



ARCHON
INTERACTIVE
Warehouse Management & Supply Chain Solutions

Case Study

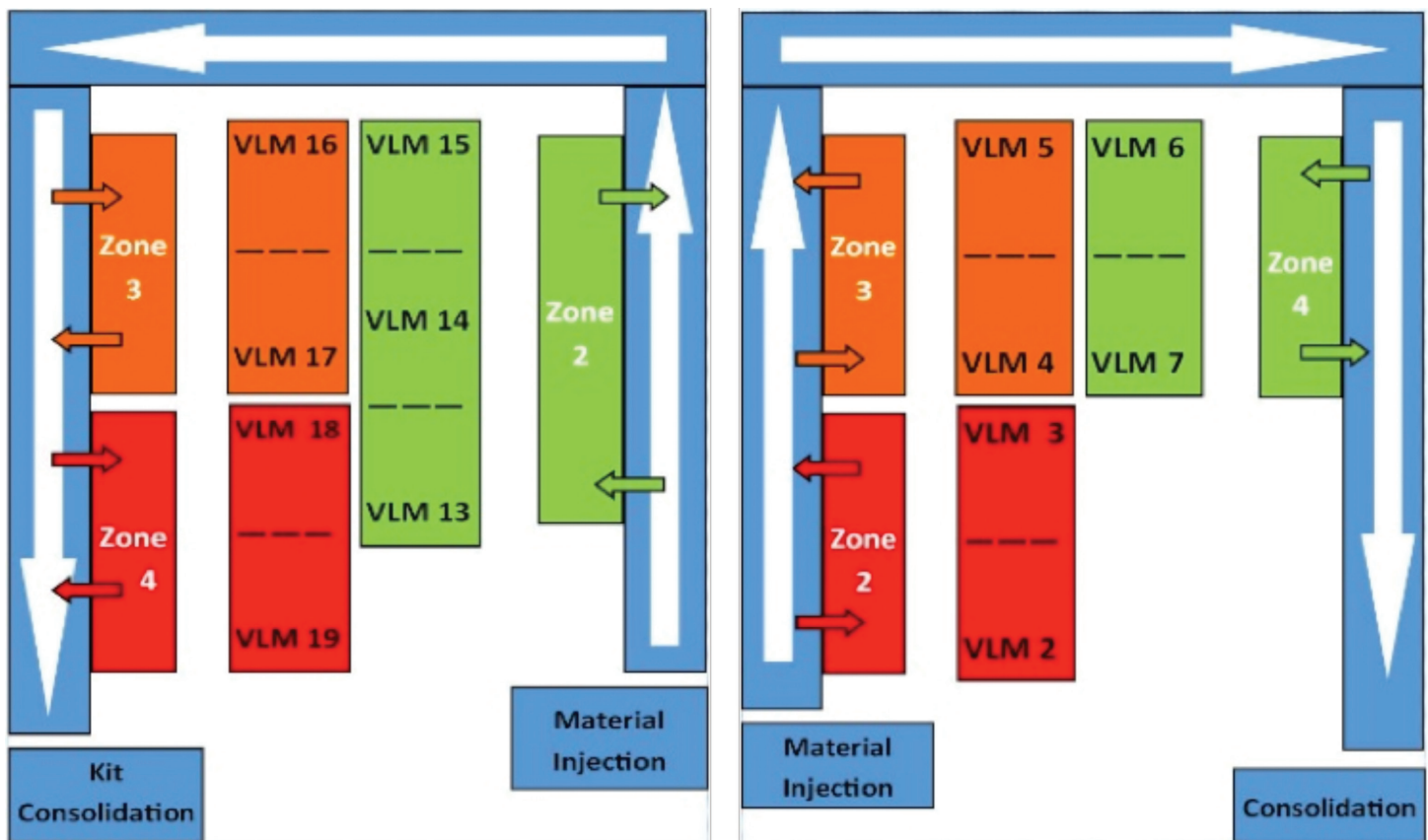
Whelen Engineering



Overview

Whelen Engineering Company is a large manufacture and distributor of emergency safety lighting for Police, Fire, EMS, DOT professionals and many other industries. Whelen's facility in Charlestown NH contains two warehouses: the Stock Room and Finished Goods. The Stock Room warehouse is dedicated to parts for manufacturing and The Finished Goods warehouse is dedicated to holding finished manufactured parts. Both warehouses have sections within them dedicated to Kardex Remstar Vertical Lift Modules (VLMs).

Diagram 1



Within the last couple of years, Whelen has grown at a rapid rate and needed a solution that could provide them more space and enable them to better manage increases in inventory and orders.

Working with Abel Womack, a warehouse solutions provider, they determined that introducing VLMs in combination with a conveyor-based material transport system and Lightning Pick picking lights would give them the space and the efficiency that they were seeking. However, the solution required software to manage the workflow and the inventory and to control the VLMs, conveyors and picking lights. Finally, the software would need to communicate with Whelen's proprietary internally developed ERP system.



