

# Warehouse Management

Optimising Inbound ,  
Warehousing and  
Outbound Strategies



## EXECUTIVE SUMMARY

Control the movement of stock within a warehouse or across multiple facilities.

Process associated transactions such as receiving, putaway, binning, picking and counting.

Automation results in improved productivity, space utilization and customer satisfaction.

Inbound—Receiving and Putaways

Warehousing—Binning , Replenishment and Counting

Outbound—Pick , Pack and Ship



Warehouse Management is an integral component of the Embrace Supply Chain Solution and is designed to control the movement of stock within a warehouse or across multiple facilities and process associated transactions such as receiving, putaway, binning, picking and counting.

Warehouse Management is becoming more important as the processes integrate into other parts of the business including purchasing, shipping, sales, service , reconfigures, manufacturing , branch transfers and asset management.

Warehouses are becoming increasingly complex . They need to be agile and efficient as they handle more orders with greater speed and increased accuracy.

Automating inbound , warehousing and outbound operations results in improved productivity, space utilization and customer satisfaction.

The Embrace Warehouse Management system provides detailed tracking from entry to exit point. This includes the receiving of stock , movement of stock between bin locations , picking and despatching of stock and the auto-replenishing of bins.

In order to efficiently monitor the flow of stock , staff and resources, the Warehouse Management solution is designed to use handheld as well as stationary devices and barcode readers to track items within the warehouse.

The physical structure of the warehouse is mapped to logical bins and staging areas , depending on the organisational requirements. Rules are configured to maximise productivity, prioritising the order of activities within the warehouse and optimising the usage of both equipment and manpower.

All problem transactions that occur are immediately released from the worker's area of responsibility and automatically routed to a supervisor for intervention.

Priority queuing will be automatically maintained, but can be overridden with supervisor intervention. The warehouse employee does not have the ability to interfere with the priority of a transaction.

Embrace Customers use Warehouse Management for :

Prioritising picking for orders over internal stock transfers and replenishment activities

Automatically replenishing picking areas from bulk stock when required

Isolating quarantined or damaged stock into areas that will not be selected for picking

Using automatic putaway algorithms for the most efficient use of available storage space

Displaying the picking performance on LCD screens in the warehouse and incentivising warehousing staff based on their productivity



# Warehouse Management

*" Since using Embrace with RF Scanners, we have been able to double the number of "picks" per day and eliminate costly mistakes. We have also eliminated the need for nightshift pickers.*

*Picker performance is key. It has a ripple effect throughout the entire business. We are able to measure picker performance and productivity on Embrace and pay incentives accordingly. The earlier the picks for the day are complete, the sooner the goods can be delivered."*

Callie Herbst  
Logistics Manager  
Agrinet

For more information on any of our products or services please visit us on the web at

[www.embrace.co.za](http://www.embrace.co.za)

or contact your Embrace Account Manager or Sales Representative.

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Features	Benefits
Inbound Receiving Directed Putaway	Inbound shipment planning and scheduling Increased storage capacity Increased inventory location accuracy Load consolidation and routing
Warehouse Movement of stock between bin locations Auto-replenishing of bins Stock Count	Gains in labour productivity Gains in physical space, time and costs Reduction of costly errors Improved stock accuracy with real time updates
RFID Bar Code readers	Track items within the warehouse Efficiently monitor the flow of stock, flow and resources
Distributed Order Management	Real time visibility to current inventory across extended supply networks Allocate inventory based on customer ship dates Optimally source from multiple warehouse locations Takes into account product aging and expiration dates Increase supply network flexibility and efficiency
Outbound Picking Queues Problem Queues Rerouting of Pickers Mobile bins	Increase accuracy, improve order fulfillment and reduce order cycle time Minimise number of picks per order Consolidate picks in hazardous locations to reduce exposure Improve picker productivity—with zone management Increased customer service levels—with prioritised picking Automate pick, pack and ship
Detailed Tracking from Entry to Exit Point	Monitor every transaction through its' various stages, on-line and in real time. Highlights inefficiencies and bottlenecks
Marshalling Weighing Stations Box Packing Lists Box Labels	Increased stock accuracy Ease of checking on receipt for customer Dynamic marshalling based on delivery routes settings
Automated Data Capture Systems (ADCS)	The use of radio frequency technology simplifies and speeds up the data capture process Ensures accuracy, efficiency and cost savings Increases visibility of accurate, real-time inventory data throughout the company. Facilitate stock taking procedures

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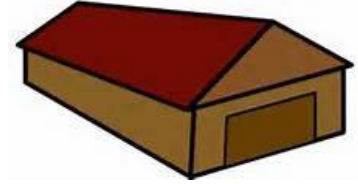
# Warehouse Management Highlights

## PRODUCT

### Warehouse Management

#### Overview

Embrace Warehouse Management is a sub-module of the Embrace Inventory Management set of modules and is used to step-by-step control the movement of stock through the receiving, putaway, binning, picking and counting process in a warehouse.



