

# LXE VX7 a Key Enabler for New American Eagle Outfitters Facility

## CASE STUDY

**AEO.** Since 1977, American Eagle Outfitters (AEO) has served the 15- to 25-year old with its brand of laidback, current clothing, providing high-quality merchandise at affordable prices. The retailer grew an impressive 20% in 2006, to \$2.8 billion in sales, through its 852 U.S. and 74 Canadian stores and its AE Magazine and catalog, and recently launched a new sportswear concept, MARTIN + OSA, targeting 25- to 40-year-old men and women. AEO's Web site, ae.com, has become a key online destination where gals and guys go to be informed, inspired and entertained. The site's popularity drove a 48% increase in sales in 2006, with increased traffic and a higher conversion rate.



*With its online and catalog business growing so quickly, AEO decided it was best to replace its outsourced order fulfillment operations with its own 555,000-square-foot facility. AEO wanted to maximize the efficiency of the new Ottawa, Kansas operation, and chose a multi-row automated order collection system with 240 accumulation chutes on each row. Facility designers realized the most effective way to pack the picked orders was not to send orders to a packing station, but to bring the packing station to the order. Essential to making that work was a robust, streamlined data communications terminal that could operate wirelessly and fit easily on the cart. The LXE VX7 Rugged Mobile Computer not only met all AEO's initial design criteria, it also provided options they had not anticipated, enhancing operations.*

AEO's ability to efficiently leverage technology has been key to its growth, and its managers knew selecting the right solutions from trusted vendor partners was essential to the success of the new fulfillment facility. AEO teamed with Manhattan Associates to provide the Pick Ticket Management System (PkMS) software that would power the new operation and set out to make fulfillment center infrastructure and processes as efficient as possible. The AEO hardware research team was headed by Edsel Lu and included members of AEO's technical infrastructure networking team as well as all external vendors.

As team members thought through the idea of bringing the cart to the accumulation chutes, they faced several considerations. The software would drive a pick-to-light system that would deliver all of the items in an order to the accumulation chute. When the chute displayed a green light, packers would know the order was ready to be packed.

They knew they needed to set up a rail system to route the packing carts to the chutes. The rail system could accommodate power wiring to move the carts, but there was no option to include data communications

wiring, making wireless communication a must.

The application directed AEO packers to verify an order as it was packed, requiring a terminal on the cart that would enable the packer to scan the picked clothing items, accessories, or gift cards and link them to the appropriate order. AEO didn't want operators having to deal with keyboards because they took up space and weren't particularly efficient for the application. The team looked at the possibility of using a thin PC client on the carts but quickly concluded that it would take up too much space and was not a good warehouse solution.

"Because we wanted to maximize space for packing, we needed a reliable, wireless mobile computer that could be mounted on the cart and would be easy for workers to use," says Lu.

Manhattan Associates recommended LXE for the mobile computing part of the project. AEO had worked with LXE in the past and appreciated the ruggedness, reliability and standards-based security offered by LXE products. According to Lu, "We were confident LXE could supply the right mobile computer for the application, so we did not have to evaluate products from other manufacturers."

The project team selected the LXE VX7 full-screen, vehicle-mount computer because of its small profile, touch-screen capabilities, wireless security and interface options.

"We liked the touch-screen keyboard on the LXE VX7 because it eliminated the need for a physical keyboard which would take up space and might be subject to damage," Lu says. Instead, AEO developers created their own virtual key-



board program customized for the application. An LXE 8520 Barcode Scanner enables users to scan each item in the order.

## VX7 Enables New Process

The versatility of the VX7 allowed AEO to build in additional functionality the design team hadn't anticipated: the ability for packers to activate gift cards via magnetic stripe.

AEO's gift cards were previously imprinted with bar coded serial numbers that were scanned at stores. Gift cards have a serial number and do not have stored value on them. Value is maintained in an AEO database.

"We discovered that the VX7 offered multiple interface capabilities so that we could have both a bar code scanner and a magnetic stripe reader," says Lu. "This allowed us to add magnetic stripe capability to our gift cards."

LXE developed a custom mount for an ID Tech Mini Magnetic Stripe reader on the side of the VX7. When packing gift cards, operators simply slide the card through the magnetic stripe reader to record its serial number as part of the packing process.

Once the solution was in place, AEO implemented an in-house "train the trainer" program to get facility staff up and running. According to Lu, the bulk of the training was focused on using the software, since the LXE VX7 terminals are so intuitive. The VX7 includes an XScale processor and Windows CE .NET operating system to easily run CE .NET applications, greatly reducing user training time and support costs.

## LXE Terminals are Keeping Orders Moving

The solution attained its goal of preventing the packing station from becoming a bottleneck in the operation, allowing AEO to quickly process orders and get them out for delivery as fast as possible. The catalog

and Internet fulfillment center now operates two shifts to keep up with demand.

Here is how it works: When an accumulation chute displays a green light, packers know the order is ready to be packed. They then move the packing cart to the chute and scan each item. The VX7's large, color touch screen display shows the items to be scanned. As each item is scanned, the PkMS software updates to show the item has been verified.

Once all items have been scanned and the order complete, a Hewlett-Packard 2015 LaserJet Printer prints an invoice/packing list with an order number bar code in case of returns. Integration of PkMS with a Zebra Technologies PS 4000 wireless print server drives printing of a shipping label via Zebra Technologies LP 2844-Z desktop label printers. These labels include a bar coded tracking number for whichever parcel carrier the customer has selected. The package is then placed on a conveyor and the packing cart is moved to the next chute.

The flexibility and simplicity of the system ensures that it will be able to meet the company's anticipated volume growth. However, should demand increase suddenly, Lu says AEO could have a new packing cart up and running in just a few minutes.

The flexibility of the LXE VX7 terminal was key in making AEO's mobile packing carts concept a reality. By leveraging proven technology and the capabilities of its partners, AEO was able to operate its brand new Ottawa facility at peak efficiency from its opening day in May, 2007, and is well-prepared to scale the solution as the retailer's catalog and online fulfillment operations continue to grow.



**About LXE Inc.** LXE Inc. improves supply chain performance by applying over 36 years' experience developing wireless products and solutions. From wireless computers, advanced auto-ID technologies, and wireless network infrastructure, to our award-winning customer support - LXE's easy-to-use products are as reliable as the people who install and support them.

Based in Norcross, Georgia, LXE also offers a full range of turnkey services, including radio integration, project and installation management, network design, technical support, and repair services. LXE is a wholly-owned subsidiary of EMS Technologies, Inc. (NASDAQ: ELMG), and has offices worldwide. For more information, visit [www.lxe.com](http://www.lxe.com).