



CREATE A LEAN REAL-TIME WAREHOUSE TO DRIVE PRODUCTIVITY UP AND ERRORS DOWN

WAREHOUSING



THE CHALLENGE: RISING TO MEET TODAY'S CHANGING LOGISTICS

The role of the warehouse is changing. No longer just a big space to store inventory, today's warehouse operation is fast-paced and often decentralized. Inventory turns faster than ever as retailers and manufacturers try to keep up with consumer expectations in this 'need it now' culture. Operating across multiple channels — retail, catalog and Internet — creates a new set of logistical challenges. Customers expect to be able to place an order through any one of those channels and either receive overnight delivery to their home or business, or pick the order up at their local store the next day. In order to manage the increase in the volume of smaller, individual orders that must be accurately picked and shipped out the same day, warehouse operations need to be incredibly agile.

Wholesalers and third party logistics (3PLs) are also impacted by the increase in volumes. In order to maintain the contractual requirements defined in their Service Level Agreements (SLAs), they must find ways to improve efficiency while maintaining margins. And as increased demand ripples up the supply chain, supporting just-in-time practices can present new challenges for suppliers.

To compete in this dynamic environment, today's warehouse must be proactive and responsive. Regardless of how many distribution centers they have, and whether products are in the warehouse, in transit or in a factory anywhere in the world, manufacturers need visibility into the entire supply chain. And accuracy is more critical than ever: in a hyper-competitive market, anything less than perfection in order fulfillment can result in a lost customer.



EVERYTHING YOU NEED TO GO MOBILE

When it comes to creating a real-time warehouse, only Motorola Solutions brings you true end-to-end solutions — from the mobile devices in the hands of your workforce to the wireless Wi-Fi networks and RFID infrastructure that enable workers to access your business data in every inch of the warehouse, plus services that help you get and keep your mobile warehouse solution up and running at peak performance. The result? Increased productivity. Increased accuracy. And the ability to exceed your customers' expectations.

New track and trace regulations have been instituted in a wide variety of industries, further complicating warehousing and distribution by requiring:

- “Farm to fork” traceability in the food and beverage industry
- A complete genealogy in pharmaceuticals to protect against the introduction of counterfeit product that could compromise patient safety
- Constant visibility into the whereabouts of the millions of parts used to build cars, trucks, planes and other vehicles to enable fast location, recall and replacement of defective parts

And new standards have arrived, such as the GS1 bar code, which embeds more information about products to help with traceability and provides consistent product identifiers as products travel from stop to stop, helping further streamline and error-proof entire supply chains.

You need to build a lean, nimble warehouse that’s ready for anything. You need an efficient operation where the same staff moves more goods through the warehouse, faster and more accurately, and is able to capture more information about those goods without inserting time into everyday warehouse processes.

And with Motorola Solutions’ Mobile Warehouse portfolio, you can.

THE SOLUTION: MOBILE WAREHOUSE POWER

Our Mobile Warehouse Portfolio provides the real-time information and advanced data capture features needed to automate many processes, driving time, errors and operational costs out of the warehouse — and profitability into the business. You can easily extend the information in your Warehouse Management System (WMS) and Enterprise Resource Planning (ERP)

systems to every corner of the warehouse — from the loading dock to the aisles, staging area, freezers and out in the yard. Electronic work orders are delivered to workers and completed in real time. Bar code scanning provides invaluable error proofing for task accuracy and automatic collection of the information about each item — from expiration date to batch number. You can even provide workers with the most efficient path through the warehouse for every task.

The result? Your existing staff can handle a major increase in volume, yet still meet order and picking accuracy requirements. And without impacting throughput, you can collect all the information you need to achieve regulatory compliance, along with the visibility to better manage your inventory.

THE WORLD’S MOST COMPLETE WAREHOUSE PORTFOLIO: THE RIGHT DEVICE FOR EVERY TYPE OF WORKER AND APPLICATION

Since Motorola Solutions offers the industry’s broadest product portfolio, we can deliver the right device for the different types of workers and environments in your warehouse operations. Rugged industrial handheld and gun-style mobile computers are built to stand up to the harshest environments, including the freezer and out on the loading dock in the worst weather conditions. Vehicle mount solutions put mobile technology right at the hands of your forklift and clamp truck operators. Our wearable hands-free and voice directed products give workers unparalleled freedom of movement so they can multitask and accomplish more in a shorter period of time. Our integrated voice solutions are unique in the industry, helping improve collaboration throughout your warehouse operations by enabling instant push-to-talk communications between Motorola Solutions mobile computers, 2-way radios and even third-party devices, including smartphones. And a shared hardware and software architecture enables applications to be ported across devices, reducing software development and training requirements.



