



## Difference between Warehouse Management System (WMS) and Enterprise Resource Planning (ERP) System

## Introduction

The terms Enterprise Resource Planning (ERP) and Warehouse Management Systems (WMS) are often misleading as they are used interchangeably due to lack of knowledge or ignorance. Hence people get confused about the application of ERP & WMS. At times, manufacturers are unclear about their benefits and therefore the decision of selecting the more suitable one for their industry becomes difficult. This white paper aims to help manufacturers know and understand the true meaning of both the technological solutions available in the market. It also deals with their points of difference based on various aspects and how both the solutions help in varied business processes differently. This white paper will also provide you with insights that will help you make wise decisions for your organization faster.

## What is WMS?

A typical manufacturing warehouse has to encounter numerous operations like receiving, shipment, internal movements, LPN/Pallet management and shop floor transactions on a day-to-day basis. These operations may sound simple, but they actually involve a lot of entries, record management, and transaction counters. Hence WMS, a specially designed solution, is created. It caters to the need of warehouse operations dedicatedly. WMS software are known to support warehouse or distribution centres for best-in-class inventory management, making routine functions of a warehouse easy and smooth. WMS assists in all the inventory functions like daily planning, organizing, staffing, directing, and controlling the utilization of available resources, movement and storage of materials into, within, and out of a warehouse to make all of this a cake walk for the warehouse supervisors. Not only this, but WMS also supports the warehouse staff in tracking the material movement from warehouse to production floor plus the storage of finished goods in and around the warehouse or waiting area.

A WMS system, equipped with advanced features like business intelligence, also analyzes the data of the materials stored, like- status, lot, date of arrival, dimensions, location, area, region, owner and other inventory details. Another striking feature of WMS is that it records warehouse transactions in real time, using a mobile/handheld device and barcode scanner. This saves one from going back to desk and make an entry for every movement and every transaction which isn't always possible or feasible for a warehouse supervisor, especially in the case when warehouse and head office are differently located. Therefore, with the help of mobile devices, manufacturers can record the warehouse transactions even at remotest corner of the company that too without hundreds of keystrokes.

## The WMS Functional Area

An efficient WMS executes following functions successfully:

- Inventory location assignments, which account for assigning respective storage location to the incoming goods
- Cross-docking management
- Put-away, picking, and allocation optimization
- Order picking & fulfillment management
- Warehouse capacity management by ordering just enough for the capacity of the warehouse
- Radio Frequency (RF) capability for data management
- ABC classification of raw material or finished goods on the basis of shelf life, expiry date or quality grade
- Optimum labor utilization by assigning timely labor duties

We suggest an additional reading on [reasons which make WMS necessary for inventory management](#).

## What is an ERP?

ERP is a tool that automates and integrates core business processes such as order taking, procuring raw material, scheduling operations, managing production floor, keeping inventory records and financial data. In order to survive in the current scenario of fierce competition, you must practice instant innovation, fast decision making, accessing real-time visibility, superior inventory management, up-to-date finance, costing and traceability. Need of the hour is to capitalize this fast changing economic tide by managing all your critical resources, reducing cost of production, streamlining processes, improving customer responsiveness, and exceeding a variety of other industry challenges. ERP is instrumental in bringing transformation in any organization by:

- Channelizing critical business data and making it available for defined roles at the right time
- Ensuring data security and providing access only to the authorized persons
- Translating your data into decision-making information
- Assisting in defining various business processes and designing the plan of execution
- Ensuring the regulatory compliance and standard quality maintenance
- Enabling you to plan your work-load based on existing orders and forecasts
- Balancing the supply chain ups and downs
- Providing you with the tools to attain high-level of customer satisfaction



## ERP's Functional Area

As compared to WMS, ERP's functional scope is wide. A [full-feature functional ERP](#) handles everything; right from Product Development, Formulation, Planning, and Procurement to Production, Quality, Compliance, Sales and Finances. Let's have a look at the scope of its application:



### Formulation:

A comprehensive Formula Management system includes effective version controlling, automatic formula sizing, multiple units of weight and volume for ingredients, instant roll-back capabilities, and anytime, anywhere material substitution.



