Acumatica
The Cloud ERP

Prepare for the Warehouse of the Future with Acumatica Distribution Edition

WAREHOUSE TECHNOLOGIES AND CONSIDERATIONS

Managing inventory and warehouse operations is easy when you are small. Warehouse management becomes more difficult as distributors grow, adding more locations, larger facilities, and larger product lines.

Growing distributors and those using entry-level accounting or legacy distribution ERP systems must **modernize warehouse operations** to remain competitive. This often warrants a replacement of the business system or the acquisition of expensive warehouse management software.

This playbook provides wholesale distributors with an overview of warehouse management features and technologies. It includes a self-assessment to determine **what steps to take next**. It also provides WMS strategies and a process for executing WMS implementations to modernize warehouse and distribution center operations.

5 SIMPLE STEPS TO A MODERN WAREHOUSE



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1. FEATURES

Introduction to WMS Features

Distributors need to consider six feature categories when modernizing their warehouse operations and business systems. These are general features, inventory management, order management, inventory transactions, automation, and compliance and reporting. These feature sets are crucial to every warehouse modernization project. They provide distributors with the tools they need to eliminate manual data entry, streamline business processes, and improve visibility into all warehouse and inventory transactions.

"My main concern is always inventory management, making sure that the items that we show we have here in the warehouse are showing up in Acumatica . . . with Acumatica, MiiR has given the sales team the confidence that the information in Acumatica is accurate, so they spend less time worrying about inventory levels and spend more time reaching out to customers."

- JOSHUA STINGER, VP OF OPERATIONS, MiiR

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GENERAL FEATURES



Creating a modern warehouse relies on modern technologies. The application platform is crucial. It should be developed in modern programming languages and database applications. You should have the option to deploy in the cloud or on-premises with easy connectivity to external systems. The data and access to the system should include multiple levels of security.

Other features to consider include customizable workflows, real-time inventory updates, and flexible packaging definitions. Unit of measure conversions for sales, purchasing, and inventory are also important.

Do not underestimate the value of ERP publishers, vendors, and consulting partners. All of them are essential to the success of your warehouse modernization project.

INVENTORY MANAGEMENT



Modern warehouse management depends on robust inventory management. Systems should support flexible warehouse configurations including locations, bins, containers, and slotting requirements.

Simple, yet sophisticated inventory cycle counting is a must-have to ensure inventory accuracy. Systems with ABC rank codes, movement classes, and calendar-dependent cycle counting help determine warehouse layouts for high-volume and low-volume inventory.

Distributors of perishable goods need systems to manage expiration dates, lots, and stock rotation. Item creation tools including imports and matrix items are crucial for distributors across industry segments.

Replenishment should support min/max, safety stock, reorder points, demand forecasts, vendor lead times, and more.

"Being able to access data and have the various departments working together in one system is a real benefit. If the warehouse has low inventory for an item, it is immediately exposed to purchasing to place the order for more. We now have real-time visibility to pertinent data."

– BEN ROTH, GM & CEO
PREMIER 1 SUPPLIES

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ORDER MANAGEMENT



Some WMS systems provide order management while others integrate with the sales order module in your ERP application. Either way, sales order management is a major factor in every warehouse modernization project.

Systems should support back orders, item substitutions, inventory allocation to orders, and drop-shipments from vendors to customers. Product pricing, promotions, and discounting must be flexible to support your needs. Integration with EDI, commerce, and retail systems may also be required to account for other sales order sources.

AUTOMATION



Modern warehouses automate processes. Systems should support automated inventory movement using bar code scanners and RFID. Other automation technologies may include labeling, pallet or container license plating, automated replenishment, carousel and robotics integration, EDI, and scale integration.

COMPLIANCE & REPORTING



Do not neglect compliance and reporting. Look carefully at industry and customer labeling requirements, quality assurance, lot and serial tracking, inventory valuation, financial reporting, and government or industry compliance regulations.

INVENTORY TRANSACTIONS



Transactions are the heartbeat of every warehouse. Inventory receipts should support directed put-away to the preferred item stocking location.

Inventory movement should provide at least single-step or two-step transfers. More sophisticated distributors may consider three-step transfers to track in-transit shipments between facilities.

Kitting and kit disassembly are important in most distribution businesses. Look for systems that support multiple kitting scenarios with disassembly functionality.

Issue inventory according to your needs, including FIFO, LIFO, expiration date, sequential, or user entered. Pick using batch, wave, or zone picking methods. Manage perishable inventory with first-expired-first-out (FEFO) picking. Manage carts and containers for transactions.

