



WAREHOUSE AUTOMATION

THE FOUR ESSENTIAL QUALITIES OF AN EFFECTIVE WMS



This is a prevailing trend that has been observed over several years: warehouses are becoming progressively automated. Confronted with increasingly discerning customers—demanding speed, reliability, and customization—and a competitive landscape that allows no margin for error, logistics has little option but to adapt swiftly. Consequently, the warehouse is evolving into a pivotal component of the customer promise. However, this transformation, while presenting new opportunities, also introduces a degree of complexity.

Automation extends beyond the mere installation of cutting-edge machinery in a warehouse; it encompasses a fundamental shift in our thinking, structuring, and management practices. This is where the selection of a Warehouse Management System (WMS) becomes essential. It is crucial to choose a WMS that is thoroughly adapted to automation logic, a solution capable of natively speaking the language of automation.



WHY PURSUE AUTOMATION?



Numerous reasons for automation exist, corresponding to various business contexts. However, as evidenced by the growing number of projects, certain motivations emerge with remarkable consistency.

1# ADDRESS THE EVOLVING DEMANDS OF ONLINE COMMERCE

It has become increasingly common for consumers to place online orders on Sunday evenings for delivery on Monday mornings. This practice exemplifies the current expectations of a supply chain: speed, flexibility, and customization.

Some customers desire a gift message, others prefer a simplified return process, and still others request special packaging. This fragmentation of expectations complicates preparation, and in light of this pressure, traditional methods are revealing their limitations. Automation enables the fulfillment of these demands without faltering, all while ensuring customer satisfaction.

2# ALLEVIATE TEAMS AND REALIGN SKILLS

It is also essential to consider the human aspect. Working in a warehouse is physically demanding. Lifting heavy loads, extensive walking, and repetitive motions are all factors that can lead to issues such as recruitment challenges and increased sick leave.

By automating specific labor-intensive tasks, we enhance working conditions, enabling operators to focus on areas that demand judgment, expertise, or oversight.

A COMPREHENSIVE OVERVIEW OF SOLUTIONS



SHUTTLE SYSTEMS

Designed for order fulfillment, applicable to both retail and parcel services. The "Goods-To-Person" principle minimizes travel and enhances operational reliability.



AUTOMATED PACKAGING SYSTEMS

Automating the packaging process enables the optimization of volumes, calibration, printing, and other elements that occur at the conclusion of the process, all of which influence the overall timing.



INTELLIGENT AND MODULAR CONVEYORS

They adjust to the environment, activity, and load, and they evolve. Their plug-and-play design enables reconfiguration over time.



LOGISTICS AUTOMATION ROBOTS

Whether they are relocating bins, aiding in picking or palletizing, they alleviate repetitive tasks while enhancing the production rate.

WMS, THE UNSEEN CORNERSTONE OF AUTOMATION

The rise of robotization and the growing prevalence of automation in warehouses presents new challenges and issues:

- An increasing number of functional bricks to facilitate coexistence.
- Diverse equipment/IS, thus interfaces must be established.
- A decision-making chain that requires clarification.

This is where the WMS assumes a pivotal role. It will be tasked with orchestrating workflows, allocating tasks, interfacing with equipment, and ensuring seamless operations. To maintain its relevance in an automated environment, the WMS must embody four essential qualities.

1# POSSESS THE ABILITY TO BE ADAPTABLE



Automation does not equate to the complete mechanization of processes. In practice, most warehouses function in a hybrid model. Certain operations continue to be manual, whether due to preference or practicality. Consequently, it is crucial for the Warehouse Management System (WMS) to effectively manage mixed workflows without causing disruptions. This necessitates the capability to implement differentiated strategies based on the workstation: a manual picking operator has distinct requirements compared to an operator stationed at a goods-to-person station. The WMS must facilitate the seamless integration of these two environments and support a smooth transition between them.

DEMONSTRATE RESILIENCE



Increased flows, heightened orders, and expanded lines... Automation results in a significant surge in power, accompanied by a corresponding rise in the volume of data requiring processing. The Warehouse Management System (WMS) must possess the robustness to absorb, process, and analyze this influx of data while ensuring efficient response rates. This is essential not only for performance but also for reliability.

3# SEAMLESSLY INTEGRATE INTO THE ECOSYSTEM



Automation frequently depends on a Warehouse Control System (WCS), which directly manages equipment such as robots, conveyors, and sorters. Consequently, the Warehouse Management System (WMS) must be compatible and communicate in real time through reliable, standardized, or customized interfaces.

If these connections are already available natively, this expedites deployment and minimizes the number of friction points to monitor subsequently.

4# PROVIDE REAL-TIME MANAGEMENT



Effectively managing an automated warehouse necessitates vigilant oversight to identify potential bottlenecks or delays. Consequently, the optimal Warehouse Management System (WMS) should provide advanced management capabilities, enabling a comprehensive view of warehouse operations in real time, facilitating the identification of anomalies, allowing for appropriate actions, and ensuring control over service rates.

CONCLUSION

Automation presents a significant opportunity to enhance efficiency, quality, and flexibility. However, this performance is contingent upon the effective management of the entire system.

In this context, WMS is not just one component among many. It serves as a keystone that must exhibit flexibility, strength, communicativeness, and intelligence to effectively adapt to the prevailing realities. An automated warehouse is not merely a technological showcase; it is a dynamic ecosystem, perpetually in motion and necessitating tools that can meet its demands.