

How to Successfully Select RFID-based Inventory Visibility System

If you're looking for your first RFID-based system or looking to upgrade from an existing system, the evaluation, selection and implementation process is a long-term strategic decision for your organization. There are many differentiating factors to consider when choosing an RFID-based inventory visibility system. It is crucial to go beyond marketing hoopla and get to the system's core performance and features. Not all solutions are created equally. You need to make sure it is feature-rich, flexible, robust and designed with actual operations in mind, not just how operations work in theory. You put the heartbeat of your business into a system; you should be able to rely on its accuracy, reliability and operational excellence as your business grows.

Follow Global Standards for Tag Encoding

Most people know what a standard is, but few realize the importance standards play in the success or failure of their RFID-based system.

Brand owners and retailers worldwide have agreed to identify consumer products with EPC Gen 2 UHF RFID tags and encode each with an SGTIN (Serialized Global Trade Item Number). The SGTIN is widely accepted because it builds on the Universal Product Code (UPC) barcode or European Article Number (EAN) barcode that is on nearly all consumer goods and can be scanned by all point-of-sale systems.

Do not lock yourself into a solution that is incompatible with standards used in the industry today. DominateRFID offers two encoding options to give you more flexibility and adhere to industry standards.

IT infrastructure options

There is a lot of talk about Cloud-based computing. Cloud is great, but a system should not be limited to a Cloud platform only. A comprehensive system should utilize multi-tiered IT infrastructures and transparently switch to each, based on events and real-time requirements.

Because your operation must be up and running at all times, Public Cloud, Private Cloud and Hybrid Cloud should all be able to combine to provide the backbone of your installed system. This becomes even more crucial when it comes to Retail. You cannot afford to lose sales for a downed POS, or to have your exit doors open to shoplifters just because the Internet is down. The system must be 100% reliable and robust, and take into account all possibilities that can affect your operation's performance.

Loss Prevention

The pedestal or overhead RFID antennas and readers must operate independently of the cloud server or even the onsite server. Occasional limited bandwidth or losing Internet connection should not compromise your loss prevention system at exit doors.

POS

Your POS must also run independently of the Cloud. Its data should synchronize with the Cloud if a connection is not available, and your POS should run autonomously.

Hardware Agnostics

It's in your best interest to make sure the RFID solution is capable of working with any RFID hardware available in the market. There is nothing worse than becoming a hostage to one company that is the manufacturer of both software and hardware. There are many drawbacks to this arrangement. The single-source manufacturer will limit your current and future requirements, as well as put you in a position of having invested everything into one basket, to say nothing of the cost of re-investment should you decide to go in a different direction.

Less RFID Hardware

The solution must be designed to utilize only what is absolutely necessary RFID hardware—no less and no more. Less hardware means lower installation cost, less maintenance, less down time, and less overall cost of ownership.

Self-Diagnosis System

We all know hardware can become defective. Even worse, it can function sporadically. A simple disruption in communication can cost a business dearly. Just imagine, one of your exit pedestals stops working without you knowing. Your RFID system must be solid and up and running without any glitches. DominateRFID's approach in support is to be proactive and not reactive. This means that we will not wait until a problem becomes an issue before we deal with it. For these reasons, we have developed Preventive Diagnostics System that monitors the health of your RFID the system 24/7. Upon occurrence, Preventive Diagnostics System will automatically email support personnel and reports the detected issue. Support staff will be able to examine the log file, diagnose the problem, and proceed with fixing the issue quickly, accurately, and efficiently. These preventive measures minimize support costs while maintaining very little interruption to your operation.

Barcode, RFID or Combination of both

There are times when you do not want to RFID tag every item. You may decide to only RFID tag high ticket items, and leave the rest as barcode labels. The ideal solution must be able to support this requirement with ease. To take it one step further, you may want to capture both barcode and RFID from the same item. The solution must be able to switch between barcode and RFID on the fly, without user intervention. For example, you are receiving mobile devices that are RFID tagged but need to capture each Serial number and IMEI via barcode scanning. The handheld must be able to handle both at the same time, without the user switching between the two. How many systems do you know that can do this?