Look for systems that support flexible packing options including various packaging definitions and carton management.

The shipping process should be completely integrated with sales order and inventory management. Consider systems that natively support small parcel, less than truckload (LTL), or truckload (TL) carriers. You may also require route and delivery management if you own your own fleet and manage direct shipments to customers.



2. TECHNOLOGIES

Warehouse Technologies

Inventory and warehouse data entry is time-consuming and prone to manual data entry errors. Paper-based inventory receipts, picking, packing, and shipping documents contain information that needs to be captured quickly into the warehouse management and ERP database. Automated data capture and other automation technologies are available in some ERP systems. Other ERP systems require the purchase of advanced warehouse management systems (WMS).

"By tracking and authenticating asset movement in the supply chain and in the warehouse through use of technologies such as RFID and blockchain, order verification is automated, minimizing errors and our customers can have much more confidence that the goods they're purchasing are authentic, not counterfeit."

– CASVAL TINOCO, IS SENIOR MANAGER, BLUEFIN COLLECTIBLES

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BARCODES AND RFID TAGS



Even the smallest distributors have tethered barcode readers and the ability to print barcodes on reports and labels. Barcodes come in assorted styles. Systems should support the standard GS1 Global Trade Item Number barcode format. Barcodes work with varied devices including mobile devices, ruggedized tables, and specialized scanners.

RFID tags provide the same automated data capture features as barcodes with zero human intervention. Tags on products or containers pass nearby radio receivers transmitting information such as items and location back to the software. RFID costs are more affordable than ever before with improved accuracy.

Barcoding is affordable and often supported natively in midmarket ERP applications. RFID is more complex to setup initially with a longer-term payback for hands-free automation.

PAPER AND OCR SCANNING



Paper-based data capture still has a place in many warehouses. It is useful to fill procedural gaps that are difficult to automate. Further, they provide a physical record of transactions and information that back-up digital versions of the data. However, they are not real-time, and they are prone to data entry errors.

OCR Scanning is used in many warehouse environments, especially for scanning information from inbound vendor documents such as bills of lading and packing slips during the receipt of goods process. OCR can save complete documents in a database. With extra setup and mapping – it can extract and store data such as item numbers, quantities, and dates directly in the ERP or WMS system. OCR document capture is compatible with most ERP systems. OCR is affordable and easy to learn with minimal setup or training.

VOICE RECOGNITION



Voice-recognition is another option for automated data capture. Voice directed warehousing (VDW) is newer yet. VDW is more complex to setup but it offers many advantages including hands-free, directed picking and put-away. It can also be used for most inventory transactions including packing, shipping, and physical inventory cycle counts. VDW is compatible with modern wearable technologies and provides easy access to information chatbots or virtual assistants.

ROBOTICS AND CAROUSELS



Robotics are now more affordable allowing even small distributors to leverage them for inventory movement and other warehouse activities. Storage carousel systems can be expensive, but they save time and reduce picking errors. Items are automatically picked, sorted, and delivered to the operator for additional operations such as packing and shipping.

ERP SOFTWARE



Some ERP systems provide light WMS features such as automated inventory replenishment. Barcode scans automate the put-away, picking, transfer, movement, packing, and shipment transactions from a single scan. Advanced workflows can further automate inventory and warehouse processes. Some systems also support automation of picking and packing during shipment and automatic lot, serial, or bin selection based on preconfigured rules.

ARTIFICIAL INTELLIGENCE (AI/ML)



Artificial Intelligence (AI) and Machine Learning (ML) promise to improve many warehouse management processes including data capture. AI for example can compare manually entered quantities from receipt of goods against the quantity on the originating purchase order to validate that the quantities are the same. Machine learning can determine the oldest available product lot to pick for an order based on expiration dates. It can also be used to determine which shipping carrier to use for a customer order based on rates, lead times, and other factors.

WMS SYSTEMS



Warehouse Management Systems combine multiple automation technologies into a single platform. These technologies include barcoding, RFID, voice, and integration with robotics, carousels, and other warehouse automation technologies.

WMS applications provide many advanced features not common in midmarket ERP applications such as cross-docking, license plating, integration with third party logistics (3PL), load and route optimization, and more.

WMS is an excellent option for distributors with larger distribution centers or companies using ERP systems that do not provide warehouse automation functionality without considerable customization. WMS applications can be expensive with significant costs for implementation and training making it difficult for smaller distributors to justify the investment.

