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FACTORS FOR SELECTING

Top 6

AND IMPLEMENTING A WMS

Whether you are installing a WMS for the first time, or upgrading your system, this advice will guide you through successful selection and implementation.

By Tom Gresham

Evidence of a poorly conceived and managed warehouse management system (WMS) implementation sometimes is so apparent that passersby on the street notice it, says Marc Wulfraat, president and founder of MWPVL International, a supply chain consulting firm based in Quebec.

“Forty trucks lined up down the road trying to get into a warehouse is a sign of a bad WMS installation,” he says. “When things aren’t working right, or the system’s down, the trucks have to wait. And that costs money.”

Warehouse management systems are software applications that allow for centralized management of warehouse operations. They track inventory in real time and are designed to improve warehouse efficiency and effectiveness while providing managers and others with increased visibility.

A WMS can be a critical—even necessary—tool for many companies operating warehouses, but attempting to take a step forward can lead to two steps back if companies don’t take the proper due diligence during implementation.

“Warehouse management systems are often in place for 15 years or more,” says Simon Tunstall, principal research analyst focused on WMS with Gartner Inc., a research and advisory company headquartered in Stamford, Connecticut. “They are very much a strategic investment, and not a solution you can install and then change out in a few years. It’s a big change and companies need to be thinking long term and big picture.”

Wulfraat compares a WMS to a calculator: “If you’re running a warehouse with inventory, then a WMS is a basic tool,” he notes. A WMS improves movement of materials and products, increases accuracy and timeliness, enhances tracking and reporting, provides flexibility, improves order fulfillment, and strengthens control, among other benefits.

The value of a WMS is too great to pass up, agrees Randy Bradley, Ph.D., assistant professor of information systems and supply chain management at the University of Tennessee. Companies that avoid adopting a WMS will fall further and further behind, until eventually they will be unable to meet the expectations of their partners and consumers, he warns. Soon, those companies will scramble to catch up.

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“That leads to rash decisions around adopting a solution,” Bradley says. “And rash solutions lead to premature endings.”

For companies looking to adopt a WMS for the first time, or to change systems, here are six key points to consider during selection and implementation.

1. Usability. The usability of a WMS should be of paramount importance when considering systems, especially if your organization has an aging warehouse workforce who lack technology skills.

“Ask if the system is person-centric,” Tunstall says. “Make sure it doesn’t make simple tasks more complex, which could increase training time. This is true not only for warehouse workers, but also for managers. If it’s hard for them to use, then they will not be able to get a good visual on warehouse operations—how teams are deployed and whether operations are effective.”

Once a company chooses a WMS, even a user-friendly system, they

may not swiftly adopt it. “It’s important to take the time to teach workers how the new system is different than their old way of operating,” says Curt Barry, chairman of F. Curtis Barry & Company, a Virginia-based operations and fulfillment consultancy for the multichannel industry.

2. Complexity of operations. Warehouse operations vary widely among organizations, and it’s essential that companies ensure that any WMS they select has the capabilities to keep up with their particular demands. A high throughput, multichannel operation with multiple picking types, variable demand, and hundreds of thousands of SKUs, for example, requires a robust WMS.

Companies should be aware of any unique aspects of their operations, knowing that WMS vendors might not have developed their systems with an organization’s specific processes or needs in mind. “Some activities are truly niche,” Tunstall says. “It’s



Some WMS solutions offer pick by voice options to boost efficiency in food and produce warehouses.

important to challenge your internal teams to work with WMS vendors to identify those activities.”

A “vanilla” WMS should be suitable for about 70 percent of companies, Wulfraat says, but the other 30 percent with more complex operations will demand a more robust system. For instance, it will be important for some companies to know if a WMS vendor can support high-performance, high-transaction volume processing.

“As soon as a company starts to move more than 50,000 order lines a day, they are getting into more of a high-performance requirement,” he says. “The underlying technology that the software has been developed with may or may not support high-volume transaction processing.”

3. Speed kills. No error creates more problems for a WMS implementation than moving too fast. “Rushing the process is a big mistake,” Wulfraat says. “Companies decide they need to have a system installed by a certain date, and that deadline forces them to rush.”