Multiple RFID Tag Types

Not all items being tagged can use the same RFID Tag size. And not all items need to have the same type of information printed on them. The system should be flexible enough to easily handle unlimited RFID Tag types and printing options at the same time. User should, at any time, be able to add a new Tag or change and modify their existing Tag parameters on the fly. There is nothing worse than being dependent on your software provider for any minuscule changes that you must make in the course of your operation.

Serialized and Bulk Inventory

Not every inventory item is going to have a single tag or barcode label. It may not be feasible to label each item due to its size or low value. You therefore may choose to keep some items without labeling them individually. The solution must be able to manage serialized as well as bulk inventory. When taking stock, the handheld must stop when encountering a bulk inventory item and ask the user to input the physical count.

Lot Number, Expiration Date, Manufactured Date, Consigned Inventory Control, etc.

If you decide to pick items based on certain lot numbers or their expiration dates, you should be able to pinpoint those items while scanning your inventory. If you decide to count only your consigned stocks for a particular vendor, you should be able to do that with ease. There are many parameters that separates one system from another.

Item Properties

How flexible is the RFID-based system in defining your inventory requirements? How quick can it mimic or even integrate with your existing ERP or WMS? You should be able to assign unlimited item properties for each specific item without customization or programming. This way, you will be able to take inventory without ever worrying on how a single item's parameters will affect others. This is the only way you can be assured that your system will never become obsolete, and your investment will support you for an indefinite time.

Audit vs. Count

Any RFID handheld device can scan an item's RFID tag. As a matter of fact, this feature is built into any RFID handheld device on the market. There is no glory in that. But it is important to note the difference between Inventory Count vs. Inventory Audit.

Inventory Count is simply a count of inventory. You scan and report what you have scanned. That is it. It does not give you any more data beyond this raw count.

Inventory Audit, on the other hand, is a true verification of what you have and what is missing in real-time. This information must be given to the user while they are doing the audit - not after submitting it to the server. By then it is too late.

To put it simply: if you don't know how many of a particular item you should expect to have at a specific location, then how can you make decisions based on what you are finding? It is paramount to have instantaneous relevant information, rather than later. This is what we call real-time.

As an example: The system tells you that you should have a particular item with quantity of 20 at a specific location. While you are scanning, the handheld device should show the following in real-time:

- Expected Quantity
- Found Quantity
- Remaining Quantity
- Unknown Tags that were scanned
 - o Unknown tags are tags that have not been registered in the system, but are found at the scanning location

Compare this to the simple inventory count that others are doing. In Dominate inventory audit, user will know if he/she should continue or stop scanning. The user can clean up and remove the unknown items from the pile while there, and once the handheld audit result is submitted to the server, you will be able to analyze the result as a separate tab for each category:

- Items found correctly - These are items that were found in their assigned location
- Missing Items - Items that are missing
- Misplaced Items - Items that were found but not in their assigned location. Items can be reassigned to the scanned location with the click of a button
- Bulk discrepancy - Items with a counted quantity that does not match the expected quantity
- Pending items - Items that were not counted

This is how an audit should be! Comparatively, a simple inventory count does not provide meaningful value to the operation.

For your daily cycle count, you should be able to use audit template so you don't have to select the audit batch every time.

More importantly, you should be able to audit your inventory while the store is OPEN and operational. No more night audits.

Misplaced Search

Imagine being able to scan a location and see what items do not belong to that location in real-time and while you are there. Imagine the benefits you will gain in cleaning up your store at the end of the day. You will have all items in their correct locations rather than the inventory system telling you that you have stock only to see there is none in the assigned location.

Inventory Audit Based on Item Properties

What if you are not interested in auditing your entire inventory or an entire location, but instead want to audit only certain items with some specific properties? For example, a jewelry ring that is size 4, white gold, one carat diamond, pink color with oval cut with certificate. The handheld should be able to ignore all other tags and only look for those items that match these exact properties.

Offline Auditing

It is important that you be able to take the handheld device and go anywhere to perform stock takes, regardless of Wi-Fi connectivity. This could be a storage facility, a back room, an off-site storage location or at a customer site holding your consigned inventory. Online and offline stock audits should be a must.