"We know the pricing of 10 different vendors on the same product so we can compare them instantly and, depending upon those needs, satisfy whatever is the customer's biggest priority. For example, if a customer is concerned about cost but is not worried about delivery times, we can provide a quote that fits those needs. Or, if a customer needs the packaging right away, we can use a more expensive vendor and ship that day if needed."

- PATRICK MADISON, CFO, KORPACK

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3. ASSESSMENT

Where Are You in Your Warehouse Modernization Journey?

Every distributor is different and so too is their warehouse modernization journey. Companies on entry-level accounting systems have few tools to automate processes. Established distributors on legacy ERP systems also have limited resources and difficulty connecting to today's technologies. Your warehouse needs vary depending on your industry, the types of products you sell, and your customers. Complete the self-assessment survey and identify feature requirements to determine where you are today and what next steps you should take.

"Acumatica saved us time and money processing over 4,500 orders per day. Since it's cloud-based, Acumatica can support our double and triple digit growth rates."

– CHRIS NELSON (CPA), CFO, YOUNGEVITY

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CURRENT STATE SURVEY

Complete the survey below by clicking the boxes in each column. Count your results and enter the total at the bottom.

ERP READINESS	TRUE	FALSE
We are currently using an entry-level accounting or legacy ERP system.		
It is difficult to connect our current system to external applications.		
Our current ERP system does not provide WMS or barcoding features.		
We run out of stock on items often due to poor inventory replenishment.		
We carry excess inventory to avoid stock out scenarios.		
We rely heavily on manual data entry for inventory transactions.		
We stock items in more than one physical warehouse location and perform transfers between warehouses.		
We use (or intend to use) wave, batch, or zone picking.		
We struggle to manage quality and compliance with customers and industry regulations.		
Our current ERP system does not support advanced inventory and warehouse features such as backorders, item substitutions, bins, inventory allocation, containers, and ABC codes.		
TOTAL		

"We're seeing tangible and intangible results. Tangibly, we're seeing better inventory control. That obviously goes straight to the bottom line. Intangibly we have an up-tick in customer satisfaction. We can get answers much faster than we were ever able to get in our previous system."

- BRETT DAVIS, OPERATIONS MANAGER
BOB DAVIS SALES

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CURRENT STATE ASSESSMENT RESULTS

Add up all the true answers. Use the table below to see where you are at today.

8-10	**Struggling**	It is time to find a real ERP system to modernize your warehouse operations. Your current systems limit your ability to adapt and grow.
6-7	**Challenged**	You are stretching beyond the capabilities of your ERP system. You must invest in customizations or third-party products to make it work. Replacing your current system with a modern ERP platform is strongly recommended.
3-5	**Limited**	Your current systems meet most of your warehouse needs. Look for customizations or third-party products to improve warehouse operations. Start planning for an ERP replacement down the road.
0-2	**Effective**	You have a robust ERP platform to modernize your warehouse operations. Stay current with product releases and look for ways to improve processes using native functionality and new features.

Hear Acumatica customer stories on how their businesses depend on Acumatica Distribution Edition for their success.

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Detailed Warehouse Assessment

Wholesale distributors should conduct a detailed assessment. The detailed assessment identifies required business needs and application features. Below is a list of common feature requirements. Document what features you already have, which ones you do not need, and which ones you expect to need in the future.

GENERAL FEATURES

Do you want to deploy the application on the cloud or on-premises? Do you prefer perpetual or subscription pricing? Make sure to evaluate integration tools, security, and configurable workflows. Look for ABC codes to prioritize slot locations and configurable units of measure definitions and conversions.

INVENTORY MANAGEMENT

Make sure your inventory system supports multiple locations (warehouse, aisle, row, rack, shelf, and bin). Review physical inventory processes. Look for advanced features such as first-expired-first-out picking, lot and serial tracking, matrix items, and automated replenishment.

ORDER MANAGEMENT

Most WMS applications provide order management capabilities. However, few companies use the WMS for orders. Instead, they create and manage sales orders in their ERP system. They may also import or connect the ERP system with external sources such as commerce or electronic data interchange. Make sure your systems support backorders and item substitutions, inventory allocations, and drop-shipments by line item. Also review sales commissions, pricing and promotions, and electronic data interchange (EDI).

WAREHOUSE AUTOMATION

Automation is crucial for distributors to capture data quickly and accurately. ERP and WMS technologies expedite data entry using technologies such as barcoding, RFID, and more. Look for systems with simple integration tools to connect to warehouse carousels, conveyor systems, scales, and other automation technologies.

