

Unlock the Value of Digital Fulfillment: Real-Time Systems to Optimize Distribution Operations





The transition to digital fulfillment has many business executives looking to automation in the distribution center to help streamline processes, increase productivity and create a competitive advantage. However, automation is simply one piece of the larger transformation puzzle. Distribution center operators must begin to rethink the underlying systems that run inside a distribution center, especially in relation to the broader systems to which they interconnect.

In today’s real-time streaming environment, distribution leaders are placing a greater emphasis on the Warehouse Execution System (WES)—a robust platform that orchestrates people, machines, processes, and orders in today’s automated DCs.

WES is the central nervous system for the distribution center, providing business leaders with a real-time view of the entire distribution operation while dramatically improving workflow optimization, prioritizing work, and balancing resources.

Historically, distribution centers were built on fixed parameters: limited space, heavy equipment and inefficient manual pick, pack, and ship methods. At the time, these did not pose a business problem because consumer demand was also generally fixed. Order flow could be easily projected, and orders could be grouped into larger quantities supported by planned workflows.

Consumer demand today, by contrast, operates on a different principle. A sudden trend for small-batch coffee beans leads to a surge in online orders with the promise of next-day delivery. Retail stores are practicing just-in-time inventory fulfillment and replenishment to minimize costs and to react to consumer trends with more flexibility.

Additionally, today’s orders have fewer line items and order-to-delivery cycles are shorter, leaving distribution centers busier than ever before. This shift requires highly dynamic, real-time workflows with continuous order streaming, or waveless order release, where workflow is planned as orders are received.

Distribution center leaders are increasingly investing in automation and software-driven processes to help them make this transformation. Technologies such as high-speed

“Automation is not new, but there are a number of new and emerging technologies which make the business case more attractive.”

unit sortation, transportation and replenishment bots, voice and light picking solutions, AS/RS and automated goods-to-person solutions help maximize space utilization and more efficiently employ labor resources in the distribution while improving throughput capacity.

However, automation technology is not simply “plug and play.” Combined with changing consumer order profiles, implementing automation solutions into the distribution



center’s operating model can be a complex process. If a warehouse changes the underlying mechanisms by which it operates, it must also change the software that orchestrates it. In other words, in highly automated environments, the underlying systems that run a distribution center—especially the software that powers it—must be able to orchestrate the execution of the work by both humans and machines. And in semi-mechanized operations, software helps smooth and optimize workflow.

For example, automated systems require the entire distribution center to be connected: Machines must talk to the system receiving orders, and that system must be able

“Your DC is too big to fail. Knowing the status and availability of both labor and machines enables the software in real-time to efficiently distribute work and release orders.”

to issue commands to the machines that fulfill those orders. Knowing the status and availability of both labor and machines enables the software in real-time to efficiently distribute work and release orders.

Software systems that manage traditional manual distribution centers simply cannot meet the needs of the automated distribution center. Instead, business leaders must invest in WES to gain the full benefits of an automated warehouse.

For more information, contact The Distribution Experts at info@fortna.com.

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