Multi-Packaged Items

We all know that a single inventory item may contain multiple pieces (called "Set"). For example, a shoe comes in a pair, a stereo system may come in 3 boxes, a jewelry set comes in 5 pieces or a dining room set that has 7 pieces (one table and 6 chairs). The system must be able to track each pieces of the item individually, even though they are placed in different locations and yet consider all as one item. To make the matter more complicated, let's consider that certain multi-pieced items can be mixed and shipped with others but some customized items must be shipped and sold together (i.e. customized furniture or jewelry). Now let's consider that you keep different pieces of one item in different areas of your store or warehouse.

When you do a stock audit, you must be able to know how many full Sets of certain items you have, and how many pieces are missing. The system must be able to keep track of all individual pieces in different locations, and then be able to tie them together to give you the count of complete and incomplete Sets. These complicated yet crucial capabilities are what separates one solution from others.

Alert & Notifications

Your system should actively monitor the vital signs of your retail operation 24/7. It must be able to use the latest IoT technology to sense what is going on, capture events, and take action based on pre-defined alert rules. When an event happens (i.e. shoplifting), it should be able to send pop-up messages, emails and SMS to multiple staff. It should be able to capture the event via surveillance camera and take physical actions such as locking doors and activating alarms. The system should also monitor date-sensitive inventory and alert you before expiration dates are reached.

Active Video Surveillance

Your system should enable you to watch your inventory without you physically watching your inventory. It should detect when it was moved, who moved it, where it went, and what action was taken to inform your staff.

Transfer

Not all transfers from one location to another are the same. Transferring high-valued items from one store to another may require different sets of controls and processes. You may require several approvals from management before proceeding with the transfer. Your system should be able to easily accommodate this intrinsic process. It should automate the approval process and allow the transfer to proceed only when all authorization have been gathered. The process should be totally paperless, and for added security, trigger an alert if the receiving party does not receive the transferred items within the allotted time.

Map Visualization

You should be able to see all your inventory, staff, and anything that you have tagged on the map of your facility in real-time. And your customers should be able to quickly find what they are looking for without having to ask a sales associate. Select a location and the system should visually show you all items in that location.

Bundle Management

Product bundles are an important part of any retail operation. Traditionally, bundles are made in advance and scanned at the POS. But the system should also enable you to make bundles as you sell them. For example, a retailer offers a mouse and carrying case with a purchase of a laptop. When the laptop is scanned, the system will notify the sales associate to scan other bundle items. This feature allows the retailer not to put resources into building bundles in advance, especially when they do not know how many will be sold. It will also allow other items to remain available for individual sale.

Additional features should include the ability to manage bundle promotion duration and quantity. The retailer can assign a bundle promotion a date and time which the system will use to prevent sales of the bundle once the promotion period ends and/or the quantity limit has been reached.

Check-in & Check-out of inventory items

There are moments when an item needs to leave inventory, but will return after a period of time. For example, when products are sent to a trade show, to a video shoot, or even when a customer wants to try the product in their home or office setting. None of these events are considered to be a sale, and your system should be able to track and trace these items as such. The system should be able to allow you to check-out and check-in items, assign return due dates, and automatically send due date reminders to the custodians.

100% Mobility

Your system should be able to work with all major mobile platforms, such as Windows Mobile, Android and iOS.

Unit of Measure (UoM) Conversion

The solution must mimic all the requirements of an advanced inventory system. After all, it has to integrate with your high-end inventory system and all its complexities. One such requirement is being able to handle many types of UoM and convert to different UoM on the fly. For example, you may receive an item in dozens, with one single tag, and then need to break it down to individual pieces. The system must be able to easily break down and print required additional tags automatically, without employee's intervention. The system should be user independent, to ensure uniformity and accuracy.

Summary

It is important to go beyond marketing hoopla when evaluating an RFID system. The purpose of this document is to help you evaluate an RFID systems and ask the right questions. You put the heartbeat of your business into a system; you should be able to rely on its accuracy, reliability and operational excellence as your business grows.

“We make RFID simple & affordable”

This motto has been at the forefront of everything we do here at DominateRFID. Our exclusive RFID focus and extensive experience has led us to continuously strive, making our systems simple to use and affordable. Our products are field-tested and have proven to be the most robust, feature-rich, flexible and easy to use systems.