INVENTORY TRANSACTIONS

Every distributor manages inventory transactions. Carefully review all transactions and business processes including vendor receipt of goods, vendor and customer returns, and directed put-away. Consider inventory movement, warehouse transfers, and kitting and disassembly requirements. Do you need expiration dates with first-expired-first-out picking? Do you use advanced wave, batch, or zone picking? Also, look for shipping integration for small parcel or LTL/TL carriers.

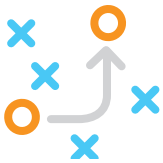
COMPLIANCE AND REPORTING

Timely and accurate information is crucial for warehouse management. Reporting for quality and compliance is essential for regulated products such as pharmaceuticals, medical supplies, chemicals, and food. Carefully evaluate business intelligence, dashboards, reporting, and inquiry features.

"The biggest time savings for us is not having to go out and wander through our yards of product to see what we've actually got on hand. Having a live inventory of what we have across seven different locations has been a huge time savings for people."

– PATRICK SAUTER, VICE PRESIDENT
DAKOTA RED CORPORATION

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4. STRATEGY

Steps to WMS Success

It is challenging to modernize warehouse operations without a comprehensive plan. You have technologies in place today but are they the right ones to take you to the next level? You have implemented features in your ERP system but are they set up properly and are there other features you could use? Set a strong foundation by researching options, prioritizing activities, and developing a detailed plan.

STEP 1: FOUNDATION



Modernizing warehouse operations is easier when you build on a modern ERP system. It will be much more difficult and costly to modernize if you use basic accounting or older ERP systems with few integration options and limited inventory or warehouse management features. Many distributors use a patchwork of technologies in their businesses. Maintaining integrations between too many applications is costly and inefficient.

1. **Review Current ERP Features:** Does your current business system provide a modern platform with an open architecture to connect to modern warehouse applications and technologies? Are there modules available that you can purchase to improve inventory and warehouse operations? Are there features you have not implemented that could improve business processes?

2. **Upgrade or Replace ERP:** Consider upgrading or replacing your current ERP software before any warehouse modernization project. You may be surprised to find that new versions of the software provide features that can help you better manage operations. Conversely, you may not realize that there are better options available for distributors in your industry.

STEP 2: RESEARCH



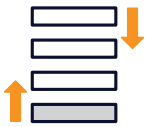
It is critical to research and document inventory and warehouse automation technologies so you can prioritize modernization activities. Review the detailed warehouse assessment section to see which features your current applications provide and where there are functional gaps for current and future needs.

1. **Research Existing Capabilities:** Document warehouse capabilities available in your current (or potential replacement) ERP system. How are these capabilities utilized in the system today? Can they be improved, or should they be replaced?

2. **Identify Modernization Initiatives:** Start small and work on high priority modernization activities first. Review the detailed warehouse assessment to identify gaps. You can then work on filling gaps for future requirements.

3. **Review Potential Technologies:** Contact your ERP partner to learn more about available modules, features, or third-party applications to improve inventory and warehouse operations. Do these applications and features fill most of your current and future gaps? Are they easily integrated? What are the costs?

STEP 3: PRIORITIZE



Review the list of functional gaps from the detailed warehouse assessment section. Rank each one based on cost and potential benefit. It is important to start small with a few high-priority activities. Look for ways to get more out of your current applications first. Be cognizant of cost. It is easier and less expensive to implement barcoding throughout your warehouse than it is to replace everything with RFID. Further, many advanced features can push you in to expensive WMS systems.

1. **Improve Existing Warehouse Processes:** Review previously completed modernization projects. Often, you can find ways to improve processes by tweaking setup or configurations. You may also discover innovative technologies to improve on previously completed modernization projects.
2. **Implement New WMS Processes:** Creating a modern warehouse takes time. Do not try to do everything at once. Consider activities that can be implemented quickly using existing functionality or where you can leverage previous investments in technologies.

STEP 4: DEVELOP A PLAN



Develop a plan that defines the desired goal, supporting technologies, and a timeline and process for conducting the implementation from start to finish.

1. **Goals & Desired Outcomes:** It is vital to clearly outline the expected results. Document the current state beforehand so you have a benchmark to use as a measure of your success.
2. **Warehouse Automation Technologies:** Document which technologies will be used, dependencies, integration points with other systems, known limitations, and provide contacts for assistance.
3. **Timeline:** You may not have a start date for the project, but you can develop the detailed phases and timeframes to complete each step in the process.
4. **Contingency Plans:** Define contingency plans in case you run into technical issues or other conflicts that prevent the completion of the project.



