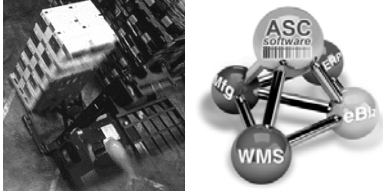



Common Sense Approach to Selecting a WMS:



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Business Case for WMS

To do business today, you are faced with:

- Tracking Inventory (including lots)
- Tracking Productivity (performance)
- Accuracy and Efficiency
- Enterprise-wide Resource Planning (ERP)
- Manage activity at Point of Occurrence
- Compliance requirements (labeling, other)


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Business Case for WMS

To do business today, you are faced with:

- EDI Relationships
- ASN's and Supply Chain Partners
- QC Programs
- Lot Traceability
- Food and Pharma Lot Traceability



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Business Case for WMS

To do business today, you are faced with:

- Physical Inventory – req'd to cut down
- Receiving – both raw goods and interplant
- Picking – both orders and manufacturing
- Shipping – FTL, LTL, and Parcel carriers

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Business Case for WMS

In addition, you have to consider:


- ✓ - **WMS** is one of the most important ingredients to your supply chain system.
- ✓ - There must be a **ROI** on the project.
- ✓ - There must be a **commitment** from top management for success.

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Business Case for WMS

To do business today, what do you do?







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Business Case for WMS

To address these challenges, companies invest in Warehouse Management Systems (WMS) or Inventory Control systems.


But, did they invest in the right technologies?

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WMS Defined:



Wikipedia: "A warehouse management system, or WMS, is a **key part of the supply chain** ... and process the associated transactions, including shipping, receiving, putaway and picking.


..the systems also **direct and optimize** inventory putaway based on real-time information..."

..the objective of a warehouse management system is to provide a set of computerized procedures to **MANAGE** inventory and operations..

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WMS Defined:



In other words:


A true **Warehouse Management System** is NOT just an **Inventory Control system**.

...it MANAGES your warehouse and is mission critical ...

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WMS Defined:



Let's look at WMS systems 2010 and beyond...

Systems designed years ago are just not cutting it..

That's why you will see decisions based upon.....

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WMS Evaluation Worksheet


To Keep or Not to Keep My WMS
1=low, no need to replace WMS, 5=urgent, replace WMS now

Category	1	2	3	4	5
Support:					
Is Vendor Maintenance poor or non-existent?					
Is Vendor Maintenance cost prohibitive?					
Am I uncomfortable with Vendor Support?					
Will company growth/strategy adversely affect support?					
Are 3rd party options inadequate?					
Technology - Is our WMS outside the company technology roadmap?					
Interface operability					
Operation System					
Reporting structure/tools					
Overall Architecture					
Data Base					
Overall Supply Chain Considerations					
Is the WMS a "burden" on remaining supply chain pieces?					
Are internalized supply chain areas needing attention?					
Functionality					
Are modifications becoming too costly?					
Is our backlog of modifications out of hand?					
Are labor costs escalating due to functionality?					
Is facility throughput suffering due to poor functionality?					
Customer Service					
Are client needs unaddressed due to the WMS?					
Are there too many workarounds?					
Totals					
Total Evaluation Score					
Scoring:					
≤ 36 = consider keeping WMS					
37-63 more analysis needed					
≥ 64 consider replacing WMS					

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Business Case for WMS



- 1 - Markets are global now
- 2 - Change is accelerating
- 3 - Customer expectations

- Companies must manage extended supply chains with increasing precision.

- Companies must gain visibility into warehouse inventories as never before. Both upstream and downstream.

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Business Case for WMS

Research shows that few companies are actually able to execute these objectives.

Managers are under pressure to:

- Reduce inventory and logistics costs
- More effectively manage labor costs and challenges
- Support business growth without additional facilities
- Respond better to demand and supply fluctuations
- Meet customer demands for better fulfillment

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Business Case for WMS

If you are a 3PL, you not only have to meet the customer's expectations, but exceed your clients' level of expectation. Most 3PLs have more pressure.

- Exceed the 3PL client's expectations in fulfillment
- Meet the 3PL customers' demands for perfect fulfillment
- Handle costs and challenges while being profitable
- Support business growth without additional costs
- Provide a true value proposition for multiple 3PL clients (cheaper or better than the client can do it for themselves)

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Business Case for WMS

If you are a manufacturer, you not only have to meet some distribution needs, but you have to manufacture to industry standards (lot/serial tracking, food grade, pharmaceutical level, automotive expectations, etc.)