In some cases, an organization’s leadership has committed to spending hundreds of thousands of dollars on a WMS and expects to see results. “They want to get it done and want to see the

Better balanced inventory, more efficient labor allocation, and reduced operational expenses are among the many benefits of implementing the right WMS for your business.



Navigating WMS Vendors

Managing the vendor selection process can be treacherous if it's treated cavalierly, says Marc Wulfraat, president and founder of MWPVL International. Preparing to select a WMS requires an organization to take a fresh look at the way it operates.

"If you go through the process with your needs loosely defined, then you will be in trouble," Wulfraat says. "You have to go through your entire operation from soup to nuts. You have to be on the floor interviewing workers to understand exactly what they do, why they do it, and what they do if things fall apart."

Curt Barry, chairman of F. Curtis Barry & Company, agrees. "It's important to write down your requirements," he says. "Defining their needs is probably the single biggest thing that people don't do well."

Wulfraat advocates for asserting control in the selection process and keeping vendors from focusing on their strengths in lieu of a company's needs. He recommends providing vendors with strict schedules and parameters for their presentations so that they address the issues most relevant to the firm.

Vendors and their capabilities quickly blend together during the screening process. Scorecards and assiduous note-taking become critical. Otherwise, companies risk making a decision with only a vague memory of how the vendors differed.

One simple approach to begin to winnow down possible WMS vendors from the outset is to see who their clients are. Many vendors tend to have clients from certain industries. Stick to those that seem to work with clients in your field already and are likely to have systems that align with the features and functions your work requires, Barry says.

Wulfraat and Barry both say speaking with other clients of a vendor can be helpful. Wulfraat suggests reaching out to a vendor's clients with similar operational needs to see how a particular WMS works for them.

benefits," Barry says. "So an important part of the implementation project is managing expectations."

It should take four to six months to choose a system, and six to 12 months to implement it. Otherwise, an organization is likely to be unprepared for the shift in their operations. Widespread delays, disorganization, and discontent are likely to follow. "Rushed implementations are almost always unmitigated disasters," Wulfraat says.

Even when managed expertly, implementing a new WMS often might not lead to clear-cut benefits at the start. Organizations need to take time to feel out the new system and identify and solve issues that arise. Patience is key. "It takes time to make it a highly productive environment," Barry says.

4. Don't ignore the data. Companies can be complacent about their own responsibilities, such as issues surrounding data, with the introduction of a WMS. No matter how great a WMS, it will not mean much if a company has shortcomings in the way it handles the key sources of data the WMS runs on.

"Mastering data management is extremely important," Bradley says. "What's the quality of that data? Do you have mechanisms in place to make sure data quality continues to improve? The quality of your data will be paramount to the value that you're going to be able to derive from these solutions."

5. The role of cost. Bradley says he is hesitant to work with companies that start with price or return-on-investment as the most important factor in a WMS selection. Both are worth considering, he says, but often are emphasized more than they should be.

"Technology here is not a driver; it's an enabler," Bradley says. "It allows you to do some things better that will help your bottom line but those benefits are indirect rather than direct. With

a WMS, it's not a good idea to focus on the financial metric."

Tunstall agrees that putting too much emphasis on cost "can go badly" for companies wading through the WMS marketplace. "It's quite an isolated thing to look at," he says. Controlling and managing costs is important, but focusing on the strategic business case for a WMS is more important.

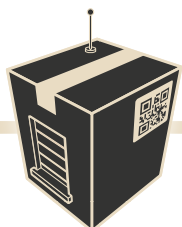
Cost can also be misleading. The upfront price of the WMS is one cost, but the subscription for the system and the servicing of it is another. Initial cost and total cost will be very different. In recent years, the cost barrier has become less formidable for smaller and mid-sized organizations, Barry says, with the rise of cloud-based platforms.

6. Consider the future. Because a WMS typically is a long-term commitment, Bradley warns against falling into the trap of picking one based only on what your company needs at the moment because that moment will swiftly pass.

