

Logistics
MANAGEMENT.

MAKING THE CASE

MAKING THE CASE FOR Driving Digital Transformation with a Smarter, Connected WMS



Why siloed logistics systems can't deliver in the digital age

Speed and complexity of omni-channel demands an integrated, agile approach

SUPPLY CHAIN OPERATIONS HAVE NEVER BEEN EASY. Managers have always been under pressure to control costs and accurately fill orders. But in recent years, rising customer expectations around accurate, rapid, e-commerce fulfillment have increased the speed and complexity of order fulfillment to a level that would have been unrecognizable a decade or two ago.

In the past, a more disconnected, sequential supply

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chain process was acceptable. Transportation could be planned for full pallets and truckloads, distribution centers (DCs) could process work at a predictable pace to meet brick and mortar replenishment needs, and DC facility automation was less intensive and less prone to bottlenecks. As long as costs could be kept in line, this sequential process with point solutions for warehouse and transportation management worked well enough.

Today, this “siloed” approach to supply chain management just doesn’t cut it—not with the speed and complexity required to meet customer expectations. In fact, MHI’s 2018 Industry Report found that more than 73% of supply chain professionals surveyed say customer demand on supply chain operations are extremely or very challenging.

For those running a supply chain operation, the challenges come in many forms. Orders are smaller, more frequent, and often need to be sent via parcel carriers, which means the DC has a hard deadline to get orders picked, packed, and ready for carrier pickups. That makes bottlenecks in the DC highly disruptive and puts a premium on coordinating work activity in tight concert with warehouse automation and any alerts coming from carriers on shipment delays or estimated time of arrival (ETA) updates.

“The world is changing, and in logistics and warehousing, that means everything is getting faster,” says Marco Ehrhardt, Managing Partner and CEO of Ehrhardt Partner Group (EPG), a global provider of integrated supply chain execution software. “Whereas before, logistics and warehousing processes were seen as cost centers, today, they are a source of competitive advantage if they can be run with the necessary speed and flexibility.”

Siloed systems are those that lack real-time integration with other execution systems, and are useful only within a distinct operational domain. For example, even today in many companies, transportation management system (TMS) software is used by one group to plan shipments, select carriers, and tender loads, while a warehouse management system (WMS) is used to control inventory and manage warehouse processes.

While automated materials handling systems might have a warehouse control system (WCS) of some type, they are often legacy WCSs that only govern one zone of automation

timely way, creating problems like outbound loads clogging dock areas, and suboptimal use of labor because shipping dock personnel have idle time. In the meantime, productivity for workers upstream might also decrease because the WMS isn't able to advance other orders up into sequence to take the place of orders impacted by logistics delays.

- Legacy control systems for automated equipment might be able to control diverts or speeds within a zone, but aren't able to send timely status updates to the WMS level where order releasing and workforce management decisions are being made. Older WCS solutions typically lack the ability

“Digital supply chain transformation calls for agility, which you get through functionality like resource management tools that come integrated with a WMS. Companies want to be able to utilize algorithms that will offer quick, intelligent recommendations on how to best adjust their workforce.”

— Cory Jines, VP of North American Services for Ehrhardt Partner Group

and have limited communication with the WMS.

The result, notes Ehrhardt, are “island” type systems that lack the real-time coordination and decision making needed to keep a high-velocity fulfillment operation running efficiently. Companies seeking to create digital supply chains—and companies and partner networks in which their digital systems mirror and adjust to shifting conditions and customer requirements in the physical world—need an integrated applications platform for agile supply chain execution.

“The benefit of an integrated application platform is you can have a much more optimized fulfillment process,” says Ehrhardt. “Today, optimized fulfillment has become a source of competitive advantage. Improved fulfillment processes and keeping customers satisfied—whether they are consumers or business-to-business customers—is how companies are making money.”

Just think of the pain points that exist when companies have siloed systems and disconnected execution processes. These can include:

- Late shipment arrival information doesn't get communicated to warehouse managers and systems in a

to model and simulate overall material flow if warehouse automation needs are expanding or upgrading.

- Transportation planners lack insight into orders moving through the warehouse, and the feasibility of consolidating warehouse orders in progress into more economical outbound shipments.
- Senior executives for logistics and supply chain management have poor visibility into logistics and warehousing costs. They might be able to look at historical data, but have no useful tools for comparing current trends across DCs, or making informed decisions on DC workforce levels, or on inventory positions.

