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Implementing Warehouse Automation Checklist

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Before implementing your new warehouse automation project, refer to this checklist to ensure you take the proper steps for success.

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1. Find the right partner

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2. Prepare internally

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3. Define key metrics to help identify your needs

Critical Metrics
Customer-Focused Metrics
Inbound Metrics
Outbound Metrics
Financial Metrics
SKU Data

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4. Identify goals of the project

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5. Communicate any constraints of the project

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6. Protect your investment with service and support

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7. Perform a regular audit of the system



If you work in the order fulfillment or materials handling industries, you know that there is no escaping the inevitable implementation of automation. Over the past few decades, there has been an uptick of new warehouse automation technologies, systems, and strategies, all promising to make your operation more competitive, less wasteful and more profitable.

Once you have determined that automation belongs in your operation, there are certain steps that need to be taken for a successful adaptation and implementation process. **Here are 7 steps Westfalia recommends taking when preparing your warehouse and implementing automation:**

1. Find the Right Partner

Do your due diligence and don't go with the first vendor that might pop up on your Google search. Find a partner that will spend time analyzing your data and learning about your business goals and objectives. An ideal automation partner can help you understand your options and will design a system with the right amount of automation to set your business up for growth.

2. Prepare Internally

With a little preparation, you can help the process of choosing a partner go much more smoothly. This can be done by having a full understanding of your operation through the lens of key metrics, what you hope to gain from automation project and your options in finding a partner (a systems integrator vs. a consultant vs. working directly with an automation company).

3. Define Key Metrics to Help Identify Your Needs

In order to conceptualize the achievable business goals that will be necessary to guide your project through from start to finish, you must first have a clear understanding of your operation's key performance indicators (KPIs) and other data.

In order to frame your thinking around your project, and to facilitate meaningful conversations with your eventual partner, it's advisable that you have these numbers on hand before moving forward:

Critical Metrics

Order Data Set: All orders with all order lines, ideally for one year

Inventory Master File with peak inventory snapshots: Should include hi/ti and sales volume information

Available Capacity: The buildable footprint available within the facility or land available to accommodate the operation.

Staffing/Labor Hours: How many labor hours are dedicated to your current operation during times of typical order volume as well as peak surge times. What is the average cost per FTE (Full Time Equivalent) including holiday, OT, etc.

Pain Points: What challenges in your current operation are the biggest sources of pain—be it related to labor concerns, volume surge, efficiency, human error, managing growth, etc.

Customer-Focused Metrics

On-Time Shipping: The percentage of orders shipped on time.

Total Order Cycle Time: The average processing time from the point a customer places an order to the point it is shipped.

Internal Order Cycle Time: The average internal processing time from the point a customer order is released into the warehouse for processing to when that order is shipped.

Perfect Order Percentage: Includes on-time deliveries, complete shipments, damage-free shipments, and correct documentation.

Inbound Metrics

Dock-to-Stock Cycle Time: The amount of time from when goods enter the warehouse to when it is put away and available for sale within the Warehouse Management System (WMS).

Inbound Orders Received: The number of inbound orders processed per person in an hour at receiving.

Lines Received and Put Away: Inbound lines processed per person in an hour at receiving person.



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Outbound Metrics

Fill Rate—Orders: The percentage of orders filled 100% complete to the total number of orders filled.

Fill Rate—Line Items: A ratio of order lines filled 100% to the total number of order lines.

Orders Picked per Hour: Order fulfillment and shipping productivity in lines per hour per person.

Lines Picked and Shipped per Hour: Productivity of picking and shipping lines per person.

Financial Metrics

Distribution Cost (as percentage of sales): The cost to run distribution operations relative to total sales.

Distribution Cost (per unit shipped): The cost to run distribution operations relative to the total units shipped through the operation. Ideally what is the landed cost of warehousing and logistics in “cents per case shipped”.

Inventory Days of Supply: Finished goods inventory on hand to cover a number of days of projected usage.

SKU Data

Number of Active SKUs: How many SKUs the facility currently handles.

Projected SKU Change: The change (increase or decrease) in the number of SKUs the facility will handle in the future.

SKU Specifications: Design specs like length, width, height, and weight which may impact storage and handling.

Storage Requirements: Any special requirements for storage (refrigeration, deep-freeze, climate- or humidity-controlled, etc.).

Having this information on hand before speaking to an automation partner will ultimately help you to pinpoint the exact areas in your operation that are ideal for optimization, and which can benefit the most from automation.

4. Identify Goals of the Project

Once you have a clear understanding of your operation's metrics, you must set goals for the project. These goals should follow the SMART Goal framework, in that they are Specific, Measurable, Achievable, Realistic and Timely. By framing them in this way, you will have a clearer sense of what you want to gain from your automation project, which will make articulating your goals to a partner much easier. This, in turn, will allow the final automation plan to be tailored to your specific needs and objectives.

5. Communicate any Constraints of the Project

Just as important as understanding and communicating the goals of the project, though, is understanding and communicating any constraints. For example, a limited budget may place certain technologies out of reach. A condensed timeline might make a complete redesign unrealistic. A small footprint may make it difficult to implement certain technologies or require creative solutions.



6. Protect Your Investment with Service and Support

If you want to get the most ROI out of your investment in automation, then your goal should be to keep your new technologies and systems running as smoothly as possible for as long as possible. To reach this goal, you will need to devote some resources to preventative maintenance and lifecycle support. Typically, this lifecycle support strategy will consist of two equally important elements: Day-to-day maintenance, and regular system audits conducted by those most experienced in the systems.

Preventative maintenance and support are critical elements to ensuring that you are able to get the most out of your technology, systems, and machinery. When you are working with a system that consists of numerous moving components, it is almost a guarantee that you will eventually face some sort of mechanical issue.

Though these issues cannot be prevented 100% of the time, proper maintenance of your systems can go a long way in reducing their likelihood, intensity, and duration of downtime with the associated loss of production.

What should this service and maintenance of an automated system look like? That will vary widely depending on your systems and the size of your facility, but at a minimum should include a dedicated maintenance person or team who is trained to troubleshoot problems and keep your systems running, and who can proactively identify problems before they occur. It is also critical that you keep essential spare parts on hand so that you can quickly correct an issue if one arises, to prevent unnecessary operational downtime. Most providers have maintenance programs that can be inclusive of almost all maintenance activities to only several visits per year to inspect and audit the system.

7. Perform a Regular Audit of Your System

In addition to service and maintenance, it is recommended that you conduct an audit at least once every 12 months, regardless of the specific systems that you have in place in your operation. Doing so allows you to identify relatively minor issues (requiring minor repairs) before they turn into catastrophic issues (requiring major repairs, and downtime in your facility).

During this audit, physical components of the machinery should be reviewed and evaluated for wear and tear. It is especially important to conduct a system audit if you have neglected preventative maintenance, your system is experiencing increased downtime, or you find that you have needed to replace wear components in your system more frequently, as each of these may point to a larger issue needing to be addressed.

Additionally, if your technologies are more than ten years old it is recommended that an audit be conducted to see if there are areas where they may benefit from upgrades.

Over the course of those ten years, it is very likely that your operation went through countless changes in terms of the product you handle (size, quantity, packaging, etc.), the clients you serve, and maybe even the businesses your organization owns. For example: If your system was built to handle only retail shipments ten years ago, chances are good that today you are servicing ecommerce orders that, by their nature, are significantly smaller than the materials that your system was originally designed to handle.

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