"Think about the customer you'll be serving five to 10 years from now," Bradley says. "The supply chain that most of us have inherited was the brainchild of those who came before us. We need to look at solutions that not only address our current needs, but also have the ability to allow us to grow and meet those needs that are coming down the road, so that we can capitalize on them."

The idea is not to try to guess where technology is headed but to consider where the needs of your customers and the demands on your business appear destined to go.

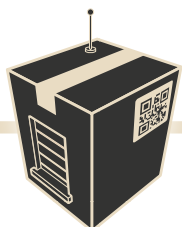
"You have to think about what's on the next horizon even though you're living in this one," Bradley says. "You have to anticipate it. Those organizations that are thinking about the next 10 to 15 years are not going to be caught off guard by change." ■



[WMS BUYER'S GUIDE 2017]

| COMPANY | PRODUCT | DESCRIPTION |
|--|------------------------------------|---|
| 360data Appleton, WI 360data.com 920-830-5000 | Warehouse Management System | Effectively manages inventory from raw materials to components to finished goods. Highly detailed inventory tracking and enhanced visibility deliver precise control across multiple customers, suppliers, and locations. |
| 3PL Central Manhattan Beach, CA 3plcentral.com 888-375-2368 | 3PL Warehouse Manager | Helps 3PL providers manage multiple customers, integrate with EDI and e-commerce platforms, and provide real-time inventory information 24-7, worldwide. |
| Archon Interactive Baltimore, MD archon-interactive.com 603-437-0424 | WaveTrak WMS | Simplifies all warehouse tasks through automated data collection and workflow compliance. Enforces process validation, so workers are unable to continue until current task is completed correctly. Guides workers along an optimized route to save time. |
| Argos Software Fresno, CA argosoftware.com 559-227-1000 | ABECAS Insight WMS | Designed to facilitate tracking product from pre-receipt to shipment. Supports inventory management, location management, replenishment, picking, order management, and physical inventory integrity management. |
| ASC Software Dayton, OH ascsoftware.com 937-429-1428 | ASCTrac WMS | Highly scalable, configurable WMS for distributors, manufacturers, and 3PLs of nearly any size/type. Allows user-defined views/reports and rules sets for items, customers, and vendors. |
| BluJay Solutions Holland, MI blujaysolutions.com 866-584-7280 | Warehouse Management System | A core component of the BluJay Global Trade Network, the WMS provides instant global visibility to all supply chain partners. A networked warehouse management platform drives costs lower and increases throughput while providing increased visibility across the supply chain. |
| Cadre Technologies Denver, CO cadretech.com 866-252-2373 | WMS Software | Warehouse management and supply chain systems company offers several solutions including Cadence WMS, Accuplus WMS, and LogiView, a SaaS application. |
| Camelot 3PL Software Charlotte, NC 3plsoftware.com 866-3PL-SOFT | Excalibur | Offers multi-tenant inventory management, EDI, scanning, 3PL billing, and e-commerce pick and pack fulfillment. |
| Core eBusiness Fairfield, NJ core-warehouse.com 201-836-8900 | CoreWarehouse | A full-featured, highly scalable solution takes advantage of robust feature sets, advanced warehouse planning tools, and warehouse event management/active messaging to reduce inventory and costs. The software is highly configurable, making it easy to use in a wide variety of industries and with a wide range of products. |
| CP Tech Savage, MN distributionplus.co 800-686-6270 | DistributionPlus | Enables real-time inventory information, multiple bins (locations), multiple warehouses, kitting, and crossdocking. Lot and serial tracking enables tracking of items throughout all processes. Reporting provides the ability to turn raw data into meaningful information. |