5. EXECUTION

Creating a Modern Warehouse

It is time to execute the modernization project once you have defined your plan. Remember that you do not have to automate everything at one time. Break down the project into smaller activities. Execution covers four phases: preparation, go-live, review, and continuous improvement. Each phase is essential for the successful roll-out of new warehouse strategies.

PHASE ONE: PREPARATION



The time it takes to prepare will depend on the project's complexity, including the technologies used and the scope of changes. Preparation should start well in advance of your desired go-live date. It should include a review of the project plan with project owners, internal staff, users, and technology providers.

1. **Plan Review:** Review the implementation plan with the team. Set the start date for the project and assign dates to each step in the project. Consider the contingency plan to ensure there is a process in case something goes wrong.

2. **Team Preparation:** Notify participants of timelines and their roles and responsibilities. A conference room pilot (CRP) improves success rates dramatically.

PHASE TWO: GO-LIVE DAY



Successful go-lives are well-organized. Identify one person as the project lead. The project lead orchestrates each step in the project.

1. **Coordination:** The project lead orchestrates the implementation. They delegate tasks to team members and guide the entire project. They make decisions based on feedback and chart progress throughout the process.

2. **Documentation:** The actual go-live should be as close as possible to the planned implementation. Last-minute changes inevitably happen along the way. Document changes with details for future review.

PHASE THREE: REVIEW



It will take time for things to settle into place after you complete the project. Give users time to adapt to new processes while providing time to collect data.

1. **Go-Live Notes:** Review the go-live notes for last-minute changes to the project plan. Identify if there are any follow-up activities to fine-tune the process.

2. **User Feedback:** Talk to users about new processes and technologies. What do they like? What do they dislike? Do they feel they are beneficial? You will find that users have some of the best ideas if you take the time to ask them.

3. **Analytics:** Review the early results. Were you able to meet or to exceed your goals? If not, why? What can you do to improve the process?

PHASE FOUR: CONTINUOUS IMPROVEMENT



Application upgrades and other issues impact the original project. New versions of the software or hardware can provide increased value.

1. **Maintain Technologies:** Stay current on the latest updates of your ERP software and connected technologies. Set up a sandbox for testing upgrades. Review product road maps and understand technology lifecycles.

2. **Improve Processes:** Look for ways to use existing features and technologies to further improve processes and automation.

3. **Explore New Opportunities:** Look for new ways to extend your modernization projects to other transactions or business processes. Take on more complex projects and consider more advanced technologies down the road.

Modern Warehouse Management with Acumatica Distribution Edition

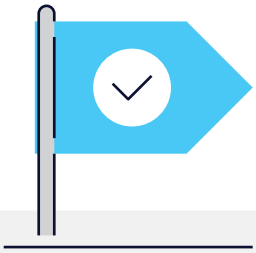
A modern warehouse is crucial for wholesale distributors to thrive in today's digital economy. Entry-level business applications and legacy ERP software pose barriers to modernization projects forcing many distributors to invest in costly customizations or complex and expensive warehouse management systems.

Distributors need to understand inventory and warehouse technologies so they can improve and automate business processes. They must understand how to utilize ERP and WMS features effectively for inventory management, order processing, inventory transactions, warehouse automation, and compliance and reporting.

A disciplined strategy is critical to the success of warehouse modernization projects. The strategy establishes a solid foundation, provides research, and defines priorities for the modernization plan. A four-phased execution approach ensures that distributors are prepared for implementations with continuous review and process improvement.

Acumatica Distribution Edition provides a modern platform for wholesalers to modernize warehouse operations with tools to manage projects, support cases, and installations or upgrades.

Through leading-edge cloud technology, Acumatica Distribution Edition delivers unparalleled value to small and midmarket distributors. Integrated workflows span the full suite of business management applications with native warehouse management and barcoding features.



"What really threw us over the top with Acumatica is that it offered a full quote-to-cash cycle and it overlaid on top of a solid accounting system. Acumatica offered a service package, purchasing, inventory, Client Relationship Management (CRM), quoting, manages projects and sales orders—all right there in one Operating System."

– DERRICK ELLEDGE,
VP OF OPERATIONS & CO-OWNER
POWER STORAGE SOLUTIONS

Acumatica
The Cloud ERP

Acumatica Cloud ERP is a comprehensive business management solution that was born in the cloud and built for more connected, collaborative ways of working. Designed explicitly to enable small and mid-market companies to thrive in today's digital economy, Acumatica's flexible solution, customer-friendly business practices, and industry-specific functionality help growing businesses adapt to fast-moving markets and take control of their future.

For more information on Acumatica, visit www.acumatica.com or follow us on LinkedIn.