### R&D:

Brings pace, power, dependability and ability to innovate faster and cheaper. This feature has the desired flexibility to meet your specific needs of experimentation. It also cuts down man-hours spent on mind-numbing, error-prone manual calculations and fetches useful information quickly and accurately.



### MPS/MRP:

Master Production Scheduling (MPS) focuses on planning part of the whole production process. It is accountable for the forecast, production plan, and other significant considerations such as backlog, availability of material, and availability of capacity. Whereas, Material Requirement Planning (MRP) uses and processes data from Bills of Material (BOM), inventory and MPS to calculate the future requirements for materials.



### Quality Control:

This feature ensures tight control over the movement of material as per cGMP norms. Well defined QC tests are applicable at different phases of production. Bi-directional traceability of materials ensures smooth audits and easy recalls.



### Purchase:

This module helps you to make the procurement efficient and quick from ordering to receipt and invoicing. It ensures material availability and increased planning stability. ERP's purchase module efficiently evaluates the best vendor based on one or more criteria like delivery, quality, lead time and pricing. It also supports vendor contracts, landed costs, direct delivery orders, as well as returns of rejected orders.



### Sales:

It manages all sales operations including sales returns, sales orders processing from order entry to printing, and posting work orders. From quotation entry to invoice creation, automatically categorizing customers as active/inactive/hold, to applying discounts & taxes based on customer details in the database, it keeps track of almost everything. ERP's sales module facilitates quick order creation, instant picking, packing and shipment, contract definition, pricing and discounts that too customer-class wise, targeting superior customer service and simpler order-to-cash cycle. Sales module keeps track of credit limit for each customer and restricts dispatching if the limit exceeds.



### Production:

Production module virtually consolidates batch information to boost efficiency and reduces gap between planned and actual production operations. Its unique functionalities keep you a step ahead in your manufacturing capabilities and processes.

**Finance & Accounting:** An ERP helps you derive a cost that is beneficial for the company and acceptable to the customer. It has advanced tools for granular drill down, to closely monitor and control your costs. So, say goodbye to data mismatch and audit nightmares as you get real-time financial insights and analysis reports.

# WMS Vs ERP

While WMS is a standalone system that needs support from other additional software for the all-round performance delivery of a manufacturing unit, an ERP is an all-in-one solution that targets smoother operational flow across the organization from start to finish. In layman's language, both WMS and ERP are entirely two different products. But a WMS is a part of many of the ERPs. They have difference in point of application, feature set and derived benefits. Further elaborating the points of difference below:

## 1. Feature Set

### For WMS

1. End-to-end support to entire warehouse processes so that you know about every stock item received, picked, packed, and shipped
2. Entire warehouse management right from gate-in to gate-out of your warehouse
3. Takes care of inbound transactions such as:
  - Goods Receipt PO
  - Sales Return
4. Tracks all the outbound transactions like:
  - Delivery
  - Purchase Return
  - Pick List
5. Efficiently monitors all the internal material movements such as:
  - Warehouse Transfers
  - Bin Transfer
  - LPN Maintenance
  - Attach LPN to SO
  - Split LPN
  - LPN Inquiry
6. Keeps record of adjustments & counting, for example:
  - Goods Issue
  - Goods Receipt
  - Physical Count
  - Spot Count
7. Scrutinizes production floor activities like:
  - Raw Material Issue
  - FG Receipt
  - Labor Time Entry
  - Inspection Transactions
  - Transaction Checklist
8. Generates labels & reports in suitable format for:
  - Item Label
  - Bin Label
  - LPN Label
  - LPN Packing Slip
  - LPN Inquiry
  - Stock Inquiry

## For ERP

### 1. Integration

ERP is a platform that integrates various landscapes of manufacturing such as planning, purchase, sales, engineering, production, finance, accounting, and delivery along with other business functions. As standalone departments cannot survive individually due to silos of data exchange amongst them, ERP establishes a common database and regulates the flow of information available to all, allowing them to be at the same page at any given point of time.

