Warehouse Management Systems (WMS)
Buyer's Guide

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Tech-Clarity

Selecting the Right WMS

Optimizing Warehouse Operations into the Unforeseeable Future

Today, many enterprises are realizing their business transformation path must be toward greater agility and ability to pivot. Change is constant, whether it's changing up suppliers or customers, moaing into new product lines, regions, or markets, offering new services, or adjusting to unpredictable demand and supply situations. Competitive advantage and strategy are no longer fixed. As a result, companies need to select warehouse management systems (WMS) carefully. What are the primary considerations, and how can choosing the right WMS impact a company's ability to succeed in their business and digital transformations today and into the future?

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Introducing the Buyer's Guide

Perfect Orders in a Changing World

Every industry has been suffering from disruptions and radical changes in supply, demand, and business realities. As a result, supply chain responsiveness for perfect orders is often top of mind, and enterprise warehouse management systems (WMS) are foundational to achieving that. Warehouse performance is crucial, not only for wholesale and distribution enterprises but also for retailers, e-tailers, producers, and manufacturers.

Structure of the Guide

This buyer's guide describes the needs of larger enterprises to transform and continue to improve their business. It then lays out a set of critical considerations for selecting a WMS that will support the strategy now and into the future.
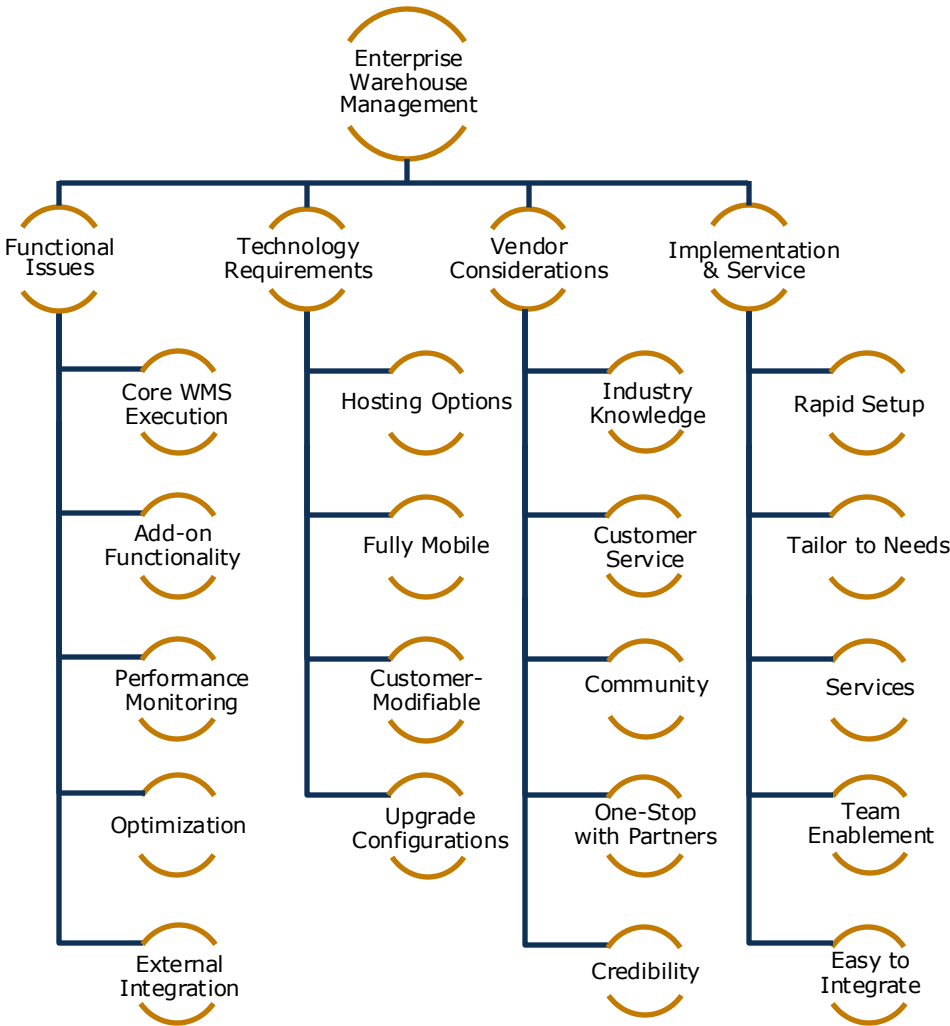
Functionality is just the beginning of the considerations. Technology is also crucial and needs to be future-ready as the digital transformation continues. Even if the software is good, the solution provider partner or vendor plays many vital roles. To gain business value with an excellent total cost of ownership, implementation, and the ongoing relationship matter also.