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Business Case for WMS

To address these challenges, best-in-class companies invest in Warehouse Management Systems (WMS) and or Manufacturing Execution Systems

- these systems automate and extend their capabilities.



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Business Case for WMS

Top 5 KEY BENEFITS of a best-in-class WMS:

- 1 - Ability to truly MANAGE bin level and lot level inventory
- 2 - Paperless and DIRECTED FUNCTIONS - receiving, picking, transfers, cycle counts, directed work tasks
- 3 - Using mobile devices with REAL TIME functions
- 4 - Supporting seamless and automated INTERFACES to all other connected systems: financials, ARS, customers
- 5 - Provide a true VISIBILITY of operations and resources – proactive versus reactive, - true costs of doing business

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Business Case for WMS

Top 10 Operational Attributes of a well designed WMS:



- 1- Quality and productivity through-out
- 2- Order entry and order scheduling
- 3- Workload management
- 4- Mobile worker based – uses engineered work flow processes with error prevention and configurable rules
- 5- Proper inventory rotation and management of QC/Lots/Costing
- 6- Up-to-date technology

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Business Case for WMS


Top 10 Operational Attributes of a well designed WMS:

7- Ability to integrate and collaborate with other systems - seamlessly

8- Advanced pick processing – waves, batches, groups, totes, containers,

9- Capable of high volume, or enterprise level (true multi-site enterprise deployments)

10- Ability for the WMS USER to get information instantly and easily



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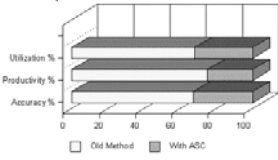
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Business Case for WMS

Top 10 Operational Attributes of a well designed WMS:

and, most important..
a Return on Investment (ROI) in months..

Expected Performance Gains





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What's New In WMS

Utilize mobile devices for:

- ✓ - Real Time Receiving
- ✓ - Real Time Inventory
- ✓ - Real Time Shipping
- ✓ - Real Time EDI/ ASN


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What's New In WMS

Tracking at the point of activity provides:

- ✓ - Real Time Verification
- ✓ - Real Time Quality Control
- ✓ - Real Time Documents
- ✓ - Real Time Labels/EDI



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Other New Technologies:

- New Voice Picking methods

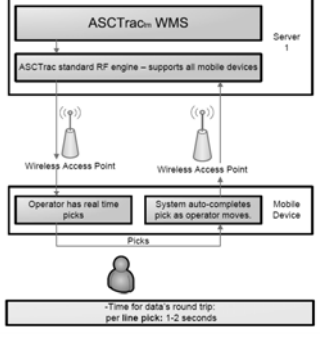
- 1- Use where both hands are required to pick
- 2- Use for visually impaired pickers
- 3- New designs for faster response, easier to support
- 4- New designs for a real ROI

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What's new with WMS and Voice:

- 1- eliminate the voice middleware; no expensive servers to buy or support
- 2- Real time to WMS, dynamic as the picker moves in the warehouse
- 3- Use the handheld for both voice and auto-ID



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What is in the data?

- ASN data is critical!
Exchanging TRUSTED data is CRITICAL!

FROM: Widget Applications Fund
CARRIER: GROUND TRANSPORT
LOC # TYPE DEPT
PREC NUMBER
B/L NUMBER 1234567

TO: H&MART
285 LOIS RD.
SANGER, TX 76266

ORDER # WMP0-12345
LOC # TYPE DEPT
90000 1234 12000
WMIT: 2301

EPCglobal
ON SERIAL SHIPPING CONTAINER
(00) 0 0012345 000001113 9

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What's New In WMS

Using auto-ID RFID technologies:

- Elimination of middleware for RFID warehouses.
- Saves Money. Intelligence built into WMS logic.
- Have receiving, movements, tote verification, pack verification, ship verification for fixed and portable readers (requires reader hardware and printing hardware, etc.)

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The EPC Vision In Action

1. Label applications place tags, program an EPC, number and pass data to the enterprise system.

2. Outbound tags are read at door. An ASN is generated.

3. Large volumes of inbound data are detected. COS/QOS levels for the wireless network are adjusted. Cameras are turned on.

4. Tags are read and matched to the shipper's ASN. If the ASN doesn't match, a person with a handheld reader is sent to investigate.