### 2. Cloud

The Cloud brings technology without the hardware investment. With Cloud, you can avail the ERP benefits via a facility called SaaS i.e. Software as a Service. Many small and medium-sized enterprises are opting for it due to ease of its operation and maintenance; all at an affordable price. Running [ERP on Cloud](#) offers flexibility and dynamism with simply having an internet connection and unique credentials to leverage the ERP modules.

### 3. Project management

ERP caters to the requirements of a project from initiation to completion. From job assignment to managing production line and delivery, everything is facilitated by an ERP. Material, labour, and production costs are regulated optimally to ensure the profitability of any project.

### 4. Process controls

Whether discrete or process manufacturing, ERP is designed to control the process flow of both the methods. ERP controls functions like motor timing, process-cell assignment, assembling belt speed setting, power consumed, and labour required for the accurate usage of resources and business growth.

### 5. Business Intelligence (BI)

ERPs have their own brains to fetch information, conduct data analysis and perform root cause analysis for corrective action plans. There is a record keeping of all the operations performed, as the system locates the deviation from prescribed road map and is prompted to the user in most simple way through the use of graphs, pie-chart, etc. Today's BI tools allow a user to operate on dashboards for improved visibility of business proceedings in real time and can make adjustments immediately to keep the business on course.

### 6. Engineering

Engineering involves tools for a complete product lifecycle management. It also works with the marketing and distribution team to ensure that order meets the delivery deadline and are of value to the customer's money. ERP helps manage BOM and routings for same finished goods with different assembling. It also maintains the data structures that enable consistent production to meet the quality standard products.

### 7. Core Manufacturing

ERP's manufacturing feature put all the industrial tools to use and know in advance what work needs to be done next at any workstation. ERP records time against jobs and projects and tracks percentage completion for a periodic update in real time. It helps in tracking and tracing the order for transparency and improved customer experience.

## 2. Point Of Application

### For WMS

WMS is applicable in day-to-day operations of a warehouse. It offers centralized inventory management such as tracking inventory levels and stock locations. WMS systems may be standalone applications or part of an ERP system.

### For ERP

Unlike WMS, ERP targets the entire organization by integrating all facets of operations including product planning, development, manufacturing, sales and marketing, etc. in a single database, application and user interface.

## 3. Flexibility

### For WMS

As WMS is only for the warehouse, it is found to be more flexible in terms of real-time inventory movements, immediate data entry, and last minute stock update. Quickly responds to a change.

### For ERP

Whereas, ERPs are best suited for linear environments relying on logic-based transactions with chronological manufacturing operations.



## Benefits

### For WMS

A WMS-enabled manufacturing unit experiences following benefits:

1. Improved inventory precision
2. Increased warehouse productivity
3. Processes orders faster
4. Improved picking & shipping accuracy
5. Order specific put away and picking
6. More order accuracy
7. Increased volume of outbound shipments; double your orders per day
8. Improved employee productivity and low personnel costs low
9. Low TCO compared to alternatives

### For ERP

Benefits of an ERP are countless. Some of the major ones are listed below:

1. Streamlined critical business operations
2. Improved productivity
3. Increased operational efficiencies
4. Decreased cost of manufacturing
5. Enhanced data security and improved regulatory compliance
6. Improved customer experience
7. Integrated information
8. Advanced forecasting and reporting
9. Better interdepartmental collaboration
10. Stand ahead of market competition
11. Superior scalability
12. Reduced wastage and cost savings

## Conclusion

Though an ERP is a complete solution, at times it fails to provide advanced inventory management capabilities required by businesses. Even some older ERP packages do not provide the functions specific to WMS and hence the organizations need a WMS system to improve their warehouse transactions. On the other hand, WMS are often standalone systems, requiring additional modules like accounting, HR management, production and Customer Relationship Management (CRM) in order to function smoothly. Although WMS can be called as a subset of ERP, but you can still not work with just one, as both ERP and WMS complement each other in working.

For more assistance and free demo on ERP, please contact [sales@batchmaster.com](mailto:sales@batchmaster.com)

## Who We Are:

BatchMaster Software is one of the market leaders in offering enterprise software solutions for the process manufacturing industries. With an in-depth industry analysis, we clearly understand the unique industry challenges and help them address those challenges through our industry-specific ERP solution.



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