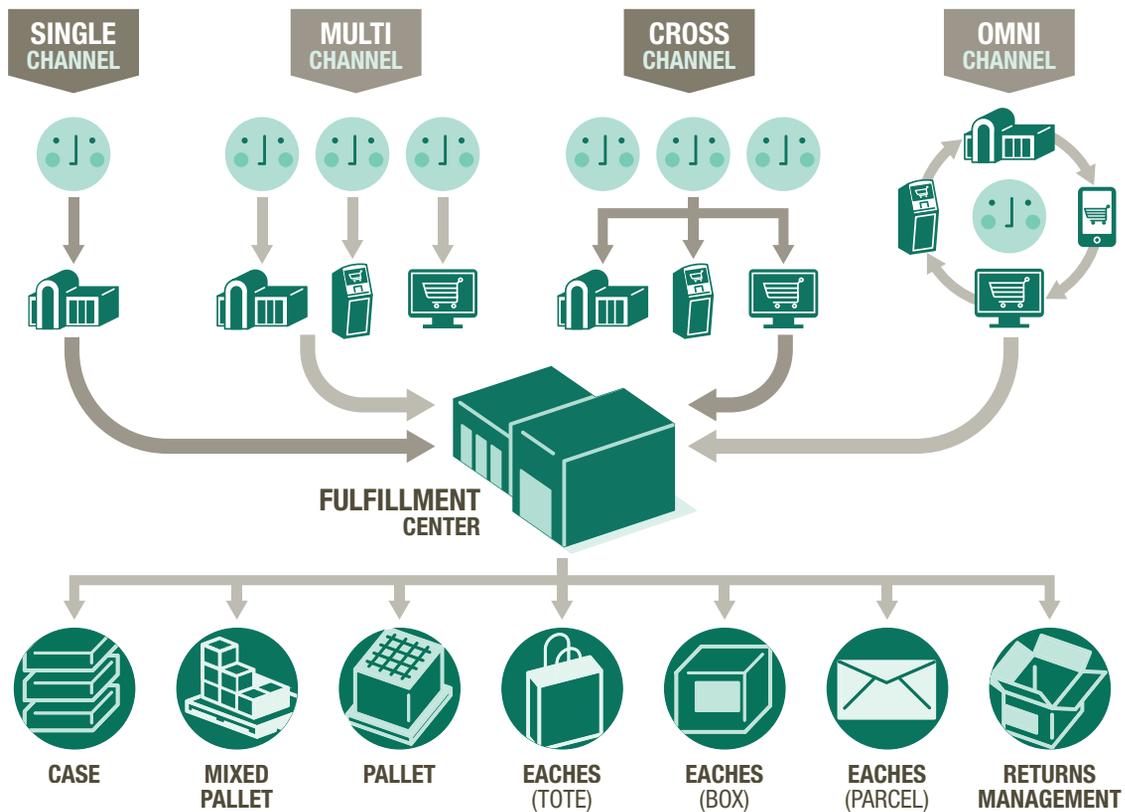
While any WMS can handle basic DC processes such as receiving, put away, picking and, replenishment to forward pick areas, companies looking for a new WMS should bear in mind that because of the more frequent, small orders now becoming the norm with e-commerce growth, a WMS also need advanced, built-in functionality in areas like slotting (i.e., where to store specific goods and in what quantity) and labor resource planning.

Since the goal of digital supply chain management is to gain the speed and flexibility necessary to fulfill customer orders quicker and more efficiently than the competition, a WMS should have built-in tools that automatically assess and recommend adjustments to the labor resources that will be needed for each shift and operational area, notes Cory

as a WCS and a TMS also allow DC operations to stay in synch with arrival updates from carriers, as well as with the status of automated material handling systems, which companies are increasingly adding to their DCs. Most companies lack effective integration between their WMS, TMS and WCS solutions and the result is a bottleneck

Electronic Commerce

TRANSFORMS OPERATIONAL PRESSURES



E-commerce means **more each picking** while still being able to **fulfill** for **traditional channels**

Jines, VP of North American Services for EPG.

“Digital supply chain transformation calls for agility, which you get through functionality like resource management tools that come integrated with a WMS,” says Jines. “Companies want to be able to utilize algorithms that will offer quick, intelligent recommendations on how to best adjust their workforce.”

A WMS that is part of the same integrated system

that slows down processes in the warehouse.

“When your goals are speed and flexibility, you need a WMS that has strong connection points to other systems, so that you can be proactive and adjust the operations in your warehouse.” says Jines. “The whole point is to be proactive—to avoid bottlenecks from even developing, rather than being reactive, which is what happens when you have disconnected systems.”

