

## Largest Global Animal Health Company Improves Pick Efficiency and Reduces Replenishments

### 1 Introduction

When a Fortune 500 company who is the largest global animal health company began running out of space in their distribution center, they embarked on a mission to engineer their layout to accommodate growth, as well as improve pick efficiency, decrease replenishments, and reduce labor. They called in Conveyor Solutions Inc. (CSI), a Systems in Motion company, that creates storage innovations, system integrations, conveyor system solutions and more. CSI then introduced the company to one of their partners, Alpine Supply Chain Solutions.

### 2 The Challenge

The manufacturer faced many challenges including needing growth plans for their new distribution center in Kansas City and not having enough pick locations in their current DC. Another challenge was that the pick and pass operation in their current DC allowed for only 1,500 orders per day out the door. They were also having to deal with the cooler and ambient zones within the DC, which was challenging because there were two different pick zones in two different areas that were not connected to one another.

### 3 The Solution

Conveyor Solutions, Inc. led the design process that increased capacity and implemented conveyor systems to increase overall throughput. Then CSI introduced Alpine to perform slotting of the pick area to decrease travel time, increase pick efficiency, and reduce replenishments.

## 4 Implementation

The pick area that was designed by CSI had carton flow and pallet locations in both cooler and ambient sections.

Alpine started the slotting project by analyzing outbound shipment data to understand the company's average and peak order profiles and then analyzed the Item Master to identify any discrepancies. The Alpine team then performed a site visit to develop a digital twin of the pick areas, which is a replica of a customer's warehouse that Alpine develops within OptiSlot to perform slotting scenarios.

Once Alpine completed the digital twin they developed location numbering within the slotting tool, developed a pick path for the picking process, and inputted values for travel settings (horizontal travel speed, pick time by level of the carton flow, set up time per order/pick and time to replenish a slot). Alpine then performed 10 different slotting scenarios based on different goals and rules with sets of constraints that Alpine, CSI and the company agreed on.

Based on the different scenarios and using a comparative report that was developed considering one week of real time shipment data, Alpine looked at various factors before finalizing and recommending a slotting scenario to the company. Alpine looked at metrics such as lines picked per man hour, units picked per man hour, travel time, time to pick (bend and reach), total replenishments and total cost.

The main issue that Alpine uncovered during the slotting process was that the company had 12 zones in the ambient area and four zones in the cooler area. If they have at least one resource per zone then they would need 16 resources to pick within the zones. However, the volume for the company didn't require this many pickers, so Alpine came up with the idea of merging 10 zones into five and leaving the remaining six zones as is.

## 5 The Results

In the end, Alpine Supply Chain Solutions helped the company reduce the overall labor for picking from 16 to 11 associates before realizing the slotting savings. The company went live in January 2024 and they are expected to save 12% of the baseline picking labor due to efficient slotting. Since Alpine took replenishment into account while slotting, the company is also expected to reduce their replenishment frequency by 45% due to slotting the high cubic movers in pallet locations, medium cubic movers in carton flow with multiple slots per SKU, and low cubic movers in carton flow with one slot per SKU.

## 6 Solution

With help from Alpine Chain Solutions and Conveyor Solutions, this Fortune 500 company was able to improve pick efficiency, decrease replenishments, reduce labor, and overall achieve what they were looking for in terms of their new DC.