CASE STUDY SNAPSHOT

Motorola Solutions wearable mobile computers drive picking errors down and productivity up for major distributor Ben E. Keith

THE COMPANY

- Distributor of food service and Anheuser-Busch products for over 100 years
- Food service division: eighth largest major full-service institutional distributor in the U.S.
- Beverage division is the third largest beer wholesaler in the U.S.
- Ships hundreds of thousands of perishable and non-perishable items daily

BEFORE: THE CHALLENGE

- Customer service quality — the company's #1 mission — was threatened by the errors in their paper-based picking process.
- To better serve customers, the company wanted a solution that would not only eliminate those errors, but also enable faster processing of orders.

THE SOLUTION

- Hands-free WT4000 Series wearable computer
- RS409 ring scanner

AFTER: THE NEW BUSINESS PROCESS

- Electronic pick orders replace paper
- The item to be picked and directions to the pick location are delivered to the WT4090
- A scan of the bar code on the item with the RS409 verifies that the right item is about to be picked and prints the right label to place on the item
- The workers are directed to the proper pallet for staging

THE BENEFITS

- Picking accuracy improved — the error rate of 1 in 1,500 was reduced to 1 in 16,000
- Easy capture of traceability data to:
 - Cost effectively meet government regulations
 - Enable cost-efficient recalls
 - Eliminate waste associated with discarding perishable items past their due date through better visibility into inventory and expiration dates
- Return on investment in six months

THE NEW MOBILE WAREHOUSE

Motorola Solutions mobile warehouse solutions streamline the workday and improve the productivity of all your warehouse workers. You can choose from voice-directed solutions to improve picking speed with hands-free voice-picking, screen directed data solutions for handheld scanning and mobile computing or voice-guided solutions that give you the best of both worlds — the speed of voice, the accuracy of scanning and the ability to handle exceptions on the fly with data input.



REAL-TIME WIRELESS CONNECTIVITY at the dock door increases the velocity and the accuracy of the receiving function.

Process Improvement

- Instantly process and reconcile shipments with a scan of the bar code or RFID tag on incoming shipments
- Automatically deliver electronic processing directions for incoming shipments — such as stage for put-away, cross-dock or return if shipment contains the wrong materials
- Print labels on the spot to replace damaged or missing labels
- Snap a photo to document undisputable proof of condition for incoming goods

Benefits

- Streamlines and error-proofs the receiving process
- Enables instant inventory visibility and availability
- Eliminates congestion at the dock door
- Improves worker productivity
- Reduces cycle times
- Helps speed the putaway process for faster inventory availability



WITH ON THE SPOT BAR CODE SCANNING, returns can be processed in an instant. Items are immediately re-entered into inventory, available to fulfill new orders. Customers receive credit faster. And items under warranty are replaced faster.

Process Improvement

- A quick scan of an item bar code or RMA label instantly validates the return and re-enters returned items into your inventory database
- Imaging allows workers to snap a photo of the returned merchandise for proof of return and proof of condition

Benefits

- Increase productivity — the same staff can now process more returns per day
- Speed up the processing of customer credit or the re-shipping of items covered under warranty, boosting customer satisfaction
- Eliminate potential customer disputes over the condition of returned items with photographic proof of condition



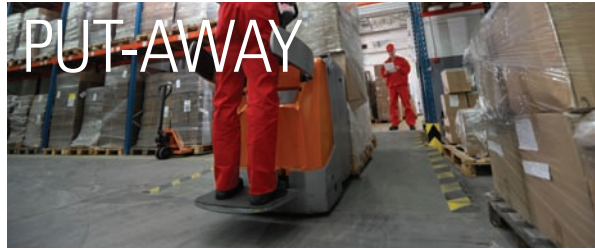
WITH REAL-TIME ACCESS to the order database, workers can process incoming shipments in real time. Cross-docking becomes a reality — improving warehouse efficiency by ensuring that each shipment is handled once instead of multiple times.

Process Improvement

- A quick scan of the bar code on an incoming shipment enables instant identification of orders that should be cross-docked, along with the dock number
- Shipments bound for the same dock can be aggregated, minimizing steps and usage of materials handling equipment

Benefits

- Increases productivity — the same staff can now cross dock and ship more orders per day
- Improves shipping times for higher customer satisfaction
- Improves utilization of material handling equipment
- Improves vehicle utilization — trucks are fully loaded with the right shipments and shipments are aggregated to minimize mileage



WITH MOBILITY, THE PUT-AWAY PROCESS is virtually error-free — materials are always in the right location and ready to fill orders or replenish the production line, protecting customer satisfaction, production uptime and yield.