Integrated logistics execution software sets foundation for digital success

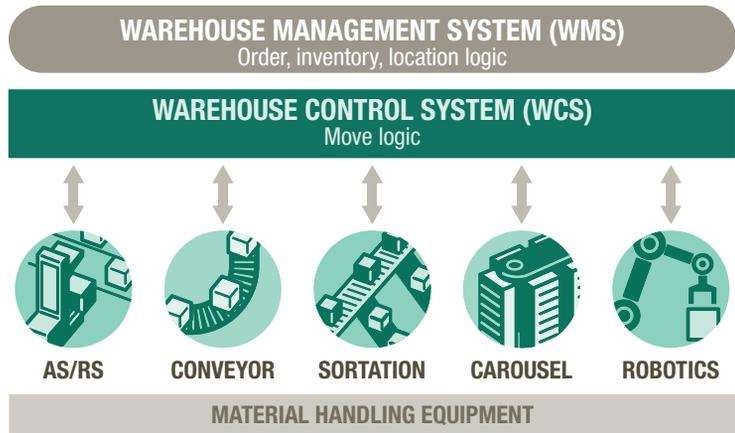
Sensors, IoT feeds, and GPS all play a role in digital transformation, but an integrated software suite for supply chain execution acts as the foundation for speedy, customer-focused fulfillment

THERE MAY BE NO SINGLE TECHNOLOGY that's going to turn a conventional supply chain into one ready for agile, digitized processes, but if an enterprise has a comprehensive software system for supply chain execution that's integrated and proactive, they have a foundation for carrying out speedy, accurate digitized processes.

The digital supply chain can be defined in many ways,

but it revolves around that idea that if you have systems that accurately "digitize" supply chain resources, events, and plans, you can adapt in a more agile and effective manner. With an integrated system for supply chain execution, you can optimize fulfillment across all domains—warehousing, warehouse automation, and transportation management—and apply smart algorithms against near-real-time, consistent data.

WCS MEETS WMS



A WMS solution set that offers **integrated WCS** enables **optimal use of machine, labor and inventory resources**

With digitization, you have systems that reflect the actual stream of orders, material movements, and logistics events that need to happen in the physical world to get goods to customers.

While technologies like sensors and Internet of Things (IoT) connectivity play a role in concepts like digital supply chains and Industry 4.0, if a company is disconnected, point solutions for WMS, WCS, or TMS functions, that a company's supply chain operations depend on, can't adjust in an agile, customer-focused way.

"Having integrated systems is the most important thing organizations can do to set a foundation for digital transformation," adds Ehrhardt.

"The benefits of being integrated are that you can optimize the fulfillment process and keep up with the speed and complexity of getting the correct goods to customers, while doing so in the most cost-efficient way," Ehrhardt says. "Accurate, on-time delivery is what counts today. It's how companies make money and gain competitive advantage. If you have isolated systems, you just can't compete as effectively."

The supply chain execution software suite EPG offers spans the WMS, WCS, TMS, and other functions. The suite—called "LFS" which stands for Logistics Focused Solutions® —is a totally integrated

solution set that has a top-tier level WMS (LFS.wms) and TMS (LFS.tms) as well as many other additional applications that can be turned on and implemented as needed; a company can start with LFS.wms and expand from there. EPG also offers the best-in-class Lydia Voice® solution to support voice-directed workflows that help an operation efficiently process the intensive "each picking"

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that characterizes today's order fulfillment patterns.

This integrated logistics suite solution approach not only eliminates the hassle of dealing with multiple vendors and the ongoing costs to maintain integration between disparate systems—it also delivers applications that have a consistent look and feel, with a common dashboard and reporting tools.

"The EPG solution provides a consistent user experience across the suite," says Jines. "You can navigate and find information in a way that provides a very short learning curve because of the

commonality, while the dashboard function is easy to personalize for each user's role."

When companies implement LFS, all the software functionality is part of the installation, so if a user company wants to start using an additional function, it can simply be turned on. Users might need additional training, but there's no additional software to install and no worries about integration problems, because the applications share a common data model and interfaces to any third-party applications, says Jines.

Additionally, if a company has an existing solution like a legacy control system or a TMS that it wants to continue to use, EPG has a common gateway to allow LFS applications to integrate easily with other applications using command standards.

At the core of LFS is its WMS solution, which includes advanced capabilities such as labor resource management to assess and adjust labor needs, as well as dynamic slotting to help a DC operation keep its storage, picking, and replenishment activity in synch with customer demand patterns. Since digital supply chains are all about being dynamic and reactive to real world trends, it's important for digital transformation to have a WMS that can self-adjust to trends like how many pickers will be needed for a shift, or how often a forward pick

bin should be replenished and with how many items.

Dynamic slotting features within LFS.wms will automatically assess order trends and replenishment movements to recommend optimal storage locations down to the bin level, taking into account the dimension of products. This feature has saved users up to 30

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percent in space utilization, while helping keep faster moving products in the most efficient pick locations.

“We can really optimize the utilization of bins with dynamic slotting,” says Jines. “To be agile, you need a system that quickly adapts storage locations for maximum efficiency in response to changes in demand patterns. Companies don’t want to stop production to rerack the warehouse, but they do want to optimize the configuration of bins. We also have LFS analytics functionality that runs in the background to optimize processes such as pick path efficiency and load balancing.”

