

The WMS Effect:

How One Program Can Change
Your Whole Game



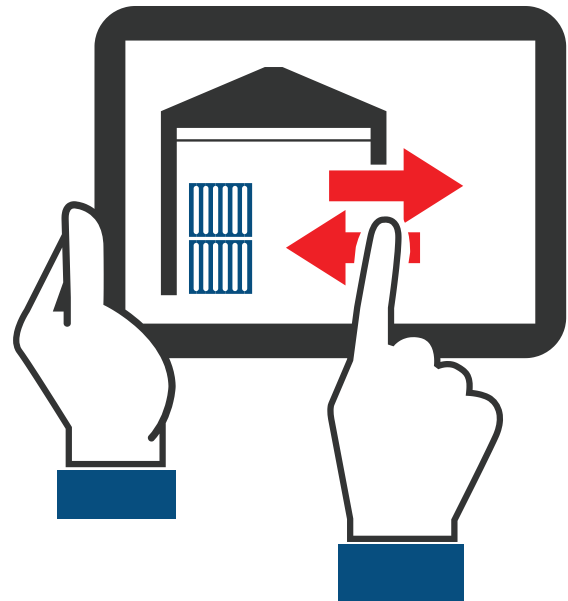
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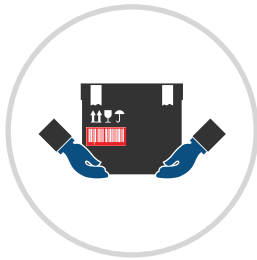
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Warehouse Management Systems have become an integral part of most major manufacturing operations and distribution centers. In an effort to increase efficiency and reduce operating costs, many companies have turned to WMS software to help them automate groups of tasks, track metrics more accurately, and overhaul their day-to-day processes.

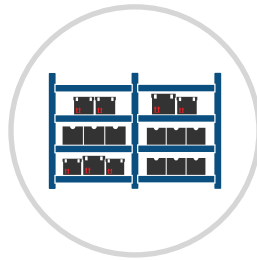


The one thing that makes Warehouse Management Systems stand out from other logistics solutions is that WMS software is designed to be a comprehensive warehousing solution. Where many companies have struggled to gather data from many different programs in order to create one easily readable analysis of their operation, WMS software automatically integrates all departmental functions allowing for instantaneous access. It also reduces the time it takes to collect data from different areas for reporting purposes, allowing management to see up-to-the-minute statistics of their team's performance. Key decisions can now be made based on the most current data available in real time.

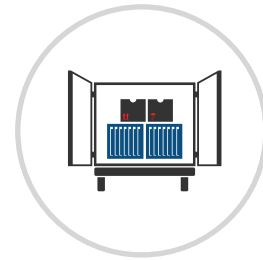
Warehouse Management Systems can be used in all of the following stages to improve efficiency and make your company leaner:



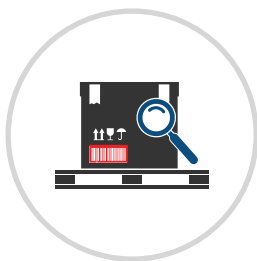
Receiving



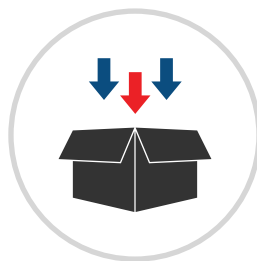
Put Away



Dispatch



Picking



Packing



Quality Control

By tracking trends in product movement and learning from your current operations, a WMS can offer better directions for reducing the amount of movement your workers are doing as well as minimizing the number of times individual items are handled. The program can find patterns and trends that could be costing you money, often in details that are too minute for individual programs to pick up on their own. This information is an invaluable asset that allows you to identify areas for improvement, test new processes and compare immediate results, enabling you to make long-term changes that lead to growth.

