

 **DCMS<sup>©</sup>**  
**WAREHOUSE MANAGEMENT SYSTEM**



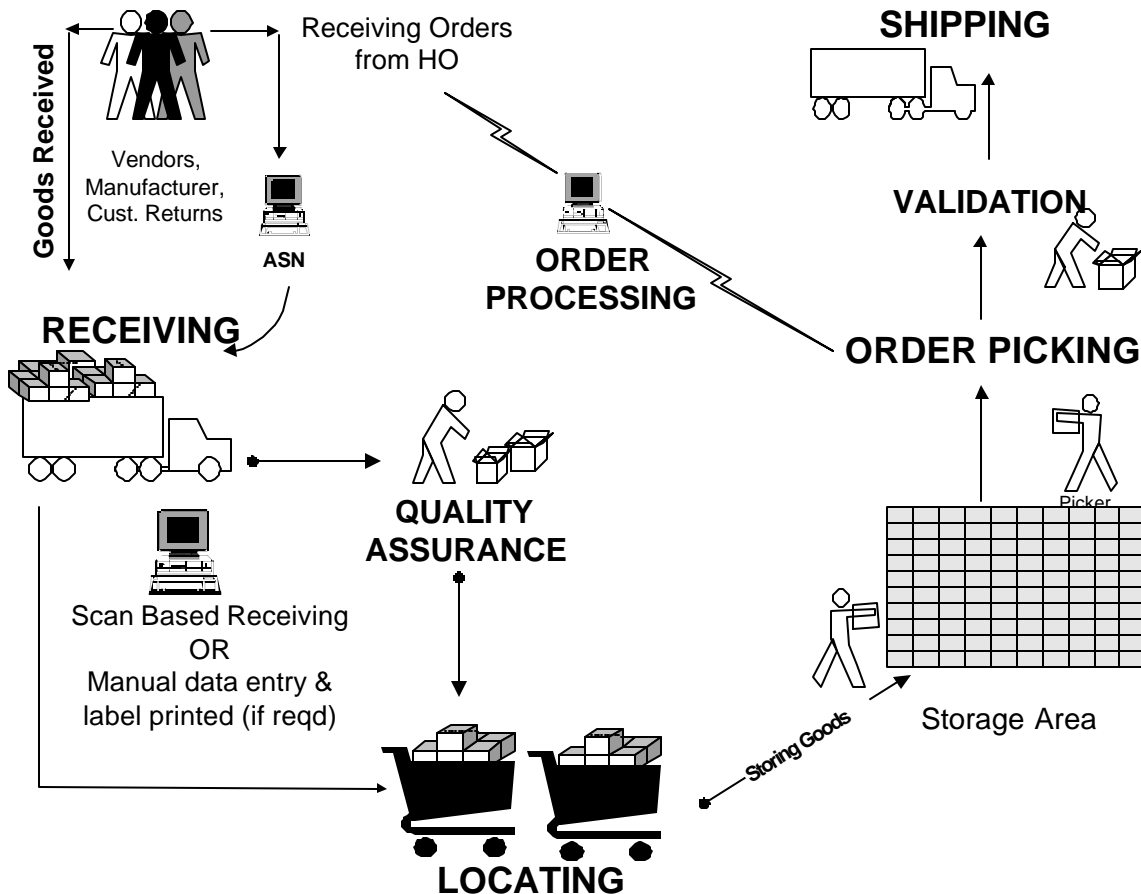
**You dream IT, we do IT**

# DCMS - Warehouse Management System

DCMS is a user friendly Warehouse Management System (WMS), designed to track the activities performed in a Distribution Center (DC)/ Warehouse. It automates entire process flow of warehouse right from receiving of goods in the warehouse to managing them till finally shipping to customers. Our Warehouse Solution is designed for all sizes of businesses, warehouses, and budgets.

DCMS will help you to rule out stock outs, stock pile-up, pending orders and loss of sales due to customer dissatisfaction. It dramatically improves the warehouse productivity and increase inventory accuracy to 99.8%. It helps strengthening customer relationships, reduce operating expenses and increase warehouse and distribution efficiencies. Due to it's modular design, DCMS can be easily customized for various clients as per their requirements. WMS is an intelligent investment that will bring instant accuracy in your warehouse operations and yield you long-term financial benefits.. It forms part of the Supply Chain Management System and incorporates functions as shown below:

## Process Flow Diagram



# DCMS MODULES

## RECEIVING

DCMS receiving feature ensure accurate check-in and efficient handling.

### ASN Support

DCMS integrates with third party software to capture the Advance Shipment Notification (ASN) or material in-transit information. DCMS validates this information upon actual receipt of goods against the ASN.

### MANUAL RECEIPT (NON ASN)

New cartons are created for goods received without ASN & a distinct carton ID is assigned to them. Other relevant details like vendor, contents, P.O., etc. are entered into the system. Labels are printed/ pasted on the carton and are received as normal goods.

### AUTOMATIC REDIRECTION

DCMS sorts goods on predefined parameters and automatically redirects

- Similar SKU cartons to pre-defined putaway location,
- Priority goods for cross docking,
- Sample goods for spot-checking, etc.