“What most enterprises want is the ability to monitor labor productivity and adjust labor resources to ensure you can fulfill effectively especially during very busy times. Our system can do that, and it integrates with the other key functions needed to optimize supply chain and warehouse operations.”

— *Scott Deutsch, North American President for Ehrhardt Partner Group*

Today, DCs also need a WMS that is capable of interoperating on a near-real-time basis with information coming from the TMS or WCS domains. Since the LFS solution has integrated applications for these areas, events such as materials accumulating on a conveyor in front of a pack station or a message from a carrier that

a truck will be late are immediately visible at the WMS level. Adjustments such as reassigning workers can then be made quickly at the WMS level before bottlenecks with the automation or idle time for warehouse labor develops, notes Ehrhardt.

“When you have a WMS that is integrated with a modern, capable warehouse control system, the WMS has a timely overview of all that is happening with the automation, such as the speed of a picking process in an automated zone, or any maintenance or downtime issues,” Ehrhardt says.

“You can then make the right decisions and adjustments within the WMS, because you have systems that are working well together on one platform,” adds Ehrhardt. “The WMS can be the brain for the warehouse since it’s fully connected to other key systems, much like a human’s brain is connected to arms, hands, and fingers, and can instantly tell the body what to do.”

Likewise, the tie between the WMS and TMS needs to be close to achieve digital supply chain success. Updates on arrivals need to be communicated to managers in the warehouse to reassign workers if needed, and transportation planners assessing load-building options in the TMS need to know the labor and dock capacity picture in the warehouse on a more real-time basis. “When you are integrated you can

have the right, digitally driven decisions working on your behalf because all of your key applications are considering the same information at the same time,” explains Ehrhardt.

For most enterprises seeking to move their supply chain into digital age, having an integrated execution

Digital Age WCS: Ability to sync with WMS is essential

As long as there have been automated materials handling systems in warehouses, there has been warehouse control system (WCS) software of some type. But this doesn't mean that legacy WCSs or older conveyor control systems (CCSs) are capable of interoperating with warehouse management system (WMS) processes on a timely basis, or capable of modeling and controlling the overall material flow and productivity of automated zones.

In many cases, WCSs are older point systems deployed on outdated PCs or control hardware. They might do an adequate job of governing speeds, diverts, or inducts into a single piece of automated machinery, but they weren't intended as WCS that can orchestrate material flow across all zones and provide near real-time automation visibility to the WMS to adjust order waving and labor balancing in a smart, agile way. For these higher-level priorities, a modern, advanced WCS is needed, such as Ehrhardt Partner Group's (EPG) LFS.wcs solution.

With LFS.wcs, users get a WCS that can manage, control, and coordinate all aspects of automated material flow. Because it's tightly integrated with the rest of EPG's LFS suite, any developing issues in automated zones are communicated to the WMS layer so that adjustments in order releasing or labor balancing can take place.

The LFS.wcs also integrates with EPG's LFS.mfv 3D visualization solution, which allows users to digitally "zoom" into the details of an automated warehouse layout under consideration and simulate whether the layout will meet expected throughput needs. Such advanced WCS capabilities fit perfectly with the digital supply chain concept of having digital systems that mirror the physical world of supply chain operation so that your systems can adjust.

If you're looking to transform your warehouse for the digital age, having an advanced WCS solution that integrates fully with WMS is a key foundational element to consider.

solution that spans WMS, WCS, and TMS, as well as other functions like voice picking, labor management and dynamic slotting is the surest way forward, concludes Scott Deutsch, North American president for EPG.

While a company may believe it needs a labor management system (LMS) with engineered standards functionality, they will actually gain bigger payback from labor resourcing planning and analysis tools that ensure they have enough workers assigned to the right areas of a warehouse to meet the throughput requirements for each day.

"EPG offers a comprehensive set of integrated applications that are going to be a good fit with the supply chain digitization needs for the vast majority of companies," says Deutsch. "Take labor management, for instance. There are not that many enterprises willing to take on the overhead of establishing engineered standards as part of a LMS. What most enterprises want is the ability to monitor labor productivity and adjust labor resources to ensure they can fulfill effectively especially during very busy times. Our solution can do that, and it integrates with the other key functions needed to optimize supply chain and warehouse operations. For most enterprises, putting in place a single, integrated system for supply chain execution is going to be their best step forward for digital transformation."