5. RFID readers detect container cartons on pallets. Stacking levels are determined.

6. Software checks inventory to determine what is needed on the shelves.

7. A reader tracks items moving between the door mat and the floor.

8. The system updates the inventory in the proper location.

9. Receiving door reader checks inbound pallets.

10. Outbound shipments are verified a dual door at the dock door, where single pallet loads will occur.

11. Outbound pallet is placed into a shrink wrap machine, which reads all cartons before shipment.

12. As pallets are broken down, individual cartons are read with their own percent accuracy.

13. Management optimizes and refines.

14. Home carts and mobile devices.

15. Barcode Security Code.

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What does that mean exactly?

- 1- fully integrated technologies eliminates any middleware (voice, RFID, bar codes); no expensive servers or interfaces to buy or support
- 2- Real time to WMS, dynamic as the picker moves in the warehouse, exception handling is near zero
- 3- Use the handheld for both voice and auto-ID (bar code, RFID), saves costs on every mobile operator

.....Improves ROI and TCO...

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TCO and ROI

Ways to value and measure ROI:

"Total cost of ownership" (TCO) is defined as the complete cost of purchasing, implementing, and maintaining an asset or technology solution."

However, companies often fail to take time to calculate what a WMS solution actually costs to keep running efficiently.

- results in a failed (or failing) system

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TCO

What does your current WMS really cost to own?

Cost 1: The Software Cost
TCO starts with what you pay for software, modules and licenses.

Cost 2: The cost of Customizations
You may have a need for customization to the software if the software does not meet your needs or your customer's needs. We have seen as much as 50% or more custom programming fees with our competition.

Cost 3: Annual Maintenance
Software maintenance fees are based upon a percentage of the cost of your software and user licenses.

Cost 4: Implementation Costs
A very important item is the time and money required to implement the software.

Cost 5: Vendor Support
Another impact on your TCO is the cost of upgrades. Some companies place a lot of customizations into the software to meet organizational requirements, and the changes do not get migrated properly without more customizations being required. This could be a significant investment.

Cost 6: Performance
How fast is the system? Does it do what you want it to do? And how long does it take you to set up a new item, a new client, or a new 3PL client with all of your billing parameters? How about the speed of which your operations group can extract or report on information?

With ASC software, we have spent years perfecting speed and ease of use for users to get to take, update, train, and transfer.

Next, let's review some comparison charts.

02/16/2010 Software that costs four times more will also have recurring annual maintenance costs that 30

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ROI

Sample ways to value and measure ROI: (Value basis)

Example #3: Next, let's say we take a scenario where some Value based ROIs are matched with an Enterprise. The percents below are on target – just add your \$ dollar amounts:

Value Description	RFID Used	No RFID	Difference
Percentage of Perfect Orders Delivered	90%	68%	22%
Inventory Turnover (# of Days)	45	101	56
Receive Payment (# of Days)	62	92	30
Cost Advantage Percent	21%	26%	5%

22% More perfect orders
 Hold less than half the inventory
 Get paid 66% faster
 Only 5% Cost Advantage

* Data only, RFID Product News Magazine Dec 2004

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ROI

ROI JUSTIFICATION SUMMARY SHEET
SUMMARY OF ANALYSIS

NO.	CATEGORY	ANNUAL SAVINGS (\$)	
		BEST CASE	WORST CASE
1	QUALITY CONTROL APPLICATION		
1	SHIPPING FUNCTION APPLICATION		
1	REVENUE AREA APPLICATION		
1	WAREHOUSING APPLICATION		
1	OTHER		
TOTAL		(A)	(B)

Average Perpetual Annual Savings $\frac{A+B}{2}$ = \$ _____ (C)
 Capital Investment (Hardware) = \$ _____ (D)
 Capital Investment (Software) = \$ _____ (E)
 Depreciation Period (Years) = _____ (F)
 Annual Depreciation $\frac{D+E}{F}$ = \$ _____ (G)

ROI/PAYBACK CALCULATIONS

A simplified approximation is given by the following formulas:

$ROI = \frac{C - G}{D + E} \times 100$ $PAYBACK = \frac{D + E}{C - G} \times 100$

PROJECT MONTHLY CASH GENERATION = $\frac{C - G}{12}$

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Ways to start a WMS project:

- Six steps to success:

- 1- Establish a Business Case
- 2- Build a Practical Roadmap – what do you want-need?
- 3- Conduct a Vendor Search based upon your needs
- 4- Use tools* to Carefully Select the Top 3 Vendors
- 5- Review again the demos of the software for the top 2 vendors
- 6- Visit working sites, and check out the references

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Ways to start a WMS project:

