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 Warehouse Execution System (WES) software—the underlying platform that ensures automation technologies and workers can work in tandem within a distribution center and, eventually, with systems outside it.

Unlocking the Value of Digital Fulfillment: REAL-TIME SYSTEMS ORCHESTRATE AND OPTIMIZE COMPLEXITY
The WES is becoming the central nervous system for the distribution center, providing business leaders with a real-time view of the entire distribution operation to dramatically improve workflow optimization, prioritize work and balance resources.

However, distribution centers historically were built on fixed parameters: limited space, heavy equipment and a relatively rigid method to pick, pack and ship consumer goods. At the time, this 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 urge for small-batch coffee beans leads to an equally sudden online order with the promise of next-day delivery. Retail stores are also practicing just-in-time inventory fulfillment and replenishment to minimize costs and to react to consumer preferences with more flexibility.

Today, orders are smaller, order-to-delivery cycles are shorter and distribution centers are busier as a result, requiring highly dynamic, real-time workflows. The next wave in order processing is ironically called wave-less, or order streaming, where workflow is planned as orders are received.

Distribution center leaders are now investing in automation to help them make this transformation. Technologies such as high-speed unit sortation, transportation and replenishment bots, voice and light picking solutions, and goods-to-person automation reduce the equipment footprint in the distribution center without sacrificing 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 tailored to optimize the execution of the work by humans and machines. But even in moderately mechanized operations, software helps to optimize workflow.

“If a warehouse changes the underlying mechanisms by which it operates, it must also change the software that orchestrates it.”
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 to issue commands to the machines that fulfill those orders. Knowing where all labor and machines are and what they are working on in real-time allows the system to improve both efficiency and productivity.

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.

Read more in our next article, *The Evolving Warehouse Tech Stack.*

To learn more, contact The Distribution Experts® at info@fortna.com.

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About Fortna

For over 70 years, Fortna has partnered with the world’s top brands to transform their distribution operations into a competitive advantage. Fortna helps Clients make and keep bold promises to their customers—fast, accurate and cost-effective fulfillment consistently at every touchpoint, across every channel. Fortna’s expertise spans distribution strategy, distribution center operations, material handling automation, supply chain systems and warehouse execution software systems. We built our firm on a promise—we develop a solid business case for change and hold ourselves accountable for results. For more, visit www.fortna.com.