Now that you understand the general principles of what warehouse management software is designed to do, it's time to take a closer look at how it impacts each task in your warehouse. This begins with the receiving process where you need to verify purchase order quantities, sort and inspect products, and prepare those products for put away in appropriate locations. Warehouse Management Systems break these tasks down into foolproof workflows that guarantee a higher level of accuracy and efficiency than ever before.



Dock Receipt

Improper receipt at the dock can be the unraveling of your entire inventory system. This is your first contact with the parts and products coming into your warehouse, and it is your only opportunity to ensure that the quantity of parts being delivered accurately reflects the number on the purchase order. Catching errors on the dock will enable you to correct issues like shortages and overages immediately and give you an opportunity to take these discrepancies into account later on when you are filling orders. Warehouse Management Systems simplify this process by allowing your team to quickly scan products in, match quantity counts, verify correct product descriptions and more, all from one screen.



Dock-to-Stock

The dock-to-stock stage of receiving is typically a combination of sorting, inspecting and repacking products before they go onto

warehouse shelves. Most warehouses have multiple streams of products coming in, which include products that need to be broken down into smaller quantities and repacked and also products that need to be inspected for quality. Upon receiving each shipment, your Warehouse Management System will direct team members to separate products into each stream to be repacked and inspected as necessary, and then organized for put away.



Package Identification

After all products have been sorted and tested appropriately, assigning each package its own identification number is the last step in the receiving process. Package IDs will be used to identify batches of product that were received on a certain date or within a particular time window. They can also be used to direct your team to put like products into the same target zone every time a new shipment is received so that you can easily pick those items without having to visit multiple locations. Lastly, the specific date and time information contained in the package ID will help your picking team pull older products first so that you are adhering to First In First Out (FIFO) and achieving regular product rotation. This is the point where you can begin tracking individual product movements across your warehouse floor with mobile scanning units.

An effective Warehouse Management System will help you track products accurately and will cut down on the amount of time that is spent by the receiving department with each receipt. It should provide an extremely detailed and directed approach to verifying order accuracy, sending products to repack and inspection, and preparing them for placement in warehouse locations. The software can store all of the applicable data for products in a way that can be instantly displayed on a screen or used in reports, allowing your team members to see exactly what they need to know and to make informed decisions about how to handle products. The end result is fewer inventory errors that happen in receiving and are found later on when an order runs short or something is improperly packed. Improving warehouse efficiency begins with what happens on the dock and works its way across your whole facility.



After products have been received, checked for quality and repacked as needed, the next step in the warehousing process is putting them away. Your Warehouse Management System will enable your team to put away your inventory in the most efficient way possible while validating actions in order to prevent mistakes from happening. Naturally, all of this will be tracked so that problem resolution is straightforward and metrics can be analyzed.



Flexibility

Not all warehouses are alike, and the size and complexity of your operation can have a large impact on the way you put away items. A good Warehouse Management System will be configured based on the organization scheme and the type of processes you are using. For instance, in very small warehouses, workers may be free to put items away in any location that makes sense to them, and the WMS simply acts as a tracking system that records where items are placed. On the other hand, many larger warehouses assign a target zone for each item, and the WMS ensures that team members put each item away in its target zone (although they may be free to choose the specific location within the zone). Finally, it may make sense for the WMS to force workers to put away items in specific locations without allowing any flexibility at all. This is often the case when employing AS/RS equipment such as carousels and VLMs.



Improving Efficiency

Warehouse management software performs a number of behind-the-scenes actions that help to improve the efficiency of your put away process. First of all, the WMS can group items together into sessions based on things like type and intended location. This minimizes your efforts and ensures that items are put away in a logical, efficient fashion. The WMS is also capable of directing team members from one location to the next in the most efficient pattern to reduce steps and increase speed.