### CROSS DOCKING

If the goods received are of top most priority the goods are sent directly to the forward pick locations bypassing the locating & quality verification processes.

### CUSTOMER RETURNS

DCMS manages the returned goods and route them to appropriate place like damaged goods to seconds section and normal goods to inventory location. It maintains the record of returned goods, reasons of return, customer detail, etc. to creates report for future reference.

### QUALITY ASSURANCE

DCMS ensures that the accuracy of ASN and quality of goods received is maintained. Verifying the quality of received merchandise assures that stock is always in 'ready to ship' stage. It works on the model that easy checks should be performed on all cartons, i.e. Verification and tough checks should be performed on a sample basis i.e. Spot Checking.

## OTHER FEATURES

- Vendor information can be obtained
- DCMS supports vendor receipt, transfer receipt, manufacturing receipt, customer returns, etc.
- Designed to accept all cartons to clear the receiving dock.
- Over and under receipt handling.
- Assign License Plate.
- Product must be sorted, re-stacked, or containerized before putaway-Repacking.

## PUTAWAY

Putaway provides for picking up pallets of product from the receiving areas of the warehouse and moving them to the appropriate putaway locations. **DCMS** provides for optimum space utilization with RF based stock putaway. The operator scans the location id, carton id and pallet id before locating the carton. This ensures real time inventory accuracy and tracking.

DCMS supports both directed and non-directed putaway.

- DCMS supports Full Pallet (moving full pallet of an item from receiving dock to a single putaway location), Mixed Pallet (mix items) and Carrier Pallet Putaway.
- DCMS guides the operator to the putaway location and relieve them from searching empty location.
- DCMS confirms that the product has been putaway correctly by ensuring that the operator scans carton location code, carton ID, and pallet ID. If the code doesn't match with the assigned code, DCMS directs operator to the correct location.

## ORDER PROCESSING

In DCMS, orders are processed and picked in groups called WAVES. Waves are group/ batches of orders that usually share some common characteristics. **DCMS** receives an entire day's orders in a download file from the host accounting system. Orders are processed on a daily basis from the host. The goal is to efficiently create a pick wave. A pickticket cannot be picked until it is added to some wave. A wave can consist of any combination of picktickets. No restrictions are enforced. A wave must be made available before it can be processed. Making it available causes the following to happen:

- Replenishment requests are generated for all SKUs required by the wave.
- Pick tickets are printed

## REPLENISHMENT

DCMS Replenishment module moves material from stock reserve area to forward pick locations that are running low on material. DCMS maintains maximum and minimum quantities for any desired item and location. As an on-hand quantity falls below the defined minimum, DCMS creates a replenishment requirement for that item and location. Users are later directed to move material to depleted locations. DCMS can be used to monitor and manipulate the replenishment requests. When a pick slot balance falls below a level you define, DCMS automatically dispatches replenishment assignment to an operator via RF.

- It provides color hints to indicate the areas of concern.
- Various filters available for monitoring replenishment request–SKU, Location, Wave, etc.
- The priorities of the requests can be bumped up and down as required.
- Complete visibility about current pulling & restocking situations.
- In case of shortage of any SKU option is available to allow under-shipping of that SKUs so that orders can be shipped without that SKU.

## **PULLING**

DCMS PUL program is used to fulfill the carton requirement by pulling the cartons from stock reserve area and sending them to restock area for replenishing picking area.

- **PUL** is the program, which is used to fulfill the replenishment requirement by pulling the cases from reserve area.
- RF based program & supports both Manual & Guided Pulling
- Pullers pull the cartons from the specified locations, put them on a pallet and take them to a predefined restocking area.
- Pulling request can be generated on the basis of both accelerated as well as normal request.
- Business rule like FIFO, LIFO and least dense or most dense are predefined.

## **RESTOCKING**

Orders pulled are taken to predefined **Restocking** area & are kept on the aisle from where actual filling is done for the Forward Pick Area (Picking Area).

- Dynamic location is assigned for temporary SKU & restocking is done as per the ordered quantity.
- Automatic restock request is generated for fixed SKUs as and when the picker removes any piece from such locations.
- RF based Restocking ensures accuracy of Inventory in picking location.

## **PICKING**

Picking module of DCMS provides an extremely flexible and efficient method for picking orders without any paperwork. Many options are offered including order picking, group picking and zone picking. If desired, orders may be picked by priority or user-defined type (customer order, production order, etc.)

- DCMS provides a list of appropriate number of cartons to be picked based on the best picking path & crowd management logics.
- The UCC and the CCL (Carton Content Label) are printed at this time.
- The picking process is RF based. System guides the picker to the forward pick location from where SKUs are to be picked, prompts the picker to scan SKUs and then the box.
- All picker has to do is scan - scan box, location and SKU.

- Audible tones are provided to help the pickers during the scans. There are different audible signal for the correct scan, unacceptable scan and when a box / location is complete.
- As the picker completes picking, the system automatically detects the completion stage of boxes and direct picker to mark the box as Red in case any box was under-picked.
- Supports paper based picking too.
- Bar-code product and location verification

## **VALIDATION**

Validation is done to ensure that each carton moving to the dock has been processed complete and is ready to ship. The fixed scan is performed on the conveyor with an inline scanner as it comes from the weighing station. System generates distinct audible tones as each carton passes or fails.