Herr's Foods' WMS deployment brings efficiencies & expandability

AFTER YEARS OF USING TIME-consuming paper pick methods and other manual processes, Herr's Foods® knew it needed to move to a new warehouse management system (WMS) capable of meeting current challenges while also supporting additional needs like voice-directed workflows. That drove the Nottingham, Pa., based food manufacturer

According to Dan Sifer, senior VP of supply chain for Herr's Foods, the integrated nature of the suite as well as EPG's knowledge of distribution challenges in the food industry were key factors in the decision to choose the LFS.wms solution. Herr's Foods is known for its various snack foods, including Herr's potato

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and distributor to seek a WMS with extended, integrated supply chain execution capabilities.

After comparing solutions, Herr's Foods chose the LFS.wms system from Ehrhardt Partner Group (EPG). The suite not only covers core WMS functions such as system-directed receiving, put away, replenishment, picking, shipping, and cycle counting, it also comes as part of an integrated solution set from EPG that also offers the Lydia Voice solution, transportation management system (TMS) software, and warehouse control system (WCS) functionality.

chips. Its customers, which include some of world's biggest food retailers, expect accurate, cost-effective fulfillment.

“The people at Ehrhardt Partner Group understood our business well, which was a factor in our decision,” says Sifer. “We also liked that they had solutions in areas like voice-directed workflows and transportation management. Having those additional functions was an area they 'checked off' better than some of the other competitive WMS solutions we considered.

Herr's Foods is already live with LFS.wms at their warehouse site in Maryland, one of the four distribution center locations the WMS is being rolled out to. The company is also in the process of deploying the Lydia Voice solution at the Maryland site. The WMS solution can support the needs of a multi-entity enterprise that has more than one company organization using the same warehouse, which was a factor for Herr's Foods, which has different company structures to serve

With the LFS.wms solution, lift truck operators and other warehouse personnel are guided by system-directed workflows, while lot control processes are also built into the system's workflows. LFS.wms also blends cycle counting into its workflows, which eliminates the need to perform physical counts.

Workers now see their tasks on a screen and are prompted for any necessary validations or data collection. The WMS transactions integrate back to Herrs' ERP

"We're already seeing improvement in inventory accuracy at the first site," says Sifer. "We also expect to see significant gains in labor efficiency through system directed put away and picking. And, with the ability of the system to perform cycle counting, we'll do away with the physical cycle counts. Overall, we'll have a much more real-time control over inventory."

While the deployment is ongoing and thus the full range of benefits aren't yet realized,



different channels that serve major retailers, convenience stores, food distributors, and vending companies.

Before using LFS.wms, the company created paper pick lists from an enterprise resource planning (ERP) system and then used manual, paper-based processes to pick orders. Lift truck operators picking goods to build loads and fill orders had to pause to manage paper records and perform lot code control manually. Under the previous methods, Herr's Foods also had to assign people to perform weekly physical cycle counts to ensure inventory accuracy.

system, so no administrative time is wasted updating the ERP system, as was necessary before.

Additionally, when the Lydia Voice system goes live, operators performing order picking will have voice-directed instructions and verbal validations, which are expected to further boost productivity because operators can concentrate on filling orders rather than having to pause to interact with a screen. When fully deployed at Herr's Foods, the system is expected to improve labor efficiencies by at least 15 percent, while also improving on inventory accuracy and order accuracy.

Sifer says Herr's Foods is on its way to having an efficient WMS with integrated voice-directed workflows to deliver the efficiency and accuracy it needs today in the warehouse, with the option to expand into integrated functions like TMS should that need arise.

"We're now at a place where we're starting to see the benefits from this new way of doing things," Sifer says. "As we get the system running at all four sites, and we start to benefit from all aspects of the system, I think our people will look back at how we did things before and think 'I can't believe we did things that way.'"

Supply Chain Execution Software Gets Strategic: Benefits from C-level on down

When the global supply chain is digitized, all stakeholders benefit

SOFTWARE FOR WAREHOUSE AND LOGISTICS EXECUTION isn't just about supporting low-level tasks these days. With the rise of e-commerce, a system that can model, analyze, and support productivity and cost effectiveness across all key fulfillment processes will drive corporate success.

That's a change from the not too distant past, when siloed solutions, such as warehouse management system (WMS) and transportation management system (TMS) were used by distinct groups of workers and had little of the integration necessary to dynamically optimize all key aspects of fulfillment such as order release, inventory storage positions, labor assignments, dock assignments, or transportation plans.

Today, the nature of supply chain execution software has changed. It calls for a high level of integration to proactively assess changes in logistics, to monitor and optimize the automated warehouse equipment and robots, and adjust warehouse resources and order releasing using mathematical algorithms and analytics.

Additionally, having dashboards and user interfaces that can be personalized for different roles means that C-level executives or VPs of logistics can gain value from a supply chain execution suite solution, in addition to front-line workers in distribution centers (DCs).

The big driver for integrated execution solutions is the industry change driven by e-commerce growth

and companies such as Amazon® that are proving that being exceptional at fulfillment can transform the competitive landscape.

