

# *m*ds Warehouse

## Achieve greater efficiency and accuracy with MDS Warehouse

Inventory and warehouse expense represent the **two largest investments in a distribution business**. An efficiently managed warehouse will provide the greatest financial return on investment, in addition to achieving greater levels of customer satisfaction.

The **MDS Warehouse Management System (WMS)** is a powerful solution for automating the inventory handling process in your warehouse. Utilizing state-of-the-art technology and proven product management techniques, it provides a comprehensive and cost-effective warehouse management solution.

WMS works as part of a complete MDS solution by integrating wireless and bar-coding technologies, shipping systems and other warehouse automation equipment with your MDS Order Entry, Inventory Control, and Purchase Order modules.

### Warehouse Preparation

The MDS system supports multiple warehouses and multiple locations within the warehouse. Areas of the warehouse can be designated for solid case storage, and other locations for low unit of measure picking. Primary and backup locations can be specified for each item. In addition, the differing environmental (or

security) considerations for each product and location can be specified.

In many industries products are not uniformly bar coded. In this case, pick verification cannot be accomplished by the scanning of the bar code on the product. MDS compensates for this with two options. Product bar code labels (which may contain lot#, expiration date and/or weight) can be printed when the product is received. This will lead to highly accurate product identification, but is quite expensive and time consuming to implement. A second, less costly approach is to scan the location label (bar coded) to verify that the correct

product has been picked.

### Receiving & Put-Away

WMS eliminates receiving errors by matching the receipt of goods with the original purchase order. Upon receipt, the system places the inventory in a holding location. The **system guides put-away to the most efficient location** for that item taking into account the following: pending backorders, space availability

in the primary pick and/or backup locations, environmental considerations, and special lot and/or dating requirements.

Pallet labels can be printed at this point. Merchandise received to fill pending backorders or transfer requests is



*By utilizing bar coding and wireless technologies, MDS's Warehouse Management System allows you to achieve greater accuracy and efficiency throughout your warehouse.*

directed to the cross-dock area and the backorder allocation process is initiated. The put-away operator proceeds to the specified location. The bar code on either the product or the location is scanned to insure that the product has been properly placed. The product is now available for use in picking or replenishment activities.

### Replenishment

The MDS Order entry module controls the allocation of inventory to each customer order (or backorder). Based on the picking style that works best for your warehouse – order, wave, batch, or zone—MDS will electronically deliver the “picking document” to the WMS system.

The replenishment (or “pull-down”) process is initiated by the need to refill stock in the primary pick location. A batch process reviews all primary pick locations to determine which locations have fallen below their pre-set minimum level and are in need of restocking. A list of products needing replenishment is presented electronically to the operator in a logical warehouse picking sequence. This process can also be run during the

### Business Benefits of MDS WMS

**Achieve 99% inventory accuracy** with leading-edge auto ID/barcode technologies to track inventory and insure disciplined inventory rotation, including expiration date, lot control and serial number control.

**Reduce inventory levels**, lost stock and carrying costs with real-time, quality information on inventory levels by location.

**Maximize use of warehouse space** with user-configured computer-directed put-away, replenishment and inventory allocation.

**Optimize pick labor efficiency and accuracy** and improve order fulfillment rates with advanced picking techniques for pick and pack, batch and zone picking, with bar code confirmation.

**Decrease product returns** through improved selection and put-away accuracy.

**Increase labor productivity** as the wireless device is always ready with the next line item or order to pick. Time to pick statistics can now be accurately recorded.

**Eliminate costly inventory discrepancies** between multiple inventory databases and batch-oriented warehouse management systems.



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day to replenish those items that have fallen below their minimums due to unusual picking demand. During the replenishment process, the picker scans the bar coded location or product labels to insure proper product movement.

### Picking

WMS manages the picking process by providing the warehouse manager with a display of all orders ready for picking. The display includes the number of lines on each order, separating the case (bulk) picks from the low unit picks. The manager can prioritize the picks as appropriate and assign each order (or batch) to a specific picker. The program provides a display of the work assigned to each picker, and reports each picker's progress on a real-time basis.

**Each Picker** is given a separate identification code. The next order assigned is immediately given to the picker, as he completes each order. The order is displayed in pick location sequence, although the picker is given the flexibility to revise the picking sequence for an order. The item or location bar code is scanned to verify that the correct product has been picked. If the on-hand in the pick location is reduced below the minimum level, the operator will be asked to verify the count in the pick location, and the item is added to the replenishment list. If the picker is unable to pick the quantity specified on the display, an alert is issued so that the book inventory can be reviewed and adjusted if necessary.

**WMS provides labor tracking** by logging the start and end times of each order together with the number of lines and quantities. This provides management with statistics on the production of each picker. This information can be used for employee evaluation, or as a basis for an incentive compensation program.

The **verification process** is greatly simplified because MDS is aware of what has been shipped and packed in each carton. Inventory has already been updated. There is no need for dedicated shippers and checkers, freeing up warehouse personnel for other activities. The recorded package level detail allows the MDS system to generate ASN's (electronic Advanced Shipping Notices) for those customers requiring that document.

### Shipping

**MDS provides a streamlined shipping solution** that produces packing slips, carton content labels and shipping labels. The MDS WMS system accommodates customers who ship with their own trucks as well as those utilizing third party shippers such as UPS, FedEx, RPS, and DHL. The shipping software gets shipping information from MDS, and returns the tracking number, weight, and shipping cost to MDS. Based on the customer's settings, MDS makes the decision whether or not to add a freight charge. Invoices and packing slips are printed at the shipping station. Lastly, customers can check the status of the shipment via the Internet.

If you use your own trucks, **MDS Delivery Master** improves the accuracy of routing and delivery. The warehouse manager can review orders ready for shipment, and rearrange the truck routes. A bar coded label is printed for each carton at the verification station. This label is used to track the package through the remainder of the delivery process. When the order is complete, the packages are brought to the correct shipping door.

Delivery Master controls the loading of each truck, and downloads an electronic itinerary to each driver's hand-held PDA device. As each package is loaded onto the truck, it is scanned to insure that it belongs on that truck. Any missing packages are displayed on the PDA—virtually eliminating loading errors.

As each delivery is made, the driver scans the package's barcode. The customer's signature is captured electronically to serve as proof of delivery. Later, the delivery information is uploaded to the MDS system and made available to respond to customer service inquiries. This information can also be faxed or e-mailed to the customer on demand. Delivery Master also provides the data to analyze driver performance. The date and time of each delivery, delivery discrepancies and elapsed time between deliveries are recorded so that specific driver performance can be monitored.

### Competitive Advantage

MDS's Warehouse Management System provides a technological edge that maximizes the efficiency of your warehouse and supply chain personnel. This translates into a competitive advantage providing improved customer service, greater accuracy and greater profitability for your company.

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For more information on WMS and Master Distribution System from The Systems House, Inc., contact TSH at 1-800-MDS-5556, or email [sales@tshinc.com](mailto:sales@tshinc.com)

Published by:  
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