The solution uses a combination of item, location, quantity, unit of measure and order information to determine where to stock, where to pick and in what sequence to perform these operations.

## RELATED PRODUCTS

### Inventory

Warehouse personnel are able to monitor every transaction through its various stages, which could be from receiving, to when the goods are ready to leave the warehouse. The number of successful transactions e.g. picks, putaways, transactions in process and transactions in error can be monitored on line and in real time.

### Sales

The Embrace Warehouse Management System provides detailed tracking from entry to exit point

- Receiving stock
- Movement of stock between bin locations
- Picking and despatching stock
- Auto-replenishing of bins

### Service

The solution highlights inefficiencies and bottlenecks, enabling management to take immediate action. Transaction priority queuing is supported, while offering user defined picking classes with standard times, priorities and routings as well as supplier settings for fixed product/bin locations and replenishment rules. Printed bar code labels for route tracking is catered for and the weight of goods to be despatched can be monitored.

### Purchasing

### Shipping

#### Traditional and Mobile Infrastructure

The Warehouse Management System is designed to use handheld as well as stationary devices (also used in moveable turret trucks), over a wireless network (Radio Frequency, RF), and bar code readers to track items within the warehouse. These devices assist with efficiently monitoring the flow of stock, staff and resources.

### Reconfigures

### Financials

The system has been designed for minimal keystrokes and limited screen size.

### Manufacturing

#### Implement Full or Partial Tracking

To allow for maximum flexibility and different warehouse requirements, tracking can be set for inbound and/or outbound tracking. Inbound tracking will generate either picking or binning transactions that will control and track the movement of goods from entry point into the warehouse. Outbound tracking will track movement from exit point, out of the warehouse.

### Distribution

### Branch Transfers

#### Inbound Operations

Embrace enables efficient Inbound Operations, which starts with knowing what is being shipped from suppliers, when it will arrive and where it will be received.

### Workflow

#### Bins and Staging Areas

Each bin is defined within an area of the warehouse and may be set up to have mandatory subsequent destinations. Bins can be marked to be automatically replenished, using maximum, minimum and other replenishment markers. Fixed bin locations can be defined for products and check digits assigned to bin locations to enable the speedy processing of those transactions requiring only the input of check digits as opposed to long bin numbers.

### Web Services

The warehouse can be divided into various pick classes or areas and warehouse staff log onto a particular area. Receiving and despatch holding areas are defined with rules set for mandatory storage locations and best fit on size and capacity.



## Warehouse Management Highlights

### PRODUCT

#### Warehouse Management

*"Full stock counts are much easier and quicker, while stock is picked faster and more accurately than in the past. In short, the Embrace WMS implementation has increased the warehouse productivity, given us much better control over our stock and reduced shrinkage. The bulk storage has been set up to operate on a FIFO system that has worked really well and our return on investment has been significant."*

Stefan Pretorius  
Operations Manager  
Matador Enterprises

#### Automatic Bin Replenishments

Pick instructions can be automated, for example, replenishing a bin location with a particular product from a bulk store location, based on defined replenishment rules.

#### Stock Takes

Embrace WMS supports Random Stock Take by Bin and RF scanners can be used to facilitate stock taking procedures. Full Wall to Wall and Cycle Count functionality is available enabling the counting of physical inventory, efficiently, with minimal disruption to warehouse operations. System directed work provides 99+% accuracy.



#### Optimising Strategies

Warehouse Management has the ability to prioritise the order of activities within the warehouse and optimise the usage of both equipment and manpower, making business flow.

At every stage or leg of the transaction, the system stamps the transaction with the start / end date, time and user id, associated with that stage or leg which enables reporting that highlights inefficiencies and bottlenecks. Productivity statistics are also available.