Metrics and Analysis

No component of the Warehouse Management System would be complete without a comprehensive set of data points and useful metrics by which to measure success. In the put away stage, the WMS tracks individual barcodes scanned during each put away session. This allows management and quality assurance teams to quickly identify individual items and see in which locations they were scanned. It also allows them to identify which team member performed an action and when. In the event that an error occurs, there is plenty of information to use in order to resolve the problem. Furthermore, each new session that is opened will have a specific set of items assigned to it that need to be put away.

If there is ever any reason that a product cannot be put away, or if a barcode is not scanned during this process, management can return to the open session and find out why an item didn't get scanned to a location.

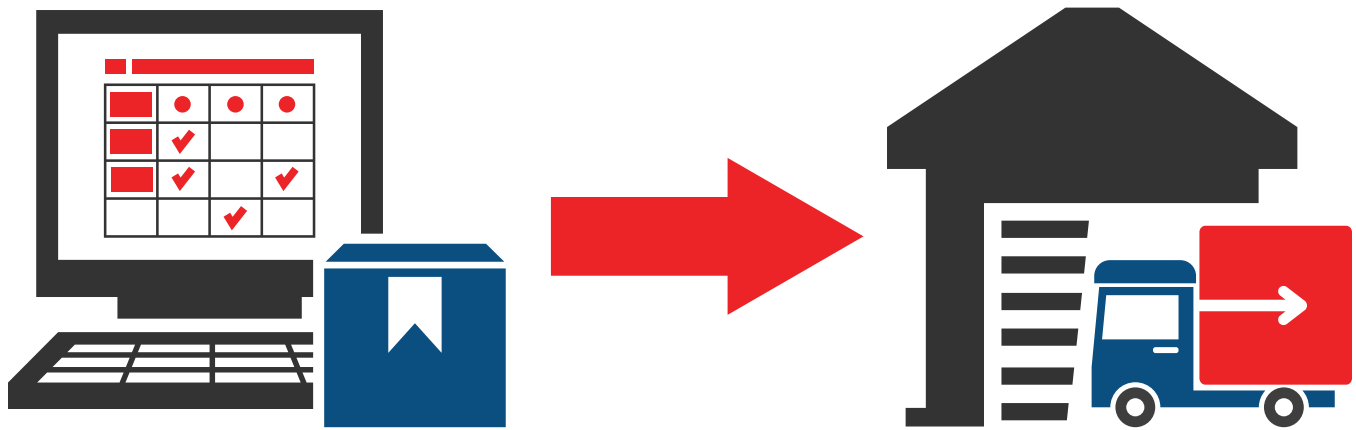
Successful and efficient put away is the key to smooth picking later on. Warehouse management software provides a significant amount of background information during the put away process to ensure that items are accounted for every step of the way and that individual team members are moving through the warehouse in the most efficient path possible. By grouping items into sessions and using target zones or specific locations to direct the put away team, it is possible to increase efficiency overnight.



Chapter 3: Dispatch

Once all of your products have been put away into their designated locations, it is time for your Warehouse Management System to begin dispatching orders. Dispatching is simply the system that is used to alert your team as to which orders they will be picking next. It is a dynamic process that can take into account a wide variety of factors such as shipping times, priority orders, product type and location. A well-designed Warehouse Management System will allow for manual grouping of orders into batches and can also automatically batch orders based on established rules. These batches are then released to your picking team.



