# Retrofitting the fashion industry: TGW realised shuttle and mini-load warehouses in Tennessee

# The U.S.A. is known for internationally successful fashion retailers and global brands. TGW Systems Inc., headquartered in Spring Lake, Michigan is providing a tailor-made Shuttle Warehouse Solution for one of the leading U.S. fashion apparel retailers. TGW’s Shuttle Warehouse Solution is working hand-in-hand with a classic Mini-Load Warehouse to meet their operational requirements.

The U.S. state of Tennessee is known for the Blues and the establishment of Rock’n Roll as well as for their Whiskey. What is not revealed in any information source about Tennessee is their logistics milestones. In 2014 a 13.7 million dollar project was realized in two phases for a leading retailer in the fashion industry. The project aimed at increasing productivity and space in the distribution center to achieve a solid return on investment. “The project has delivered the results faster than we anticipated,” says Steve Schwietert, Vice president Integration System Sales at TGW Systems Inc. “We are now looking at deploying and expanding the solution in other facilities.”

In this project TGW retrofitted the existing operation with a new solution. In Phase 1, the logistics expert eliminated the need for manual picking and replenishment using two aisles of STINGRAY shuttles. The solution removed the need for four pick modules and reclaimed over 100,000 square feet of space. The shuttles now connect directly with the current unit sorter application providing a single picking strategy. In Phase 2, our solution streamlined receiving reducing the amount of touches to store and retrieve a carton from 7 to 1. TGW calls this process “One Touch Receiving”. The new solution eliminates the need for approximately 70 per cent of the bulk storage locations and results in a space savings of another 100,000 square feet.

**Phases secure operation**

This project was divided into two phases. The first phase was to eliminate manual picking. Thirty percent of the merchandise required used seventy percent of the labour hours to pick. Using the STINGRAY technology, TGW created a high-speed residual picking buffer removing manual picking and allowing all picks to occur at a higher rate using a unit sorter. This resulted in a 30% plus internal rate of return (IRR).

Manual picking is the most difficult to maintain in any operation because of the replenishment, slotting, and access to all SKUs. Unit sortation was allowing productivity between 800 and 1,000 units per hour, while manual picking resulted in 180 to 220 units per hour. The residual storage buffer using the STINGRAY shuttles eliminated replenishment, slotting and four large three-level pick towers. Cartons are delivered directly from the shuttle buffer to unit sortation and returned resulting in a 3x increase in productivity.

Phase 2 was to provide a “one-touch-solution” for receiving. The operation required seven manual touches of cartons before the merchandise was picked for the stores. TGW’s solution eliminated six touches and resulted in a 22% internal rate of return for the project. Inbound receiving eliminated six manual touches using 12 TGW Mustang cranes which automatically receive and store cartons. When allocated cartons are released to unit sortation where they are depleted or returned to the shuttle system for future allocations.

**How the system works**

Cartons are placed on a conveyor where they are scanned and stored automatically in the mini-load system. When the product is allocated, cartons are automatically extracted and conveyed to unit sortation. If the carton has remaining units, the carton is closed and placed back onto the conveyor where it is returned to the shuttle system as a residual carton. When this SKU is allocated again, the system will pull full cartons from the mini-load system and send a residual carton from the shuttle to make up the difference. Units are packed to outbound cartons at the unit sorter and a shipping label is applied. The carton is released on the conveyor system where they are sorted to the appropriate door and loaded to an outbound store trailer. As soon as the order is completed, the cartons are automatically transported to the shipping area.

With this new TGW solution, the American brands are transported into a successful future.

www.tgw-group.com

**About TGW Logistics Group:**

TGW Logistics Group is a worldwide leading systems provider of highly dynamic, automated and turn-key logistics solutions. Since 1969 the company has been implementing different internal logistics solutions, from small material handling applications to complex logistics centres.

With about 2,000 employees worldwide by now, the Group implements logistics solutions for leading companies in various industries. In the business year 2013/14, the TGW Logistics Group generated sales revenues of 371 million Euros.

**Pictures:**

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