

Warehouse Management System

What is Warehouse Management and System?

A **warehouse management system**, or WMS, is a key part of the supply chain and primarily aims to control the movement and storage of materials within a warehouse and process the associated transactions, including shipping, receiving, put away and picking. A warehouse management system utilizes Auto ID Data Capture (AIDC) technology, such as Radio-frequency identification (RFID). using hand held readers and/or gate antennas, wireless LANs to efficiently monitor the flow of products. Once data has been collected, there is either a batch synchronization with, or a real-time wireless transmission to a central database. The database can then provide useful reports about the status of goods in the warehouse.

Why Warehouse management is required?

- To have automated inward and outward process at the warehouse
- To eliminate manual identification of the items at inward and outward
- To identify each carton individually without any intervention from the user
- To eliminate redundancy
- To reduce time due to low accuracy and high labor for receiving and inventorying process
- To reduce Higher efforts, time for receiving and storage
- To Increase visibility to customer specific shipments
- To eliminate Inability to identify cross-docking opportunities due to poor inventory visibility

Functional details:

- For item level tagging the items should be initially tagged at the vendor level. Alternatively RFID tagging can be done at the warehouse level. Each item (apparel, non-apparel) can be labeled with an RFID tag/label. The corresponding product code, model number, price, etc can be written on to the tag. After the products are packed into cartons, the cartons would be labeled with an RFID label programmed with distributor name/number, product code, model number, quantity, unit price etc.



- At the inward entry gate RFID gate antennas will be installed. When the goods are inward, all the cartons/items will be identified automatically. After completing quality check test, the items can be inwarded. Instead of reading the barcode on each item individually all the items can be identified automatically and simultaneously. This can be done by installing RFID Tunnel antennas at the goods entry. RFID tunnel antennas have the capability of identifying 100 RFID labeled items individually.
- The system automatically identifies all the items passed through the tunnel antennas. The system automatically displays the corresponding pre-defined location of the item in the warehouse.



- When a pick list is generated the staff can perform the required functions using RFID



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handheld readers. The corresponding picklist items, product codes, model number, quantity can be downloaded to the handheld. The staff then carries the handheld and scans the attached RFID labels of the corresponding items. Only when the product number matches with respect to the picklist, the staff would be authorized to pick the items. The items will be passed through RFID Tunnel antennas. The system thus automatically identifies all the items and produces the bill automatically.

- After the goods are packed into carton boxes, A RFID label will be affixed onto the carton box. The label will be programmed with the packed item description, model number, quantity, order code, destination details etc. The cartons can then be packed with polythene bags. RFID tags/labels can be read through even when enclosed in carton, polythene packing
- When the cartons reach the destination, they can be identified instantaneously.
- Periodically physical inventory checks can be performed by the staff using RFID Handheld Readers.



- **At the Stores:**

At the regional stores (or warehouses), RFID Handheld Reader/Writer can be used to identify the inward carton boxes.



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- When the cartons reach the regional stores/warehouses the staff can simply identify the carton by reading the affixed RFID label with RFID Handheld Reader. Automatically all the carton's identification numbers, corresponding items in the carton, quantity etc will be stored in the RFID Handheld Reader. This data can be downloaded to the PC. Thus manual entry of the details of the received goods will be eliminated. Also manual counting and checking of the quantity of the goods etc can be eliminated.

Features of Asset Management System

- Paperless Receiving and Picking.
- Fast and Accurate data entry
- Maintain customer and vendor databases
- Items are tracked by location
- Maintains complete history of Item life cycle
- Easy generation of various reports on user defined criteria as listed below
 - Inventory reports
 - Item Report
 - Picking Order Report
 - Receiving Order Report
 - Monthly Production Report
- User Management and User Access Control
- EAS Anti-theft feature of the RFID
- High Security of inflow and outflow data



Benefits of Warehouse Management System

- Automated activities at warehouse level
- Eliminated redundancy
- Faster turn-around, accurate Inventory control
- Better visibility to demand supply pipe
- Better demand planning due to timely sales data
- Reduced out-of-stocks, Increased process accuracy and throughput
- Eliminates manual record keeping, thereby increasing accuracy and staff productivity
- Provides full inventory history of the movement of the cartons/items
- Decreased manual human intervention and manual worksheets
- Automated billing
- Reduction in thefts and misplacement
- Tags are reusable