" We were looking for an impeccable partnership, a company that would put us, the client, first. We found that, and they are also proactive in identifying potential areas that we may have overlooked. I can count on my WMS provider to be my second set of eyes."

Julian VanErlach
SVP, Global Supply Chain, Customer Service, Global Sourcing, Fulfillment and Logistics
FabFitFun

ENTERPRISE WAREHOUSE MANAGEMENT SYSTEM EVALUATION CRITERIA

Enterprise Warehouse Management
- Functional Issues
  - Core WMS Execution
  - Add-on Functionality
  - Performance Monitoring
  - Optimization
  - External Integration
- Technology Requirements
  - Hosting Options
  - Fully Mobile
  - Customer-Modifiable
  - Upgrade Configurations
- Vendor Considerations
  - Industry Knowledge
  - Customer Service
  - Community
  - One-Stop with Partners
  - Credibility
- Implementation & Service
  - Rapid Setup
  - Tailor to Needs
  - Services
  - Team Enablement
  - Easy to Integrate

Flexible Flows to Meet Enterprise Needs

Ready and Agile

Everyone has learned from the pandemic that things can change rapidly, so agility is essential to competitiveness. As demand fluctuated wildly and the workforce came and went, supply shortages have also plagued nearly every industry. Handling this new level of disruptions and surprises has complicated the job of keeping materials moving through warehouses and distribution centers (DCs).

" Parts Town has grown 20% year-over-year since 2004. By February 2015, we selected a warehouse management solution that would grow with us. After using it for a while, we innovated to make it better and faster."

Kenny William
Senior Director
Parts Town

Reinventing the Business

Yet, it's not just the operations that need to change with the times. Now companies understand the urgency to transform or be disrupted. So many companies are reinventing their business, adopting new business models. Some examples are going multi-channel or pure eCommerce, broadening offerings, and ensuring swift deliveries. As a result, the operation is facing constant change.

Innovation in the Warehouse

To succeed – or even to survive – companies must continuously enhance processes in their warehouses and DCs. That means they need to create new, streamlined flows for the materials, the packaging, and the information in the facility. As unique needs arise, the warehouse must learn and adapt quickly. In short, best practice changes, and so must the system. Ideally, you can modify the system at every level, not just turn functionality on or off.

Enterprise-Capable

Overcoming Labor Dependency

Most enterprises have been facing the challenge of worker shortages. Automation is one obvious response. In fast-moving warehouse environments, an array of modern automation can help even less experienced people be efficient and effective. Yet, in many cases, the mix of stock-keeping units (SKUs) through the warehouse has also increased, so the WMS must run at very high performance even when the product flow and processes change quickly.

Holistic

A warehouse or DC is all about moving and storing materials as efficiently, safely, and accurately as possible. This demands the WMS to deliver a detailed understanding of where everything is at every moment and who last touched it. Ideally, it helps ensure that associates and automated equipment perform every step of the process correctly.

> " We chose the vendor who listened to our business, rather than trying to tell us that we had to conform to the software to be 'world-class'. For example, we said, 'What do we do about backorders?' Other vendors said, 'You shouldn't have them.' Our vendor said, 'Let's understand your business and plans for the future so we can succeed today and scale with you in the future.'"

Kenny William
Senior Director
Parts Town

Enterprise-IT Capable

Integration-ready

Companies are embarking on digital transformation to ensure data is available as needed throughout the enterprise and supply chain. So, today's WMS needs open APIs to integrate with many other systems.

- Other warehouse software, such as modeling and simulation, warehouse control, voice, and yard management
- Enterprise systems such as electronic data interchange (EDI), enterprise resources planning (ERP), and customer relationship management (CRM)
- Customer and supplier systems to improve supply chain visibility and responsiveness
- IoT and sensors for real-time updates to materials movement and order execution
- A wide array of equipment and automation from conveyors to voice control, autonomous mobile robots (AMR), cobots, automated guided or intelligent vehicles (AGVs/AIVs), augmented and virtual reality (AR/VR), and automated storage and retrieval (AS/RS).

Modification

Seek out a WMS with comprehensive yet selectable and fully customer-configurable capabilities. The system must deliver precisely the information you need to each person or piece of equipment exactly when and where they need it – nothing less and nothing more. Yet every facility has specific needs that may change. Thus, a system that the internal IT team can tailor with SQL or another common approach is often ideal. This is more than flipping switches on or off; you may need to modify the software at every level of granularity and won't want to pay external companies for services every time.