All problem transactions that occur are automatically and immediately released from the worker's area of responsibility and routed to a supervisor for intervention.

Priority queuing is automatically maintained, but can be overridden with supervisor intervention. The warehouse employee does not have the ability to interfere with the priority of a transaction.

Products can be managed with serial numbers, expiration dates and / or lot / batch tracking requirements.

Special rules can be set for bonded goods and / or consignment warehouses.

Rules for reconfigures and kitting requirements which require internal movements and tracking can be implemented.

#### Receiving Stock

The goods receipts are processed and the goods are placed in a holding area. The printed goods received note, with its own transaction number is attached to the goods. The goods are registered by the system as being in the receiving holding area, waiting to be binned. The products and their quantities are visible on the system, but are not yet available for sale or any other transaction.

The warehouse personnel use radio frequency computer terminals and bar code readers to bin the goods into different areas/bins in the warehouse. Binning can be random or specific. There might be a 'fixed pick' area (smaller amounts of your fast moving products are stored in an easily accessible place), bulk areas, customer returns, consignment stock, etc. Once the product is binned, it is available for sale and/or other transactions.

Shipments can be received by line rather than waiting until the whole shipment is accepted. This means that the binning transaction labels are printed after each line acceptance and that the process of binning can take place immediately, improving speed and accuracy.

The goods receipt note is printed when the receiving process is completed.

Number of pallets received can be recorded and bar coded pallet labels can be printed.



## Warehouse Management Highlights



*"Our stock shrinkage reduced by 74% within the first six months of implementing the Embrace Warehouse Management System. This was after our wall-to-wall half year and annual audited count. By June of this year our shrinkage reduced even further!"*

Quinton Mentor  
Distribution Operations  
Manager  
T&C Trading

### Directed Putaway

Directed Putaway will stipulate the bin into which the product must be placed/scanned, after the product is moved from the Receive Hold Bin, based on cube, weight, dimensions, nesting & stacking, commonality, location availability, zoning and product demand.

### Cross Docking

Utilising back ordered products' information, cross docking transactions are automatically generated, minimising the number of moves, conserving warehouse space, reducing labour requirements, which all saves time, money and improves the customer experience.

### Outbound Operations

From pre-pack to proof of delivery, Embrace optimises every step of outbound operations to ensure accuracy, efficiency, compliance and optimal customer service. These capabilities include:

#### Picking Stock

When a transaction, e.g. a sales order, is processed, the system creates picking instructions for the entire order. These are channelled to the pickers assigned to work in the area in which the bin is situated. Each picking instruction has its own transaction number. This allows for a high degree of 'parallel' picking. A sales order with two different items could have three picking transactions and three different pickers, working in different areas in the warehouse.

The system automatically generates the move instruction and transaction label for each transaction. The warehouse employee confirms the 'pick' location and product by scanning the location and product id. The employee then moves the instructed quantity to the designated location and scans the location to confirm the transaction.

Batch release of orders for picking and batch release of orders for despatch increases throughput.

## Warehouse Management Highlights

*"With ACS-Embrace we have a business partner who shares our passion for providing outstanding service and contributing to the success of their customers."*

Richard van Rooyen  
IT Manager  
CEVA Logistics

Printed/displayed Instructions for each transaction - The warehouse employee prints the next transaction label, confirms the 'pick' location and product by scanning the location and product id, and enters the quantity picked. The employee then moves the instructed quantity to the destination location, and scans the location to confirm delivery. If the quantity is insufficient, or the correct product is not in the bin the employee has been sent to, the transaction may be routed to a supervisor while the employee continues with the next transaction. Goods are picked for various transactions, such as sales orders, bin transfers, stock transfers to other warehouses/branches.

A virtually unlimited number of Picking Methodologies can be deployed simultaneously, including Pick by order, Pick by bin, Pick by batch, Zone picking, Wave picking, Cross picking, Pick according to FIFO and expiry date rules.

### Measurement

Picker performance can be measured and incentive rewards calculated accordingly. Status of picks and number of picks can be displayed in the Warehouse to motivate competitiveness and dramatically improve picker performance.

### Enquiries and Reports

Flexible reporting capabilities, with drill downs to any level of detail within the warehouse and inventory solution.

## RELATED SERVICES

Embrace Support Representatives can assist with designing solutions and implementing additional requirements

Application Support through the ACS Support Centre

Embrace Training

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