- Look for a vendor with a **proven track** record as they will become your partner for mission critical operations:
- Look for a vendor with **many options** as they will become your partner for mission critical operations:
- Look for a vendor with **future vision** as they will become your partner for future mission critical operations:

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Ways to start a WMS project:

- Example WMS option modules list:

- **Business - e-Commerce Web Modules** (noted best option by our customers, used by Microsoft®)
- **3rd Party Storage and Technology** (3PL) billing module
- **Statistics and Performance** (metrics and KPI tracking)
- **Parcel Shipping Module** (fully integrated for efficiency)
- **Demand Planning Module** (forecasting for future supply chain needs)
- **Manufacturing Production Planning (MRP) Module**
- **Manufacturing Work Orders Module** (for extensive manufacturing)
- **Manufacturing Shop Floor Module** (shop floor travelers)
- **Enterprise WMS Version** (ASC/Trac is designed for large scalable deployments)
- **Standard WMS Version**
- **Basic WMS Version**
- **Standalone WMS Version** (new)
- **Remote Version** ("Basic" version for small companies)
- **Logistics Module** (mobile shops with reverse loading, Proof of Delivery)
- **Proof of Delivery Module** (new)
- **Route Delivery** (new)
- **3PL Labor Tracking Module**
- **Mail Room Module** (receipts tracking)
- **Host ERP Interfaces** (any host)
- **Microsoft® Dynamics AX interface** - real time
- **Microsoft® Dynamics GP / Great Plains / Real Time interface**
- **Microsoft® Dynamics SL / Vision / Time / Time interface**
- **Export Microsoft ERP interface** (version 7.5 SQL, or ES)
- **SAP R/3 interface**
- **Custom Manufacturing Interfaces** (conveyors, print applications, PLCs, etc)
- **Inventory Module** (will create invoice to send to ERP such as Dynamics)
- **Automated Purchasing Module** (PO - sets to MRP as well)
- **Container Assets Tracking Module** (reusable totes, maintenance)
- **Containerized Freight Tracking (CFT)** (for overseas shipment tracking)
- **Labor Performance Module** (Labor standards approach)
- **Facelift verification Module** (may be integrated with Parcel Shipping module)
- **RFID modules** (conveyor and dock scanning, tag-and-ship)
- **RFID Sub-system** (cameras, printers, portals, conveyors, etc.)
- **Advanced Order Planning Module** - Voice, Visual, Batch, etc.
- **Voice Picking Module** (fully integrated - can be used by visually impaired)
- **CC Inspection Module** - (WMS and Manufacturing - Food and Pharma focused)
- **Pallet Build Module** (new)
- **Language Module** (English, Spanish, German, French, Italian, etc.)

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- Use WMS Evaluation templates to select a vendor:

- IDII version is a good one.

- www.idii.com

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... WMS Evaluation templates...

- IDII sample - has WMS features evaluation lists.

- www.idii.com

	A	B	C
463	Product Allocation - Hand Allocation		
467			
468	FFFC Lot Based Code	WF	
470	FFFC Item LIFO Value Blk	WF	
471	FFFC Order Lot on Expiration Date	WF	
472	FFFC Order Lot on Mfg Day Window	WF	
473	Allocate SO on Inventory Condition	WF	Inventory on QC Hold is not available
474			
475	Lot Control (Code Dating)		
476			
477	Lot Control - Inbound	WF	
479	Lot Control - Date Code Marking	WF	New
480	Lot Control - Serial Part Trigger	WF	There are up to four trigger points
481	Lot Control - Auto Inlet Age/Lot	WF	
482	Lot Control - Equipment/Plant	WF	
483	Bin Location - Mix Lots in a Bin For a Part	WF	
484			
485	EDI & XML Transactions		
487			
489	Inbound EDI/EDI/FACT Documents	DR, DR2, DR3, DR4	
490	Outbound EDI/EDI/FACT Documents	DR, DR4, DR5, DR6, DR7, DR8, DR9, DR10, DR11, DR12, DR13, DR14	
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Ways to start a WMS project:

- Use WMS Evaluation templates to select a vendor:

	System Feature Inventory	Management Tools	Vendor Evaluations
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Ways to start a WMS project:

-Use WMS Evaluation templates to select a vendor:

- then, use features/attributes list to grade each vendor..

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AN INBOUND LOGISTICS **Top 100 2007** Logistics IT Company

AN INBOUND LOGISTICS **TOP 100 2008** LOGISTICS IT COMPANY

Common Sense Approach to Selecting a WMS - QUESTIONS:

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