" None of the folks on my team were computer programmers. We were all operations folks who evolved into this role. With process understanding and technical inclination, you can manage and run your system as superuser and developer if you learn SQL and the Warehouse Advantage platform. We don't need a layer of business analysts."

Kenny William
Senior Director
Parts Town

Functionality

Core WMS

The core WMS functionality for executing orders in the warehouse is essential. This includes inventory movement and visibility in manual or automated storage plus continuous bar code scanning or RFID. A large enterprise must also support many different products and process flows. Remember, high throughput rates demand fast processing and streamlined workflows.

Extensions

Any larger company may need some functions beyond the basics in specific warehouses. So, select a vendor that has add-on functionality to deliver everything you need.
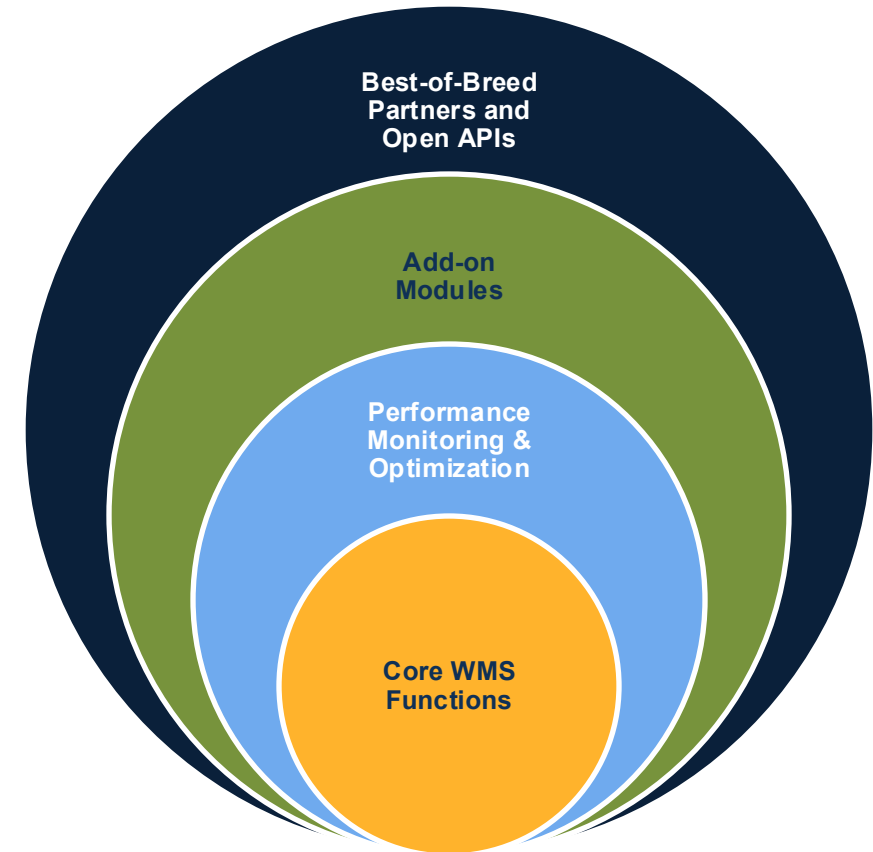
Common examples include:

- Quality inspection
- Document imaging with optical character recognition (OCR)
- Multi-carrier shipping
- Configurable appointment scheduling
- Advance shipment notices (ASN)
- Cloud-ready label printing
- Full WMS capabilities on ruggedized handhelds
- In-warehouse light production

Having some of this in the core WMS may be a burden for smaller facilities. Add-on modules are beneficial for keeping each facility happy.

Integrated Best-of-Breed

Seek out a highly rated WMS company, and ideally, one that also has best-of-breed offerings such as order management (OMS\, transportation (TMS), planning, or simulation. Many major supply chain software providers have acquired numerous companies. They may push their own solutions, even if they are not well suited to your environment. An integrated suite can deliver easy, effective data flows. Whether a partner or from the same vendor as the WMS, be sure you can integrate your supply chain software for operational support.

