

# VERTICAL SORTATION DRIVES EFFICIENT E-COMMERCE FULFILLMENT

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## Case Study

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### Vertical Sortation Enables Direct-to-zone Routing to Increase Capacity With Reduced Conveyor Cost



*Please note: "Honeywell Intelligent USS" within this case study refers to USS. Intelligent, which was purchased by Honeywell in 2016, acquired USS in 2016.*

HOJ Engineering needed to supply a highly flexible, scalable order fulfillment solution to an online retailer. Not only did the system have to accommodate rising order volumes, it needed to handle operational surges during peaks and keep a constant stream of products for replenishment while simplifying storage and slotting.

Honeywell Intelligent USS provided a high-speed vertical conveyor that met the retailer's business requirements and maximized utilization of their existing space – built on an easily expandable framework to meet future growth.

#### Flexible Fulfillment Solution

Honeywell Intelligent USS installed 10 vertical conveyors that each combine with a horizontal sortation system to deliver totes to six different destinations, resulting in 60 unique delivery locations. Each delivery location serves two pick zones, allowing the system to provide a total of 120 pick zones, all within a small system footprint. It routes totes to serve both replenishment and multi-line orders for more efficient fulfillment and increased labor utilization.

Rather than the traditional pick-and-pass fulfillment workflow, this direct-to-zone and zone-to-zone routing solution feeds totes directly into each pick zone. The system transports totes above the main conveyor lines, keeping pick lanes open and clear for reliable order processing and on-time replenishment.

The configuration also enables the retailer to store products without the need to manage product velocities or seasonality. Any product can be stored in any zone, eliminating the need to re-slot. With thousands of suppliers and 350,000 SKUs, this saves thousands of labor hours and decreases the product damage that comes with increased handling.

#### Real Results and Scalability

The system handles 50,000 orders per day, but that is not its absolute limit. Like many e-commerce operations, order variation, peak hours and operational imbalances can cause surges and flood individual zones. Not only can the system scale to accommodate sustained growth, it offers an additional 33 percent capacity to maintain maximum fulfillment efficiency during peaks.