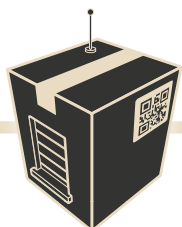
| COMPANY | PRODUCT | DESCRIPTION |
|--|--|--|
| Dassault Systèmes Long Beach, CA apriso.com 562-951-8000 | Apriso Warehouse | Directs people, processes, and equipment by monitoring and reporting all activities from receipt of raw materials through shipment of finished goods. |
| Datex Clearwater, FL datexcorp.com 800-933-2839 | FootPrint WMS | Configurable workflow-based system supports omnichannel and multi-channel order fulfillment; customizable reporting; EDI and integration ready. Optional cartonization, manufacturing, procurement and shipping modules. Ideal for 3PLs. |
| Dematic Reddwerks Austin, TX dematicreddwerks.com 512-597-6810 | Warehouse Execution Software | Facilitates warehouse functions including stocking, packing, palletizing, receiving, wave planning, putaway, and replenishment. |
| Deposco Alpharetta, GA deposco.com 877-770-1110 | Bright Warehouse | Enterprise-grade WMS streamlines inventory/order management to optimize fulfillment within a unified supply chain. Provides retailers, brands, and 3PLs advanced receiving, pick/pack, integration, and cartonization solutions. |
| DXC Technology Tysons, VA dxc.technology 703-876-1000 | DXC Warehouse Management System | A flexible software and services solution, efficiently manages all warehouse technologies from robotics to voice, and physical resources such as pallets in one integrated solution. |
| Ehrhardt + Partner Charlotte, NC epgroupna.com 704-927-1483 | LFS | Provides Tier 1 feature set and customer configurability that enables flexibility, scalability, and independence in a range of warehouse environments, from manual to fully automated. |
| Epicor Software Austin, TX epicor.com 800-999-1809 | Epicor Prophet 21 | Offers open e-commerce platforms to mobile sales and field services, wireless sales counters and warehouses, advanced inventory management, and customer optimization tools. |
| EVS Boulder, CO evssw.com 303-494-1765 | mobe3 | iOS-based WMS with AI delivering an industrial-strength platform that optimizes and improves warehouse workflow. Simulates warehouse operations under multiple scenarios and provides comparative efficiency metrics. |
| FASCOR Cincinnati, OH fascor.com 513-421-1777 | FASCOR WMS | Enables users to gain control of warehousing and distribution systems, eliminate errors, automate inventory and order processing, save valuable resources, and deliver the right product on time, the first time. |
| Foxfire Greenville, SC foxfiresoftware.com 864-868-5243 | Warehouse Management Software | Collects and reports data generated on the production floor and in the distribution center. Supports advanced shipment notification, picking, product preparation, and standard shipping label compliance. |



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| COMPANY | PRODUCT | DESCRIPTION |
|--|---|---|
| Foysonis Cary, NC foysonis.com 800-3805206 | Foysonis WMS | Made for small to mid-sized warehouse operations. Improves efficiency and accuracy of logistics operations while utilizing a SaaS software model. |
| GlobalTech SCM Solutions Cooper City, FL globaltechus.com 954-885-9066 | Depot WMS | Provides end-to-end traceability, from product reception to delivery. Uses RF technology to improve accuracy and operation speed. Users can access warehouse information via Web-view. |
| HAL Systems Roswell, GA halsystems.com 770-927-0700 | Warehouse Management System | Browser-based, scalable software solution for warehouse management using barcodes and RFID tags. Configurable to allow for affordable customer-specific solutions with no custom programming required. |
| HighJump Minneapolis, MN highjump.com 800-328-3271 | Warehouse Management Solution | An affordable, end-to-end supply chain management solution that adapts to any organization's needs, including integration with existing ERP and e-commerce platforms. |
| Infor New York, NY infor.com 800-260-2640 | Infor SCE | A complete supply chain execution solution that combines core advanced warehouse management, labor management, 3PL billing, and transportation planning in a single unified solution. |
| Intelligrated (Honeywell) Mason, OH intelligratedsoftware.com 866-936-7300 | Intelligrated Warehouse Execution System | Manages people, processes, and equipment in real time using a robust suite of fulfillment technologies to address the demands of dynamic omnichannel retail operations. |
| IntelliTrack Sparks, MD intellitrac.net 888-583-3008 | IntelliTrack WMS | Controls cycle counting, kitting, replenishment, space management, and other warehouse operations functions. Integrates with wireless technology. |
| Interlink Technologies Perrysburg, OH thinkinterlink.com 419-893-9011 | Warehouse-LINK | Utilizes barcode and mobile computing technology to support all distribution activities. Provides web-based access with real-time information to increase warehouse efficiency and decrease fulfillment time. |
| International Data Systems Chula Vista, CA internationaldatasystems.com 877-254-4858 | Velocity WMS | Manages receiving, putaway, inventory, order fulfillment, and shipping in real time. Features include user-defined fields, reporting services, charges/calculation billing, EDI integration, mobile computing, and barcode scanning capabilities. |
| Invata Intralogistics Conshohocken, PA invata.com 860-819-3200 | Warehouse Execution Software | Combines purpose-driven design with sophisticated warehouse execution software in one comprehensive solution capable of orchestrating all the simultaneous processing associated with omni-channel fulfillment. |