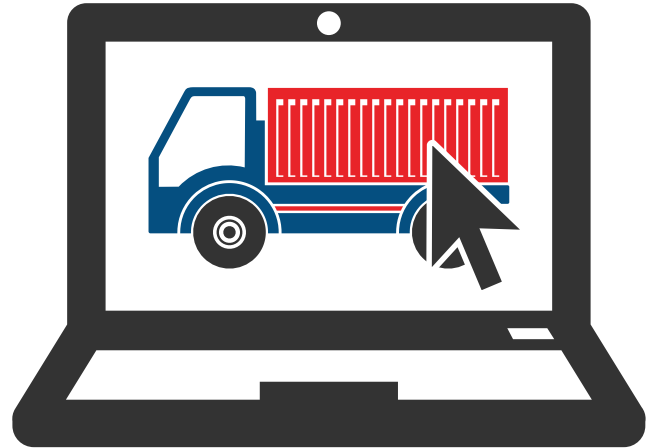


Efficient Dispatching

Efficient dispatching means that your Warehouse Management System is constantly tracking shipping windows and incoming orders so that you can plan out which items need to be picked first. Warehouse managers can use the dispatching software to create batches of orders based on priority orders, current staffing levels and expected shipping dates and times. In large scale operations, Warehouse Management Systems usually incorporate analytics that allow the managers to simulate dispatching decisions before they are finalized. The computer can quickly do a test run of the proposed dispatch and identify any issues, such as traffic congestion in the aisles, or inefficient routing. Properly timing and releasing batches has a big impact on the time it takes to get orders out the door.

Other Dispatching Considerations

In addition to the batching of orders and the ability to run real-time simulations of your dispatching instructions, your Warehouse Management System can also take advantage of several higher order processes that will improve your turn around. For instance, you can set specific parameters for which types of orders can be batched together and how they should be prioritized. You can also implement live tracking of shipping windows so that your Warehouse Management System always prioritizes items that need to be ready for the next available pickup time. These features enhance your warehouse manager's ability to dispatch effectively by cross checking orders for more information.



The better your dispatching system is, the easier it will be for your pickers to work. Batching orders and clearly laying out a path for picking will ensure that they are able to move smoothly through the warehouse without getting caught in traffic with other pickers or missing any important shipping deadlines.

Picking is one of the most complex processes of running a warehouse and often eats up more resources than any other stage in your operation. Once orders come in, you need to fill those orders accurately and quickly in order to get them to the shipping dock. Warehouse Management Systems improve the workflow of your picking team and increase efficiency by changing the way they work and eliminating as much down time as possible.

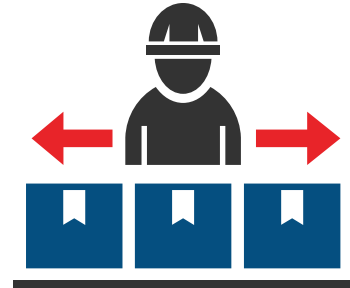
Types of Picking

Depending on the scale and type of warehouse you are running, there are several different picking systems to choose from. Ideally, your Warehouse Management System should support all of these styles of picking so that your company can remain flexible and make changes to your picking routine as needed. The goal of any picking operation is to minimize downtime and increase the number of products that your pickers can pull each hour.

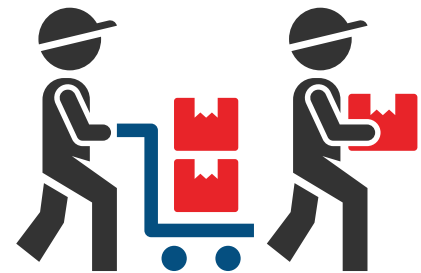
Smaller warehouses usually use **Discrete Order Picking**. This process assigns a single order to a picker, and the picker works their way across the warehouse, filling the order one line at a time until it is complete. The worker then returns to the dispatch area to pick up the next order. This may work for large orders that require many items throughout the warehouse, but it is extremely inefficient for your pickers if each order only has one or two small items. They are constantly walking back and forth across the warehouse, wasting steps all the time.



Zone Picking breaks your warehouse down into multiple designated sections. Each picker will be assigned a section to work within. In this case, a bin is created for each order, and that bin moves from one zone to the next. The picker checks the order and only pulls the items that are in their immediate vicinity and then sends the bin onto the next zone for any additional items. This cuts down on the amount of physical work your employees are doing and improves accuracy.