Process Improvement

- Scan of the bar code on items displays the right storage destination and the fastest route to the put-away location
- Crosscheck put-away accuracy with a scan of the shelf tag

Benefits

- Reduces dock-to-stock cycle times
- Optimizes inventory availability and accuracy — incoming shipments are promptly stored in the right location, every time
- Improves worker productivity — the same staff can put away more goods in less time
- Protects customer service and satisfaction — inventory is accurate and always in the right location, ready to fulfill orders promptly



With our hands-free wearable mobile computers and a wireless ring scanner, your workers can pick and sort more items per day and capture more information about those items — without increasing cycle times. And wearables are flexible, able to easily accommodate process changes as your operations evolve.





WITH OUR MOBILE WAREHOUSE PORTFOLIO, workers have all the tools needed to rapidly respond to line-side calls (eKanBan) for product replenishment — so production lines stay up and running.

Process Improvement

- Paper work orders are replaced by electronic work orders, which are sent to handheld mobile computers or vehicle mounted mobile computers on forklifts, pallet jacks and more
- Replenishment orders also include the fastest route through the warehouse to the items
- A quick scan verifies the product prior to and after selection from your warehouse shelves, ensuring that the right items are being delivered to the production line
- In manufacturing plants that utilize raw materials sequencing to build different or custom products on the same production line, workers can be directed to pick items so that they can be delivered in the proper sequence

Benefits

- Increases the speed and accuracy of the replenishment cycle
- Prevents costly unplanned production line shutdowns
- Protects customer service by preventing delays in production
- Prevents the manufacture of products with the wrong parts — and the costly re-work and delays in delivery times
- Enables First In First Out (FIFO) inventory management, ensuring that oldest stock is always used first.



WHETHER YOUR WORKERS ARE PICKING individual items of any size or cases, our hands-free mobile solutions dramatically streamline and error-proof the picking process for fast and accurate fulfillment. Our unique wearable mobile computers support both text and voice-directed applications, and any of our voice-enabled mobile computers can be combined with a hip holster and a headset to easily enable rich voice-directed picking.

Process Improvement

- Paper pick orders are replaced with electronic text or voice-directed pick orders that are delivered directly to the mobile device, easily enabling batch, wave and dynamic picking
- Utilize voice-direction to keep users in constant motion
- Mobile devices display the location of each item and the optimal route to that location for every item on the electronic pick order, minimizing the number of steps required per order
- Scanning the bar code or RFID tag on an item or case verifies that the right item has been picked
- Items picked are instantly deducted from inventory, providing real-time inventory accuracy
- Automatically capture lot numbers, serial numbers, catch weights, and other item-specific information

Benefits

- Increases productivity — the same staff can now fulfill more orders per day
- Meet customer expectations for same day shipping with voice direction and hands-free devices that increase pick speed
- Achieves 99.9 percent picking accuracy
- Improves customer service — customers receive the right order every time
- Eliminates costly returns — eliminates return shipping fees when the wrong item is shipped
- Utilizes more granular picking instructions to support first in first out (FIFO)/last in first out (LIFO) for better inventory management
- Reduces out of stocks — with real-time inventory visibility, you know instantly when stock is low, ensuring prompt re-ordering and protecting against lost sales
- Improves information accuracy through automated data capture
- Enables cost-effective regulatory compliance



SORTING

WHEN YOU GIVE YOUR WORKERS a wearable mobile computer that can be worn on the wrist and a wireless scanner that can be worn on a finger like a ring, workers can sort items faster than ever.

Process Improvement

- Hands-free sorting allows workers to keep their hands on packages at all times — no need to set items down to pick up and interact with a handheld device
- A quick scan of the bar code on the package displays the exact location where the package should be placed, eliminating errors and providing an audit trail for traceability

Benefits

- Increases productivity — the same staff can now handle more goods per day
- Ensures sorting accuracy
- Ensures promised delivery times are met
- Protects customer service and satisfaction
- Cost-efficient compliance with traceability regulations



PACKING

WHEN YOU EQUIP PACKERS with bar code scanning capabilities and wireless connectivity to your business systems, quality control is simple, fast and very accurate.

Process Improvement

- A scan of the bar codes on all of the items in an order provides an automatic and error-free validation that the order contains the right items
- Packing materials can be automatically calculated based on the items in the order, including carton size — reducing the amount of filler needed
- A scan of the shipping materials as they are used provides real-time inventory visibility, enabling prompt re-ordering and ensuring that the proper packing materials are always available

Benefits

- Increases productivity — the same staff can pack more orders per day
- Increases shipping accuracy
- Eliminates the costs associated with re-ships
- Protects customer satisfaction by ensuring orders are always accurate before packing is complete
- Reduces packing material costs, helping both the environment and your bottom line
- Reduces out-of-stocks in packing materials inventory



Our broad portfolio of purpose-built mobile computers for the warehouse allows you to select the mobile operating system that best meets the needs of your business and the expectations of your workforce — including Android. Android gives you the freedom to design applications with workflows that not only maximize productivity, but also offer screens that are just as elegant and intuitive as the applications workers use on their own personal smartphones, virtually eliminating training.



