





Warehouse Management Systems: They Are Not Just For Distribution Anymore

Today's modern supply chain typically focuses the application of Warehouse Management Systems (WMS) technology on the automation of the outbound finished goods process. Industry leaders, however, have realized significant returns by applying that same WMS technology to more efficiently and accurately manage the inbound flow of raw materials through the manufacturing process, a.k.a. Production Logistics.

The supply chain is, after all, often defined as the flow of resources into and out of the enterprise's collective operations. Logistics is the part of the supply chain process that plans, implements, and controls the flow and storage of goods, services, and related information from a point of origin to a point of consumption in order to meet customer demand. Production Logistics manages the progressive stages of track and trace, beginning with the inbound transportation of raw materials from suppliers to a processing facility through to the delivery and consumption of that material as it is transformed into finished goods.



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Correct Application of Information Technology

Logistics Information Technology (IT) applications can be broken down fundamentally by their operational orientation and the role they play in the supply chain process. A functional gap exists in the typical execution software space between the production planning and control system levels. This gap results from the limited functional capabilities of ERP, MRP, and MES applications to control the resources required to move raw material from storage to consumption. The question is can WMS move over and operate in a manufacturing environment? The answer is Yes!

When considering whether WMS is the appropriate production logistics technology, it is important to consider what primary business problem an application was originally designed to solve. Planning solutions such as ERP were originally designed as financial or other administrative systems, operate in a batch transaction mode and are not well suited for the real-time world of logistics. Execution solutions, such as WMS, are task oriented and execute based upon real-time conditions, constraints and priorities of the business.







Companies have taken different approaches to gain better control and visibility of the flow of raw materials driven mainly by the various levels of complexity found within their manufacturing operations. No matter what solution is utilized, as the operating environment becomes more complex, the flaws of an application become more apparent through the introduction of process inefficiencies. These inefficiencies are the direct result of the application operating in an environment it was not designed for.

	Planning Systems (ERP, SCP)	Control Systems (MES)	Execution Systems (WMS, TMS)
Processing Window	0	•	•
Planning Horizon:	Macro: Months/Weeks	Current: Days/Hours	Current: Days/Hours
Response Time:	Batch: Hours	Real Time: Seconds	Real Time: Seconds
Data Model	0	•	•
Architecture:	Accounting/Transaction	Recipe/Work Orders	Orders/Tasks
Scope:	Enterprise/Supply Chain	Plant/Cell	Site/Multi-Site
Decision Support:	Aggregate/Summary	Finite Level	Finite Level
Functional	0	•	•
Optimization Focus:	Enterprise Financial	Equipment Utilization	Material Flow
Inventory:	Purchasing	Work in Progress	Material Conversion/Tracking
Constraints:	Theoretical/Batch	Assumed	Actual/Real-Time
Task Management	Workflow	Workflow	Systems Directed
Access	Workstation	Workstation	Wireless
Quality Control	Available	SPC/SQC	Confirmation & Release

Solution Architectures O Weak • Limited

Strong

Technologies such as ERP and MES can and have been used to meet the needs of manufacturers' material flow requirements, but they are not architecturally designed to effectively execute complex material flow processes. Supply chain execution solutions such as WMS are well suited to handle the complex material flow job.





Your Next Steps . . .

- Document your existing production logistics operations and material flow rates.
- Define the current process inefficiencies and any changes that future growth and expansion will place on the manufacturing process.
- Assess the corporate return on investment and justification requirements of a new application implementation.
- Obtain executive management sponsorship for implementation of a production logistics solution.

Select and implement a solution from an organization capable of meeting your current and future production logistics requirements.

About Dematic

Dematic is a leading supplier of integrated automated technology, software and services to optimize the supply chain. Dematic employs over 5,000 skilled logistics professionals to serve its customers globally, with engineering centers and manufacturing facilities located across the globe. Dematic has implemented more than 4,500 integrated systems for a customer base that includes small, medium and large companies doing business in a variety of market sectors.

If you are interested in learning more about this topic and how we can help, please contact Dematic at (877) 725-7500 or visit: <u>dematic.com</u>.

