



Best Functionality in WMS for Multi-Temperature Warehousing

Finding the right technology for your warehouse may seem daunting.

Food and beverage inventory handling and storage operations are often more complicated for cold storage warehouse operators. Using modern WMS technology designed for cold storage warehouses provides distinct advantages. A WMS that has the flexibility and built-in functionality for food and beverage products can help increase user adoption rates, streamline operations, help keep costs under control and boost workforce productivity.

Many multi-temperature warehouse are using older WMS technology that were not designed specifically for temperature-controlled environments.



Challenges of using outdated warehouse management technology:

- Difficult, costly and time consuming to integrate with modern technologies
- Can be challenging to obtain product support and upgrades
- If not regularly upgraded, may expose the warehouse operation to greater risk by cyber criminals, putting both the operation and the brands it serves in jeopardy
- May be more costly to maintain and find the necessary IT resources
- System may be missing vital functionality, leading to manual workarounds and errors
- May not be as flexible and adaptable to changing customer needs and market dynamics

For a 3PL:

- Inability to bill for value-added services performed and difficult to smoothly adjust for unusual billing strategies required by customers
- May involve more customer service cost if not using a web portal so that customers can have access to the WMS 24/7

Look for a warehouse management system that leverages the latest, most flexible technology and works with mobile devices so that real time data can be captured and used. [Using a WMS built on a low code application platform](#) will ensure that you have the most adaptable system, saving you time and money.



Here are the most essential features for a multi-temperature WMS that will be used to handle and store food and beverage products:

1 Temperature and Humidity Monitoring

- Real time monitoring and tracking of temperature and humidity within different warehouse zone locations
- Capture and record temperatures at any stage of the order, shipment, or container
- Send notifications and alerts to warehouse staff whenever temperature and/or humidity deviates from the established range to prevent product damage, spoilage, and food safety issues
- Store inventory in primary or secondary locations and to restrict inventory to specific temperature zones

2 Regulatory Compliance

- Provide real time data from warehouse operations to help provide documentation on regulatory compliance issues
- Include survey functionality that can be used as checklists for operational processes such as inspections and equipment as well as health and safety issues
- Ensure proper recordkeeping of accurate and detailed information such as that of sanitation, product traceability, and environmental conditions. Store inspections, certificates, images, video and other forms of documentation within the warehouse management system
- Facilitate audits and inspections



3 Inventory Management and Inventory Control

- Enable efficient use of space within the warehouse, balancing storage density with easy access to products that may have shorter shelf lives or which are highly seasonal
- Identify, monitor, and track specialized storage areas such as chilled, freezer, etc.
- Provide real time visibility of inventory locations, movements, and stock levels
- Provide tracking by UPC, SKU, lot, batch, vat, ingredient, and customer order
- Handle ASN, bulk and blind receiving
- Track country of origin on shipment
- Support just-in-time inventory
- Handle a wide variety of products, each with differing handling and storage requirements
- Handle goods in different packaging formats, even those prone to damage that require specialized handling by warehouse workers
- Handle catch/variable weight products
- Provide backward lot traceability
- Track shelf life and provide multiple allocation strategies to prevent expired products from being sold or consumed
- Segment goods with allergens and enforce appropriate handling, storage, and picking procedures. Track activities related to goods with allergens to prevent cross-contamination and facilitate product recalls
- Ensure that WMS can handle complexity of varying product lifespans, precise tracking, differing storage requirements of all goods in the warehouse
- Automate replenishment based on real time data to ensure that stock levels are maintained in accordance with demand forecasts and product shelf life
- Support crossdocking and inventory flow management, especially critical for goods with very short shelf lives



4 Traceability

- Provide end-to-end traceability to ensure accurate tracking of each product's journey from receipt to dispatch
- Include comprehensive immutable audit trail of all activity within the warehouse

5 Regulatory Compliance

- Inspections
- Product holds
- Quarantines

6 Labor Management

- Task management
- Task interleaving
- Task assignment
- Monitor, track, and report on individual and team performance





7 Reports and Dashboards

- Create and adapt reports and dashboards
- Automate delivery of reports and dashboards
- Subscription



8 Integrations

- EDI and ASN
- Temperature monitoring devices
- IoT, AI and machine learning systems
- Robotics, autonomous solutions
- Material handling solutions
- Enterprise software such as ERP, TMS and more
- Marketplaces and web stores
- Shipping carriers and platforms



The Challenges of Integrating Older WMS

Many warehouses are using legacy WMS that were built on outdated technologies. Because of this, the legacy systems may not be compatible with modern software and systems. Older systems often lack robust Application Programming Interface (API) support, and this may make it challenging to integrate with other solutions.

If your legacy WMS has a monolithic architecture, it is likely to be inflexible, and may be hard to modify for the purpose of connecting it to other solutions. This may result in the need to do significant coding, which is typically more costly and time consuming.

Another challenge with legacy WMS is that the data tends to be siloed and this makes it difficult to share seamlessly between other systems. Manual data extraction and input may be needed, resulting in errors and inefficiencies. Maintaining these integrations can also be costly and require additional development efforts.

As the legacy systems age, some vendors are no longer actively supporting them. This requires finding developers who have the specialized knowledge and expertise to work on these outdated technologies.



Using Mobile Technology in the Warehouse

Using mobile technology, enables the capture of real time information for reports, dashboards, compliance documentation and informed decision-making.

Enable mobile devices to receive real time alerts for expiration dates, stock levels and environmental conditions to ensure that immediate action can be taken when needed.

Because of the harsh conditions in cold storage warehouses, it is vital that the user interface of the WMS especially on the mobile devices, is straightforward, easy-to-read and use and works well even when using large gloves. Wearable devices are also becoming more popular as are voice enabled devices. Today, new technology helps warehouse workers limit their exposure to harsh conditions and enables them to perform vital tasks and record the information needed for solid decision making.





The Flexibility

Whether your cold storage warehouse has foodservice, meal kit, or e-commerce clients, you need a warehouse management system that is flexible enough to make changes when needed. If your WMS is not readily adaptable, you will likely need to rely on the software vendor to make changes and this can be costly, time consuming, and somewhat frustrating.

One way around this, is to consider replacing your legacy WMS with one built on a low code application platform or LCAP.

How using a LCAP-based warehouse management system can benefit your cold storage warehouse:

- Seamless integration to real time temperature monitoring and alerts as well as to modern technologies including robotics, AGVs, AI, and machine learning
- Customizable inventory management solutions
- Automated processes such as receiving, picking, packing, and shipping helps to reduce manual errors and enhance efficiency
- Automate workflows to assign and manage tasks

Conclusion

Many WMS vendors claim to have functionality for specific industry verticals, but in truth, do not.

Knowing what to look for and using this checklist can help you make sure you are investing your technology dollars wisely.

Spending money on newer, modern technology is a safe bet. Technology continues to evolve and change. Remember: older technology tends to be less expensive, however it will need to be replaced sooner, and may not work well for your business in terms of integrations, upgrades and having the flexibility to meet changing needs.

Buying technology always involves keeping an eye on the future, not just what your company needs today.

Investing in newer technology will help your business adapt, thrive and grow, not get stuck in the past.

For help and learning resources on buying a new warehouse management system, [contact Datex today.](#)



The logo for datex, featuring the word "datex" in a bold, lowercase, sans-serif font. The background of the entire page is a solid purple color with a repeating geometric pattern of white lines forming a series of interlocking chevrons or a honeycomb-like structure.

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