| COMPANY | PRODUCT | DESCRIPTION |
|---|---------------------------------|---|
| Iptor Roseville, CA iptor.com 916-542-2820 | WMS for Distributors | Features include process control, with value-added activities such as kitting and build-to-order/assembly and advanced functionality such as dock/yard management, cross-docking, multi-level container handling and returns. |
| IQMS Paso Robles, CA iqms.com 866-367-3772 | Enterprise IQ WMS | Controls and tracks all incoming and outgoing inventory movements with ERP and EDI integration, directed picking and putaway, work-order staging, wave planning, palletizing, and shipment planning. |
| JDA Software Scottsdale, AZ jda.com 480-308-3000 | JDA Warehouse Management | Optimizes the movement of inventory - from raw materials to finished goods - and manages materials handling equipment and labor. |
| Knapp Kennesaw, GA knapp.com 678-388-2880 | KiSoft WMS | Suited for conventional paperless systems and automated warehouses. Includes best practice processes, more than 1,700 standard features, and short implementation times. |
| LOG-NET Tinton Falls, NJ LOG-NET.com 732-758-6800 | LOG-NET | Modular supply chain platform that provides WMS, order, freight, transport, and accounting management. Interfaces with carriers, forwarders, ERP, customs, and others. |
| Logimax Jacksonville, FL e-logimax.com 904-263-5625 | WMS Software | A flexible, user-based system that delivers complete inventory control functionality plus integrated RF data collection, report writing, and web portal access. |
| Made4net Hackensack, NJ made4net.us 201-645-4345 | WarehouseExpert | A robust WMS using state-of-the-art technology, and supporting Tier 1 functionality including putaway, pick and pack, replenishments, VAS, billing, and yard and labor management. |
| Magaya Corporation Miami, FL magaya.com 786-845-9150 | Magaya WMS | Controls the movement and storage of merchandise within a warehouse. Receives and releases cargo. Utilizes barcode scanning, mobile WMS, and pick/pack. |
| Manhattan Associates Atlanta, GA manh.com 770-995-7070 | Supply Chain Commerce | Speeds the flow of goods and information to enable flawless execution across inventory, labor, space and compliance. Accommodates omnichannel fulfillment and eliminates costly physical counts. |
| N'ware Technologies Dover, NH lisaproducts.com 603-812-6756 | LISA Distribution WMS | Streamlines the entire supply chain and optimizes warehouse operations from order management to fulfillment and shipping. SAP-certified solution for SAP Business One, available for ByDesign. |