## **SORTATION**

DCMS supports sortation conveyors that are used for merging, identifying, inducting, and separating products to be conveyed to specific destinations. This increases the productivity in the DC and reduces the cost of shipping operations. Cartons moving through the sortation system will be checked for weight, quality, shipping status and processed to the assigned sortation lane.

## **SHIPPING**

- DCMS supports both small and LTL shipments.
- For small shipments DCMS has developed APIs for uploading info to Fedex server. Therefore as you ship, the details will be directly uploaded to Fedex server and the tracking info etc will be stored in the system. DCMS will develop the APIs to any small shipment carrier being used by you.
- For LTL shipments DCMS provides interface for monitoring the progress of the waves in process and deciding on to ship these orders. All the shipping specific operations will be supported in this module.
  - Based on the order progress shipping manager will create Bill of Lading & ship the Order.
  - There is no need to scan any PO etc to create BOLs. The module has rich interface and all shipping manager has to do is select the orders he want to ship and create BOLs for them. Options are also be provide to add any PO to any existing BOL, merge BOLs, remove any PO from a BOL, etc.
  - All the required shipping documents are automatically printed.
  - Creation of Master Bill of lading, consolidating BOLs are all supported in this module.
  - As orders are shipped DCMS will upload the shipping details to the host system.

## **CYCLE COUNTING/ PHYSICAL INVENTORY**

- DCMS provides for the regular counting of stock for inventory control purposes through its RF Cycle Count module. Counts can be initiated by management and directed by location, SKU, or by other, user supplied criteria. Individual RF terminal operators as needed can also initiate counts.
- Cycle Counting with RF terminals allows RF terminal operators to perform inventory counts quickly and accurately. During RF Cycle Counting, DCMS freezes a single product location only for the time necessary to count the inventory in that location, releasing it when the count is complete.
- Because RF Cycle Counting provides accurate, up to the minute counts of product, physical inventories that require warehouse shutdowns are minimized and often entirely eliminated.

## **WEB BASED REPORTS**

Information is the key to success for any enterprise in today's business scenario. How well the information is managed and utilized reflects upon timely decisions, effective management and efficient planning. DCMS provides a comprehensive set of reports detailing all the activities happening in DC/warehouse and their effect on the inventory movement. DCMS also helps to detect bottlenecks in operations, which can increase the overall throughput of the warehouse and aids the management in control, review and planning. These help aids in:

- Decision support for planning
- Complete visibility of DC inventory.
- Keep a track of DC activities for helping in creating new strategies.
- Help the marketing department to strategize their selling efforts.
- Provides insight into profitability and productivity of the DC.
- Labor control & planning (link wages of contract workers to their efficiency)
- At any given time the exact position of inventory (age, quantity & quality) can be accessed through the generation of various reports that helps the management to take stock of any situation arising out of any emergency.
- Provides complete de facto status of which orders are being shipped and the current stage of processing.

## **INTEGRATION & INTERFACE (Import & Export)**

- DCMS is designed to interface & integrate with all the required third party systems (ERP, accounting packages, etc), which you are using for information inputs & outputs.
- Integrate with host system to download order information & upload shipping information.
- Integrate with small shipment servers to upload the shipment information directly to these servers.

## SYSTEM REQUIREMENT FOR DCMS

### ☞ TECHNICAL ARCHITECTURE

DCMS is based on the following Client Server Architecture.

Platform	MS Windows/NT (Version 2000, 2003)
Database	Oracle.
Front End	VC++
Web Based Reports:	ASP.NET

### ☞ SOFTWARE REQUIREMENTS

- **Server** – Window NT/ Window 2000, Oracle 9i (or 10g), Microsoft IIS Server.
- **Client** – Window 98 / 2000, Oracle Form 6.i, Any Internet browser.

### ☞ HARDWARE REQUIREMENTS

The following equipments shall be required to get more efficient performance of the system.

- **Server** – Pentium IV, 2 GHz, 512 MB RAM, 80 GB HDD.
- **Client** – Pentium III, 700 MHz, 128 MB RAM, 10 GB HDD.

### ☞ BAR-CODING EQUIPMENTS & RADIO FREQUENCY TERMINALS

DCMS supports any handheld barcode scanner. DCMS also support serial scanners in applications where human intervention is minimally required. The scanned barcode is automatically processed by systems as per GTIN/ UCC standards. Similarly DCMS prints necessary documentation to printer. The Zebra printers are specifically supported for printing the carton labels.

Radio Frequency (RF) based programs like locating and pulling are especially designed to run on hand held radio frequency terminals. These terminals make the task of pickers and locators easy as these are compact and easy to carry. Programs in DCMS have been coded with extra emphasis on scanner based data input to minimize the need for keyboard or mouse input.

### ☞ OPERATING SKILLS

No special skills are required by the user personnel to operate the system. The user personnel are trained at site to operate and maintain the system as per their requirement.

*For further details contact us at:*

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