WMS FUNCTIONALITY IN SELECTABLE LAYERS

Best-of-Breed Partners and Open APIs

Add-on Modules

Performance Monitoring & Optimization

Core WMS Functions

> " Our WMS software has a no-limit technology for the kind of creativity we can express in driving efficiency and clientele. We've been able to drive tens of millions of cost reduction and quality improvements through the combination of what we enjoy doing and what the WMS enables us to do. "
>
> **Julian VanErlach**
> SVP, Customer Service, Global Sourcing, Fulfillment and Logistics
> **FabFitFun**

Visibility and Optimization

Performance Monitoring

Disciplined metrics are the foundations of most enterprises' ability to stay competitive. Look for a WMS with robust performance reporting. Common key performance indicators (KPIs) include order lead time, perfect orders, carrying costs, turnover, inventory-to-sales, inventory accuracy, and shrinkage.

Yet, many enterprises have company-standard KPIs and formulas for calculating them. So, this functionality must be extensible to allow monitoring and reporting the way your company expects it. Ideally, this also includes pivot-style analytics to drill down into the data and review performance by customers, suppliers, products, facilities, or areas.
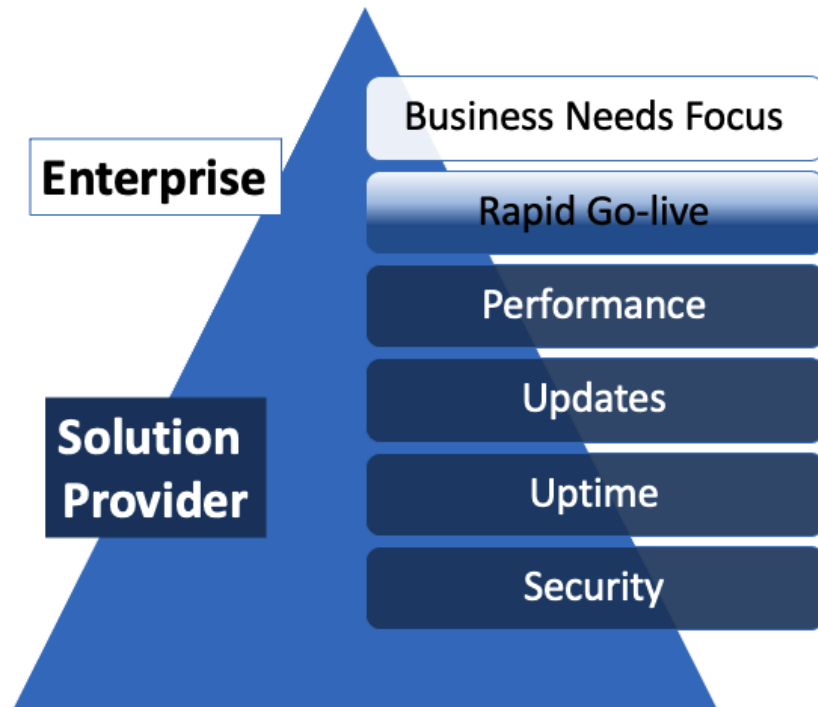
Optimization

Seek to go beyond execution and reporting to optimize the warehouse or DC. This points to a WMS with simulation and predictive analytics. These advanced capabilities can model the facility to promote a deeper understanding of the impact of possible changes. This is a strong foundation for continuous improvement. Optimization also helps improve agility to make sure a response to changing conditions is still productive, safe, and profitable.

External Integration

Yet, no enterprise controls everything. Achieving greater agility also requires a WMS with supplier and customer integration. For everyone to respond effectively to upstream or downstream events, data must flow not only within the warehouse and enterprise but also across trading partners. The key is for the WMS to have this native functionality so that there is a clearly delimited data set and pipeline for each partner to see only what they need and are authorized to use.

ADVANTAGES OF CLOUD HOSTING

Enterprise

Solution Provider

- Business Needs Focus
- Rapid Go-live
- Performance
- Updates
- Uptime
- Security

" The customizations we made in 2015 are still with us today and will be even after we take the next upgrade. For me, that's a huge benefit. Upgrades should not pose a risk to the business. If you're not convinced, you have not talked to the right company yet."

Kenny William
Senior Director
Parts Town

Software Technology

Hosting Options
Cloud hosting offers many advantages. Most enterprises need a WMS that is both cloud-capable and strong on-premise to cater to every facility. No matter the enterprise strategy for hosting, sometimes different facilities in the same company need different hosting approaches. Acquired facilities often can get on a cloud system rapidly to get data flowing. Some other locations may have weak telecommunications infrastructure and prefer on-premise.

Fully Mobile
While nearly every WMS has some capability on mobile devices, today's enterprise needs all WMS functionality enabled on handhelds, tablets, or mobile phones. Personnel in the warehouse move quite a bit. Those in offices or working remotely can also be more

effective if they can see the entire system from wherever they are.