Batch Picking allows your picking team to work on multiple orders at one time. There are several ways of doing this, but in most cases pickers have a cart that can carry two, three or more totes or bins. Each tote is assigned to an order, and as they work their way through the warehouse, the worker picks enough product at each location to fill all of the orders and then places the appropriate quantity in each tote. Batch picking is frequently used with carousels and VLMs, where the picker stays in one place and the equipment moves the product to them. Again, they pull as much of each product as they need to fill all of the orders they are working on before the carousel spins to the next product.





There are several factors that need to be monitored throughout the picking process to ensure quality performance. First of all, validation that the correct products are picked is necessary to prevent errors in fulfillment. These errors could be as simple as shipping the wrong color product or the wrong size. In addition, your WMS will flag orders that remain open because the picker missed an item or they simply forgot to scan one of the items they picked. Secondly, your WMS can be a major player when it comes to enforcing FIFO effectively. It can direct pickers to the locations with the oldest product first or tell them which package to pick from when more than one package of an item is stored in the same location.

Consolidation is an important part of your warehousing operation, bringing together parts of orders from the furthest reaches of your warehouse into a single location. Depending on your location scheme and your picking processes, consolidation is the time when items for a single order come together from the different zones in your warehouse where they were picked. For instance, if you pick bulk parts and small parts separately, those different parts of the order come together at the consolidation stage where they are placed together and sent on to packing.



Maintaining Visibility

The first key to successful consolidation is ensuring that your team members know when an order is coming together. You need a system that tells you when all of the parts have arrived at this stage. A robust Warehouse Management System will be able to tell you that order A has parts in totes 1, 2 and 3. If totes 1 and 3 are sitting at your consolidation station, it will notify you as soon as tote 2 reaches that location for immediate action. These alerts are the only way to know when a complete order is on hand and ready to be consolidated.



Solving Problems

What if tote 2 never makes it to your consolidation area? Your Warehouse Management System can track each order as it traverses your warehouse and generate alerts when there appears to be a problem. If totes 1 and 3 have been stuck in consolidation for an unusually

long time, it can notify a team member that something is missing so that the problem can be investigated. Since your WMS is a comprehensive solution, it can facilitate the problem resolution by telling you who was picking into that tote, when, and where. It provides you everything you need to know to begin investigating that last tote and get the situation resolved.



Verification

Consolidation can get little bit messy. This is the place where all of your orders stop for a moment, and there can be dozens of totes and pallets that need to be matched up. It's your job to ensure that all of those parts end up together as a correct order before moving on. This stage is also a hot spot for mistakes due to the number of moving pieces in one place. Fortunately the WMS helps you verify orders line by line as you fill them and provides detailed directions for which parts are in which totes as you go.



Why Consolidate?

You may be asking yourself, if consolidation is so complex, why not just pick complete orders all at once? The answer is efficiency. With the help of a highly developed WMS, you can ensure nearly 100% accuracy while being able to get the most out of your pickers with zone picking or more

sophisticated picking processes. The few minutes spent in consolidation actually saves you a significant amount of time in all of the processes leading up to this point. Faster turn around, less down time, and far less labor on the part of your employees can make consolidation a worthwhile investment. Even if you are not currently using a picking strategy that requires consolidation, your long-term growth may depend on having this capability. You should ensure that your WMS can handle consolidations with enough detailed information, workflow management and step-by-step validation to keep it clean and accurate.



It's finally time to start preparing your products to leave your warehouse. With the help of a Warehouse Management System, you have already made drastic changes along the way to enhance your productivity and efficiency. However, there are further improvements yet to come. The packing phase is when everything starts to come together and you begin to see big picture gains as more product goes out the door in shorter periods of time.



Just in Time

One of the greatest advancements in WMS technology is the ability to fulfill orders based on the times of your carrier pickups. This means that orders are reaching the dock just before the carrier arrives to take them away. Your shipping dock will no longer be overloaded with products waiting on tomorrow's truck. In addition, since the computer tracked the accuracy of the order along each step, and your team double-checked the accuracy of orders at the consolidation stage, you will need far less time for verification in packing.



