



## KENDALL (A DIVISION OF COVIDIEN) PREPARES FOR GROWTH BY UTILIZING SPACE AND LABOR-REDUCING MANUFACTURING PROCESSES

### CLIENT PROFILE:

Covidien, a \$10 billion global healthcare products leader, manufactures and markets a broad range of wound care, needle and syringes, vascular therapy, urological care, incontinence care, sharps disposal, and nursing care products. These products are distributed and used in a variety of clinical settings including hospitals, rehabilitation centers, long term care facilities, and homes throughout the world. Kendall is one of Covidien's key brands.

### THE CHALLENGE:

Before working with Conveyco Technologies, Kendall utilized a space and labor-intensive system that required large aisles to accommodate a cart-based system that fed cases onto a gravity conveyor, after which they were manually palletized.

As each load was built, a second cart was staged close by for the next unit load. This took up additional space on an already tight, closed environment production floor.

An AGV (automatic guided vehicle) periodically passed through the area, pulling a series of carts, both empty and with completed unit loads.

This approach required the operator to manually attach completed loads onto the train while it was in motion. Empty carts were pulled off an empty car train to build future loads.

As the AGV train passed through the warehouse, an operator unhooked and pulled a section of full carts from the train. After removing full loads from the train, a clamp truck brought them manually to a stretch wrapper. The wrapped load was then manually transported to a storage location for put away.

Kendall's primary objective was to improve space utilization and safety

## THE SOLUTION

Conveyco, working closely with Kendall executives and engineers, designed and installed a system that automated the production process on the manufacturing floor. Conveyco's solution reduced labor costs and the potential for injury while providing better control of the entire operation.

With the new system, sealed cartons exit each production line via a vertical continuous lift that elevates product to one of two overhead collection conveyors. Cartons accumulate and merge prior to a shoe sorter. This keeps valuable floor space in the production area clear.

At the robotic palletizing area, a laser barcode scanner reads each carton's code and sorts it to one of three robot cells. Each palletizing cell can handle up to four different products simultaneously.

A shuttle car system delivers slave pallets to build the unit load. Each robot selects two cartons at a time for increased throughput. When the unit load is completed, the conveyor indexes it to a second shuttle car that feeds the automatic stretch wrapper system. The wrapped load is removed to storage via a clamp truck.

With the new automated system, no human intervention is required until the wrapped load is brought to storage or shipping. Another advantage of the automated system is that the robots can build a load up to 110", which is the clearance of a standard trailer. In the previous system operators could not build a load to the maximize height of the trailer, so additional layers had to be added before shipping to fully utilize the height of a trailer.

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## KEY DELIVERABLES

- Reduced footprint required to manually palletize product, leading to increased production capacity
  - Control system balances output of production lines with the capability of automation, thus maximizing system ROI
  - Safety increased by using automated transfer cars to deliver empty pallets and retrieve completed loads vs. old approach of trying to catch "a moving train"
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