have to make any changes to their business practices about how they store or ship product. MSM Solutions listened to the customer and through its PortalTrack software provided the real-time visibility and dashboard reporting that enables Randa Logistics to operate more efficiently and accurately.

The same principles that Randa Logistics applied are being applied to many other fulfillment centers and manufacturing companies. MSM Solutions has replicated this same model with other customers and is seeing a continual climb in the

Top Three Benefits of RFID Integration

1. Real-time visibility using RFID throughout the factory
2. Eliminate wasted hours searching, knowing exact counts, avoid fines or chargebacks, shipment delays
3. Real-time decision making when you know exactly how much and its location.

"The real time visibility and reporting that PortalTrack delivered has allowed us to make better and more timely decisions. Knowing exact counts and the exact locations of items in a facility this size has eliminated wasted labor costs searching for items, prevented shipment delays and helped us avoid chargebacks."

-Randy Kennedy, Chief Logistics Officer

number of requests for similar applications. As RFID becomes more and more mainstream many more companies are adopting this approach and leveraging the power of RFID to Identify - Track- Count and Manage inventory.

Randa The World's Largest Men's Accessories Company

Founded in 1910, Randa is the world's largest men's accessories company, spans 11 countries, with a portfolio of 50+ brands and 100+ years of experience. From sketch to scale, across four extraordinary product divisions, Randa produces exceptional products and services worldwide, delighting customers. With a current product mix that includes neckwear, jewelry, belts, furnishings, wallets, seasonal accessories, luggage, and travel; Randa has proven to be an industry leader in trends, innovation, design and consumer insights.

Randa manufactures, sources and assembles products in locations across the globe. Randa inspectors monitor the progress, quality and social compliance of the entire process, to assure speed, accuracy and customer satisfaction.

In-house packaging pairs with successful point-of-sale displays. Randa reinvents the sales floor to engage consumers whenever and wherever they shop with innovative story-telling that ultimately increase sales. Randa Logistics is a division within Randa Accessories that supports one million square feet of eco-friendly fulfillment facilities in New Orleans, Reno, Toronto, Melbourne, Glenore's, and Johannesburg, forms are processed, the product is inspected, and with robotic systems, inventory is packed, weighed and shipped at record speeds.

Randa delivers a competitive advantage at point-of-sale via MCG and its 3,500 nationwide retail merchandisers. MCG merchandises, replenishes, demonstrates, and sells product, elevates brands and engages consumers at over 10,000 stores. More information is available at www.randa.net.

About MSM Solutions and PortalTrack

MSM Solutions has been providing exceptional service and innovative applications for more than thirty years. As the leading integrator of barcode and RFID products, MSM Solutions matches the best technology to customers' business goals. MSM Solutions PortalTrack Software is a customizable software solution trusted by the world's leading brands. PortalTrack identifies, counts, tracks and manages millions of objects every day. Founded in 1981, MSM Solutions is headquartered in Memphis, Tennessee, and services customers around the world. Visit www.msmsolutions.com to learn more.