

Case Study



A World-Class Distribution Center for Internet Retailing

Leading Internet retailer, Newegg.com, shows how to optimize distribution with its new 374,000 square-foot distribution center in Edison, New Jersey. A showpiece of state-of-the-art logistics technology designed and built by Dematic, this DC sports some of the industry's most efficient high-speed material handling systems, including energy-efficient conveyors, picking systems with pick-to-light and zone routing, pop-up sortation equipment, and serialized tracking.



The challenge

Newegg.com needed a solution that could deliver on their goal of shipping 98 percent of orders within one business day. "To facilitate this, we invested in our New Jersey distribution center to consolidate two of our smaller operations into one large automated facility," says Bob Zelis, Vice President Logistics at Newegg.com. "We wanted to better service the eastern U.S. where we have a significant customer base. Our business has grown so dramatically over the past couple years that it necessitated a new DC to keep up with it."

Our solution

Once the products are received, they go into one of two locations. Most of the product goes into primary pick locations within the picking system. Some of the product is purchased in quantity, where it goes into a secondary pallet location for storage. Newegg operates very much on a just-in-time inventory model. It does not accept back orders. Once it has sold out of a product it instantly takes that item down from its website.

Inventory is closely tracked all the way through the system using serialized tracking. If a customer, after the product has been purchased, has an issue, Newegg can track that specific item all the way back to the receiving purchase order.

Integrating with Newegg's proprietary Warehouse Management System, Dematic's SortDirector is being used for the warehouse control system (WCS) which provides state-of-the-art graphic system monitoring for the entire conveying, zone routing and sortation operations.

"We wanted the latest technology to move our products through the DC, so we could capitalize on the fastest and most efficient systems. Dematic's complete automation solution covered our entire operation, from picking through to shipping."

Bob Zelis, Vice President Logistics,
Newegg.com



Pick-to-Light and Zone Routing

All orders come in through the company's main server in California, and then get routed to the closest DC location to where the ship-to address is located. Once an order gets to the New Jersey distribution center, it is assigned to a tote, which has a barcode on it. The tote routes through an automated digital zone-routing pick system, developed by Dematic, in combination with pick-to-light. Roughly half of the distribution center is utilized by the picking areas.

In the pick-to-light system, the operator scans a bar-coded address label attached to a tote. Digital displays located in front of each pick bin tell the operator which SKUs to pick and how many. Pick-to-light systems are a viable option in applications with thousands of SKUs, such as Newegg.

Warehouse Control System with Graphics System Monitoring

Integrating with Newegg's proprietary Warehouse Management System, Dematic's SortDirector is being used for the warehouse control system (WCS) which provides state-of-the-art graphic system monitoring for the entire conveying, zone routing and sortation operations - Dematic also provided two pop-up wheel sorters for the system.

SortDirector gives operators highly detailed and accurate, real-time control of product movement and reporting.

SortDirector runs on a Windows-based Pentium PC using an SQL database. It was developed using modular components of code to make it easily configurable. At a glance, users can identify system status and easily diagnose material handling equipment issues. It provides a full layout view of the system, which displays the operating conditions of material handling components by color coding.

Observations

"The time to process one order in the New Jersey DC averages 20 minutes," explains Resnick. "Processing speed allows more orders to be shipped at ground rates, which is better for Newegg's customers. Also, the high-capacity design of the system means that order processing can occur on one shift, as Newegg is doing now, instead of being spread out into another shift. That leaves a lot of room for expansion as volumes increase."

For Newegg, the focus is on superior service to its customers. This is central to the company's business success model. Its New Jersey DC, with its sophisticated automation systems, can only poise the company better to build its very unique brand.

Customer benefits

→ 20% More Productivity

→ 30% Less Energy Usage

→ Greater Flexibility and Visibility