The WaveTrak Solution

Archon implemented a **Warehouse Management System** (WMS) and a Warehouse Control System (WCS). These applications met all of Whelen's basic requirements and then some. The solution contained the following functional components: (i) Material Injection, (ii) Putaway, (iii) Dispatch, and (iv) Picking.

Material Injection

The Material Injection module is responsible for receiving items and delivering them to the appropriate zone for putaway into the VLM system. When material is received, the warehouse worker scans a label produced by Whelen's proprietary ERP. Once the label is scanned, WaveTrak determines the part information and quantity of the material. This is possible due to the integration with the ERP. The worker then proceeds to break the material down into smaller packages if necessary, to print out package ID (PID) labels and then assign a box type, zone, and tote to each package. The box type will dictate which size location within a VLM is required so that WaveTrak can subsequently assign a location within the VLMs for the package and then drive it to that location. The worker then places the package into its assigned tote and WaveTrak manages the conveyor to deliver the tote to the correct zone.

The WaveTrak Solution (continued)

Putaway

Once the tote is transported to the correct zone, putaway for the user is a very simple process. The user scans the PID on the package in the tote, at which point WaveTrak will retrieve the appropriate tray in the VLM and directs the user to place the package in the correct location by displaying messages on the VLM's display. The user finishes the putaway by pressing the VLM's transaction bar to confirm completion.

Dispatch

The Dispatch Module is the main application for managing and monitoring the release of orders for picking into the VLM system. WaveTrak receives orders in real time from the ERP system. Within the dispatch module supervisors have the ability to group and sort orders and assemble them into batches to optimize VLM picking. Before batches are released, they can be simulated to see the impact on the workload within the VLM system. Supervisors may choose to not release a batch if it creates too much picking stress in one zone.

WaveTrak also provides reporting and analysis tools that help managers understand what the activity level is at the VLMs on a real time basis and enables them to drill down on historical activity.

Once the orders are dispatched, they can be injected into the system at the beginning of the conveyor, in which case the operator will assign a tote which is then directed to the zone of the first pick, or the workers in each zone can inject orders directly using an empty tote from the conveyor return. Either method results in a tote assigned to the order and in place at the zone of the first pick.

The WaveTrak Solution (continued)

Picking

WaveTrak utilizes Lightning Pick picking lights in order to facilitate Whelen's picking process. Once the tote arrives at the zone, the user scans it and assigns it to one of six picking locations for that zone. This can be repeated until all six positions are full, thereby allowing the user to work on six orders simultaneously. Based on the orders that are being picked, WaveTrak optimizes the picking process so that the user will pick the same part from the same location into multiple orders. Where possible, WaveTrak will also alternate between individual VLMs within a zone so that the tray containing the parts to be picked next can be retrieved from an inactive VLM while the user is picking from a tray on the active one.



For each pick, WaveTrak utilizes the display on the VLM to indicate the location of the part on the tray and the total quantity to be picked. WaveTrak then uses the Lightning Pick display to indicate the part quantity that should go into each of the totes in the picking locations. As the user puts the correct quantity in each tote, they push the confirmation button on the Lightning Pick bar. When the user has placed all of the amounts of the part into the appropriate totes and pressed all of the corresponding confirmation buttons, they push the transaction bar on the VLM to indicate that they are ready to move to the next part. Note that WaveTrak will not permit this to happen unless all of the confirmations for the totes in the picking locations have been entered.

WaveTrak also uses the Lightning Pick bars to indicate when all of the picks for a given order have been performed. When this happens, the user simply pushes the tote back onto the conveyor and presses the confirmation button. WaveTrak then routes the tote to its next destination. Users can also scan a barcode if the tote becomes full before picking is complete in which case WaveTrak prompts them to assign another tote to the order and routes the full tote to the end of the line.

Benefits

Enhanced Space Utilization: By introducing conveyors and VLMs controlled by WaveTrak, Whelen was able to better utilize its existing warehouse space and avoided the need to build new facilities or expand the footprint of existing ones.

Inventory Accuracy: WaveTrak streamlines and validates all workflow and enforces compliance with correct processes, leading to increased accuracy.

Real Time Information: The connection between WaveTrak and the internally developed ERP system is real time. As orders are changed and prioritized in the ERP system they are immediately updated in WaveTrak. As material is picked in the warehouse, this is reflected in the ERP due to the integration with WaveTrak.

Productivity: Due to optimized and streamlined workflows, real time data, and inventory accuracy more orders can be filled correctly and with faster velocity. One user reported that they walked 8-10 miles every day prior to the implementation of the WaveTrak/VLM system.

Operational Visibility and Analytics: WaveTrak's reporting and analytical tools provide supervisors with detailed current and historical information. When an issue occurs, Whelen has the information to correct the problem and develop strategies to prevent it from happening again. Supervisors have new visibility into overall productivity and individual worker performance.

About Archon Interactive

We specialize in providing custom developed solutions ranging from relatively simple equipment control applications to our full-blown, enterprise class Warehouse Management System, WaveTrak WMS®. Our customers include small manufacturers and distributors, 3PL providers and Global 1000 companies. To learn more about how we can help you solve your most pressing operational issues, please contact us.

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