Execution is "in," but the catch is that logistics execution software needs to be integrated to support digitally driven processes that span all the domains and activities involved in fulfillment. An integrated logistics and warehousing solution also needs to be easy to personalize to appeal to users at every level, explains Cory Jines, VP of North American Services for Ehrhardt Partner Group (EPG).

"With integrated applications, you can access information across all domains in an operation, but how one person wants to view information versus how another person wants to view it will vary by role or by how they want to arrange the information," says Jines. "We can easily personalize the user experience so that each user or role sees what is most important to them. A warehouse associate, for instance, wants a simple view of their tasks and what they need to do next, and a streamlined view of performance level, whereas as a supervisor wants a broader capability to monitor the entire workforce, their productivity levels, and where they are at any given time."

Senior executives within a company will find value in dashboard functions and analytics from EPG's LFS solution which differs from a legacy WMS with limited reporting tools. Through an integrated solution senior executives can monitor and manage capacity and costs issues that are crucial to e-commerce fulfillment success and driving profits.

"Executives all over the world now realize the strategic importance of logistics and warehouse fulfillment processes, and being able to manage them in a smarter, digitally-driven way," Ehrhardt says. "With the rise of e-commerce and the high volume of order lines that it involves, companies not only need a good front-end web presence and marketing, they need an integrated solution for logistics and warehouse functions to ensure they can keep up with the volumes and get the correct goods out to customers on time. Today, smarter, faster logistics and warehousing is the way you make money."

The capabilities that matter the most in an integrated supply chain execution suite which spans warehouse management, warehouse control, and transportation and logistics functions will vary by role. Benefits include:

FOR FRONT-LINE WAREHOUSE WORKERS, system-directed picking with mobile devices or units on lift trucks increases productivity and accuracy versus manual methods such as paper pick lists. EPG's Lydia Voice solution can be added to EPG's LFS.wms solution for voice-directed workflows that create additional "hands-free" productivity gains.

While workers don't worry about issues such as optimized order waving and releasing logic in the WMS, having an integrated system offers warehouse control elements as the WMS is fully cognizant of the status of automated zones and machinery. This provides

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management with a solution that governs orders waves and processing in a way that creates a steady, productive flow of warehouse work that minimizes travel time for associates and operations, thus increasing productivity. In addition to workers having to "travel" less to hit high productivity goals, their displays quickly show them their current performance rate.

SUPERVISORS AND MANAGERS IN THE WAREHOUSE need a view of workforce productivity, current orders and work status, and insight into any machine issues from the WCS that could impact throughput. With LFS.wcs being integrated with LFS.wms, any automation issues such as maintenance in an automated storage system or with a conveyor, for example, are immediately known at the WMS level so that the system releases work and rebalances labor, if necessary, to minimize disruption.

Managers at the DC level also benefit from tools for labor resource planning. With the integrated approach, the WMS is constantly making smart, digitally-driven decisions and recommendations, rather than working from the type of static rules one gets with a "siloed" legacy WMS.

FOR SENIOR AND C-LEVEL EXECUTIVES, the integrated execution suite becomes the foundation for optimal order fulfillment. This allows the company to grow revenue, maintain or exceed customer service goals, and avoid cost overruns in areas like expedited shipping or warehouse overtime.

Executives aren't likely to be power users of the WMS, but they will use dashboards and analytics to monitor fulfillment performance, labor cost trends, logistics costs, and on-time delivery performance. Strategically, senior executives know that with an integrated supply chain execution solution that spans warehouse management, warehouse control, and transportation functions, they have one consistent system for order fulfillment that is able to optimize in concert with the increasing level of automation, robotics, and voice-directed

workflows that it is necessary to compete on speed, accuracy and cost.