Box Size Determination

Since your Warehouse Management System is already being used to track the weight and size of every product in your warehouse, it follows that it can use that information to calculate how much space the products will take up in a box. With detailed dimensional information, Archon's 3D Pack will actually tell your team what size box they need, how to place

each item in the box and how much packing material is required to fill the empty space. In fact, this can be done in conjunction with picking so that your picking team is sending off completed orders already packed for shipping. In some applications, 3D Pack integrates with equipment that produces custom-sized boxes for each shipment. The end result is a massive cut in shipping and packaging costs and a big savings of time and energy.



Chapter 7: Quality Control

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Because your team is actively verifying the accuracy of their actions during receipt, putaway, picking and packing, your quality control will go way up. You will still want to enforce an effective quality control program, however. Rigorous quality control ensures that you have fewer returned packages, more happy customers, and fewer inventory problems. Your WMS should enable you to perform spot checks throughout the warehouse as well as drive statistically based activities. Customer service will improve greatly, and even when problems do arise, you will have the information necessary to see what went wrong and correct the problem immediately without a lengthy investigation process. Customers notice when companies are able to help them quickly and concisely, which cultivates brand loyalty and return business.



Chapter 8:

Cycle Counting

Now that your brand-new Warehouse Management System has taken over all of the routing and dispatching of products moving through your doors, the final step in the process is to overhaul the way your team tracks inventory over time. Cycle counting is a multi-tiered process for verifying inventory on an ongoing basis without having to shut down your operation to do a complete physical count once a year.

Your ABCs

In order for cycle counting to work, you will first be tasked with placing your products into several different categories. For instance, items in your A category will be those in high demand, with high price points and the biggest risk for shrinkage. They will be counted most frequently on a rolling cycle. Next, your B items will be high volume items, usually at a lower price point, which don't need to be counted quite as frequently. Lastly, C items are counted least frequently as they may be slow movers that don't see a lot of turnover or are simply of very low value.

Implementation

Once you've sorted your items into these categories, you may be wondering what the process actually looks like on the floor. Each day your WMS will generate a selection of items from your warehouse to be counted. The majority of the list will usually be made up of A items that are being counted with greater frequency, and then you will have a smaller group of B items that are counted less often. Lastly, here will be a group of C items that are only being counted once or twice a year.

The actual counting process is very similar to picking. The WMS will instruct the worker to go to a location and scan that location or a package ID. Once that is validated, the WMS will ask the worker to enter the quantity of the part that is being counted. If the counted quantity is equal to the expected quantity, the worker will move on. If there is a discrepancy, the system notes it so that the inventory can be quarantined and the discrepancy investigated.

Through this process, your team members are conducting rolling checks on all of the items throughout your warehouse without having to disrupt normal operations. This process actually keeps your overall inventory counts more accurate throughout the year and prevents you from discovering major discrepancies all at one time.



This ebook has taken you on a journey through your warehouse with the assistance of a modern Warehouse Management System. Your new WMS will impact the way every product moves from the second it is received all the way through to shipment. You can clearly see how a computerized warehouse tracking system combined with handheld scanners and other technology will ensure that products are put away and picked efficiently. Orders will be dispatched to your team along with routing information for the most productive path, and errors will be minimized by internal checks and balances throughout.

It is easy to see how money and time saved with your WMS will quickly earn you a return on your investment and allow you to grow your business using fewer resources. As your team members become more familiar with the process, you will see massive gains in productivity and more products going out the door in far less time. The longer you wait to implement a Warehouse Management System, the more money you are losing in wasted labor and incorrect orders.



Finally, the right WMS can be an avenue towards the introduction of Automated Storage and Retrieval Systems (AS/RS) and Material Handling Equipment (MHE) into your operation. This can lead to even greater efficiency and productivity.



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