Upgrades
An enterprise should strive to keep up with the latest software versions to compete. However, customized systems typically require vast amounts of time and effort to ensure all capabilities transfer into the new version. It is essential to ensure software upgrades pull along site-specific workflows, user interfaces (UIs), reports, and KPIs. To ensure this ongoing upgrade path is clear and rapid, seek a user-configured WMS, not customized by external staff.

Vendor Requirements

Partnership Approach

Seek a WMS provider that will partner with your enterprise over the long haul. This means they:

- Know your industry and act as a trusted advisor
- Offer strong customer references
- Have been serving the market for some time
- Are responsive, with excellent customer service and support
- Are still investing and innovating, with cloud offerings; look for continuous upgrades

" There are people behind the software – sales, technical, consultants. Get to know whether they believe in the product and the story they are telling you. Be sure you trust and like them since you'll know them better than your closest friends. Look for people with long tenure working with a product they love."

Kenny William
Senior Director
Parts Town

One-stop-shop

Each enterprise is unique. That is what delivers a competitive advantage. There is no single approach to becoming "world-class." The vendor should be dedicated to matching solutions to each customer's business. One-stop does not mean the software is monolithic. As mentioned earlier, add-ons are valuable, as are additional integrated applications. These can be some from the solution provider or best-of-breed partners. If you have systems you are already using successfully, your WMS provider must be ready to integrate to them and ensure that cross-application data flows are ready to use.

Customer Community

One sign of a great solution provider is a healthy and vibrant customer community. Learn about user groups, customer forums, and other ways to meet the solution provider's other customers. You will learn from each other and gain great insights into the system and new ideas to optimize your operation.

Implementation and Service Criteria

Speedy Set-up

With change occurring so rapidly, no enterprise can afford to select a WMS and wait for a year or even a quarter to implement and use it. With the type of system and solution provider we've outlined above, you can look for rapid implementation. In some cases, cloud WMS can be implemented in 48 hours. Open APIs speed integration to other systems for enterprise-wide and warehouse-wide information flows from the start. This enables quick success and visible results to keep momentum strong.

Easy Buy-in

Another key to fast time to value is selecting a WMS designed for the customer to tailor to their business. The ability to tailor the system to fit the operation avoids the factor that most often thwarts successful implementation projects: resistance to change. By not expecting you to adapt to their system but allowing you to adjust the software to your business, a solution provider shows respect for each customer's uniqueness.

Support and Self-service

Seek out autonomy but also a safety net. Supply chain software companies need to offer customer support. This should include not only consulting and integration services but, critically, training and enablement for the in-house team. These days, you might also look for self-service support from the cloud. Examples include:

• Training videos
• Software updates
• Content enhancements

> " Seek out a WMS provider that will assist not only in implementation, but also in many phases. We had exceptional experiences both initially and during subsequent major change cycles with remote and onsite support from our WMS provider's team."
>
> **Nathan Goodrich**
> Senior Director, Inventory and Logistics
> **FabFitFun**

Optimize and Reoptimize

Get WMS that will Fit

In today's challenging supply chain environment, every company needs all the advantages they can get. Enterprises compete on best practices they have discovered. Choose a WMS designed to allow your team to mold the software to those, and keep up as you learn, grow, and change.

Optimize the Operation

Today's enterprise needs more from WMS than repeatedly executing the same flows. The goal is to improve what you are doing, even as things change. The opportunity to optimize flows with simulation for the warehouse is enormous. Predictive analytics are not just a shiny buzzword but are available today in some WMS.

Future-ready

Looking ahead is the core to choosing the right WMS. Companies must prepare for what's next, whether it's automating more, hiring new people, serving new markets, or just knowing something unforeseen will happen. Ensure your WMS is ready.

Total Cost of Ownership

Look for WMS with a good fit, self-configuration, robust integration, optimization, and a reliable software partner. All of the above adds up to a lower total cost of ownership (TCO) for an enterprise. It also points to the potential for better performance for the warehouse, the enterprise, and the entire supply chain not only initially, but into the unforeseeable future.

" The ease of customization in the WMS we selected has allowed us to enable shipping sortation, cartonization, custom SKU logic, and order waving in a way that has enabled our business to create a lot of value. With all our customization we are still able to go forward with the latest version of the software."

Nathan Goodrich
Senior Director, Inventory and Logistics
FabFitFun

Acknowledgements

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Tech-Clarity is an independent research firm dedicated to making the business value of technology clear. We analyze how companies improve innovation, product development, design, engineering, manufacturing, supply chain, and service performance through the use of digital transformation, best practices, software technology, industrial automation, and IT services.

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