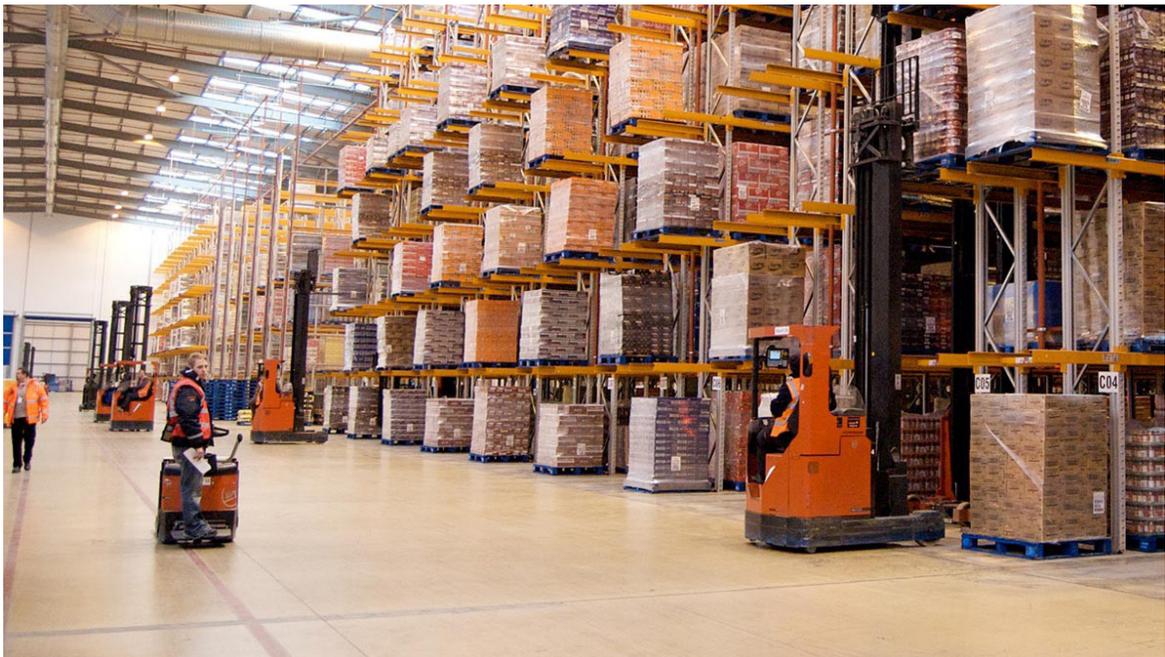
FOR IT DIRECTORS, one integrated, centralized logistics system reduces cost of integration and complexity in administration. CIOs and IT directors know that the WMS will also be on the same data model and use the same dashboard tools as other key applications. EPG's LFS.wms is also able to handle multiple customers, languages, and locations, with multiple sets of business rules for different business unit operations or third-party logistics (3PL) clients, making it an ideal WMS solution for enterprises with multi-company operations, or 3PLs.

The IT team can administer one WMS centrally and still handle unique business rules for different sites or organizations, rather than deal with multiple WMS solutions and all the integration complexity and cost that entails. The system also offers a flexible integration

“gateway” to legacy solutions or ERP systems, further reducing integration concerns and making the system easier to deploy in brownfield IT environments.

Ultimately, digital transformation is about being able to keep up with the speed and complexity of today's order fulfillment at the lowest possible cost and with the near perfect accuracy customers expect. There are technologies like global positioning and internet-connected sensors that will feed an enterprise a richer stream of real-time information, but to compete more effectively, the enterprise needs a consistent, integrated applications system on which to execute warehouse fulfillment and transportation management processes.

After all, it's not just having access to real-time data that creates digital transformation, it's being able to act on that data with integrated applications in a simultaneous, consistent way to digitally drive the business and adapt to changing supply chain and operational conditions.



Top 5 reasons to move to a high performance WMS

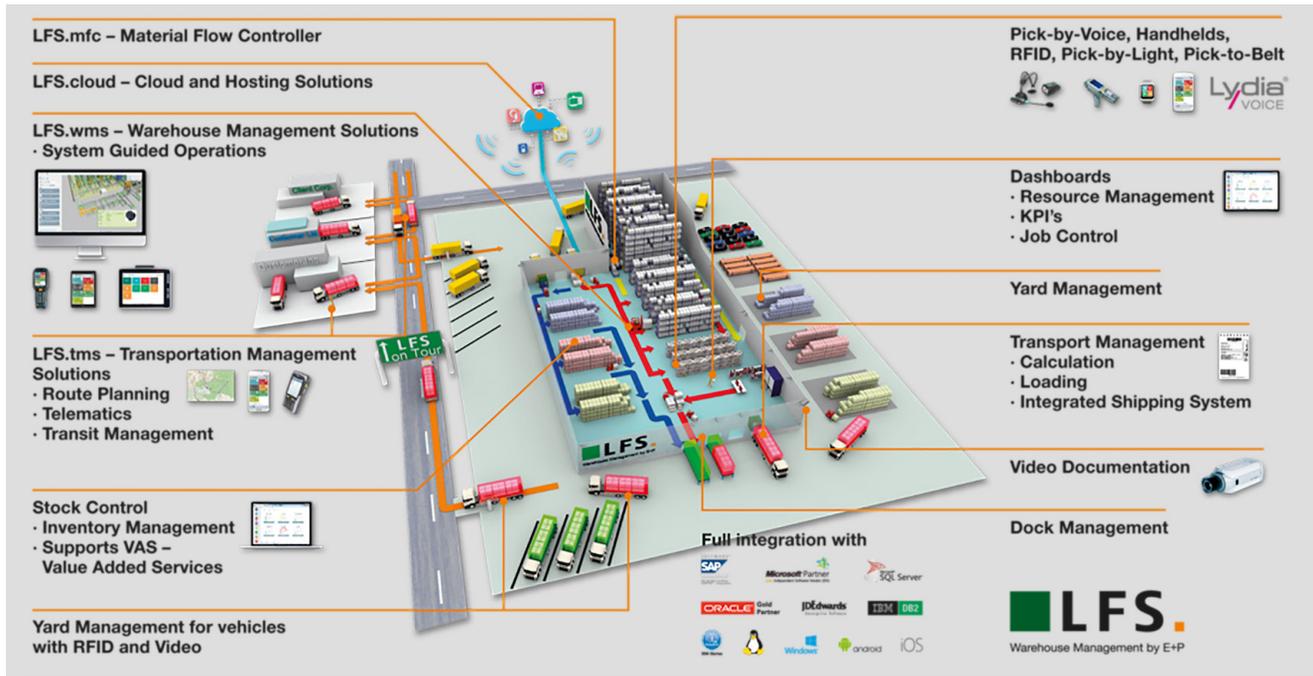
MANY WAREHOUSE MANAGEMENT SYSTEMS (WMS) can do the basics like manage receiving and put away, some order picking, handle replenishment, or support radio-frequency picking, but in today's world, a basic WMS doesn't deliver the needed edge. To have effective fulfillment, you need a WMS that manages not only inventory, but also labor and machines, stays in synch with transportation updates, and is easy to personalize.