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| COMPANY | PRODUCT | DESCRIPTION |
|---|--|--|
| Next View Software Orange, CA nextviewsoftware.com 714-288-0363 | Next View WMS | Optimizes inventory, space, and labor across the supply chain. Provides complete visibility of raw materials, work in process, and finished goods across manufacturing, distribution, retail, and 3PL facilities. |
| Oracle Redwood Shores, CA oracle.com 800-392-2999 | Oracle WMS | Provides complete warehouse management capabilities including advanced wave planning, crossdocking, and demand-driven replenishment. Can be implemented with Oracle E-Business suite or standalone. |
| PathGuide Technologies Bothell, WA pathguide.com 425-438-2899 | Latitude WMS | Designed to automate core warehouse transactions such as receiving/putaway, paperless multi-zone picking, cycle counting and shipping, and employee performance and warehouse management reporting. |
| proVision WMS Toronto, Ontario provisionwms.com 416-675-3999 | proVision WMS | Automates small/mid-sized warehouses and distribution centers, improving operational efficiencies and inventory accuracy. Supports RF/barcode/voice technologies and optimizes receiving, putaway, picking, staging, and shipping processes. |
| QSSI Somerset, NJ qssi-wms.com 732-805-0400 | PowerHouse WMS | Improves inventory accuracy and customer service levels; reduces order processing time and putaway and picking errors; enhances labor and warehouse resources; and reduces inventory carrying costs and physical inventories. |
| Robocom Farmingdale, NY robocom.com 631-753-2180 | R-WMS | Offers RF, voice, and paper processing options, plus functionality that enables distributors and 3PLs to manage all aspects of their warehouse operations. |
| SAP Newton Square, PA sap.com 800-872-1727 | SAP Extended Warehouse Management | Features analytical tools that enable efficient operations management; supports the integration of multiple technologies - including voice and data capture - as well as control of automated materials handling equipment from a single system. |
| Snapfulfil Broomfield, CO snapfulfil.com 720-372-1250 | Warehouse Management Systems | A class-leading warehouse management system for any size company in a range of industries that can be implemented with no upfront capital investment. |
| Softeon Reston, VA softeon.com 703-793-0005 | Supply Chain Solution Suite | Highly configurable system for inbound receiving, putaway, picking, shipping, loading, and replenishment coordinating with processes such as distributed order management, web fulfillment, and vendor managed inventory. |
| SphereWMS Denver, CO SphereWMS.com 214-382-2680 | SphereWMS | Mid-tier WMS that supports the entire warehouse and inventory management function in an easy-to-use cloud-based interface. Powerful capabilities in fulfillment, integration, scanning, mobility, and reporting/dashboards. |

| COMPANY | PRODUCT | DESCRIPTION |
|--|--|---|
| Suntek Systems Irvine, CA suntekscm.com 949-789-0070 | iFULFILL | Provides streamlined process from fulfill order entry to shipping. Allows users to view inventory status at any time, anywhere. |
| Supply Vision Chicago, IL supply-vision.com 847-388-0065 | Supply Vision WMS | Optimizes small/mid-sized warehouse receiving, putaway, picking and staging. Integrates with SVTMS for easy shipping, or as standalone WMS. Real-time inventory/order details 24-7 via customer portal. |
| Synergy North America Charleston, SC snapfulfil.com 843-577-5007 | Snapfulfil | Automates all key warehouse processes with real-time task management to drive maximum efficiency and productivity. Efficiency improvements up to 30 percent. Implemented within 45 days. |
| SYSPRO Costa Mesa, CA syspro.com 800-369-8649 | ERP Inventory Management Software | Enables effective customer servicing and improved profits by providing traceability, recall management, and stock control across the entire supply chain. |
| TAKE Supply Chain Austin, TX takesupplychain.com 800-324-5143 | GeminiSeries | Integrates with existing Oracle ERPs to provide solutions for receiving, manufacturing, shipping, quality, labeling, and real-time inventory data, giving complete visibility to supply chain functions. |
| TECSYS Montreal, Quebec tecsys.com 800-922-8649 | EliteSeries | Optimizes all warehouse operations, improves performance and profitability. Scalable and adaptable, quick onboarding. User-friendly visual applications, real-time visibility, and analytics with embedded WERC KPIs. |
| TransGroup Global Seattle, WA transgroup.com 800-444-0294 | TransWarehouse | Manages multiple warehouses anywhere globally. View inbound inventory and create outbound shipments by SKU or product number, all with integrated tracking and PODs. |
| Westfalia Technologies York, PA savanna.net 844-391-9822 | Savanna.NET | Optimizes, manages, and controls warehouse operations, saving time and money, while providing the flexibility to select the functions needed to meet specific business needs. |
| WITRON Arlington Heights, IL witron.com 847-385-6000 | WITRON WMS | Allows distribution centers to automatically pick cases, build pallets of mixed SKUs, and stretch wrap and ship orders. Multi-language support for user interfaces allows the same platform to be used internationally. |
| Zethcon Lombard, IL zethcon.com 847-318-0800 | Synapse | Processes multiple warehouses and multiple customers with different processing requirements, using the same database and software. |