OUR MOBILE WAREHOUSE SOLUTIONS streamline and error-proof the shipping function, so you can deliver more shipments in less time.

Process Improvement

- A quick scan of the bar code on an outgoing shipment helps ensure that the right items are being shipped to the right address and staged for the right truck — in the right order
- Required paperwork can be instantly printed on either a printer connected to the wireless LAN or via a direct connection to a portable Bluetooth-enabled printer
- Parcel shipments can be pre-sorted for direct shipment to a carrier hub to reduce shipping charges

Benefits

- Increases productivity — the same staff can now ship more orders per day
- Improves shipping accuracy — orders are always sent to the right customer
- Improves customer service and satisfaction — customers receive orders with the right products, on time, boosting your customer retention levels
- Improves vehicle utilization — trucks are fully loaded with the right shipments and shipments are aggregated to minimize mileage
- Increases driver productivity — drivers spend less time at each spot when shipments are staged in the correct order



WITH MOBILITY, YOUR MANAGERS can remain where they are most effective — out on the warehouse floor where they can best protect productivity and throughput. Away from their desktop computer and desk phone they can access the constant stream of information required to keep your warehouse operating at peak efficiency — now, it is in their hands wherever they are.

Process Improvement

- Monitor and make real-time changes in schedules to address bottlenecks that could impact delivery times
- Receive instant notification anywhere and anytime when low inventory thresholds are reached to ensure timely re-ordering
- Instantly receive real-time messaging and alerts

Benefits

- Improve manager efficiency and effectiveness
- Improve inventory control
- Better management and utilization of the workforce
- Eliminate out of stocks, preventing lost sales and unplanned production line downtime
- Protect and improve customer service and satisfaction

With the generous display on our ET1 made-for-business tablet, your managers can access a fully-featured mobile dashboard that allows them to monitor and act on critical business data anywhere and anytime — keeping your warehouse at peak efficiency and your managers at peak effectiveness.



BENEFITS IN THE WAREHOUSE AND BEYOND

The value from time savings and error-proofing that mobility provides in the warehouse extends far beyond the loading docks, warehouse aisles and shelves.

The benefits of real-time inventory visibility ripple throughout the enterprise, improving efficiency in the yard, on the production line and in dispatch, delivery, sales and service functions. Now, the same information that improves warehouse efficiency can also help you achieve key strategic business objectives, including:

- A reduction in inventory stocking levels — as well as the associated capital and space requirements
- A reduction in out-of-stocks — delivering a potential increase of 15 percent or greater in sales
- Ability to utilize warehouse space that is no longer required in the business area where it will provide the most value — for example, to expand the production line to add a new product line or increase capacity
- A reduction in transportation costs through tighter scheduling and management of shipments
- The ability to support new manufacturing applications that improve profitability and customer service, such as vendor managed inventory (VMI) and raw materials sequencing
- A faster invoicing and payment cycle, made possible with real-time visibility in shipping
- Ability to provide customers with real-time order status, improving customer satisfaction and retention
- Reduces field sales cycle times by enabling nearly immediate picks for faster order fulfillment

A RETURN ON INVESTMENT IN JUST MONTHS

When you invest in a Motorola Solutions warehouse mobility solution, the benefits combine to provide a return on investment that can often be measured in months instead of years:

- The cost of operating the warehouse is reduced
- The overall cost of doing business is reduced
- Customer service quality is increased
- Uptime is maximized — with rugged and field-proven mobile devices and a ‘no questions asked you’re covered’ support plan
- The lifecycle of your warehouse mobility solution is maximized through:
 - Support for future standards and devices
 - Easy integration with your existing technology systems — from your telephony infrastructure to backend applications
 - Support for Motorola Solutions RhoMobile Suite, an HTML5 operating-system agnostic application development platform that enables the creation of a single version of an application that can run on Motorola Solutions and third-party mobile devices with a wide range of operating systems — including enterprise operating systems such as Windows® Embedded Handheld, Windows® CE, Google Android™, BlackBerry® OS, Apple® iOS and Windows® Phone 7. As a result, enterprises have the freedom to choose the right device for each type of worker, as well as support Bring Your Own Device (BYOD) initiatives.

Drive the efficiency of your warehouse operations and the productivity of your entire warehouse staff to a new high with Motorola Solutions’ Mobile Warehouse Portfolio.

To find out how, visit: www.motorolasolutions.com/warehouse or access our global contact directory at www.motorolasolutions.com/contactus



THE RUGGED GLOVE-FRIENDLY VC70N0 HELPS AUTOMATE AND ERROR-PROOF FORKLIFT OPERATIONS THROUGHOUT YOUR WAREHOUSE — EVEN IN THE FREEZER.

SOLUTION BRIEF
WAREHOUSING

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