"What we offer with LFS.wms is an extended, modular solution that is not only a best-in-class WMS, but it can also expand into a warehouse control system (WCS), transportation management system (TMS), and voice-directed solution," says Scott Deutsch, President of Ehrhardt Partner Group (EPG), North America. "Today, your warehouse and logistics solution has to manage people, coordinate in real-time with automated machinery, and know what is happening with transportation so that you can quickly adjust warehouse resources. With our solution, you get that full range of functionality, along with deep capabilities within the WMS."

What can a high-performance WMS bring? In order picking alone, LFS.wms has reduced errors by 30 percent, improved pick times by up to 70 percent, and saved up to 30 percent on space due to its dynamic slotting capability. With more automation and tighter cycle times in order fulfillment, performance increasingly requires a solution that blends WMS, WCS, and TMS functions as part of flexible workflows. Top benefits include:

1 REAL-TIME MANAGEMENT OVER MACHINES AND LABOR. With LFS.wcs, the solution has an integrated material flow and warehouse control set of functions that allow all decisions being made—in areas such as order releasing and waving, labor planning, and labor management—to be made in concert with the status of automated materials handling equipment and the progress of work going through those assets. This ensures a smooth, productive flow of work.

2 THE WAREHOUSE STAYS IN SYNCH WITH LOGISTICS ACTIVITIES. Because EPG offers an integrated TMS, the combined solution automatically adapts to updates from carriers or partners regarding late shipments, incomplete shipments, and estimated arrival times, so that the warehouse can better allocate labor, assign docks, and ensure labor or machine resources aren't idle or unavailable.



An integrated logistics execution solution set which spans WMS, TMS, and services expertise provides a solid foundation for digital transformation.

3 FUNCTIONAL DEPTH AND EASE OF EXPANSION. Do you need dynamic slotting, returns management, yard management, or packing and shipping features as part of your WMS? With LFS.wms, modules are pre-installed with the initial deployment, so additional functions can be quickly added. Also, with decades of experience deploying the LFS.wms across industries including logistics providers, food and beverage, automotive, spare parts distribution, and manufacturing, EPG offers a variety of industry-specific configurations.

4 HIGHLY CUSTOMIZABLE WORKFLOWS, DASHBOARDS, AND USER INTERFACES. Different roles in an organization want to see warehouse and logistics trends in different ways, from associates on the floor, who need task direction and highlights on goals; to managers, who need to plan and allocate labor, to executives, who want to drill down into costs. Having a customizable solution with consistent dashboards and interfaces enables each user to maximize the features and benefits of the solution and accelerates user adoption and increases overall productivity.

5 TOP-TIER VOICE SOLUTION THAT IS HARDWARE INDEPENDENT. LFS.wms comes with voice picking features, but in addition, EPG offers Lydia Voice, a best-in-class solution for voice-controlled workflow processes. The system doesn't force you use one brand of device hardware, however, EPG does offer innovative options, such as its Lydia VoiceWear vest for hands-free, eyes-free and headset-free voice workflows. Lydia Voice is available on Android, and offers direct integration with SAP® EWM and WM (no middleware), and integration with Manhattan®, JDA®, HighJump®, NetSuite® and 20+ additional WMS solutions.



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CAN DO, VISIT WWW.EPG.COM

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